REGIONE DEL VENETO

2016

RAPPORTO STATISTICO

Il Veneto si racconta, il Veneto si confronta

INTERCONNESSIONI

Regional Council Administration Secretary General
of Planning Regional Statistical System Section

ISBN 978-88-6448-096-1

Rapporto Statistico - il Veneto si racconta, il Veneto si confronta is available in PDF, accessible from the Veneto Region website on the page of the Regional Statistical System Section at the address: http://statistica.regione.veneto.it/Pubblicazioni/RapportoStatistico2016

As the guiding theme for this edition of the Regional Statistical Report indicates, it is clear to everyone that we live in an increasingly interconnected world.

Phenomena such as globalisation, the development of new communication and information technologies, humanitarian crises and migration flows contribute to tracing a continuously mutating reality of complex interpretation, given that it consists of macroscopic forces that act on multiple, mutually influencing levels: environmental, social, political and cultural.

It is enough to consider how the current financial crisis – which hit Veneto hard and from which we are struggling to recover – began eight years ago due to trouble in the US real estate sector.

For this reason, I am convinced that we need interconnected knowledge in order to interpret an interconnected reality.

Technical and sectorial expertise, increasingly essential in a complex and well-structured context such as our current situation, must know how to adopt a cross-cutting and multidisciplinary approach and how to create dialogue among themselves in order to achieve in-depth understanding of our reality. This is what ancient philosophers called sapientia, or the theoretical possession of solid scientific knowledge combined with the moral capacity of wisdom.

On this basis, the Report that you are holding not only attempts to provide an impersonal and neutral compilation of a range of statistical data relating to the Veneto Region, but also to interpret these statistics in an innovative and integrated manner, highlighting often hidden links between seemingly distant phenomena, with the aim of providing a clearer and more objective view of our present and of our future.

Luca Zaia

President of the Veneto Region

Now in its thirteenth edition, the Statistical Report has become a traditional event for many people who, both in our region and elsewhere, like to receive a transparent and documented image of Veneto and its leading players (citizens, households, enterprises, bodies and associations).

The official statistics function – which doesn't stop with this report, but is divided into multiple contributions, also available in English on our regional website (http://www.regione.veneto.it/web/statistica) – is of dual significance by its very nature, inside and outside of Regional Administration respectively.

On the one hand, statistics are a strategically important technical aid at the service of public policy, because they allow the government of the full planning cycle, which is the main responsibility of the Regional Authority, evaluating the framework of departure, monitoring actions as they are undertaken and, finally, verifying the achievement of results.

From this viewpoint, the use of statistical methods contributes to the measurement of the operational success of the administrative machine and therefore, indirectly, to making the authority's organisational and operational processes more efficient, basing the evaluation of its operations on objective and significant data.

On the other hand, statistics promote the diffusion of knowledge about Veneto, including among the increasing numbers of stakeholders, both public and private, that rely on the Regional Authority for reliable and expert information.

Indeed, in a society increasingly based on knowledge and know-how, the cognitive demand manifested at all levels of society deserves a timely, reliable response from the Administration, including through the use of its numerous databases kept for institutional operations that form an important depository of information to be exploited in the appropriate manner.

Confident that this report will provide answers to your questions and elicit new and stimulating queries, I wish you all an enjoyable and fruitful read.

Luca Felletti

Secretary General of Planning

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Thanks to:

Aci, Agenzia ICE, Anci, Arpav, Arsenàl.IT, World Bank, Caritas italiana, Cerved, Comune di Venezia, Confindustria Veneto, Consorzio Interuniversitario Almalaurea, Ente Bilaterale Industria Ernst & Young, Espon, Eurobarometro, Eurofound, Euromonitor, European Commission, European Environment Agency, Eurostat, Fio.PSD, Fondazione Symbola, ForumPA, Global Insight, Gta, Infocamere, Infratel, Inps, International Monetary Fund, ISPRA, Istat, Istituto Nazionale di Documentazione, Innovazione e Ricerca Educativa, Ministry of Economy and Finance, Ministry of Infrastructure and Transport, Ministry of Interior, Ministry of Justice, Ministry of Employment and Social Policy, Ministry of Economic Development, National statistical institutes of other countries, Neodemos, OECD, Osservatorio Regionale della Patologia in Età Pediatrica, Politecnico di Milano, Prometeia, Ragioneria Generale dello Stato (General Accounting Office), Ref Ricerche, R&P, SPRAR, The European House Ambrosetti, Tim-Telecom Italia, UN, Unctad, UNECE UNHCR, Unioncamere, Unione delle Fiere Internazionali, United States Census Bureau, Università degli Studi di Padova, Veneto Lavoro, WHO, WTO.

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In implementing the Regional Law No. 8 of 2002, the Statistics Office of the Veneto Region collects, analyses and distributes statistical information of regional interest. The processed data belongs to the community and is distributed through publications and through the Veneto Region website at ***www.regione.veneto.it/web/statistica.***

This publication was completed using data available as of 30 April 2016.

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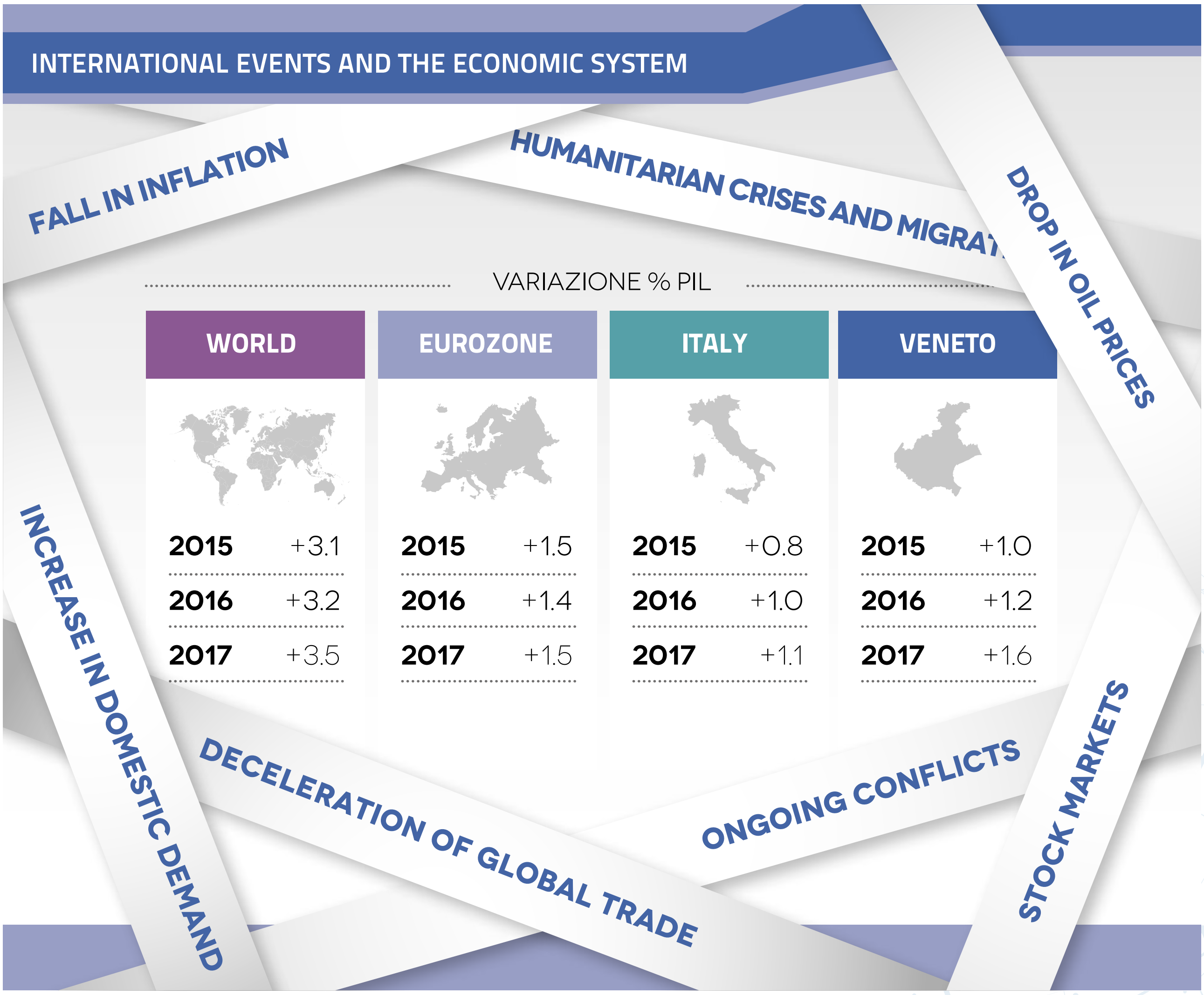
Impaginato da Quantitas s.r.l
VEGA - Parco Scientifico Tecnologico di Venezia, Mestre
Finito di stampare nel mese di Giugno 2016
Biblos Edizioni - Cittadella (PD), Italia

Chapter 1 - The Fears and Opportunities of the Interconnection of the Economic System[1]

In 2015, the global economy was growing at a rate of 3.1%, a fairly moderate pace, due to an average recovery of advanced economies of +1.9% and growth of +4% in emerging markets.
The Europe-28 GDP ended 2015 at +1.8%, indicating recovery, albeit still fragile. There was similar growth in the Eurozone: +1.5% in 2015.
In Italy, in 2015, GDP of €1,636,372 million (at current values) was recorded, with an increase in real terms of 0.8%, after three negative years in a row. In 2016, it is predicted that growth will be 1%, supported by investments and consumption.
Growth of 1% is estimated for the Veneto GDP of 2015, a rate slightly above the national average. Domestic demand is slowly moving out of the situation of stagnation of recent years: household consumption rose by 1.3% and investments are positive once again, with an increase of 1.4%.
This result can be attributed to good performance by Veneto industry, which has made a return to competitiveness, recording an increase in added value of 1.8% and moderate growth in services of 0.4%; at the same time, the construction sector shrank once again, this time by -0.1%.
Estimations for 2016 see progress in recovery and growth in GDP is predicted to be 1.2%.



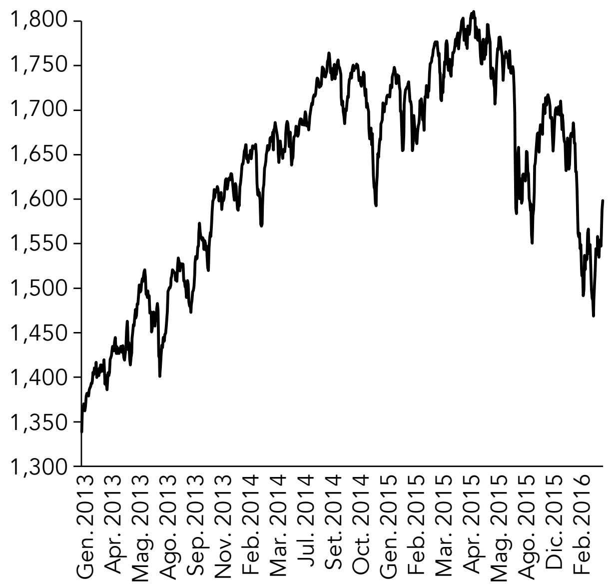
[1] Dati e previsioni disponibili ad aprile 2016.

In the 2000s, the global economy was characterised by accentuated interconnection: the development in volume and variety of international trade of goods and services, the increase in flows or capital and employment, the rapid and generalised diffusion of technology and the integration of financial markets hurdled geopolitical, dimensional and sectorial boundaries.
This interdependency, in addition to having positive effects on wellbeing and on overall consumer opportunities, also brought great insecurity.

1.1 The global scenario

There are many interconnected elements that characterise the international economic scenario of 2015: from ongoing conflict to terrorist attacks, continuing migration flows, the insecurity of emerging countries, the opening up of opportunities in new countries, such as Iran and Cuba.
Certain factors stimulate global demand for 2015, such as the fall in price of petroleum, the monetary expansion measures of the Central European Bank, the drop in interest rates, the depreciation of the Euro.

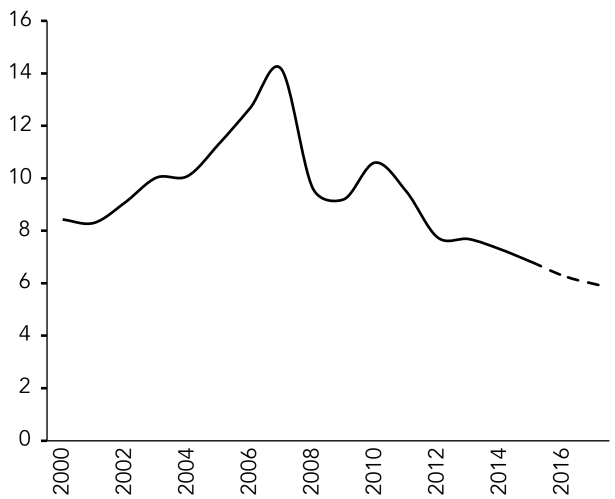
Figure 1.1.1 – The global stock markets (MSCI World indicator, price in $) – Years 2013:2016



Source: Veneto Region Data Processing, Regional Statistical System Section on REF economic situation data

Alongside these factors, elements emerge that are negative for the economy, such as the financial markets' failure in the capacity for self-regulation, manifested last August with the bursting of the bubble that had formed in the Chinese stock market. The price signal of the stock market crash demonstrates the fragility of emerging economies and the difficulties of the Chinese economic policy in managing this delicate crisis situation.
2016 reaps that sown in the previous two year period; that is to say, a global economy that sticks to a path of recovery at a moderate pace and with great instability of financial markets. After a long period of growth, the stock markets have suspended earnings for over a year, recording a significant market correction in the early weeks of 2016.

Figure 1.1.2 – Annual percentage variations in China's GDP (constant prices) – Years 2000:2017



Source: Veneto Region Data Processing, Regional Statistical System Section on International Monetary Fund data

Whereas, in the second half of 2015, the epicentre of the financial crisis was located in the Chinese stock market, during the most recent stages, all the main markets have suffered losses.
In line with that highlighted by stock market trends, the currencies of emerging countries also continue to record downward trends, accentuated by the start of the recovery of US currency rates. Over the course of 2015, numerous countries caused depreciation in their exchange rates against the dollar, with the hope of increasing competitiveness towards other economies in their area, as far as causing further de-

valuations. The most significant case is China, which began to let its exchange rate towards the dollar slide downhill.

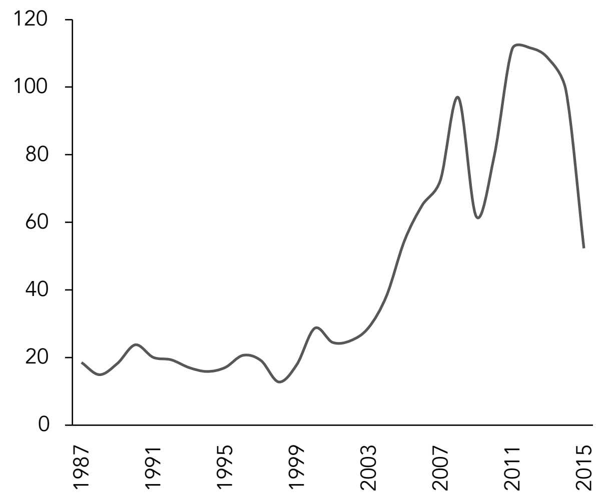
China influences markets

It all began in August 2015, when the global stock markets were hit by the bursting of the bubble that had formed in previous months in the Chinese stock market. Beyond the impact on the wallets of international investors, it proved that which analysts had predicted for several months, i.e. the weakness of the Chinese economic situation.
Chinese growth had already slowed over recent years, dropping to around 7%, significantly lower than the over 10% witnessed in the 2000s.
The slowing of the Chinese economy reflects, on the one hand, the slowdown in demand of advanced economies in recent years and, on the other hand, the end of the export-based growth phase of the 00s; the interruption of this process is probably to be expected, given that China reduced the productivity gap with competitors that was characteristic of the productive structure of the 90s. Looking at the wider picture, the potential growth of the economy also slowed due to demographic reasons, due to the effect of past policies on birth control, which will lead to a gradual decrease in the supply of employment.
The Chinese economic situation is somewhat uncertain, among the risks of deflation, affecting salaries and employment, and the collapse real estate market. All this could create hurdles for the transformation of the Chinese productive structure from an export-based model to a model more focused on domestic demand and on consumption, in particular.
For the rest, economic theory teaches us that it isn't possible to have a fixed exchange rate, free flows of capital and an independent monetary policy, all at the same time; it is precisely this "trilemma" in which those governing Chinese[2] economic policy have found themselves involved.
The Chinese crisis could infect other economies mainly through commercial trade with the rest of Asia. The impact on the rest of the global economy could vary; in 2015, the European economy most exposed to the demand of emerging Asian countries, and China in particular, was Germany. Among the other countries, those most at risk are the United States, insofar as the strength of the dollar could amplify the effects of the slowdown in world trade on American industry.
In general, for Western economies, the negative effects are in part compensated for by the fact that the weak Chinese economic situation contributes to maintaining limited commodities prices and this favours growth in domestic consumption. In parallel, this leads to very negative consequences for all countries that are producers of commodities[3].

The Oil Crash

The prices of raw energy and non-energy raw materials continue to fall over the course of the year. The price of oil weakened further, from an average of 52 dollars per barrel in 2015 to around 31 dollars per barrel in January of 2016, the lowest price since 2008, with predictions of an average of 39 dollars for 2016.

Figure 1.1.3 – Price of Brent oil ($/barrel) – Years 1987:2015



Source: Veneto Region Data Processing, Regional Statistical System Section on EIA data – U.S. Energy Information Administration

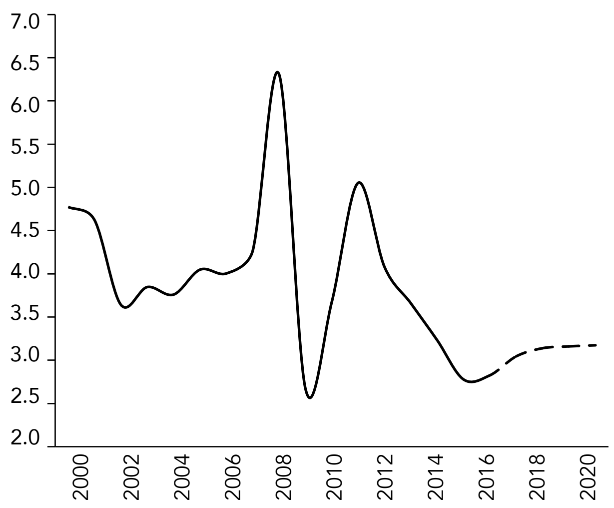
This trend is affected by the decision of OPEC to abandon the strategy, followed since 1992, of setting an agreed production objective; the Organisation of petroleum Exporting Companies thus expressed the desire not to halt the fall in prices within a context in which there is also the prediction of a gradual increase in supply from Iran after the revocation of international sanctions.
Up until now, the fall in prices of raw materials has been transferred rapidly onto the prices of international manufactured goods, including due to the existence of vast areas of production capacity unused on an international level. The persisting very

[2]Prometeia. Rapporto di previsione - March 2016

[3]Congiuntura Ref, 8th gennary 2016

low inflation rates have contributed to keeping medium-term expectations at low levels, including in economies such as that in the US, where recovery has been underway for longer. Even countries with significant depreciation in exchange rate have demonstrated limited increases in inflation.

Figure 1.1.4 – Global inflation – Years 2000:2020

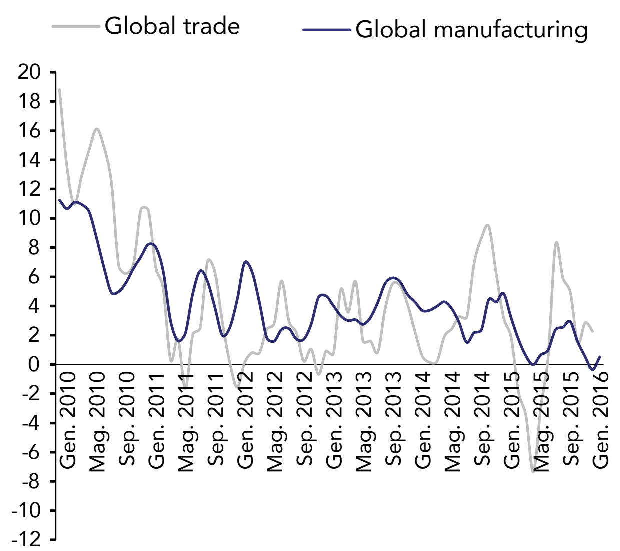


Source: Veneto Region Data Processing, Regional Statistical System Section on International Monetary Fund data

The Slowdown of World Trade

In 2015, the trend of international trade in goods was undoubtedly influenced by all the factors described above and that is not all: the economic stagnation that involves many developed countries, the unforeseen costs relating to the crisis of migration in Europe, the fall in the prices of oil and other raw materials and the financial instability that may ensue from a decision by the FED to increase interest rates and not reduce the production of foreign currency, which could create imbalances in international markets.
IMF estimates set the increase in international trade at 2.8% in 2015 and at 3.1% in 2016. There was a sharp drop in trade in the first half of 2015, starting to climb again in the third quarter and finally recovering, though at a reduced pace, in the fourth quarter. This is a worrying situation, according to global trade experts, who have always seen commercial trade as a unique opportunity for economic growth and seen the protectionism that may manifest itself in the form of real wars of currency as a danger that risks obliterating economic recovery[3]. "In a time of great uncertainty, especially in Europe, where austerity measures have contributed to depressing domestic demand, global trade holds a crucial role in resurrecting prospects of development and reducing poverty," states the OECD press release.

Figure 1.1.5 – Percentage variations in the global trade of goods and services and in global manufacturing – Jan 2010:Feb 2016

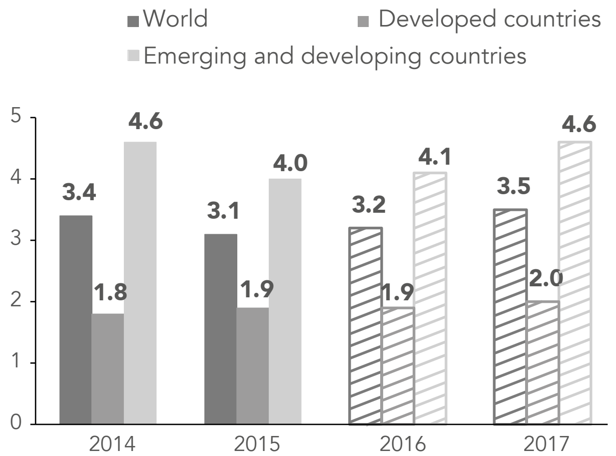


Source: Veneto Region Data Processing, Regional Statistical System Section on International Monetary Fund data

Professor Dani Rodrik[4] sustains that we have entered an era of hyper-globalisation: a market where the benefits of the free flow of goods and capital across national borders have, for the most part, already been produced. Basically, the advantages are by now counterbalanced by enormous costs due to unemployment, wage reduction, lost pensions and depopulating urban communities. "The free market, and the generalised internationalisation of the economy, failed to ensure the expected prosperity, confirming its lack of ability to manage efficiently and effectively the risks tied to the cyclic nature of the evolution of economic activity." Alongside Rodrik's affirmations must be included the thoughts of Joseph Stiglitz, one of the world's leading economists, 2001 Nobel Prize winner for his research on the asymmetry of informational asymmetries that obstruct the free market, who has long predicted a revision of the entire international economic system.

[3] "Commercio mondiale, un crollo che fa riflettere" by Monica Straniero, 5 October 2015
[4] Professor formerly at Harvard, now at the Princeton Institute for Advanced Studies

Figure 1.1.6 – Annual percentage variations in Gross Domestic Product. World, Developed countries, Emerging and developing countries – Years 2014:2017



Source: Veneto Region Data Processing, Regional Statistical System Section on International Monetary Fund data

In 2015, the global economy grew to a rate of 3.1%, a relatively moderate pace, created by a modest recovery of advanced economies (+1.9%) and by growth of +4% of emerging markets, which, despite representing over 70% of global growth, decrease in rate for the fifth year in a row.

In the main emerging economies, the overall economic outlook remains poor, with trends differing greatly among countries: intensification of the recession in Brazil is contrasted by positive developments in India's economic situation and further decrease in product prices in Russia.

GDP in the United States recorded growth of 2.4% in 2015, exceeding analysts' expectations and the

World growth is moderate

average rate in post-recession years, though still far from the rates of over 3% of the 1990s. Domestic demand in 2015 increased by 3%, corporate investments rise and residential property investments show signs of recovery. The USA economy, one of the most advanced economies, has been worse affected than other countries by the abovementioned tensions. The American stock market ceased to grow some time ago and the dollar recorded significant appreciation. The effects on exports are relatively pronounced, although overall growth has been supported by household consumer trends, supported themselves in terms of credit. American households benefit from low imported inflation and favourable labour market conditions. The real estate market continues to follow a path of growth.

At the time of drafting this report, the United States are in the midst of a ferocious electoral battle, which will end on 8 November. Historically, during electoral campaigns, the economy remains as far as possible in stand-by. And then the moment will come in which to put into practice the recommendations that the economic advisors of the presidential candidates have prepared over the past months. Some propose a crackdown on Wall Street and others the streamlining of the tax system, but there is one constant: do whatever it takes to avoid another recession.

1.2 Europe

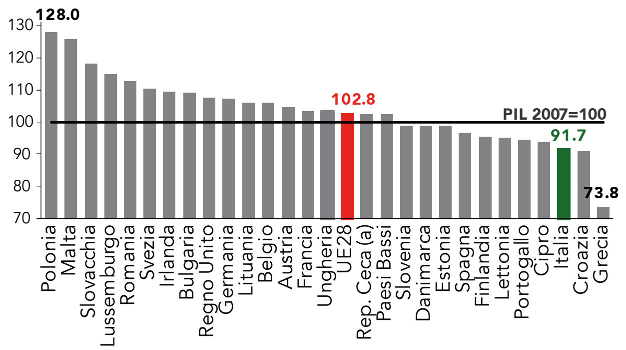
GDP of the Europe-28 was up +1.8% at the close of 2015, highlighting a recovery, albeit a fragile one. There was similar growth in the Euro Zone: +1.5% in 2015. Many European countries have not yet recovered that lost starting in 2007.

Tab. 1.1.1 - conomic indicators in the main industrialised countries – Years 2014:2017

	PIL (Var. %)				Domanda interna (Var. %)				Inflazione				Tasso di disoccupazione			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Stati Uniti	2,4	2,4	1,7	2,0	2,6	3,0	1,8	2,1	1,6	0,1	1,3	1,2	6,2	5,3	4,8	4,8
Giappone	0,0	0,5	0,8	0,4	0,0	-0,2	0,8	0,2	2,8	0,8	0,4	1,4	3,3	3,5	3,4	3,4
Area euro	0,9	1,5	1,4	1,5	0,8	1,7	1,6	1,5	0,4	0,0	0,1	1,4	11,6	10,4	10,0	9,7
Regno Unito	2,9	2,2	1,8	1,8	3,5	2,7	2,2	1,9	1,5	0,0	1,0	2,9	6,2	5,3	4,9	4,5
UE28	1,4	1,8	1,6	1,6	-	-	-	-	0,5	0,0	0,3	1,7	10,2	9,4	-	-

Fonte: Elaborazioni Regione Veneto - Sezione Sistema Statistico Regionale su dati e previsioni, in rosso, Eurostat, FMI e Prometeia

Figure 1.2.1 – Gross Domestic Product for certain European countries (*) 2007=100, connected values 2010) – Year 2015



(*) Data from 2014
Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

Europe is in recovery but...

In Europe, 2015 ended with two great concerns: the possibility of Brexit, the exit of Great Britain from the European Union in 2017, but, above all, the increasing pressure at the doors of Europe of the humanitarian crisis of the refugees from the Middle East. Debate on the survival of the Schengen agreement for the free movement of people and goods is still underway, between those who want to close the borders to the great influx of migrants and those who adopt policies of hospitality.
On the one hand, 2015 was characterised by a series of factors that improve the economic situation of households: household purchase power increased due to the drop in inflation and the consumption rate rose, supported above all by the gain in terms of trade tied to the fall in oil prices. Furthermore, in the majority of Eurozone countries, domestic demand began to benefit from the softening of tax restrictions.

...it is affected by foreign demand

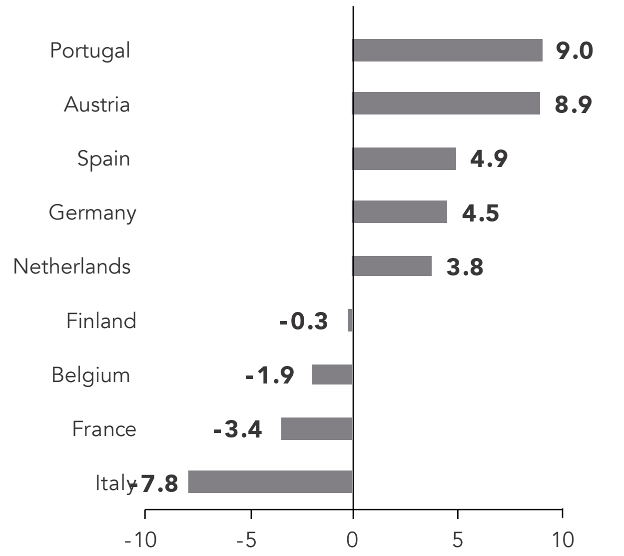
On the other hand, however, annual exports lost pace, reflecting the less dynamic international situation. Manufacturing slowed, industrial production stagnated over the year and investments remained poor. The real estate market began to recover in some countries, whereas in others it only recently stabilised.
Within this context, it can be observed that the growth differentials among the European countries are changing, as compared to previous years.
The gap in growth between Germany and neighbouring economies, despite recording an increase in GDP of
+1.4% in 2015, as compared to 2014, is decreasing, due to both the impact of the Volkswagen "dieselgate" and its high degree of openness to trade towards China and Russia. The other country heavily penalised by dependence on Russian demand is Finland (+0.4%).
Over the course of 2015, Russia suffered a series of events that seriously weakened its economy: the crash in oil prices, sanctions, fall of the ruble, war in Syria, geopolitical tensions with Europa and America. All this translates into a GDP recession of 3.7%, inflation that, according to some estimates, shot up to 15%, including due to the frighteningly volatile exchange rate, and a drop in retail sales.
Spain and Ireland, so-called peripheral countries, are demonstrating, however, a lively-paced recovery: +3.2% and +7.8% respectively.
France is finding it hard to pick up pace after the terrorist attacks, including due to the Hollande government's redirection of resources towards security instead of towards investments in growth. In Greece, in addition to existing tensions caused by austerity measures, there is also the economic pressure of the overwhelming humanitarian crisis.

Tab. 1.2.1 - Economic indicators in the larger Eurozone countries – Years 2014:2017

	GDP (% var.)				Domestic demand (% var.)				Inflation				Unemployment rate			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Germany	1.6	1.4	1.4	1.6	1.2	1.4	1.6	1.7	0.8	0.1	0.3	1.6	5.0	4.6	4.5	4.5
Francie	0.2	1.1	1.1	1.2	0.6	1.2	1.3	1.4	0.6	0.1	0.1	1.4	10.3	10.4	10.2	9.6
Spain	1.4	3.2	2.7	2.0	1.5	3.5	3.1	2.0	-0.2	-0.6	-0.7	1.6	24.4	21.5	19.2	18.6
Italy	-0.3	0.8	1.0	1.1	-0.3	1.0	1.1	1.2	0.2	0.1	-0.1	1.1	12.7	11.9	11.5	11.2

Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat, IMF and Prometeia data and forecasts (in red)

Figure 1.2.2 - % variation for 2015/13 in house prices in certain countries



Source: Veneto Region Data Processing, Regional Statistical System Section on REF Economic Situation data

Fiscal Policies

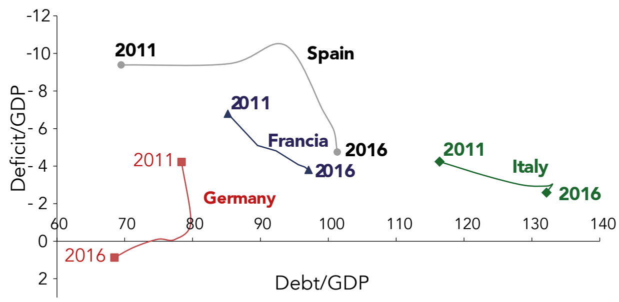
An important element that helps to explain the divergences in economies of the Eurozone is the trend in public spending. After the restrictive policies of the beginning of the decade, public consumption has started to increase once again in the majority of countries. Some, however, have less leeway and manage at the most to stabilise public consumption (Finland, Holland, Portugal).

After three years of extensive tax restrictions, in the past two years, the Eurozone has created neutral fiscal policy.

Certain countries, such as Germany, France, Ireland, Austria and Portugal maintain a restrictive tone of limited spending. In other countries, such as Spain, Finland and Greece, the fiscal policy provides a modest contribution in promotion of growth. In Italy and Holland, fiscal policy defends an almost neutral stance. The overlapping of positive and negative fiscal policies, the divergences in growth rates and the different starting positions led to 2015 closing with very different budget balances for different countries.

Indeed, the objectives of the Fiscal Compact, which initially were supposed to lead us to a balance in budget between 2015 and the present year, will be achieved only by Germany, whilst the majority of economies relax the pace of correction after the extensive fiscal efforts of previous years.

Figure 1.2.3 – Deficit and public debt in the leading Eurozone economies – Years 2011:2016



Source: Veneto Region Data Processing, Regional Statistical System Section on REF Economic Situation data

A warning from the OECD: "The slow rate of recovery of the Eurozone seriously hampers global growth and leaves Europe vulnerable to global shocks… Europe must pick up pace in terms of shared action, rediscover itself and speak with one voice…" Basically, the OECD highlights the slow pace of reforms and the failure to strengthen investments, despite the positive effect of the fall in oil prices and the very low interest rates.

In many European countries, the high private debt and mass of impaired credit obstruct the monetary policy transmission credit channel.

The risk that the Eurozone remains trapped in a situation of poor growth and low inflation, with confidence in the medium-term that is too weak to generate strong investments and innovation that would strengthen productivity and the increase in employment. This scenario negatively affects the banking sector, as is demonstrated by the sharp drops in share prices and bonds of European banks17.

The Draghi Manoeuvre

To counteract all of the above, on 10 March 2016, Mario Draghi announced, on behalf of the European Central Bank, a series of expansionary measures: a cut in all three main interest rates – refinancing rate from 0.05% to 0%, deposit interest rate from -0.30% to -0.40% and the marginal lending facility from 0.30% to 0.25%; an increase in monthly purchasing of government bonds from 60 to 80 billion as of April – the most eagerly awaited and potentially most effective measure; an increase from 33% to 50% of the purchasing limit of each bond issuance.

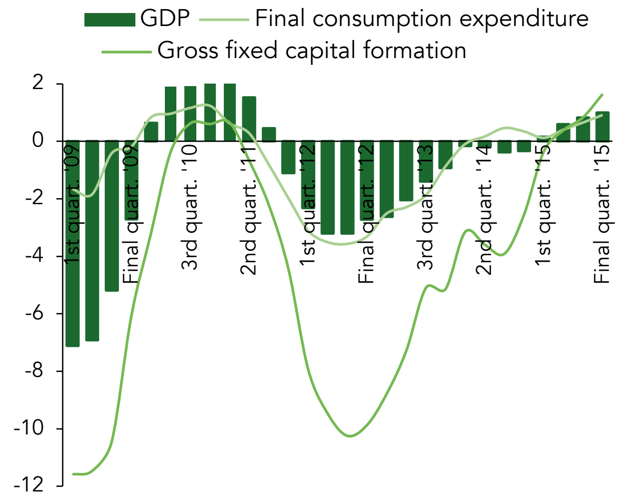
In addition, for the first time, bonds in euros issued by non-financial corporations were included as part of the Quantitative Easing18 programme, as long as they have an investment grade rating.
Draghi explained that it would be "a committee that decides which enterprises are eligible" for the purchase of bonds.
Finally, from June 2016 to March 2017, the ECB will launch 4 new TLTRO (Targeted Long-Term Refinancing Operations), long-term loans to banks, lasting four years and with an interest rate that can drop to the level of the new deposit rate of -0.40%. In the new package of four maxi-loans, Draghi explained, the more negative interest rate (starting from the main rate of zero) paid by the banks will translate into an equivalent increase in loans to businesses and households.
In the light of these measures, growth in GDP in the Eurozone is predicted at +1.4% for 2016 and +1.5% for 2017.
Due to oil prices, inflation for 2016 will be 0.1% and could be negative, even without causing the Eurozone to fall into deflation. Draghi states that, without the Frankfurt interventions, "today, we would be suffering disastrous deflation."

1.3 Italy

Recovery in Italy is gradual

Having held up activity in the past four years, exports are suffering the effects of the weakness of markets outside Europe and are being gradually overtaken by domestic demand, in particular in terms of consumption expenditure and inventory restocking.
In 2015, Italy recorded GDP of €1,636,372 million (at current rates), with real-time growth of 0.8%, after three negative years in a row.
In terms of loans, there was a recorded increase of 0.8% in gross fixed capital formation and of 0.5% in final national consumption expenditure.
In 2015, final resident household consumption expenditure grew in real terms by 0.9% (0.6% in 2014). Expenditure for the consumption of goods increased by 1.4% and of services by 0.7%. In terms of the purpose of consumption, the biggest increases concerned expenditure for transport, 5.5%, education, 2.7% and recreation and culture, 2.4%.
Pubic Administration expenditure recorded a decrease of 0.7%, whilst that of Private Social Institutions (PSIs) increased by 0.6%.

Figure 1.3.1 – Percentage variations in GDP, final consumption expenditure and investments in relation to the respective period of the previous year. Italy – 1st quarter 2009: final quarter 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

As compared to recent years, 2015 demonstrated a reversal of trend in gross fixed capital formation: +0.8% (-3.4% in 2014). There was a recorded increase in investments in transport and in machinery and equipment, of 19.7% and 1.1% respectively, whereas there was a decrease in investments in construction, - 0.5% and products of intellectual property, -0.4%. Goods exports increased by 4.3% and imports by 6.0%.
In 2015, the total added value in real terms increased by 0.6%; in 2014, it fell by 0.2%. There was a significant increase in agriculture, forestry and fishing, of 3.8%, whilst industry recorded a more limited increase of 1.3%, with growth in the added value of manufacturing of 1.5% and a fall of 0.7% in construction. Overall, services recorded an increase of 0.4%.
In 2016, growth is predicted at 1%, supported by investments and consumption expenditure. It is estimated that the ongoing reduction in oil prices equates to a further 7.5 billion in increased income and 4.5 billion in decreased costs.
This, together with the positive developments in the labour market and the accommodating direction taken by monetary and fiscal policies, will lead to increased spending. In fact, despite the slight decrease in pace post-Expo effect, the recovery in private consumption continued in the final quarter of 2015 and confirmed its role as the driving force in this stage of the cycle.

Public Finance

The debt load falls

In 2015, the net debt load of Public Administrations in relation to GDP was -2.6%, as compared to 3.0% in the previous year.
As an absolute value, debt stood at -€43,101 million, a decrease of over 5.5 billion as compared to the year before.
The primary balance (net debt load excluding interest expenditure) was a positive €25,326 million at current value.
The balance of current assets (savings or deficit of Public Administrations) was a positive €16,336 million, as compared to the €4,408 million of 2014. This improvement is the result of an increase in current revenue of around €6.4 billion and a decrease in current expenditure of around €5.6 billion.
In 2015, the total revenue of Public Administrations increased by 0.6% as compared to the previous year, 47.8% of GDP.
Current revenue recorded growth of 0.8%, 47.4% of GDP. In particular, indirect taxation decreased by 0.5%; this reduction mainly reflects the reduction in IRAP (Italian regional tax on productive activities) and taxes on electricity, in part compensated for by the increase in VAT revenue. Direct taxes increased by 1.9%, due to the effect of the marked increase in IRPEF (Italian personal income tax), the positive trend in IRES (Italian corporate income tax) and substitute taxes. An increase in actual social security contributions of +2.0% was recorded, as compared to 2014. The sharp drop in capital revenue (-21.7%) can be attributed to both taxation and other capital revenue. Overall fiscal pressure (total sum of direct and indirect taxes, capital revenue and social security contributions as a percentage of GDP) was 43.3%, a fall of 0.3 percentage points as compared to 2014.
In 2015, total expenditure of Public Administrations decreased by 0.1% as compared to 2014 with a result of 50.4% of GDP. This included decreases in current expenditure of 0.7%: mid-term consumption expenditure increased by 0.3%, whilst income from employment fell by 1.1% (-0.7% in 2014). Social benefits in cash rose by 1.9% (+2.2% in 2014) due to a limited increase in pensions and a more significant increase in social care services. Other current expenditure fell by 6.7% due, in particular to the fall in contributions to production.
Passive interest rates fell by 8%, following the reduction of 4.2% in 2014.

Within the field of capital expenditure, which underwent an overall increase of 7.8%, gross fixed capital formation (+1.0%) reversed the negative trend of recent years.
The strong increase in other capital expenditure (+17.7%) is weighed upon by the marked growth in investment contributions and the back payments of pensions issued from 2012, following ruling no. 70/2015 of the Italian Constitutional Court.

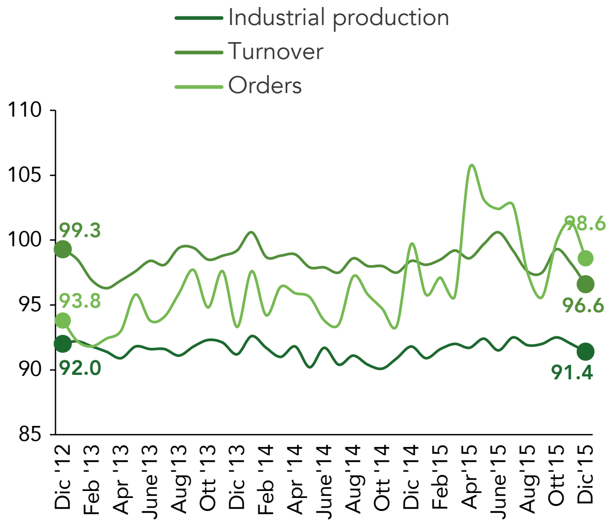
Industrial Activity

The overall industrial production index of 2015 increased by one percentage point, as compared to 2014.

Production on the up

The trend that saw a fall in industrial activity from the end of 2011 right through to the end of 2014 has finally been reversed.
Against a decrease in durables and intermediate goods, the main support for manufacturing comes from capital goods and energy.
Among the sectors that recorded significant increases in production, there are transport, +16.8%, and the production of coke and oil products, +10.8%.
The average turnover in industry for 2015 increased by 0.3%; the combination of a decline in the domestic market of 0.2% and growth in the foreign market of 1.2%.
Here, too, the most significant increase was recorded in the manufacture of transport vehicles.

Figure 1.3.2 – Seasonally adjusted index of industrial production, turnover and orders (base year 2010=100). Italy – Dec. 2012:Dec. 2015



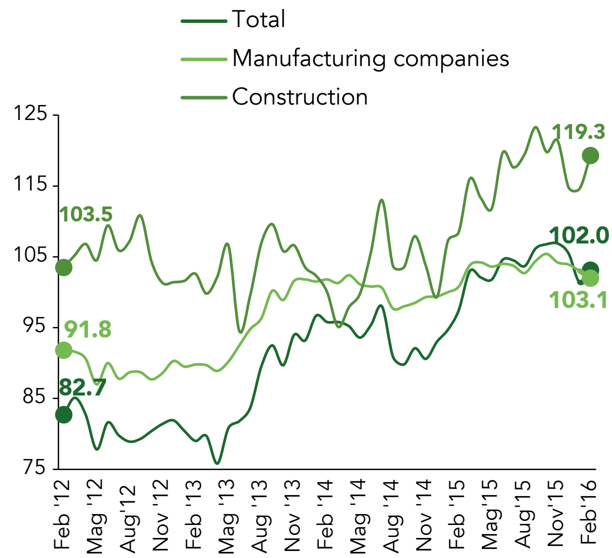
Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

The provisional index of orders increased by 1.5% as compared to 2014, with a greater increase in domestic orders, +8.6%, than foreign orders, 0.7%.

Improved climate of confidence in Italy

In recent times, the household and business "confidence" indicators have acquired growing importance in the analysis of the economic situation, thanks to their timely publication and, in some cases, their capacity to pre-empt the economic cycle.
Qualitative business indicators finally returned to pre-crisis growth levels: in 2015, business confidence increased on the previous year.
The composite index of business climate of confidence, which combines the opinions of business owners of all sectors, improved thanks to the optimism of manufacturing, services and trade and also of the construction sector.
A general fall was recorded in January 2016, which appears to have recovered already by the end of February.

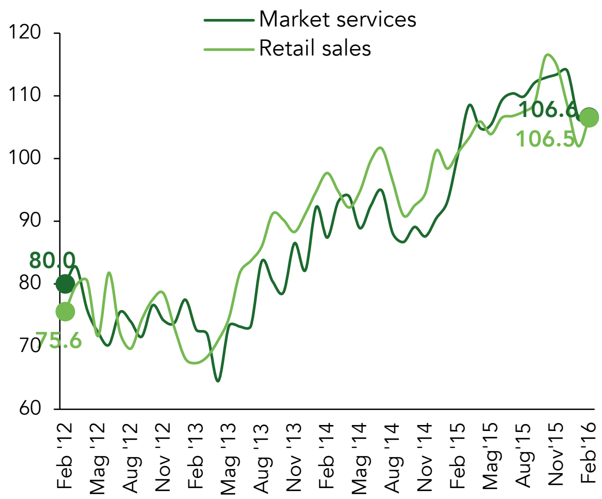
Figure 1.3.3 – Monthly balance of the climate of confidence of total businesses, of manufacturing companies and of construction companies (seasonally adjusted data, 2010=100). Italy – Feb. 2012:Feb. 2016



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

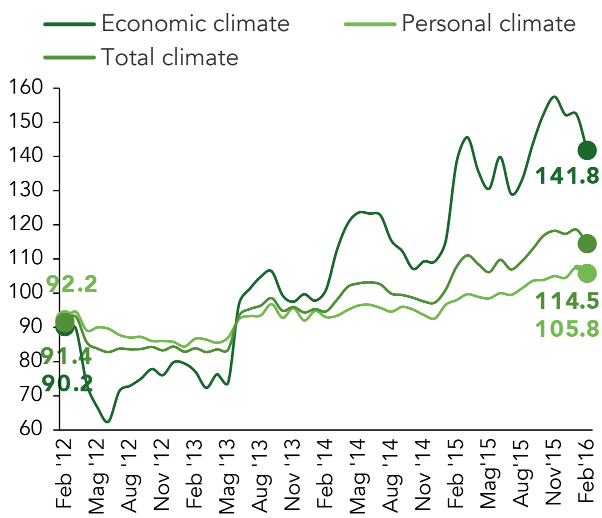
Over the course of the year, opinions improved on orders and production waiting times for manufacturing companies. In the field of construction, opinions improved on orders and/or construction plans.

Figure 1.3.4 – Monthly balance of the climate of confidence of market services companies and retail sales companies (seasonally adjusted data 2010=100). Italy – Feb. 2012: Feb. 2016



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

Figure 1.3.5 – Monthly balance of consumer climate of confidence (seasonally adjusted data, 2010=100). Italy – Feb. 2012:Feb. 2016



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

The climate of household opinion has also taken an optimistic turn: in the first part of the year, confidence continued to climb until it reached pre-crisis levels.

There was an increase in all three components: consumer opinion on the economic situation of the country and expectations for the economic situation of the future improved over the past 12 months. Expectations on employment worsened slightly, along with opinion on the dynamics of consumer prices, with a decrease in the proportion of those who judge them to be undergoing "strong growth".

The Banks

Whilst, on the one hand, the ECB highlights its willingness to strengthen the scope of the monetary stimulus to the economy, Italian banks are burdened with the management of impaired credit. This was the focus of the end-of-year debate and currently worsens insecurities over the solidity of our banking system. On 22 November 2015, the Italian government and the Banca d'Italia (Bank of Italy) applied the new standards approved by the Italian parliament in implementation of the European Bank Recovery and Resolution Directive (BRRD), resolving the crisis of the Banca delle Marche, Banca Popolare dell'Etruria e del Lazio, Cassa di Risparmio di Ferrara and Cassa di Risparmio di Chieti.
Overall, they held around 1% of the nation's bank deposits – it could be said a derisory amount – but capable of triggering a reaction among investors and undermining "confidence" with regard to the entire system. And, in this case, the "system" is provided precisely by the interconnection of economy, society and politics. "…the novelty is that the disenchantment has affected areas in which the relationship with credit was, traditionally, more solid. Almost complicit. Between companies and local banks."[10]
Commissioned by the Bank of Italy, the banks are found mainly in Northern and Central Italy, areas of development of small enterprises, which depend to a larger degree on bank loans.
In implementation of the European Directives, the Italian regulations established that, in the event of a bank collapse, the first to offset the situation shall be shareholders, then subordinate bondholders, then senior bondholders and, finally – but in a more theoretical than actual situation – deposits of over €100,000. From 2019, senior bonds will become subordinate (thus vulnerable to earlier bankruptcy measures) to business deposits over 100 thousand euro. This is already the case with regard to household deposits of over €100,000.
It must be said, however, that, according to simulations made by Prometeia on the Italian banking system, neither deposits nor senior bonds would be damaged by maxi-devaluation of impaired credit and bail-ins20. Reason: the banks have enough capital and subordinate bonds to absorb possible losses. Furthermore, in April 2016 saw the creation of Atlante, an investment fund to support increases in bank capital and to help manage non-performing loans. Promoted by the government using private resources for the banking sector and launched by the Quaestio Capital Management SGR[11], has the aim of "ensuring the success of increases in capital requested by the Supervisory Authority of banks that find themselves facing objective market difficulties, acting as a back stop facility," reports the statement by Quaestio, and to "resolve the problem of non-performing loans. The total sum of non-performing loans that can be deconsolidated by bank financial statements will be far greater than those acquired by the fund, insofar as Atlante will focus its own investments on the junior[12] tranche of vehicles of securitisation, being able to leverage those with greater seniority for which there is a manifest interest on behalf of investors." The Atlante Fund, the statement continues, "has the aim of eliminating the high discount at which the market values Italian financial institutions because of: non-performance loan stock quadrupled since 2007, due to the severity of the recession; credit recovery times much longer than the European average; massive increases in capital required by devaluation; uncertainties surrounding the capacity of certain institutions to complete successfully the increases requested by the Supervisory Authority."
The measures taken by the private investors of the Atlante Fund and the provisions of the Italian government on bankruptcy law are considered decisive, at the moment of writing, for the support of increases in capital (with quotation) for the two Veneto banks in difficulty – the Banca Popolare di Vicenza and Veneto Banca.

Government Objectives for 2016[13]

On 8 April 2016, the Council of Ministers resolved upon the Document of Economy and Finance (DEF), which updates the programmatic framework on which executive action is structured.

[10] I. Diamanti, Repubblica, 22 December 2015
20 A bail-in is an instrument that allows the resolution authorities to reduce the value of shares and certain types of credit or to convert them into shares in order to absorb losses and recapitalise the bank to a sufficient extent to recover adequate capitalisation and to maintain market confidence.
[11] http://www.quaestiocapital.com/
[12] More at risk
[13] Economy and Finance Document 2016 – Ministry of Economy and Finance

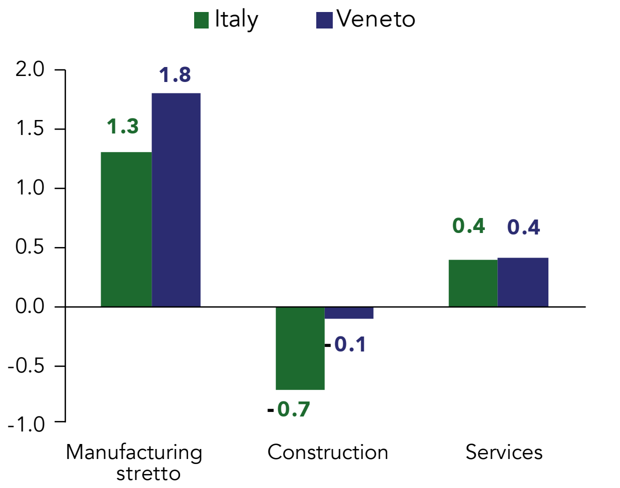
The main objective is to boost growth and employment and the instruments can be summarised as follows: broad national structural reform and public and private investment stimulus; gradual yet robust consolidation of public finances, such as to reduce in increasing measure the relationship between debt and GDP; reduction of the tax burden, which is tied to increased efficiency in expenditure and public administration activity; improvement of the business environment and of the competitiveness of the Italian system.
Improving the "investment climate" in Italy is an essential condition for providing adequate support to public and private investment. In support of this priority, continuation on the path of Public Administration reform is expected, which will also include civil law; the objective is to make it more streamlined and simple, in line with European standards.
In support of the investment decisions, the document introduces new measures to simplify access to credit, encourage capitalisation and business listing on the stock market, provide added value to patents and other intellectual works.
There is confirmation of the desire to strengthen national policies, shared by all regions, in which there are persistent delays in the formation of human capital, in productivity and in infrastructures, i.e. the factors essential to the attractiveness of a region. With this in mind, the document includes the adoption of a Masterplan per il Mezzogiorno (Masterplan for the South), which aims to develop production chains moving from the most dynamic centres of the Southern Italian economic fabric, increasing their entrepreneurial capacity and professional expertise. These actions are accompanied by the reform of national collective bargaining, the provisions on household support, on situations of poverty and the implementation of Law107/2015 on education.
The scope of the measures indicated in the DEF envisages a public spending review, which will focus on: a review of taxation, increased regulatory conformity to broaden the tax bases and obstruct tax evasion and reform of the national balance sheet.
Thanks to the implementation of the abovementioned measures, the government estimates growth of 1.2% in the economy for 2016 and then between 1.4% and 1.5% up to 2019. As far as concerns the deficit/GDP ratio, it is predicted at 2.3% for the current year and at 1.8% for 2017; public debt should fall to 132.4% of GDP in 2016. The DEF sets inflation at 1.3% in 2017 and 1.6% in 2018, whilst the national unemployment rate should fall this year to 11.4%, going on to fall below 10% by 2019.

1.4 The Veneto Economy[14]

Official regional accounting data goes as far as 2014, so we will refer to estimates and predictions by the Prometeia Research Institute.
It is estimated that Veneto GDP will grow by 1% in 2015, a rate slightly above the national average.
Coming out of stagnation
Domestic demand is slowly moving out of the situation of stagnation of recent years: household consumption has risen by 1.3% and investments are positive once again, recording an increase of 1.4%. The results from 2015 can be attributed to good industrial performance in Veneto, which has returned to competitiveness and recorded an increase in added value of 1.8%, and to a modest increase in services of
+0.4%; at the same time, the construction sector again recorded a weakening of -0.1%.
From the point of view of the labour market, Veneto recorded an employment rate of 63.7% and unemployment of 7.5%, confirming its position as one of the leading regions in terms of low unemployment, with the second lowest national rate.
Positive indications for 2016
According to estimations for 2016, there should be continued recovery, insofar as in Veneto, as well as on a national level, the final months of the year gave encouraging signs in terms of an increase in both consumption and investments.
The fall in oil prices and absence of inflation should continue for 2016, on the one hand, in favour of household balance and, on the other, to the advantage of Veneto manufacturing. At the start of 2016, investment decisions were negatively affected by the slowdown in international demand, but conditions remain favourable for an export-led economy, such as that in Veneto.
In any case, after the long period of decline in expenditure for investments, businesses have a growing need to renew their systems and equipment, which have become outdated, in order to improve productivity.
Within this context of recovery after a long period of crisis and freezing of the most significant expenditure, investment decisions are guided above all by credit availability, given businesses' poor capacity for self- funding. And, in relation to this, businesses

[14] All the values displayed in the tables, graphs and text are expressed in real terms at 2010 prices, unless stated otherwise

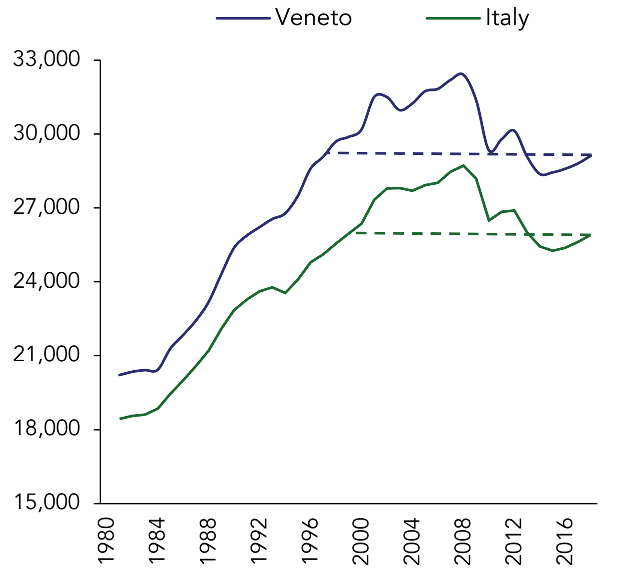
Figure 1.4.1 - % variation 2015/14 of the added value per business sector. Veneto and Italy



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data and Prometeia estimates

should benefit from the ECB reforms of March of this year, together with the capital goods purchasing incentives introduced for 2016 with the Stability Law, by means of a so-called "maxi-amortisation" of spending.

Figure 1.4.2 – Gross domestic product per capita (euro, 2010). Veneto and Italy – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data and Prometeia estimates

In the light of all of the above, predictions are made for a percentage variation 2016/15 estimated at +1.2% of GDP, with positive results for both domestic

Tab. 1.4.1 - Macroeconomic overview (percentage variations in chained volumes with reference year 2010). Veneto and Italy – Years 2013:2016

	2013		2014		2015		2016		
	Italy	Veneto	Italy	Veneto	Italy	Veneto	Italy	Prevision DEF Italy	Veneto
Gross domestic product	-1.7	-2.1	-0.3	0.4	0.8	1.0	1.0	1.2	1.2
Final household consumption expenditure	-2.5	-2.7	0.6	1.0	0.9	1.3	1.3	-	1.5
Final consumption of P. A. and Non-prof. F. W. Institutions	-0.3	0.0	-1.0	-0.6	-0.6	-0.5	0.0	-	0.1
Gross fixed capital formation	-6.6	-5.5	-3.4	-3.0	0.8	1.4	2.3	2.2	2.7
Import (a)	-5.1	3.4	-1.1	1.9	3.3	5.9	-0.3	-	-1.2
Export (a)	0.0	2.9	2.2	3.6	3.8	5.3	2.5	-	2.9
(a) Current values									

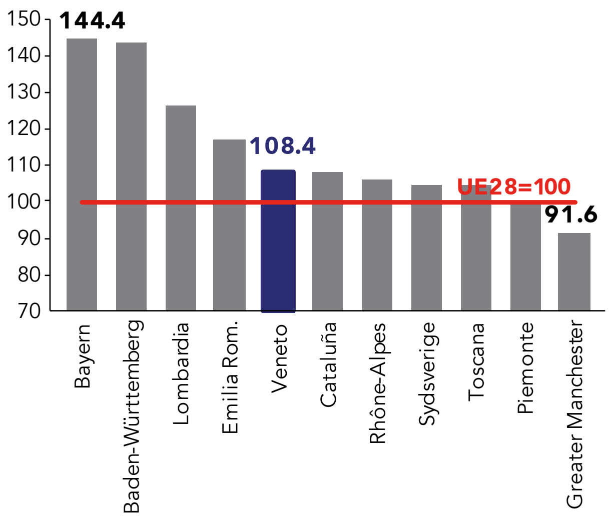
Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data, Prometeia estimates and forecasts (in red) and Ministry of Economy and Finance – Economy and Finance Document 2016

consumption (+1.2%), insofar as household spending should grow by 1.5%, and investments (+2.7%).
The added value of manufacturing should boost growth by 2.1% and that of the construction sector by 2%. The services sector is predicted to achieve consolidation of +0.8%.
For 2017, consolidation is predicted at +1.3%.
Veneto remains in third place among Italian regions for the production of wealth, after Lombardy and Lazio: 9.2% of national Gross Domestic Product is created in Veneto. GDP per Veneto inhabitant in 2014 was €30,034 at current values, 13% higher than the national average.

Veneto in Comparisons among Regions and over Time

Comparisons among economies reveal great differences among European regions. Veneto finds itself in an above-average position but does not excel when benchmarked with the highest performing European economies.

Figure 1.4.3 – Gross domestic product per capita (in PPS, EU-28=100). Veneto and certain Italian and European competitors – Year 2014

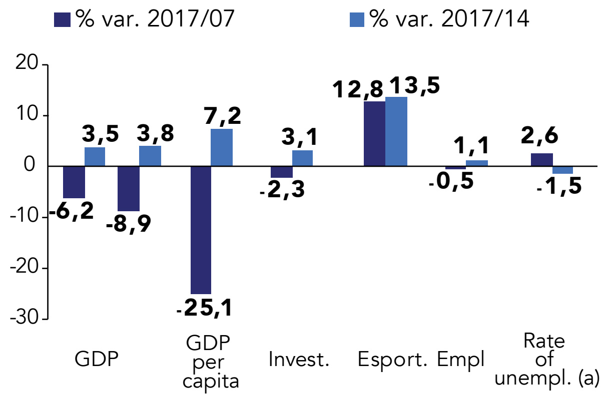


Source: Veneto Region Data Processing - Regional Statistical System Section on Eurostat data

Veneto regional performance is positive but slowed by a weaker average growth in GDP in recent years as compared to that of the other benchmark regions and regions of Western Europe[15].

[15] In-depth analysis of the productive organisation of the European best performers can be found in the Veneto Region 2012 Statistical Report.

Figure 1.4.4 - % variations 2017/07 and 2017/14 of certain economic figures. Veneto



(a) Difference between rates in the period of reference
Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

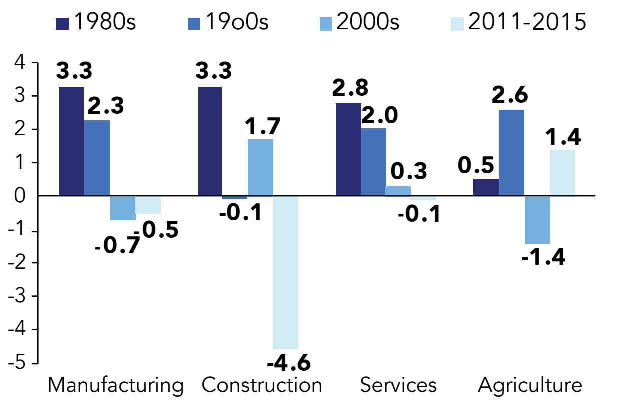
Veneto holds a good position among European competitors…

Among Italian competitors, Veneto is beaten only by Lombardy and Emilia Romagna, whilst German and Finnish regions confirm their competitive strength. Veneto and Catalonia prove superior to the French Rhône-Alpes, English Greater Manchester and Swedish Sydsverige.
The lower growth in GDP recorded since the start of the new millennium certainly contributed significantly to Veneto's result.
Since 2000, the above-average GDP per capita and the evolution of employment haven't managed to compensate for the weak growth in Gross Domestic Product, driven by the increase in population but slowed by decreasing productivity.

…but is not yet back to pre-crisis levels

Predictions for 2017 include positive developments for the main economic variables; however, despite the recovery expected for the 3-year period 2014/2017, the Veneto economy will still be working, at the end of 2017,on healing the scars left by the stagnation period, above all in terms of GDP, investments and consumption. In contrast, on the foreign sales front, our region continues to grow, as is explained in more detail later on in this report.
From a sectorial point of view, Veneto remains a region with a strongly industrial vocation; manufacturing is a valuable backbone in terms of both workforce and production of wealth incremented by significant international trade in goods: the share of

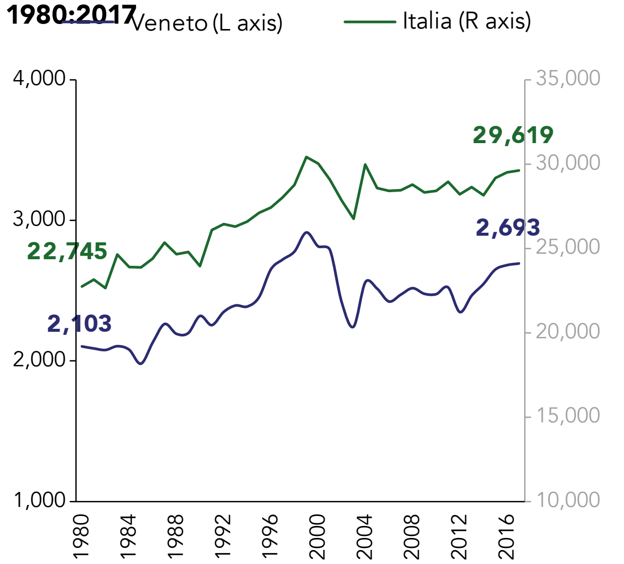
Figure 1.4.5 – Average annual % variation in added value per business sector, in the different periods. Veneto



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

wealth produced by industry stands at around 30%. It is also true that, in recent decades, Veneto's productive structure has been gradually transformed, moving increasingly towards the tertiary sector, favouring the business services area and, at the same time, reducing the weight of the other economic sectors.
This change has been hindered by the difficult national and global economic situation and, in fact, is only partially underway, insofar as financial growth in the tertiary sector has failed to compensate for the reduction in manufacturing.

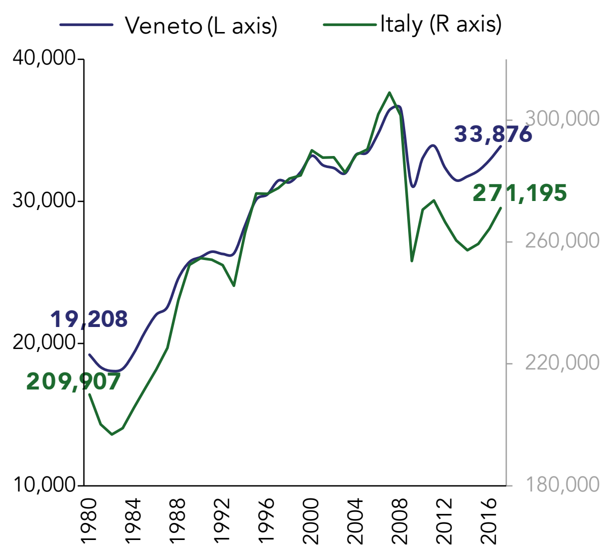
Figure 1.4.6 – Added value of services (millions of euro, year 2010). Veneto and Italy – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

The added value created by services in 2015 was €86.7 billion, in real terms, and its progressive growth over the years was halted precisely in 2008, the first year of the financial crisis; in 2009, difficulties persist and, from then on, we see a fluctuating trend that fails to find a sure road to recovery.
Indeed, following an average annual increase26 of 2.8% seen in the 1980s, the average annual added value in the 2000s is only a little over zero (0.3%) and stagnant in the years 2011 to 2015 (-0.1%).
The manufacturing area of industry produced added value of over €32 billion in 2015, a value similar to that of the early 2000; the recovery of the mid 2000s was interrupted abruptly by international events and, since then, has slowed continuously, with an average annual fall of 0.5% from 2011 to 2015.

Figure 1.4.7 – Added value of manufacturing (millions of euro, year 2010). Veneto and Italy – Years 1980:2017

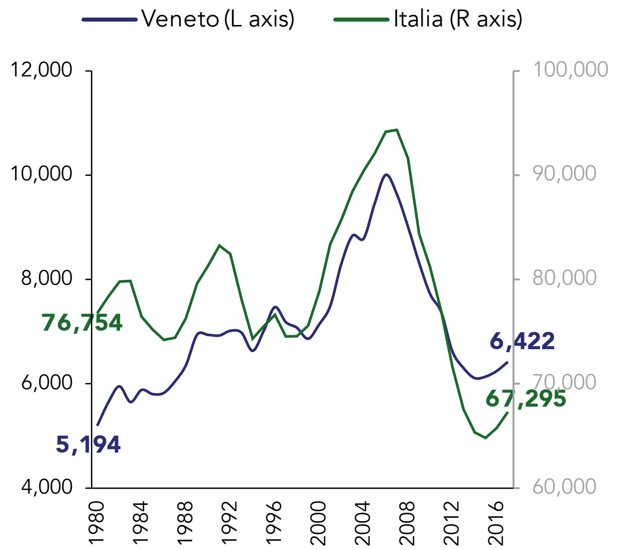


Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

The construction sector holds around 5% of total regional added value, worth over €6 billion. The financial crisis hit small handcrafting enterprises the hardest, despite the extensive use of incentives, building restoration and urban renewal; there was an average annual reduction in added value of 4.6% in the period 2011-2015.
The only sector with a positive average annual increase, of 1.4%, in the most recent period is the primary sector, which produced added value of around €2.6 billion, 2% of the total regional economy; it may

seem a very small proportion, but it is important to remember that Veneto produces around 9% of national agricultural added value, holding fourth position in the Italian regional rankings.
GDP per inhabitant[16], which is a commonly used measurement for calculating the level of wealth of an area based on the amount of wealth produced by its economic system, dropped sharply as of 2007, both in Veneto and on an international level. In 2015, it grew a little, and now sits above the national average of over €3,000, with predictions of an upward trend over coming years beyond its current level which is the same as that of 1995.

Figure 1.4.8 – Added value of construction (millions of euro, year 2010). Veneto and Italy – Years 1980:2017



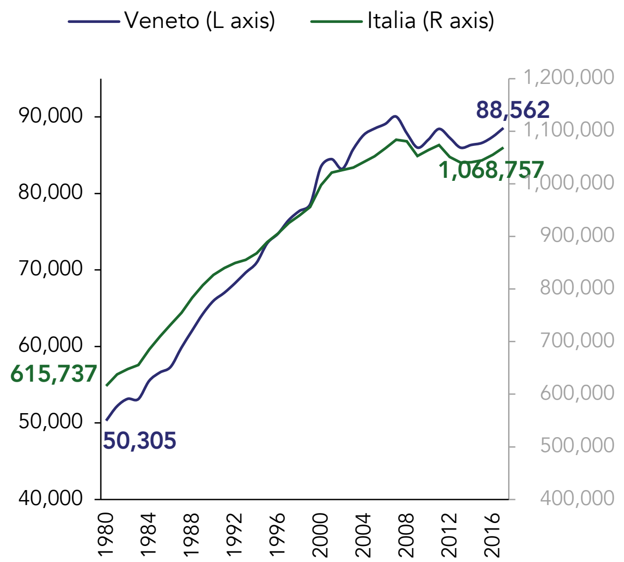
Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

GDP per capita returns to growth

Disposable income[17], on the other hand, is a synthetic measurement of the economic wealth enjoyed by the residents of a region, considered as consumers and savers. Disposable income per capita of Veneto households in 2015 was around €18,250, higher than the national average and finally an increase on the previous year. The downward spiral that took the value, in real terms, to as low as those seen in the late 1980s, finally came to an end. Predictions for 2016 and 2017 show further increase.

[16] Average annual increase in x from year t to year n = ((xn-xt)*100/xt)1/(xn-xt)
[17] Calculated here in euro 2005, in order to evaluate the historical trend devoid of the effects of inflation.

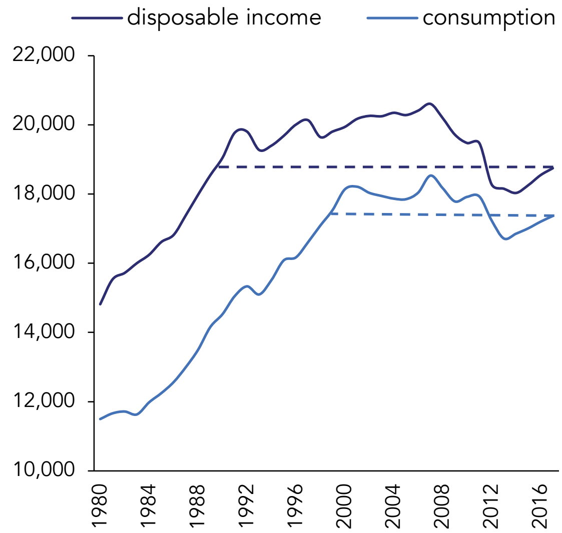
Figure 1.4.9 – Added value of agriculture (millions of euro, year 2010). Veneto and Italy – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

Household consumption per capita, evidently linked to the level of income, had already pre-empted a trend reversal the year before and, in 2015, this continues with an increase of 0.9%. This variable is also at levels similar to those of 1989/90 but predictions are optimistic.
Data on disposable income and consumption for 2015 confirms the signs of improvement in situation for Italian households. The household balance sheets have benefited from certain favourable factors that have been in place for several quarters: the labour market already records a recovery, thanks in part to social security contributions; inflation of close to zero has enabled the improvement of household purchasing power.
In general, we can see that the trend in disposable income is a lot more volatile, with considerable positive and negative fluctuations, whilst the trend in consumption seems to be more moderate: households tend to keep their spending standards as constant as possible, compensating for fluctuations in purchasing power, especially when negative, by varying their consumer tendencies.
The rate of saving also increased in 2015, returning to growth after dropping to an all-time low in 2012. The Veneto population's relationship with savings is unusual: in the early years of the crisis, they attempted to maintain their quality of life, notwithstanding a reduction in savings; then they reduced consump

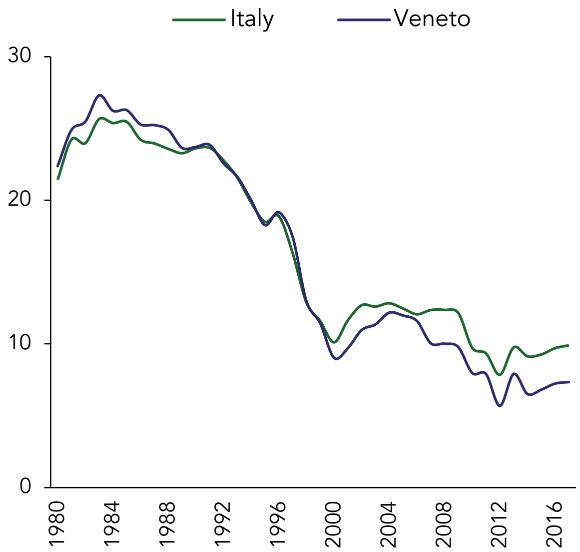
Figure 1.4.10 – Final consumption expenditure and disposable income of households (euro, year 2010, per capita). Veneto – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

tion beyond proportion with the fall in income, as a precaution against a perceived worsening of the situation; finally, today, they share the increase in income between consumption and savings.

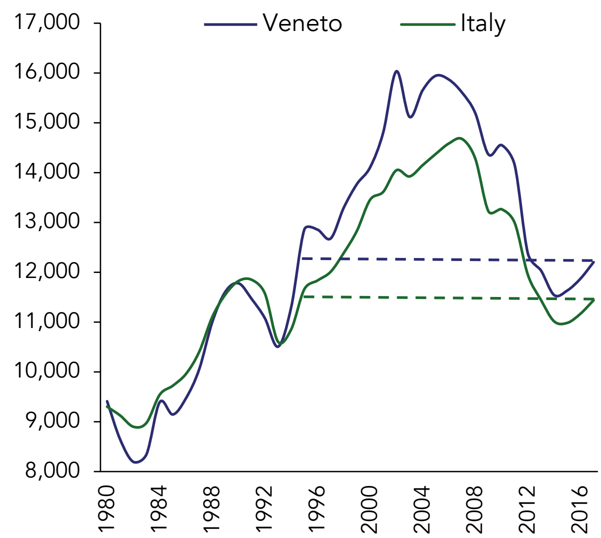
Figure 1.4.11 – Household saving tendencies. (*) Veneto and Italy – Years 1980:2017



(*) Savings as a proportion of household disposable income
Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

This change in behaviour can be interpreted either positively or negatively: do households perceive an end of the recession cycle? Or is it an indication of cautiousness with regard to uncertainty over the loss of value of real estate assets and to the Italian banking situation?
Among the components that form GDP, analysis was made of gross fixed capital formation, which is the value of durables purchased by resident producer units, to be used in the production process, as well as the value of services incorporated in purchased capital goods.
After years of decreasing values, investments per worker[18] in Veneto increased in 2015 by 0.8%, as compared to the previous year, and further increases are predicted for the next two years.
After the crash of 2009, productivity[19] began to recover, though it never got back to the peak values of 2007, then it dropped to an all-time low in 2012 and now, for several years, it has been more or less stagnant (+0.3% in 2015).

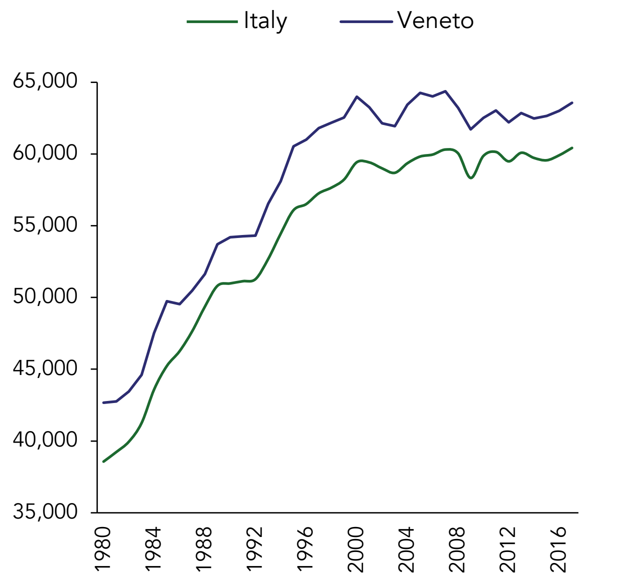
Figure 1.4.12 – Gross fixed capital formation per work unit (euro, year 2010). Veneto and Italy – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

[18] The total sum of current resources of operators for final use (consumption and savings). This includes all inflow and outflow pertaining to residents, even if produced outside of the region, whilst excluding resources produced within the region by non-residents.
[19] In order to standardise investments, annual work units were used. An annual work unit is the quantity of work undertaken in one year by a full-time employee, or the equivalent amount of work undertaken by part-time workers or those who have two jobs.

Figure 1.4.13 – Added value per work unit (euro, year 2010). Veneto and Italy – Years 1980:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on Prometeia data and estimates

Prices in Veneto

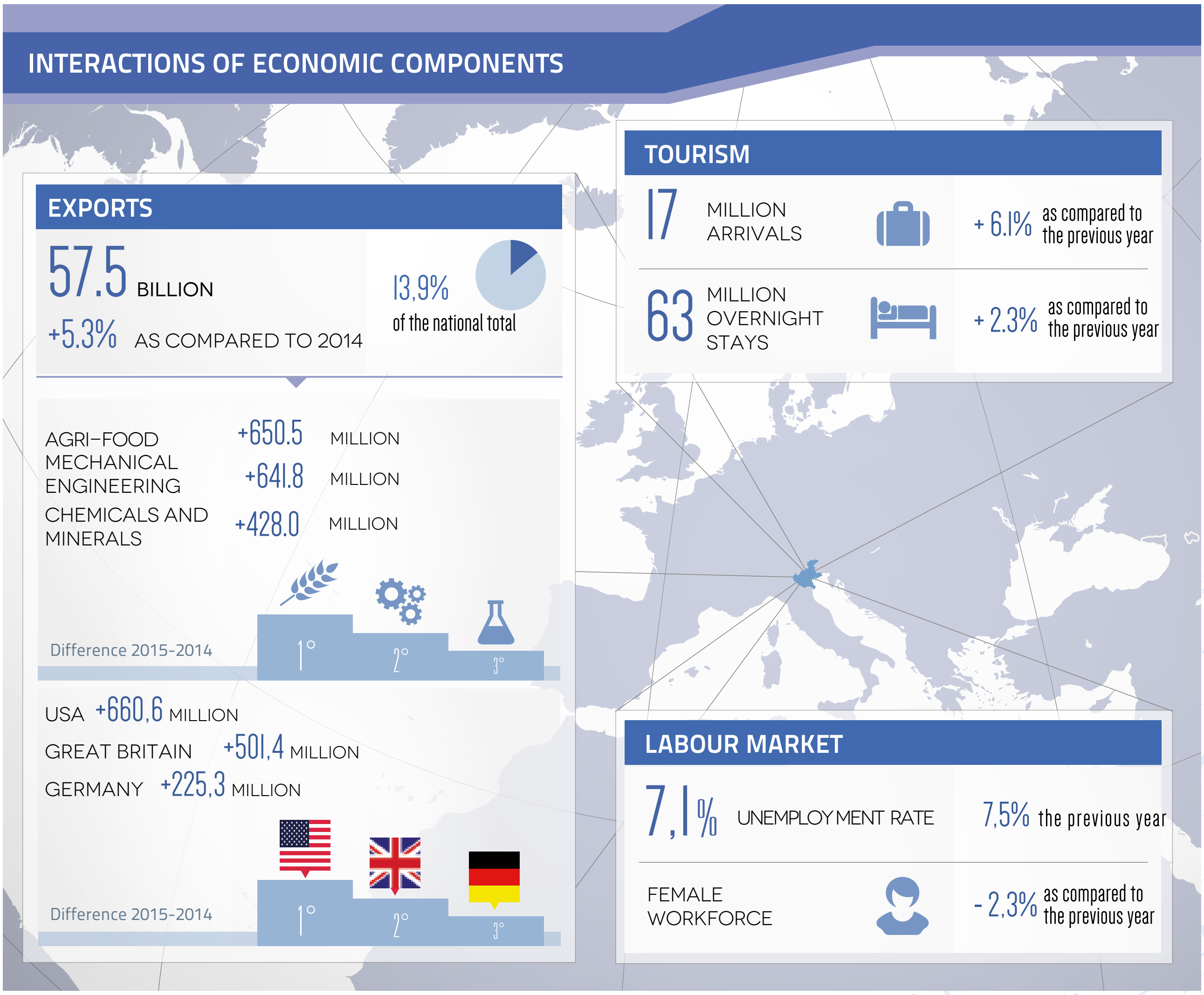
In Italy, inflation has been slowing down for over two years, reaching a rate of 0.1% in 2015. It was the lowest inflation rate since 1959, when Italy was under deflation (-0.4%).
ISTAT explains the price stability with the balancing of opposing driving forces: on the one side, the acceleration of the increase in the prices of recreational and cultural activities and personal care and thefurther reduction in the fluctuation of unregulated energy prices; on the other side, the reversal in the trend of transport-related prices and the slowdown in growth of prices of unprocessed foods.

Negative inflation

The average inflation recorded in Veneto in 2015 was even lower than the national average, at -0.1%. With reference to specific expenditures, Veneto displays a strong reduction in the prices of audio-visual and IT devices (-4.8%), depreciation in transport (-2.9%) and in spending relating to housing, electricity, and fuel (- 1.8%). An increase is seen, however, in the prices of tobacco, books and stationery, all levels of education, durables for recreation and culture, postal services, the purchase of vehicles and catering services.

Chapter 2 – The Economic Components and the Social Environment

2015 was an excellent year for Veneto exports, which continue to support the regional economy: €57.5 billion, with a share of 13.9% of total national exports. The year ended with a very pleasing increase of 5.3% in export value, as compared to 2014, the greatest percentage variation since 2011.
Veneto's domestic trade has stalled, whilst the cross-cutting segment of e-commerce continues to thrive. The overall value of gross agricultural production in Veneto was estimated at €5.7 billion for 2015, essentially in line with the previous year (-1%).
Active Veneto enterprises numbered 437,130 in 2015, 8.5% of the national total, a fall of 0.3% as compared to 2014, excluding agriculture, and of 0.5% with agriculture included.
In 2015, the flow of visitors to Veneto increased once again (+6.1%) and surpassed 17 million arrivals for the first time. This also coincides with a significant increase in overnight stays (+2.3%), which once again exceed 63 million.
The 2015 labour market is characterised mainly by a fall in unemployment after seven negative years, both in Veneto and in Italy: in our region, the unemployment rate fell from 7.5% in 2014 to 7.1%.



2.1 Excellent Results for Veneto Trade

As mentioned in the previous chapter, 2015 was not a particularly good year for global trade, with the weakening of demand from emerging markets, which increased fears over the health of the global economy.

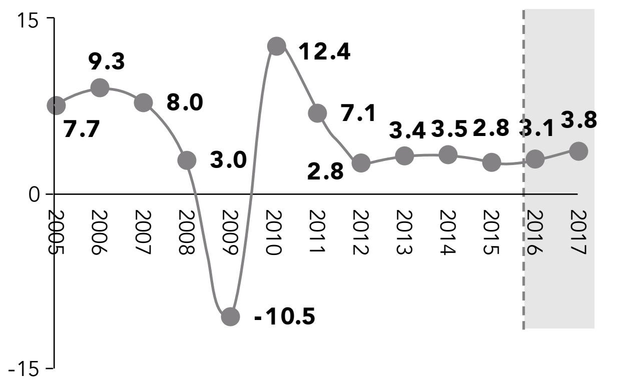
Continued risks for the prospects of global growth

The pace of the growth of global trade, which is usually almost double the growth of GDP, has followed the trend of production of global wealth in the past four years and growth prospects remain unclear, with the emerging economies that are losing the momentum of recent years.

The slowdown of growth in China, the economic stagnation involving may developed countries and the instability of prices of raw materials are the source of many worries for the start of 2016, which threatens to be full of hidden dangers for the global economy.

Within this context, the International Monetary Fund estimates growth in international trade of just less than three percentage points for 2015 and predicts very weak progress in global trade for the following two years.

Figure 2.1.1 – Annual percentage variation in the global trade of goods – Years 2005:2017



Source: Veneto Region Data Processing - Regional Statistical System Section on International Monetary Fund data

In Italy

Exports in national goods grew by 3.8% as compared to 2014, reaching a record overall total of over €400 billion.

In 2015, trade surplus grew to reach €45.2 billion, which becomes €78.7 billion net of the energy component. Trade surplus with non-EU markets was €33.4 billion, a good €6.6 billion more than the figure recorded for 2014, whilst for EU countries, the trade balance surplus dropped slightly: trade surplus with European partners was €11.8 billion, €3.3 billion less than the figure recorded for 2014.

Noticeable deficit with Eastern Asia

Among the non-EU markets, there is a noticeable trade deficit with countries in Eastern Asia, almost double the deficit of 2014 at -€9.2 billion, and a large surplus of around €24 billion with North America.

The increase in national exports is distributed evenly between EU markets (+3.9%) and non-EU markets (+3.6%). The most dynamic countries for the Italian-made exports are the United States (+20.9%), the third- most important market of reference for Italian enterprises, the United Arab Emirates (+16.1%), Belgium (+10.6%), Spain (+10.1%), India (+10.3%) and Great Britain (+7.4%), consolidating fourth position in the rankings of the principal destination markets of Italian goods.

Foreign sales towards the two main trading partners, Germany and France, grew last year by +1.8% and 1.3% respectively.

Sales of Italian products in China remained almost unchanged (-0.7%), whilst there was a reduction in trade flows towards Eastern European countries, especially due to the significant drop in sales to Russia, where Western sanctions over the Ukrainian crisis, together with the fall in price of raw materials, led to exports shrinking by over twenty five percentage points (€2.4 billion less than in 2014) and to Brazil (-17.4%), due to the recession that hit the country.

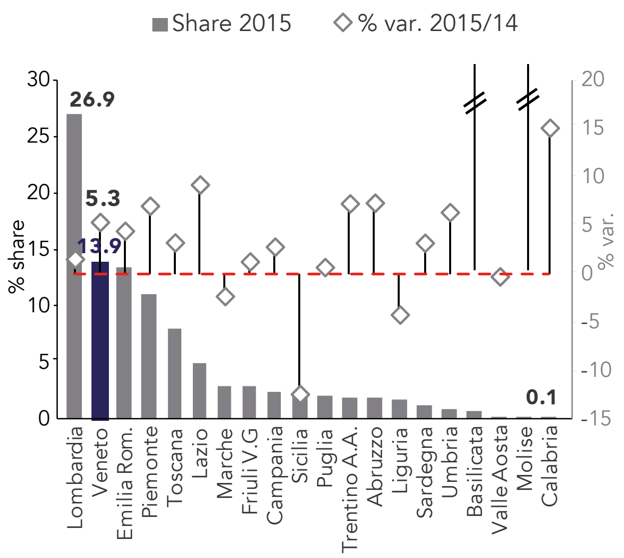
On the commodities front, there have been excellent performance in the sale of transport vehicles (+12.7%), with an increase of €5 billion as compared to 2014, in the electronics sector (+11.0%), gold sector (+8.4%), agri-food production (+7.4%) and timber industry (+6.3%). Growth in foreign sales of mechanical engineering products, one of the leading Italian production sectors, was just over two percentage points.

The only sector that recorded a decrease in foreign sales was the metalworking industry (-2.0%), which follows the negative trend that began in 2013.

In 2015, after three negative years, national procurement returns to growth, with +3.3%. Growth

in imports concerned all the main manufacturing areas, with peaks in the transport vehicle sector (+21.5%), electrical appliances sector (+13.3%), jewellery sector (+12.2%), electronics sector (+9.8%) and machinery (+8.7%).
The only sector with negative growth was that of energy products, which recorded close to -12% in purchases. From a geographical point of view, growth in procurement from the EU (+5.9%, an increase of around €12 billion as compared to 2014), from East Asia (+13.4%), now the second largest area of procurement for Italian businesses, more than compensated for the reduction in imports, in terms of value, from markets linked to raw materials, such as North Africa (-15.8%), the Middle East (-8.3%) and Russia (- 17.5%).

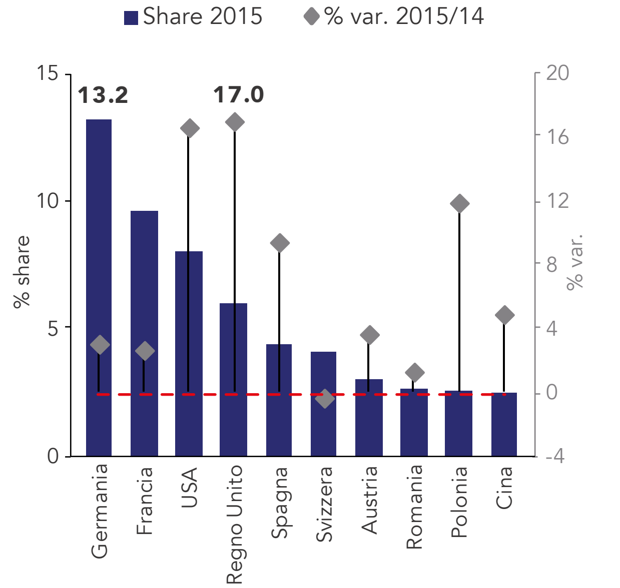
Figure 2.1.2 – Annual percentage share and variation of exports per region – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Among EU partners, there is a recoded significant increase in imports from Poland (+18.7%), due mainly to the purchase of transport vehicles (584 million more than in 2014), from Belgium (+13.8%) and from the Czech Republic (+15.6%).
Over the course of 2015, there was growth in national exports in all areas, except the islands (-7.3%). Southern Italy recorded the largest growth (+10.2%), followed by the North-east (+4.7%), Central Italy (+4.0%) and the North-west (+2.7%).
The regions that contributed the most to the increase in national exports in 2015 were Piedmont (+7.0%), Veneto (+5.3%), Emilia Romagna (+4.4%); Lazio (+9.2%), Lombardy (+1.5%) and Basilicata (+145.7%).
Negative contributions included Sicily (-12.4%), Liguria (-4.2%) and Marche (-2.3%).
During 2015, the provinces that made the greatest contributions in support of sales on foreign markets were Turin, Potenza, Latina, Vicenza, Florence and Bologna.

Figure 2.1.3 – Annual percentage share and variation of Veneto exports to the main markets – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

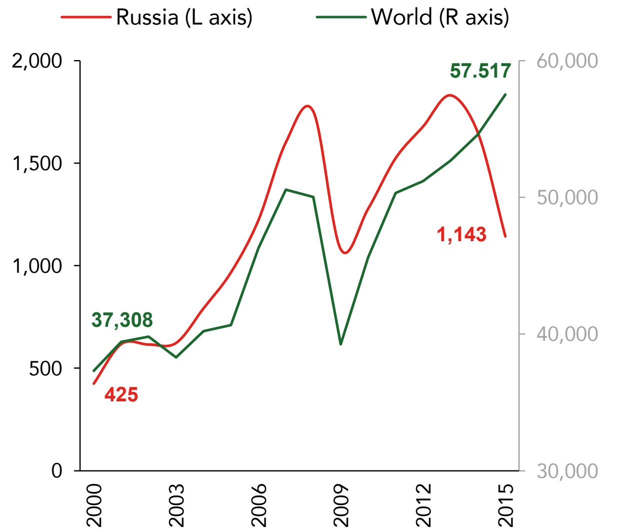
In Veneto

2015 was an excellent year for Veneto export, which continues to support the regional economy. The year ended with a pleasing increase of 5.3% in exports as compared to 2014, the biggest percentage variation since 2011. Veneto confirms itself in second position in the regional rankings for overall export value: €57.5 billion, with a 13.9% share of the national total.

The major contributors to the increase in Veneto exports are the US and UK markets

The increase in Veneto exports is also distributed evenly among EU countries (+5.5%) and non-EU countries (+5.1%). Among the principal markets, there were double-figure increases in the sales of Veneto products in the United States (+16.6%), thanks to the depreciation of the euro against the dollar, which caused a sharp increase in the sales of eyewear (+26.1%, €175 million more in sales than in 2014), in the United Kingdom (+17.0%), where the greatest increases in terms of value were seen in the sale of agri-food products (+€117 million) and mechanical engineering products (+€68 million), in Poland (+11.9%), in Croatia (+13.2%) and in Mexico (+22.9%, up €120 million on the previous year). These are followed, with above- average performance for the region, Spain (+9.4%), Turkey (+9.3%), Sweden (+8.4%) and Belgium (+6.0%).

Figure 2.1.4 – Veneto exports to Russia and the World. Values expressed in millions of euro – Years 2000:2015



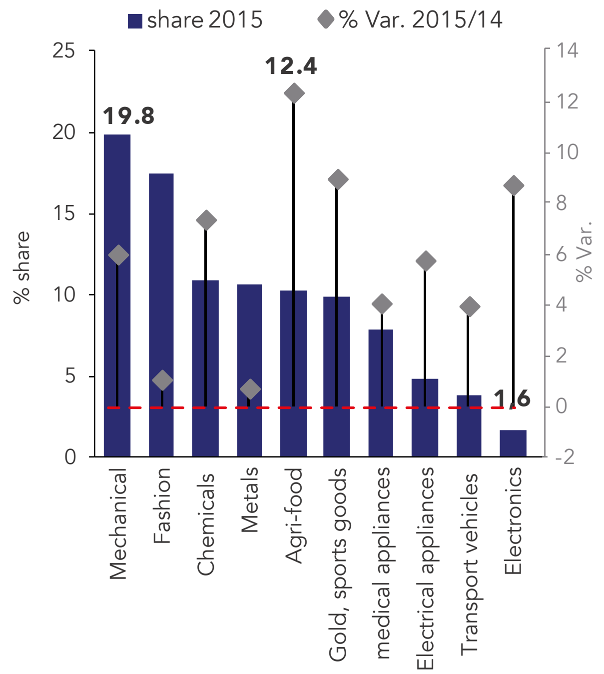
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Exports of Veneto products to China grew by +4.9%: the reduction in turnover of mechanical engineering products, the leading Veneto sector in exports to China, was more than compensated for by the increases in exports of eyewear, chemical products and of the timber industry.
Below average growth for the region was exhibited by the two main markets of reference: Germany (+3.1%) and France (+2.7%). Germany remains Veneto's leading trade partner with €7.6 billion in exports and with an overall share of 13.2%.

The Russian market crisis

In 2015, there was consolidation of the sharp fall in the Russian market. The fall in oil prices, the strong depreciation of the ruble, the increase in inflation and the Western sanctions all weakened greatly the Russian economy last year, condemning the country to stagnation. All this is having a negative effect on the dynamics of trade.

Figure 2.1.5 – Annual percentage share and variation of Veneto exports per sector – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Veneto turnover in sales to Russia, after the decrease of around €180 million recorded in 2014, fell again in 2015 by 30.6% (€505 million), which led to it falling from eighth to thirteenth place in the rankings of the main export markets of the region. In addition to goods from the agri-food industry, which are partly under embargo and halve in value (-€31 million), the other areas hard hit were mechanical engineering (-€142 million), fashion (-€98 million) and furnishings (-€64 million), the leading sectors of Veneto products in Russia.
In 2015, the growth in regional exports was led by capital goods[1] (+6.5% as compared to 2014, for a total sum of just over €18 billion), whilst foreign sales in consumer goods and intermediate goods

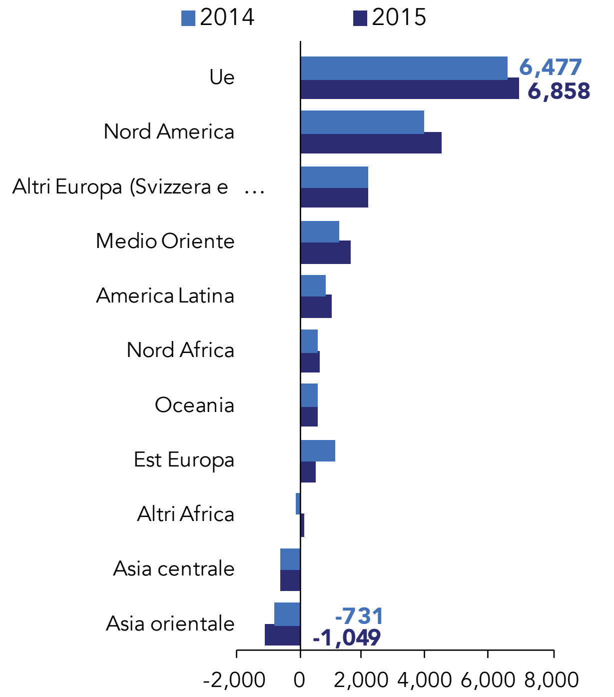
1 Goods used for the production of other goods (machines, transport vehicles, etc.), intended to be used for periods of more than one year.

grew annually by around five percentage points.

The rise of capital goods exports

In 2015, Vento exports recorded trend increases in all the main sectors of economic activity. The main Veneto export sector remains mechanical engineering (€11.4 billion in foreign sales), with an annual increase significantly above the national average, at +6.0%. As far as concerns the dynamics of the main foreign markets of Veneto mechanical engineering, in contrast to a notable decrease in sales in Russia (-
€142 million) and China (-€62 million), there was a strong increase in sales in the US (+€99 million), Algeria (+€69 million), the UK (+€68 million, Spain (+€63 million) and in Egypt (+€40 million). Thus, we see a repositioning of the supply of Veneto-produced machinery towards certain markets closer geographically or in areas where the domestic demand is growing.
Exports in fashion, the second biggest Veneto export industry (€10 billion in foreign sales in 2015), grew by one percentage point. The German market remains the principal channel for Veneto fashion products, despite the poor growth recorded in 2015 (+0.6%), whilst exports grew in the US market (+12.0%, €61 million) and in the UK market (+9.3%). In addition, there was growth in Veneto fashion exports to certain emerging markets, such as Vietnam and Poland, where there the vibrancy of domestic demand is more pronounced. Negative reports for the industry come from certain Far Eastern markets, such as Hong Kong and Japan, and from Russia, with a decrease of almost €100 million as compared to the previous year.
The commodities sectors that made the greatest contribution to the growth in Veneto exports in 2015 were eyewear production (+12.6% on 2014, with a total share of 6.0%) and agri-food products (+12.4%, with a share of 10.3%).
The Veneto eyewear sector recorded increases in turnover in almost all the main markets, with the exception of Brazil and Hong Kong. The US was confirmed as the leading foreign market of reference for Veneto eyewear: €845 million in sales recorded in 2015, with a share of 24.5% of overall sector exports and an annual increase of +26.1%.
Most likely due to the Expo effect, the Veneto agri-food export market ended 2015 with a record balance of
€5.9 billion. The dynamics of Veneto exports in these products are changing and developing in a new direction. 72% of foreign sales in agri-food products are achieved through exports to EU markets, with annual growth of over twenty percentage points in the UK, Spain and Poland. But Veneto agri-food products are going strongly beyond European bor

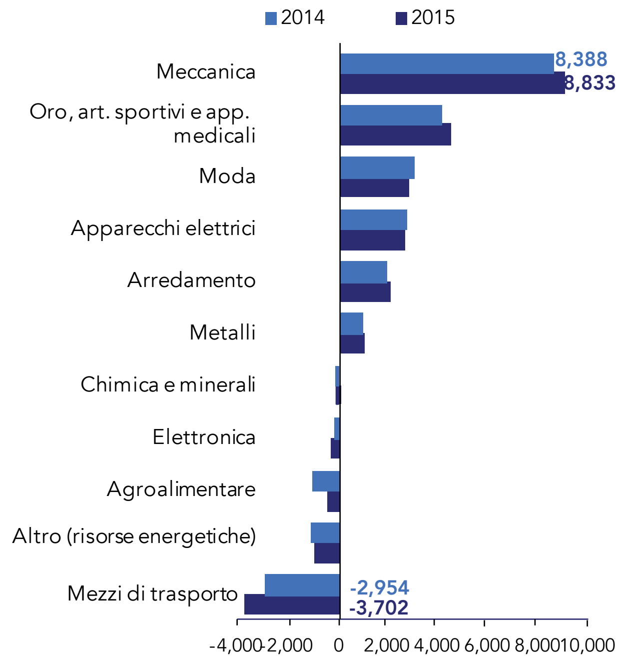
Figure 2.1.6 – Balance of trade per geographical area. Values expressed in millions of euro. Veneto – Years 2015 and 2014



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

ders too, starting with the US, which is the leading non- EU market (€468 million in 2015), with annual growth in Veneto food sales of +20.9%. Negative figures arrive from the Russian market, with -42%.
The Veneto trade balance was positive for 2015 too, with almost €16 billion, displaying very strong results in mechanical engineering (€8.8 billion in surplus), the group "Jewellery, sports goods and medical supplies" (+€4.3 billion), fashion (+€2.6 billion), electrical appliances (+€2.5 billion) and the timber industry (+€1.9 billion), whilst very negative results were recorded for the transport sector (-€3.7 billion) and agri- food products (-€464 million), with a much lower trade deficit than the previous year.
The regional trade balance per geographical area showed surplus for the EU (+€6.9 billion) as well as for non-EU countries (+€8.7 billion), both with an

Figure 2.1.7 – Balance of trade per business sector. Values expressed in millions of euro. Veneto – Years 2015 and 2014



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

increase as compared to the previous year. The deficit towards East Asia remained significant (-€1 billion), an increase on 2014, and towards Central Asia (-€569 million). The deficit with China continued to grow, returning to the figures of 2008 (-€2.6 billion). In 2015, the value of Veneto goods imports increased by 5.9% as compared to the previous year, reaching a record €42 billion.

Growth in the region's imports concerned purchases from both the EU (+5.4%) and non-EU countries (+6.7%), which returned to growth after the negative figures recorded in 2014.
In non-EU markets, the purchase of products mainly involved the following markets: China (+13.4%), which remains the strong leading market of non-EU procurement, the US (+30.3%), Russia (+17.1%), Bangladesh (+24.1%) and Vietnam (+20.8%). Imports have fallen, however from: Qatar (-10.5%), South Africa (-6.4%), Ukraine (-18.2%) and Brazil (-2.6%).
Imports from the main European partners demonstrated growth: +4.4% from Germany, +3.35 from France,
+13.9% from Spain, +14.5 % from The Netherlands, +2.3% from Romania and +9.0% from Belgium. The only negative result came from Austria, with -1.7%.
Among the leading economic sectors, there were notable increases in imports of transport vehicles (+16.4%), for a second consecutive year of growth, electronic products (+20.1%), returning to growth after a significant decline over the previous four years, fashion (+5.1%), chemical and pharmaceutical products (+6.8%) and mechanical engineering products (+8.4%).

In the Provinces

In 2015, exports increased in all the Veneto provinces: those that contributed most significantly to supporting regional sales on foreign markets were Belluno (+11.9%), Vicenza (+5.5%), Verona (+5.5% and Venice (+5.4%).

Vicenza as leading province

Again in 2015, Vicenza confirmed its

Tab.2.1.1 - Foreign commercial trade according to province. Values expressed in millions of euro and annual % variation – Years 2014:2015

	Exports			Imports		
	Millions euro, 2015	% share	% Var, 2015/14	Millions euro, 2015	% share	% Var, 2015/14
Belluno	3,782	6.6	11.9	861	2.1	12.8
Padova	8,743	15.2	2.8	6,004	14.3	7.6
Rovigo	1,435	2.5	4.7	2,277	5.4	0.3
Treviso	11,919	20.7	5.0	6,539	15.6	6.7
Venezia	4,386	7.6	5.4	4,899	11.7	6.3
Verona	10,141	17.6	5.5	12,420	29.6	9.3
Vicenza	17,110	29.7	5.5	8,910	21.3	0.5
Veneto	57,517	100.0	5.3	41,909	100.0	5.9

Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

position as leading Veneto province in export capacity, with a share of almost 30% of the region's total foreign sales, equalling €17 billion. The main reference market for Vicenza enterprises remained Germany, with annual growth of 2.1% in 2015, for a turnover of around €2 billion.
The US market is the second largest trade partner, thanks to the significant increase in trade (+6.6%). Sales also rose sharply to the UK (+15.9%) and to Poland (+13.4%).
The fashion sector (textiles, clothing and leather) remained the primary export sector for Vicenza: in 2015, more than one quarter of foreign sales of the province were generated by sales in these products. The second-largest export sector also performed well: sales in machinery produced in Vicenza rose by 7.4%.
The second Veneto province in terms of foreign sales value was Treviso, with a share of over 20%, for a value of around €12 billion and growth of five percentage points. Treviso's primary export sector is also fashion, which maintained almost the same value as the previous year (€2.3 billion), followed closely by mechanical engineering products (€2 billion and annual growth of 6.4%) and electrical appliances (€1.5 billion). Germany and France, though recording modest growth in foreign sales of less than two percentage points, remained the main markets for Treviso exports. There was significant growth, however, in exports to the UK (+25.4%) and the US (+24.8%), which reinforce their positions in the rankings of reference markets for Treviso producers.
Foreign turnover of Verona exports, which grew by +5.5% over the past year, contribute to regional exports with a share of around eighteen percentage points. Whereas the two main reference markets (Germany and France) grew at a pace in line with the provincial average, the markets of the US, UK, Spain, Switzerland and Croatia recorded the largest increases.
The agri-food sector is confirmed as the main sector of Verona exports, with foreign sales in 2015 of over
€2.6 billion, which is €274 million more than the value recorded for 2014.
Businesses in Padua achieved exports of €8.7 billion. Overall annual growth in exports stood at +2.8%. Increases in exports were promoted by sales in US markets (+€144 million as compared to 2014), UK markets and Belgian markets, whilst the negative trends continued in sales to Russia (-€126 million as compared to 2014 and Switzerland (-€100 million). The main provincial export sector remained that of mechanical engineering products, which recorded growth of 2.3%, almost in line with the average provincial data. A return to significant growth is recorded for agri-food products (+14.5%) and electrical appliances (+14.8%), whilst there was a fall in fashion exports (-7.7%, for a value of €80 million less than in 2014) and in metalwork (-5.7%).
In 2015, exports from the province of Venice reached €4.4 billion. The increase was generated by the chemical sector (€128 million more than in 2014), agri-food products (+9.0%) and metalwork (+6.8%). The positive dynamics of Venice exports were, in part, reduced by the negative trend in sales of transport vehicles (-2.9%) and in the energy sector (-3.8%).
Belluno was the leading province for growth in turnover of foreign sales for the fourth year in a row: +11.9% as compared to 2014, with overall exports of €3.8 billion in 2015. The opening to foreign markets was determined mainly by the sale of optical equipment, which makes up 73% of the province's foreign sales. This excellent performance in exports was driven sales to the US, UK and Chinese markets.
The businesses located in the province of Rovigo exported goods for a value of €1.4 billion, increasing foreign sales by 4.7% as compared to the previous year. The main export sector of Rovigo remained the chemical sector, with a share of 25.0% of the province's exports, followed by food products, which recorded a best annual performance in terms of value (+€30 million) and mechanical engineering products. In terms of markets, sales increased strongly to Oman, Spain and the UK.

Export Companies

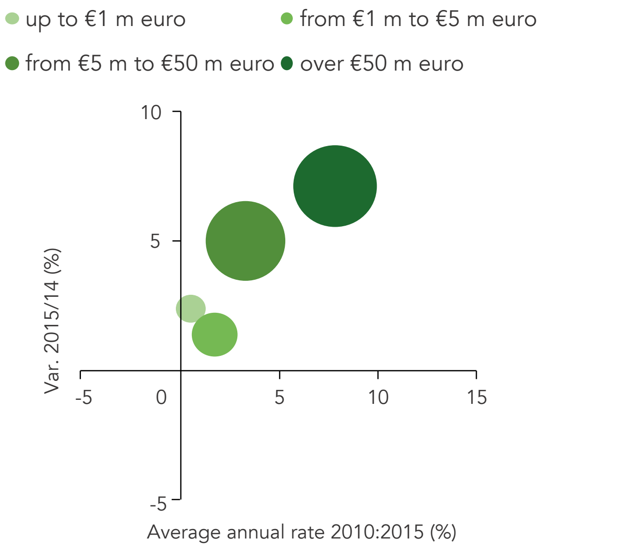
In 2015, 28,903 economic operators in Veneto sold goods abroad, an increase of four percentage points as compared to recordings for 2014.

An increase in micro exporters

The increase in number of operators recorded last year concerned mainly the micro-exporter category (less than €100,000 of exports) positioned in markets in Europe, North America and Central and East Asia. In terms of individual markets, there was a significant increase in the number of Veneto export companies in the United States (+507 as compared to 2014), in Kazakhstan (+464, with modest related annual growth in exports of +€6 million as compared to 2014), in Turkey (+342),

in Serbia (+286), in Egypt (+205, in Croatia (+193), in the United Arab Emirates (+166), in Iran (+164), in Poland (+148), in China (+139) and in Canada (+127). There was a continued negative trend in business presence in Russia (-514 as compared to 2014), Ukraine (- 248), Libya (-286) and Brazil (-183).
Operator distribution according to sales value confirmed the presence of a large band of micro-exporters: 17,240 exporters have a total foreign sales turnover of 0.6% of regional exports, which becomes 5% including operators with foreign sales of up to €1 million (just over 83% of Veneto operators). This range of businesses recorded growth in exports of 2.4%. In the intermediate turnover category (from 1 to 50 million euro), there were 4,672 companies (16.2% of Veneto operators) that are responsible for 52% of regional exports. Last year, exports generated from this category of operators grew by 4.2%. Dividing the intermediate category into two sub-categories – small business exporters (€1-5 million) and medium sized exporters (€5-50 million) – it can be seen that small operators recorded a more limited increase in exports (+1.4%), whilst medium-sized exporters recorded foreign sales growth almost in line with the regional average.

Figure 2.1.8 – Veneto operators trading abroad according to export category: export share 2015 (bubble size), % variation 2015/14 and average annual growth rate 2015:2010



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Growth in sales by large exporters

There are 190 operators in the category with foreign sales of over €50 million, to which can be attributed 43% of sales on foreign markets. As compared to the previous year, there was a significant increase in foreign sales by this category of businesses (+7.1%).
From data analysis of the concentration of exports, there is a clear and constant increase in the weight of large operators, with the exception of the fall in exports in 2009, which was all the greater due to the larger dimensions of foreign sales. Between 2010 and 2015, it was the larger operators that benefited from the dynamism of international demand: the share in foreign sales achieved by the biggest two hundred operators increased from 41.1% in 2010 to 42.5% in 2015, with average annual growth of 5.4%, as compared to 4.7% for the whole region.
Operator presence in the main areas of commercial trade is, in any case, widespread: in 2015, there were 12,115 Veneto commercial operators in the EU, 9,669 in non-EU countries (Switzerland, the second largest market for operator presence, Norway and Turkey), 9,728 in Eastern European markets, 7,349 in East Asia, with China being the leading market in the area with 2,986 operators present, 6,960 in North America, 6,433 in the Middle East, 4,518 in Latin America, 3,891 in North Africa, 4,071 in Sub-Saharan Africa, 3,215 in Central Asia and 3,186 in Oceania and other territories.

Veneto and the Main European Competitors on Global Markets in the Past Three Years[2]

Recent years have really put to the test the capacity of businesses to compete on international markets. Firstly, in the past three years, global demand has not been particularly dynamic, with regard to both the three preceding years and the years that preceded the Great Recession. In addition, the international scene appears to be distinguished by increasing diversification, in which enterprises must disentangle themselves in order to seize business opportunities with success.

[2] Analysis was conducted on data in euro at current value. The following sources were used: CHELEM, WTO, ISTAT, DESTATIS, Spanish Ministry of Economy, Industry and Competitiveness, Customs Agency – Budget Ministry, French Public Accounts and Public Service.

In the complex international scenario, described in the first part of this report, it is interesting to highlight Veneto's position, in relation to that of certain other leading European regions in exports, such as Baden- Württemberg and Bayern in Germany, Île-de-France, Midi Pyrénées and Rhône-Alpes in France and Cataluña in Spain.

Figure 2.1.9 – Regions of comparison

Source: Veneto Region Data Processing - Regional Statistical System Section

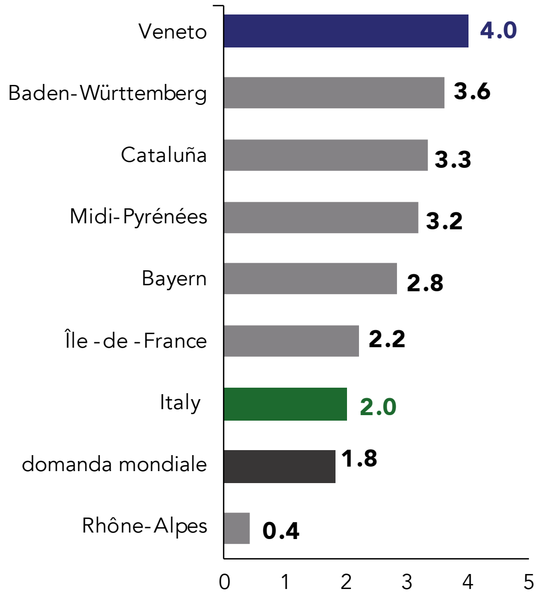
Veneto improves it competitiveness in foreign markets...

Despite the difficult context, Veneto has successfully improved its position, demonstrating more intense growth in exports not only than global demand, but also than the other regions of comparison. In terms of destination areas, Veneto exports have managed more than to compensate for the losses relating to the fall in demand from non-EU countries (Russia in particular), with an increase in sales in mature economies (EU and USA) and in emerging markets that are more dynamic (East Asia) but also more difficult to approach and characterised by profound economic and social changes. The leading production sectors formed the driving force behind the region's exports in recent years: mechanical engineering, the main export sector, but also food and beverage, footwear and other manufacturing activities, with the leading role held by the eyewear sector.

...and takes first place for growth among its competitors

With an average annual increase of 4% between 2012 and 2015, Veneto took first place for growth in exports among all the regions surveyed. Baden-Württemberg sits in second place (3.6%) and Cataluña in third (3.3%). Italy is placed further down the rankings, with growth that is, however, above global demand (2% as compared to 1.8%), and above Rhône-Alpes, which achieved a rate of just 0.4%.

Figure 2.1.10 – Exports and global demand. Average annual % var. 2013-2015



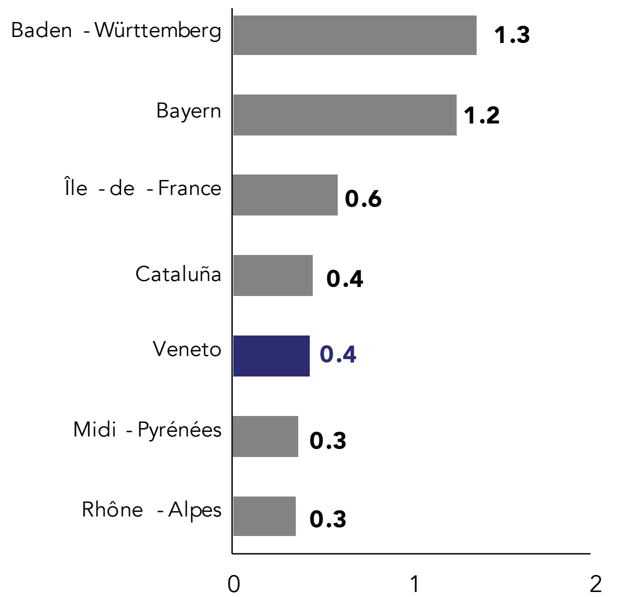
Source: Veneto Region Data Processing - Regional Statistical System Section and Prometeia on various sources

Whilst Veneto surpasses the other regions in terms of dynamics, its impact on global demand in 2015 was in line with that of Cataluña (0.4%), though below that of Île-de-France (0.6%) and, above all, below the two German regions that recorded impact of 1.2-1.3%.

Which are the areas and sectors that have driven Veneto exports in the past three years? Firstly, observing the EU area, the main market for Veneto exports, but also for the other regions surveyed, it can be seen that Veneto's performance of 4% was only improved upon by Bayern (4.4%) and Cataluña (4.7%).

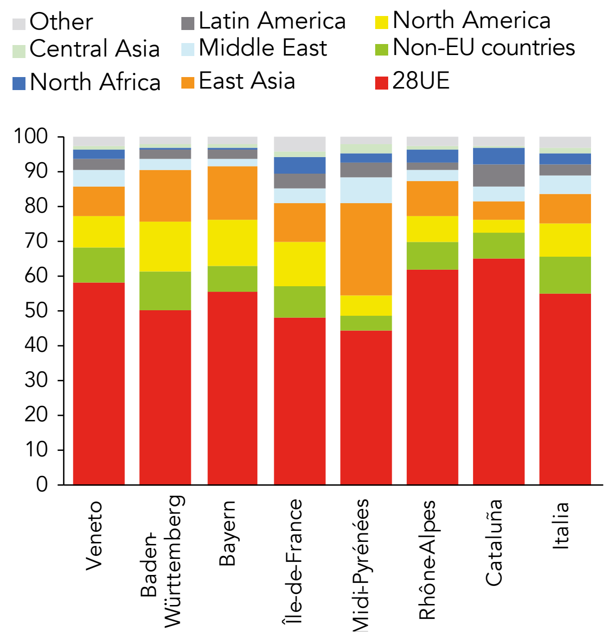
Exporting enterprises successfully managed to take advantage of the recovery in domestic demand (consumer demand in particular) experienced in the Eurozone in 2014 and, above all, in 2015.

Figure 2.1.11 – Exports and global demand. % impact – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section and Prometeia on various sources

Figure 2.1.12 – Percentage composition of exports according to destination area – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section and Prometeia on various sources

North America is the most dynamic market of the 3-year period...

However, North America is the market towards which Veneto exports increased the most, with growth of 11%, only just below the 11.6% recorded by Baden-Württemberg and greater than the growth of all the other regions and of Italy. Between 2012 and 2015, all the areas of the survey recorded a fall in exports to non-EU countries, with Île-de-France, Rhône-Alpes and Veneto affected to a relatively minor degree. With regard to the most dynamic emerging market, East Asia, Veneto exports increased by 6.6%, only just below the increase by Cataluña of 6.9%, whilst the index fell for the three French regions and also, though only slightly, for Bayern.

...and mechanical engineering remains the leading sector

Moving on to growth according to sector, it is clear that comparisons between areas are influenced by the different regional specialisations in production. For example, whilst mechanical engineering bears significant weight in the majority of the areas under consideration, the automotive industry, which was an important driving force behind exports in the regions of comparison, does not feature among the main export sectors of Veneto. That said, it was the leading sectors of Veneto's economy that drove regional exports. Mechanical engineering, for example, the leading export sector for the region, saw growth of 4.6%, above the national average of 2.5% and surpassing growth by the German regions, which stood at 1.4-1.5%, and that of Cataluña, at 2.3%. As far as concerns the French regions, the sectorial rankings are more aggregated, thus, in order to make fair comparisons, mechanical engineering has to be grouped with electrical, electronic and optical appliances; here, again, Veneto demonstrated superior growth in the 3- year period 2013-2015. However, it was the food sector that achieved the best results: Veneto beverage exports increased by 8.2% and food exports by 7.7%. The areas of comparison in which the food and beverage sector features among the leading export sectors showed more modest results: food product exports increased by 4.9% in Italy, 4.1% in Cataluña, 2.1% in Bayern, whilst food and beverage exports increased by 5.4% in Rhône-Alpes and decreased by 0.2% in Île-de-France. In addition, Veneto exports saw an increase of 6.3% in "leather goods and footwear", whilst the national average was 5%. Amongst the other areas, this sector, also

Tab. 2.1.2 - The target area for exports. Var.% Average annual 2012-2015

	Veneto	Baden-Württemberg	Bayern	Ile-de-France	Midi-Pyrénées	Rhône-Alpes	Cataluña	Italia
UE28	4.0	3.9	4.4	2.5	2.4	2.1	4.7	2.4
Paesi europei non UE	-4.2	-6.2	-5.3	-1.4	-15.9	-3.9	-10.2	-5.1
America settentrionale	11.0	11.6	7.1	9.8	8.2	-0.4	8.5	10.3
Asia orientale	6.6	5.5	-0.1	-1.1	-0.6	-1.1	6.9	4.8
Medio Oriente	8.4	7.6	3.6	1.1	30.8	-0.4	10.6	4.0
America central-sud	4.0	2.0	0.3	5.2	19.0	-6.6	2.9	-2.9
Africa sud	4.9	2.5	1.7	0.1	24.7	-0.5	5.5	-1.2
Asia central	0.6	2.0	0.6	7.4	12.6	5.4	10.6	0.7
Export complessiv	4.0	3.6	2.8	2.2	3.2	0.4	3.3	2.0

Source: Processing by Veneto Region - Regional Section Statistical System and Prometeia on various sources

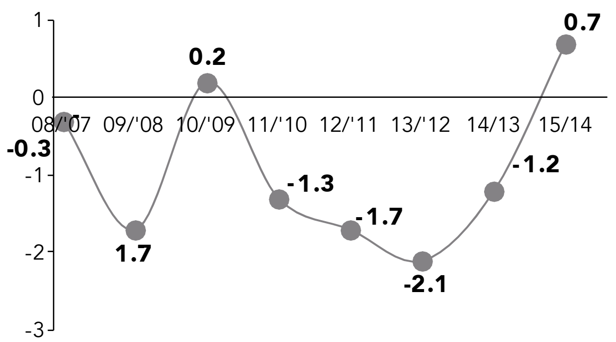
including textiles and clothing, achieved notable results only for Rhône-Alpes and Île-de-France; in the former, the increase was of 6%, in the latter, 2.7%, whereas Veneto exports for the same sector group grew by 4.3%. The region's exports were given a further boost by the sector of other manufacturing activity, which includes gold and eyewear and which grew by 6.7% (average growth for the gold sector was 1.2% and for eyewear was 10.3%). Sales of optical supplies to the USA formed a fundamental contribution to growth in Veneto exports in the analysed period: +15.7% in average annual growth in the period 2012:2015 and, in 2015, foreign sales in the US counted for around 25% of total exports for this sector. This sector group does not feature among the leading export groups of the other regions of comparison, with the exception of Rhône-Alpes, where it holds a more inferior position.

2.2 Domestic Trade: Tradition Makes Way for Innovation

In Italy

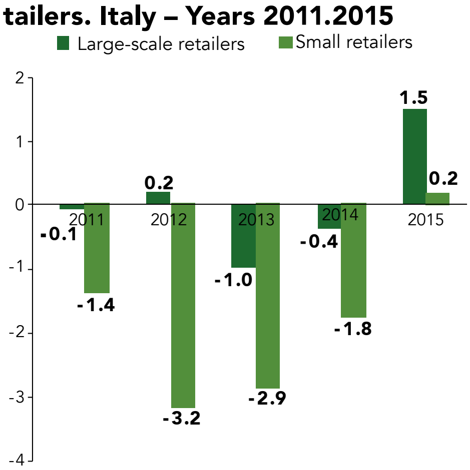
After years of negative results, the variation of the fixed shop retail sales index returned to above zero in 2015, with +0.7% as compared to 2014, generated by an increase of 1.3% in the sales of food products and 0.5% in the sales of non-food products. The recovery of market activity reflects upon the forms of retail distribution: Grande Distribuzione Organizzata (large-scale retailers) and Piccole Superficie (small retailers) returned to growth, with an annual increase of +1.5% and +0.2% respectively. All this affects the expectations of retail trade bu

Figure 2.2.1 – Annual percentage variation in fixed shop retail sales. Italy – Year 2008:2015



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Figure 2.2.2 – Annual percentage variation in sales value of large-scale retailers and small retailers. Italy – Years 2011.2015



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

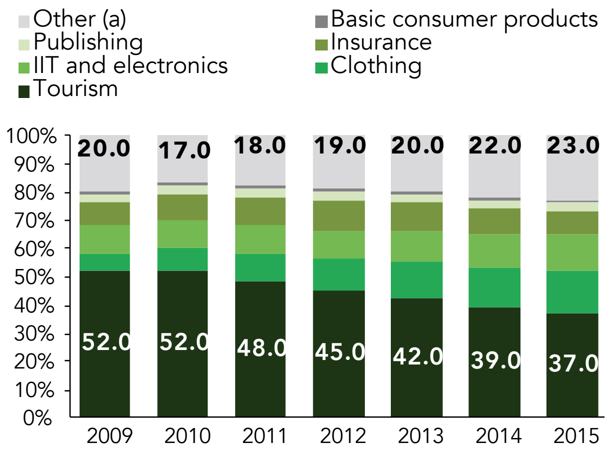
sinesses in terms of sales, order volumes and occupation, positive for the whole of 2015 and for early 2016.

The New Forms of Trade: B2C and B2B

E-commerce continues to grow, in particular sales from mobile devices

Growth in online business-to-consumer trade (hereinafter B2C) in Italy reaches double figures. Whilst 2014 ended with growth in online sales from Italian websites of €13 billion, estimates by the Milan Polytechnic B2C E-commerce Observatory for 2015 predict that this figure will reach €15 billion (+15%) and, as a consequence, predict an increase in e-commerce penetration to 4% of retail sales; this value is, however, still far below that of the main Western markets, such as France, Great Britain, Germany and the United States, where e-commerce has achieved market shares of four times this figure.
Sales made via new mobile devices, such as smartphones and tablets are assuming increasing importance, with an increase of almost 70 percentage points on 2014, reaching 25% of total e-commerce. It is not only the traditional sectors, such as IT (+26%), clothing (annual +23%), groceries[3] (+22.0%) and publishing (annual +21.0%), but also "emerging" sectors, such as furnishings, up by over 70 percentage points on 2014, and food & wine, with an increase of 30% as compared to the previous year.
The role played by service sales remains of fundamental importance, in particular sales of tourist products, which represent 37% of the market, an increase of 9% as compared to 2014.
With regard to the demand side of things, the value of online purchases increased by 16.0% in 2015, as compared to 2014. There are 11.1 million habitual Italian online shoppers (i.e. that make at least one online purchase a month), over 36% of the Italian online population. The most-used payment method for online transactions is the credit card: the CartaSì Purchasing Observatory reveals that, in December 2015, Italian credit card payments for online purchases reached €1,752 billion, taking the

Figure 2.2.3 – E-commerce: distribution of sales value according to commodity sector. Italy – Years 2009:2015



(a) The "Other" group includes: designer furnishings, quality food & wine and perfumery
Source: Veneto Region Data Processing - Regional Statistical System Section on Netcomm Consortium – Milan Polytechnic B2C School of Management E-Commerce Observatory data

total figure for 2015 to €18 billion, almost €4 billion more than in 2014.

Online trade between businesses also on the increase

Not only is there an increase in online trade between businesses and their customers (B2C), but also between businesses, the so-called B2B trade, which is growing at a rate predicted at 12% for 2016 and 10.6% for 2017[4].
According to estimates by the Netcomm[5] Consortium B2B E-commerce Observatory35, B2B transactions in Italy are worth around €20 billion (excluding EDI – Electronic Data Interchange, i.e. the electronic exchange of data according to industrial standards). In our country, there are 7,500 e-commerce websites attributable to B2B companies, 32% of all Italian e-commerce websites: 51% are commercial companies and 31% are industrial manufacturing businesses and 76% of these are micro-enterprises, i.e. with fewer than 5 employees.

[3] A term used frequently by large-scale retailers to indicate all packaged basic consumer products, such as: food products, household cleaning and personal hygiene products and non-durable products.

[4] eMarketer predictions

[5] The data provided is from a survey conducted by the Netcomm Consortium (Italian e-commerce consortium) – B2B E-commerce Observatory, on a sample group of 500 Italian B2B and B2retail businesses in commercial and manufacturing sectors

In Veneto

In 2015, in Veneto, there were 50,285 fixed-premise shops, bars and restaurants, almost one percentage point fewer than in 2014 (-0.7%), yet in line with the national annual trend of -0.5%. There is a continued increase in the number of non-headquarter/registered address local units (annual +0.7%), against a reduction in enterprise headquarter of 1.4% as compared to 2014.
Therefore, it would appear that the crisis has hit above all the less innovative commercial enterprises, retailers in town and city centres that failed to focus on improving organisational processes and human capital, whilst commercial chains continue to grow.

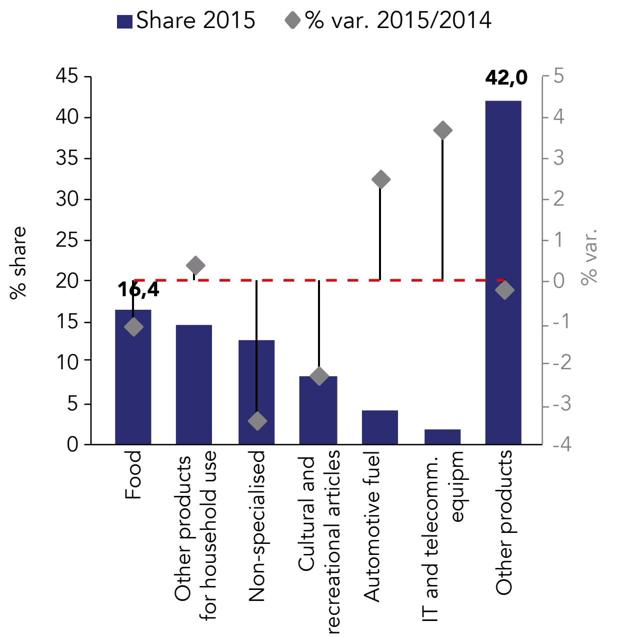
Veneto is the sixth region in Italy for number of fixed-premise shops, bars and restaurants...

In comparison with the other Italian regions, Veneto is in sixth place in terms of number of fixed-premise shops, bars, and restaurants, behind Campania, Lombardy, Lazio, Sicily and Puglia, and represents almost 7.0% of the national total.
Shops specialising in the sale of IT and telecommunications equipment are the fastest-growing businesses, up 3.7% on 2014, followed by vendors specialising in the sale of automotive fuel, up by 2.5%, and specialist vendors of other products for household use, up 0.4% on 2014. During 2015, there was a drop in the number of non-specialist shops (-3.4%) and shops specialised in the sale of cultural and recreational articles (-2.3%) and food, beverage and tobacco products (-1.1%), as compared to 2014.
Padua and Vicenza, which are home to over 30% of Veneto's fixed-premise shops, bars and restaurants, are the only two provinces that ended 2015 essentially on a par with the previous year; Verona, Treviso, Belluno and Venezia, however, recorded the worst performances, with negative variations of between 1 and 1.3 percentage points; Rovigo, instead, ended the year at -0.2%.

...over 30% of these are found in the provinces of Padua and Vicenza

Street trading held on well in 2015, with +1.0% on the previous year, as did retail trade other than shops, stalls and markets, with +6.5%. In particular, for this second sales channel, there was growth of over 5 percentage points for mail order and doorstep sales, though the best trend was seen in online sales, with growth of 12.2% as compared to 2014.
In Veneto, in 2015, there were 1,134 commercial enterprises selling their products exclusively via the internet, located mainly in the province of Padua (262), Verona (219) and Treviso (209). Similarly to the national trend, credit cards remain the most widely-used payment method in Veneto e-commerce: in December 2015, online shopping using credit cards increased by 25.8% as compared to the same month in 2014.

Figure 2.2.4 – Annual percentage share and variation of fixed-premise shops, bars and restaurants according to trade specialisation. Veneto – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on Ministry of Economic Development data

As far as large-scale retailers (GDO) are concerned, regional data is always made available a year later, thus analysis refers to 2014.
The trend in large-scale retail proves to go against that of fixed-premise shops: indeed, in 2014, workers and sales surface areas both increased, by an annual 1.1% and 2.0% respectively. The number of shops, however, remained almost unchanged, at +0.1% as compared to 2013.
In detail, growth in the more structured forms of distribution continued: specialist retailers grew in both number of shops (annual +1.8%) and number of employees (+6.7%). At the same time, expansion of department stores, supermarkets and hypermar-

Tab. 2.2.1- Local units, sales surface area and number of workers of large-scale retailers according to province. Veneto – Year 2014

	Department stores, Supermarkets and Hypermarkets			Mini-markets			Specialist shops		
	Shops (no.)	Workers (no.)	Sales surface area (m²)	Shops (no.)	Workers (no.)	Sales surface area (m²)	Shops (no.)	Workers (no.)	Sales surface area (m²)
Belluno	67	1,271	73,410	21	96	6,157	3	39	7,778
Padova	260	5,354	320,124	66	358	20,473	39	1,197	110,892
Rovigo	82	1,613	97,513	19	81	5,683	8	142	24,425
Treviso	237	4,885	307,617	83	435	24,844	55	1,118	152,596
Venezia	239	5,572	303,126	51	414	15,524	42	1,542	166,761
Verona	244	5,116	341,234	83	414	23,503	53	1,381	162,846
Vicenza	291	5,063	348,511	63	330	18,374	29	819	92,690
Veneto	**1,420**	**28,874**	**1,791,535**	**386**	**2,128**	**114,558**	**229**	**6,238**	**717,988**

Source: Veneto Region Data Processing - Regional Statistical System Section on Ministry of Economic Development data

kets also continued, in particular the sales surfaces, with
+2.9% as compared to 2013.This all occurs to the detriment of mini-markets, the only type of large-scale retailer to suffer a reduction in number of shops, workers and sales surface, with -1.0%, -0.6% and -1.8% respectively, as compared to 2013.

2.3 The Economic Situation of Agriculture[6]

The overall value of gross agricultural production in Veneto in 2015 is estimated at €5.7 billion, essentially in line with the previous year (-1%). This result was produced by the negative effects of the fall in production and price of the main herbaceous crops and the downturn of the livestock sector (due in particular to the reduction in milk prices), whilst positive influences were provided, above all, by the increase in production and price of wine products.

Tab. 2.3.1 – Percentage variation in agricultural production as compared to the previous year. Veneto – Year 2015

	at current prices	at constant prices
Gross production	-0.8	1.2
Herbaceous crops	-0.4	1.2
Woody crops	19.8	14.8
Livestock farming products	-2.2	2

Source: Veneto Agriculture Processing on ISTAT data

[6] Managed by Veneto Agriculture

The fall in the number of agricultural enterprises registered with the Veneto Chamber of Commerce continues to fall, with a drop in 2015 to 64,950, -1.6% as compared to 2014. The number of food industry enterprises, however, rose to 3,720 active units (+1.4%). Agricultural workers also fell slightly further in number to an average of 62,551 units in 2015 (-0.7%), as a result of the drop in self-employed workers (- 16%), only partially counterbalanced by the significant increase in employees (+32%).
There were very positive results for foreign trade: the deficit in the Veneto balance of trade of agri-food products in 2015 halved as compared to the same period in 2014, falling to around €460 million (-54.7%), due to the slight increase in imports to €6.4 billion (+1.4%) and the significant growth in exports (+12.4%), which rose to a new record of €5.9 billion.
Focusing on the climatic trend, 2015 was overall warmer and there was less rainfall than normal. The most significant temperature anomalies were experienced in the winter, summer and autumn, whilst rainfall was recorded as close to average only in certain months at the start of the year; for the rest of the year, there was a shortage of rain, especially in summer and autumn.
The high temperatures and scarcity of rainfall in the summer period had a particularly negative effect on corn and soy, the main crops in Veneto in terms of size (209,000 and 134,000 hectares respectively), which suffered falls in yield of around 20% and consequent drop in related production activity, not dissimilar to the fall in yield of sugar beet. However, the year was fairly good for rice, tobacco and autumn-winter crops, such as common wheat, durum

wheat (which tripled in cultivation surface area) and barley. The globalisation of the commodities market, which was influenced, on an international level, by the abundant availability of product and the high quantity of stock, also caused the depreciation of national prices, with the result of negative average prices for almost all the above-mentioned crops.
The main vegetable products provided results that varied according to their seasonality: there was an increase in the yield of potatoes (+10%) and radicchio (+21%) and a decrease in that of lettuces (-19%) and strawberries (-1%). The total surface area devoted to potatoes and vegetables remained essentially unchanged as compared to 2014, with around 26,000 hectares, the result of an increase in open-air vegetable cultivation (+1%) and, above all, in greenhouses (+7%) and, at the same time, a fall in the number of tuber crops (-12%).
Fruit farming, in particular summer fruit, appears to have failed to recover from the economic crisis that has scarred recent years and that caused a significant decrease in the number of crops. As compared to 2014, production increased slightly for kiwifruit (+4%), pears (+2%) and apples (+1.4%), but fell for peaches (-3.6%) and cherries (-27%). The local fruit trade was also hit by the fall in prices of peaches (-38%) and apples (-15%). To be noted, however, was the return to normal levels of olive production (+37.5%), after the disastrous harvest of 2014.
It was a particularly good year for wine growing, characterised by climatic trends that enabled both the limitation of fungus and provided ideal conditions for grape maturation and the accumulation of aromatic and polyphenolic elements. The resulting abundant harvest provided a record yield of 12.5 million metric tons of grapes (+20% as compared to the poor harvest of 2014), with rewards also in terms of quality, classified as very good/excellent by Assoenologi (Italian wine association). The quantity of wine that can be made from the 2015 harvest is estimated at a total of 9.7 million hectolitres (+18%), whilst Prosecco production is estimated at half a billion bottles.
The total surface area of the region’s vineyards also increased to 80,000 hectares and is likely to increase further in coming years, with the abolition of grafting rights and the introduction of the authorisation system. 68% of the Veneto harvest is made up of white grape and 32% of red grapes, whilst the share of DOC-DOCG (Protected Designation of Origin-Protected and Guaranteed Designation of Origin) grapes stands at 62%, that of IGT (Protected Geographical Indication) grapes is 30% and the remaining 8% are used for varietal or generic wines. The good quality of the grapes harvested and the positive market trends have led to an increase in the price of grapes on all fronts and for almost all the types of grape. The average regional prices for 2015 rose to 0.65 €/kg, an increase of 14.7% as compared to the previous year.
The livestock farming sector is having a much rougher time. The annual price of milk fell by over 10%, whilst production remained essentially stable. Beef was hit by the weight of consumer markets, recording a slight reduction in prices and a similar fall in production. The pig farming sector recorded an increase in production of 10%, with a corresponding fall in prices of 7%, and the same trend, though less pronounced, was observed for poultry. That said, the significant reduction in the costs of purchasing feed and energy partially safeguarded the profitability of meat farming.
The Veneto fishing industry recovered slightly: after the significant downturn of 2001 (-42%), the Veneto fishing fleet would appear to have stabled at 654 units, whilst local production supplying Veneto fish markets recorded an annual increase in quantity and value of 6.5%. Considering local, national and international product movement, analysis of regional fish market turnover highlighted total revenue of €114.5 million (+5.3%), due more to the increase in average price than to the increase in quantity on the market.

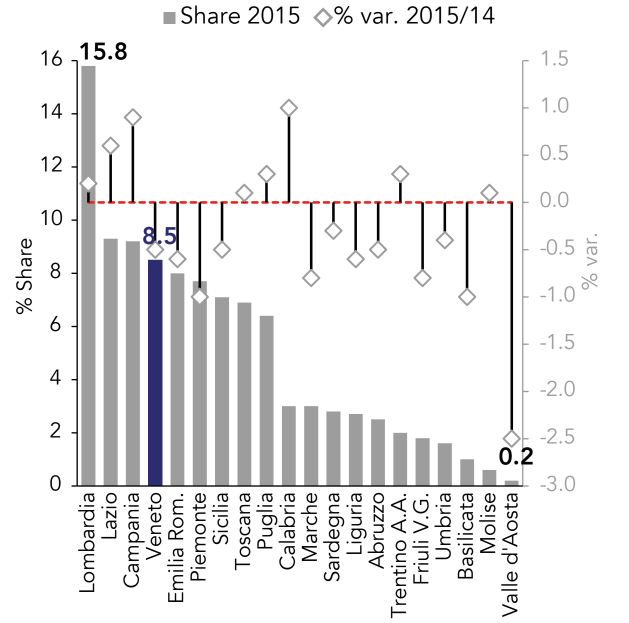
2.4 Businesses: Difficulties and New Opportunities

In Italy

In 2015, there were 5,144,383 active businesses in Italy, almost unchanged as compared to 2014 (+0.1%
excluding agriculture and -0.1% with it included).
In 2015, business mortality rate decreased, settling at 6.9 businesses closed down for every 100 active enterprises, whilst business birth rate remained more or less constant; the overall business balance improved to above zero, at 0.3%.
The sectors that were most affected by the economic situation were construction (-1.7% as compared to 2014) and manufacturing (-1.2%); however, the services sector recorded positive performance, up by 0.7% as compared to 2014.
Eight Italian regions recorded an increase in the number of active businesses in their territory: Ca-

labria, Campania and Lazio ended 2015 with increases of between 0.6 and 1 percentage point, whilst Puglia, Trentino Alto Adige, Lombardy, Tuscany and Molise remained just above zero. The worst performing regions last year were Valle d'Aosta, with -2.5%, Piedmont and Basilicata, both with -1%.

Fig. 2.4.1 – Annual percentage share and variation of active businesses according to region. Year 2015

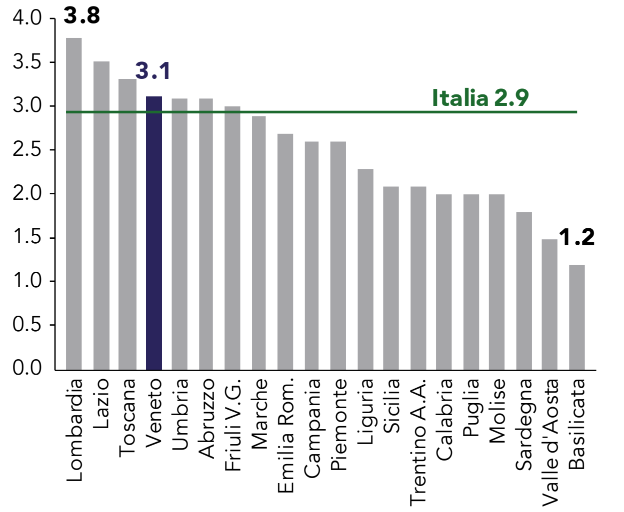


Source: Veneto Region Data Processing - Regional Statistical System Section on InfoCamere data

In Veneto

In Veneto, there were 437,130 active businesses in 2015, 8.5% of the national total, a decrease of 0.3% as compared to 2014, excluding agriculture, and of 0.5% with agriculture included.
Veneto remains in fourth position on the list of Italian regions according to number of active businesses, behind Lombardy, Lazio and Campania.
Similar to the national trend, business mortality decreased in 2015, settling at 6.6 businesses closed per 100 active enterprises. Data on business birth rate was also positive, with a slight increase as compared to 2014, reaching 6.4 new businesses out of every 100. The overall business balance of 2015 was just below zero and back to pre-crisis levels, at –0.2%.
Alongside these encouraging indicators, however, there was an increase in business insolvencies in 2015, reaching 3.1 insolvent enterprises for every 1,000 active businesses. This figure is in line with the national trend of 2.9 failed businesses for every 1,000. There were a total of 1,363 insolvent businesses in Veneto, 3.3% more than in 2014, with a resulting decrease in voluntary liquidations[7] in the region: -11.7%.

Fig. 2.4.2 – Number of insolvencies per 1,000 active businesses according to region. Year 2015



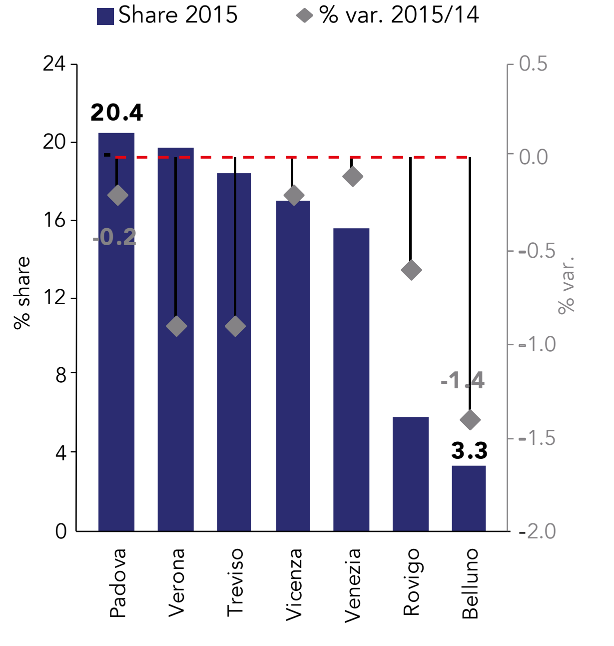
Source: Veneto Region Data Processing - Regional Statistical System Section on Cerved – Observatory on business insolvencies, procedures and closures

Looking in more detail at the legal form of businesses, the positive trend of joint-stock companies continues, up 1.9% in 2015 as compared to 2014; more minor forms, consisting mainly of cooperatives and consortia, also return to growth, with +1.2%. Partnerships were again those worst affected by the economic situation, with a decrease of almost two percentage points as compared to 2014.
Belluno was the province that suffered the greatest decline during 2015 (-1.4%). Verona and Treviso, each with a weight of over 18% of overall Veneto businesses, ended the year with negative variation of almost one percentage point, whilst Rovigo closed the year at -0.6% as compared to 2014.
Venice, Vicenza and Padua are the provinces that best withstand economic difficulties
Venice, Vicenza and Padua, which together repre-

[7] "Liquidation" is intended to mean the procedure through which the company ends its productive or commercial activity. Liquidation is defined as voluntary when it is freely decided by the shareholders.

sent over half of the region's active businesses, are the provinces that best withstand economic difficulties, ending 2015 with figures essentially unchanged as compared to the previous year.

Fig. 2.4.3 – Annual percentage share and variation of active Veneto businesses according to province – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on InfoCamere data

The Sectors

Last year saw the tertiary sector maintain its role as the driving force behind Veneto's economy: it represents over half of regional production and grew last year by 0.5%. The leading activities in terms of growth were finance and insurance, up 2.9% on 2014; there was a good performance by personal services, with +1.5%; this was followed by business services, +1.3% and accommodation and catering services, +1.0%. Trade, Veneto's primary sector, suffered a slight decline of -0.4% in 2015; there was also a decrease in the number of businesses active in the transport sector, -0.5%.

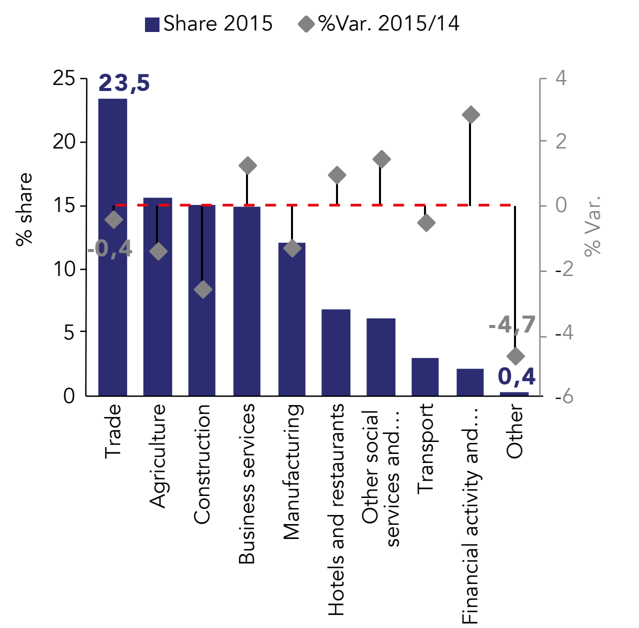
The tertiary sector drives Veneto's economy

Again worst affected by the economic difficulties were the construction and manufacturing sectors, with - 2.6% and -1.3% respectively, as compared to 2014.

Looking in more detail at the latter of these two, economic difficulties involve almost all Veneto manufacturing companies, in particular the timber, furniture, paper and printing, mechanical engineering and electronics industries, with negative variations of over two percentage points.

The chemical, metal and fashion industries, which together represent almost 50% of Veneto manufacturing, also ended 2015 below zero, with -1.4%, -1.3% and -0.9% respectively, as compared to the previous year.

Fig. 2.4.4 – Annual percentage share and variation of active Veneto businesses according to business category – Year 2015



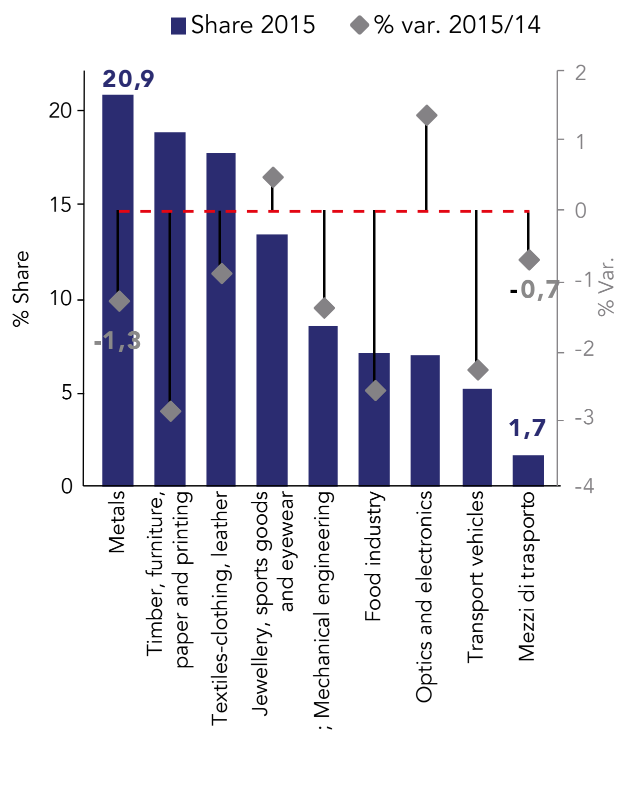
Source: Veneto Region Data Processing - Regional Statistical System Section on InfoCamere data

The transport vehicle sector, however, managed to slow the decline as compared to 2014. There are two sectors which take the opposite direction to the other manufacturing sectors: the food industry, with +1.4% and the group sector "jewellery, sports goods and eyewear", with +0.5% as compared to 2014.

Sectors of advanced levels of knowledge and expertise

Alongside the typically traditional enterprises, increasing space is being occupied by businesses operating in technologically advanced sectors. These include innovative start-ups, companies founded up to 48 months

Fig. 2.4.5 – Annual percentage share and variation of active Veneto manufacturing companies according to economic category – Year 2015



Source: Veneto Region Data Processing - Regional Statistical System Section on InfoCamere data

ago and with specific requirements, whose primary objective is to develop, produce and sell products and services deemed innovative and of high technological value.

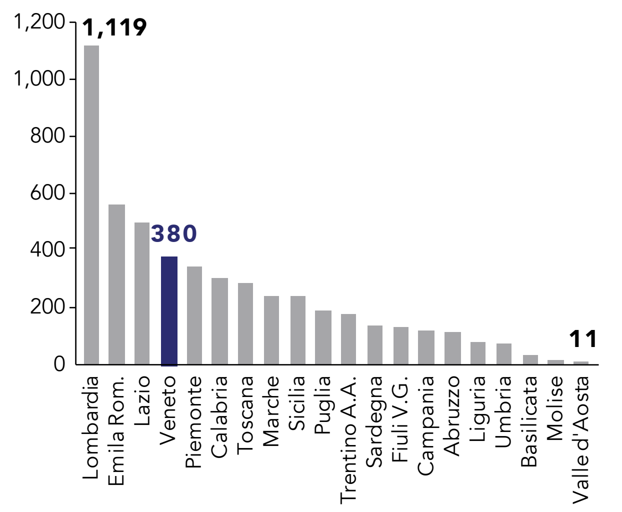
In Veneto, their development is acquiring ever-increasing importance, insofar as such companies are able not only to strengthen the bond between the world of work and university, but also to attract foreign talent, innovation and capital to the region.

The number of Veneto innovative start-ups is on the rise

As of 1 February 2016, the innovative start-ups found in Veneto were 380, an increase of over 505 as compared to the same date in 2015. They represent 7.5% of innovative start-ups present in Italy, which total 5,078 (+59.4%), the fourth highest share after Lombardy, Emilia-Romagna and Lazio. These start-ups are concentrated mainly in the provinces of Padua (91), Treviso (83) and Verona (67) and, in almost all cases, take the legal form of limited liability companies. Examining more closely the sectors in which they operate: 70.5% are active in the services sector, in particular in software production and consultancy; 23.4% are active in the manufacturing/handcraft sector; the remainder operate in commerce (5.0%) and tourism (1.1%).

The natural progression in terms of growth and reinforcement of innovative start-ups may be that of transforming into SMEs operating in the field of technological innovation, irrespective of the date of foundation, company purpose and level of maturity. This type of enterprise is still relatively uncommon in Italy: as of 1 February 2016, there were 128, of which five in Veneto, a figure that promises to increase thanks to the numerous incentives instituted by Legislative Decree 3/2015, the so-called "Investment Compact[8]".

Fig 2.4.6 – Number of innovative start-ups per region (*) – Year 2016



(*) Data from 1 February 2016
Source: Veneto Region Data Processing - Regional Statistical System Section on Business Register data

Companies operating in high added value sectors are Spin-offs, specifically those of public research[9]. Universities and public bodies can, in fact, form companies, in the form of corporations or limited

[8] The incentives available to innovative SMEs are the same as those envisaged for innovative start-ups by the so- called "Decreto Crescita 2.0" (Growth Decree 2.0).

[9] There are two types of spin-off: research spin-offs and industrial spin-offs. The latter are businesses generated by other enterprises. Analysis in this report focuses only on research spin-offs.

liability companies established under private law, for the purpose of enhancing the economic value of findings, know-how and expertise of public research. Of 1,190 public research spin-offs active in Italy, 75 originate from one of the four Veneto universities and are concentrated mainly in Padua, Verona and Venice.
Businesses operating in the knowledge intensive services[10] sector occupy an important position in Veneto economy, providing support for company organisation: companies in IT, research and development and enterprise and professional services. Veneto is the third region, after Lombardy and Lazio, for number of active enterprises in technology intensive services. There are 74,512, 9.4% of the national total, an increase of 1.6% as compared to 2014, demonstrating increased vitality as compared to overall business activity.
Last year, the business birth rate grew by 6.1% and, at the same time, there was a decrease in business mortality, with 5.9 businesses closed down for every 100 active enterprises. The business balance, though negative, is an improvement on 2014: -0.7%.
Similar to innovative start-ups, technology intensive service businesses are focused mainly in the provinces of Padua (22.2%), Treviso (19.1%) and Verona (18.5%).

Businesses owned by Women and Young People

It is interesting to observe the dynamics of certain types of business to understand whether events of 2015 had a different impact based on the characteristics of the business owner. In particular, attention is focused on businesses owned by women[11] and young people, whose development is promoted and often co- funded by different institutional entities active in the region.

Positive trend of female-owned businesses in Veneto...

Of the 437,130 active businesses in Veneto in 2015, 87,272 are female-owned, an increase of almost one percentage point as compared to 2014, indicating the more dynamic nature of this type of enterprise with regard to the overall trend in business development in Veneto. The birth rate decreased slightly in 2015: there were 8.6 new businesses for every 100 active enterprises; at the same time, the business mortality rate was reduced to 7.9 per 100 active enterprises. Therefore, the businesses balance for female-owned enterprises improved by 0.8% as compared to 2014.
The main legal form of female-owned businesses is sole-proprietor firms (68.8%); this is followed by joint- stock companies (15.6%) and partnerships (14.3%). Businesses are concentrated mostly in the tertiary sector (68.6%), in particular in the commerce and accommodation and catering sectors (35.7%). However, the share of female-owned enterprises in manufacturing and construction decreased to 9.5% and 3.2% respectively.
In terms of dynamics, the tertiary sector is the driving force behind the expansion of female-owned enterprise, up by over 1% as compared to 2014: education ended the year with a strong increase of 7.1%, followed by financial and insurance companies and business services, up by 4.6% and 4.3% for the year. The health and social care sectors also achieved a good performance, as well as sports and entertainment, both up by over 3 percentage points on the previous year. Commerce, the sector with the largest share of female-owned businesses, remained essentially unchanged as compared to figures in 2014.
As far as concerns the impact of female enterprise, in comparison with other regions, Veneto, with a female enterprise rate[12] of 20%, is below the national average of 22.4%. In general, the rate is higher in the South, in particular in Molise (29.5%), Basilicata (27.9%) and Abruzzo (26.7%), than in the North, such as Trentino Alto Adige (17.8% and Lombardy

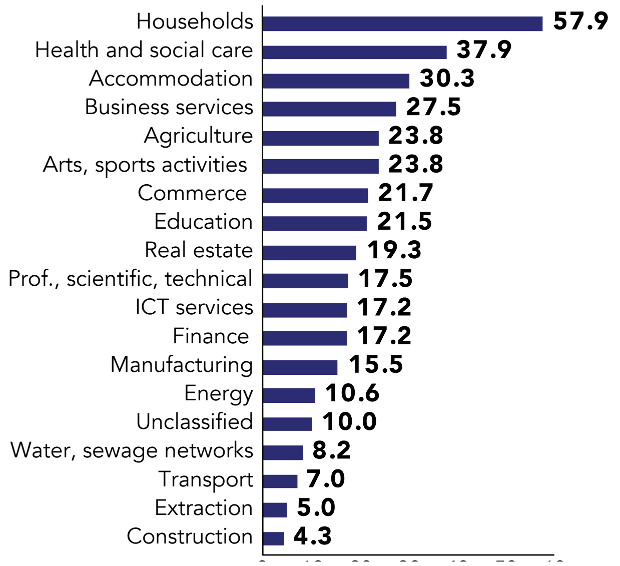
[10] Based on the Eurostat – OECD definition of businesses according to sector intensity of technology and knowledge, there are: knowledge intensive technological services (Codes H53, J68, J60, J61, J62 and J63 of the ATECO 2007 classification); knowledge intensive market services (Codes H50, H51, L68, M69, M70, M71, M73, M74, N77, N78, N80, N81 and N82 of the ATECO 2007 classification) and knowledge intensive financial services (Codes K64, K65 and K66 of the ATECO 2007 classification).

[11] According to the definition by the Osservatorio dell'Imprenditoria Femminile (Women's Enterprise Observatory), these are: individual businesses with female owners; partnerships or cooperatives in which the majority of shareholders are women or the majority of capital shares are owned by women; joint-stock companies in which the majority of members of the administrative body are women or the majority of capital shares are held by women; consortia made up by 51% or more of businesses owned by women as defined above.

[12] The female enterprise rate is equivalent to the percentage of businesses registered as "female-owned".

(19.0%).

Fig. 2.4.7 – Percentage impact of female-owned businesses according to business activity. Veneto



(*) – Year 2015
(*) Impact: the ratio between female-owned businesses and total number of enterprises
Source: Veneto Region Data Processing - Regional Statistical System Section on Osservatorio dell'Imprenditoria Femminile (Women's Enterprise Observatory) data and Unioncamere – InfoCamere data

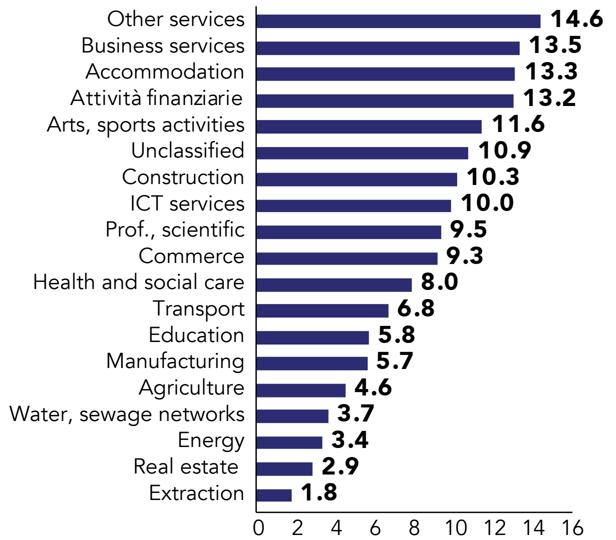
It is also interesting to examine, as well as gender, the age of our business owners and, in particular, how successful young Veneto people manage to be in business. The Osservatorio sull'imprenditoria giovanile (Young Enterprise Observatory) gives a definition of "young enterprise": a sole-proprietor firm with owner under 35 years of age, a partnership that has a majority of partners of under 35 years of age; a joint-stock company in which the average age of the shareholders and administrators is below 35 years.

...with greater difficulties recorded for "Under 35" enterprises

In Veneto, there were 36,978 active young enterprises in 2015, a decrease of almost three percentage points as compared to 2014. The turnover for this type of business is high, with young enthusiasm not always matched by appropriate means, markets and experience: in 2015, there were 21.4 new businesses for every 100 active enterprises and 9.8 of every 100 businesses were closed down. The balance remains positive, however, at +11.6%.

Around 80% of "Under 35" businesses have the legal form of sole-proprietor firm, the simplest form to set up when starting out as self-employed. The impact of young enterprise is greater among micro-enterprises, in particular those with 1 worker, with a share of over 10%. Moving up in categories of size, the incidence of young enterprise tends to decrease, until it disappears among businesses with more than 500 workers. The business sectors in which "Under 35" enterprises are most active are commerce (25.8%), construction (18.4%) and accommodation and catering services (10.6%). They are less common in manufacturing (8.4%) as compared to "senior" enterprises (12.9%).

Fig. 2.4.8 – Percentage impact of young enterprise according to business activity. Veneto (*) – Year 2015



(*) Impact: the ratio between young enterprises and total number of enterprises
Source: Veneto Region Data Processing - Regional Statistical System Section on Osservatorio dell'Imprenditoria Giovanile (Young Enterprise Observatory) data and Unioncamere – InfoCamere data

Analysis of the economic situation reveals that enterprises within the sport and entertainment sector ended the year with significant growth of 7.5% as compared to 2014; there was also a good performance by financial and insurance companies and by the transport sector, which increased by 3.7% and 3.2% respectively. Commerce, a popular sector among "Under 35" businesses, decreased by 2.4% as compared to 2014, but the greatest difficulties

were noted in the construction sector, with a fall of 11 percentage points.
In comparison with other regions, the impact of "Under 35" enterprise is below average, with 8.5%, as with the rest of the North-east, in contrast with southern regions, in particular Calabria (15.2%), Campania (14.3%) and Sicily (13.7%).

Veneto Handcrafts

Craftsmanship is the flagship of the Veneto economy: with 131,601 businesses active in 2015, 9.7% of the national total, Veneto is the third most important region for number of active handcraft enterprises, behind only Lombardy and Emilia-Romagna. Notwithstanding the quality of products, businesses continue to close: in 2015, there was a decrease of 1.3% as compared to 2014, in line with the national trend of -1.6%.
Again, in 2015, it is the sectors associated with services that contribute to the growth in Veneto handcrafts, mainly business services, with +3.8%, and the accommodation and catering sector, with +1.2%. The construction sector, manufacturing industry and transport sector, which together represent over 70% of regional handcrafts, continued to decline, with -2.8%, -1.6% and -1.4% respectively, as compared to 2014. However, there were positive indications from the commerce sector, which, for the first time since the start of the financial crisis, ended the year with a slight increase.

Tab. 2.4.1 – Handcraft businesses: number, share and annual percentage variation according to business category. Veneto – Year 2015

	Number	Share	% var.
Construction	50,781	28.6	-2.8
Manufacturing ind.	34,731	26.4	-1.6
Other social and personal services	16,892	12.8	0.2
Transport	9,057	6.9	-1.4
Business services	7,288	5.5	3.8
Commerce	6,818	5.2	0.3
Accommodation and catering	4,117	3.1	1.2
Agriculture	1,410	1.1	0.0
Other	507	0.4	-1.2
Total	131,601	100.0	-1.3

Source: Veneto Region Data Processing - Regional Statistical System Section on InfoCamere data

2.5 Tourism: a Positive Result

For Veneto, 2015 brought another tourism record, with over 17 million arrivals, one million more than the previous year (+6.1%). This was accompanied by a significant, though more limited, increase in overnight stays (+2.3%), which again numbered more than 63 million and were just 144,000 below the all-time record of 2011.
The Veneto package is multifaceted, including tourism, culture, food & wine, identity, landscape and territory, capable of satisfying every demand in the best possible way. Placing this result within the context of the current period of great economic uncertainty, it is clear that tourism, once again, is the most important sector for the Veneto economy, both for directly produced wealth and for the economy generated upstream and downstream of tourist activity.

Strong increases in numbers of Italian and foreign tourists

The excellent results are the reflection of a good year for international tourism (+5.8% in arrivals and +2.2% in overnight stays), but also of increased interest among Italian customers (+6.7% and +2.4% respectively). Positive variations were recorded by both the hotel industry (+6.1% in arrivals and +3.9% in overnight stays) and the complementary hospitality sector (+6.3% and +0.8%).
Among the Italian tourist regions, Veneto has been in first place for several years, both in terms of number of arrivals (15.3% of the national total) and in terms of overnight stays (16.4%). Veneto differentiates itself from the other regions for the strong presence of foreign tourists, similar only to Lazio, Trentino Alto Adige, Lombardy and Tuscany and, in particular, for the large proportion of these tourists that chooses to stay in facilities other than hotels.
This data provides a detailed image of those who spend at least one night in hospitality facilities for holidays, business, wellness, therapy, sports, religion etc. All the data processing disregards, however, daily tourism, which plays a significant role in our region's economy.
In terms of so-called "day trips", we use ISTAT estimates.
Day trips by Italians in Veneto, which numbered around 13 million in 2014, include movement outside of the habitual environment and exclude movement for routine activities, related more to commu

Tab. 2.5.1 - Tourist movement according to place of origin and facility. Veneto – Year 2015

Absolute values in millions

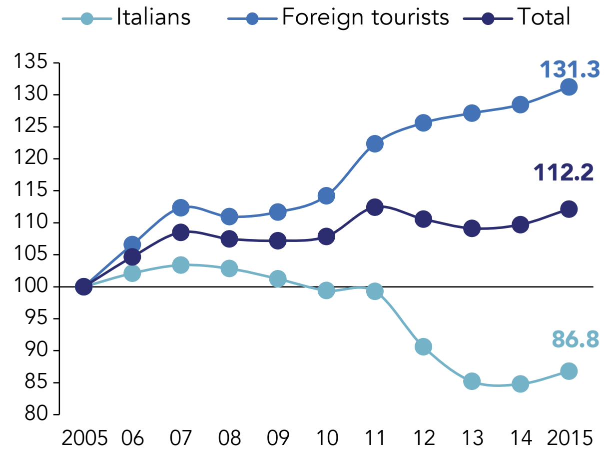
	Hotels		Other facilitie		Total	
	Arrivals	Overnight stays	Arrivals	Overnight stays	Arrivals	Overnight stays
Italians	4,2	10,5	1,8	10,5	6,0	21,0
Foreign tourists	7,7	20,5	3,5	21,7	11,2	42,2
Total	11,9	31,0	5,3	32,3	17,3	63,3

Percentage variation 2015/14

	Alberghiere		Extralberghiere		Totale strutture	
	Arrivals	Overnight stays	Arrivals	Overnight stays	Arrivals	Overnight stays
Italians	5,9	3,6	8,5	1,2	6,7	2,4
Foreign tourists	6,1	4,0	5,1	0,6	5,8	2,2
Total	6,1	3,9	6,3	0,8	6,1	2,3

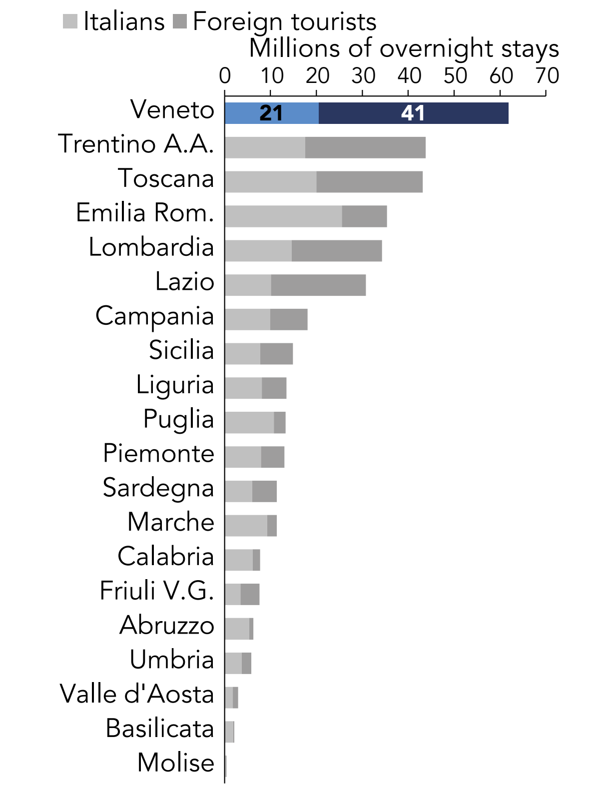
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data – Veneto Region

Fig. 2.5.1 – Index number (*) of tourist overnight stays (base year = 2005). Veneto – Years 2005:2015



(*) Index number = (overnight stays year t / overnight stays base year) x 100
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data – Veneto Region

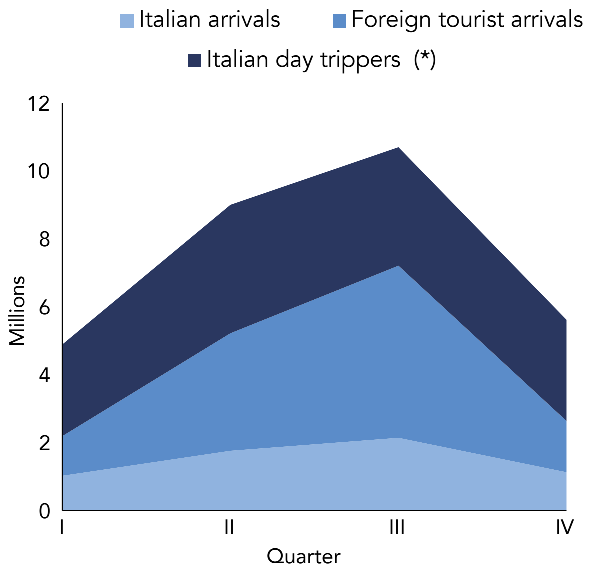
Fig. 2.5.2 - Tourist overnight stays in Italy according to region visited and place of origin. Year 2014



Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

ting for work than to tourism.
In order to reach a maximum indication of the number of people who move around Veneto for travel or for recreational or work trips or for any other reason, and excluding short-range movement for mobility purposes, we can examine the graph below. This graph shows the numbers recorded in the different periods of the year, with peaks in the 3-month summer period of July-September, reaching almost 11 million, with an annual total of over 30 million.

Fig. 2.5.3 – Flows of overnight stay tourists and day trippers according to place of origin and quarter. Veneto – Year 2015



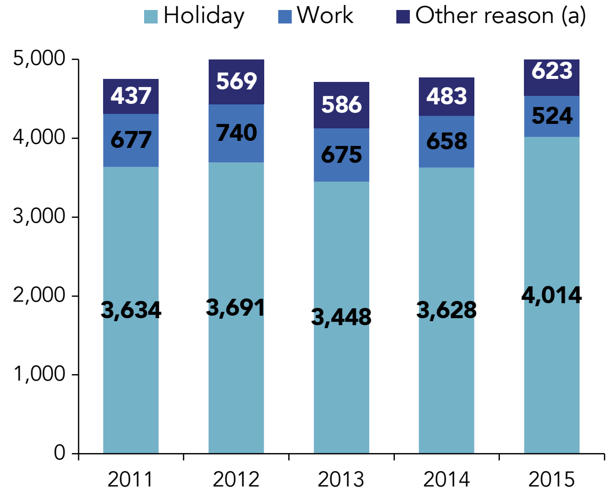
(*) Daily movement for holiday or work, excluding routine travel. Year 2014
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Tourist Spending

The border survey by the Bank of Italy provides some indication of the revenue from the tourist industry, not only in relation to hospitality but also to the overall spending by foreign tourists once they reach the region. It is estimated that spending by foreign travellers – in Veneto for any reason and not necessarily staying overnight – totalled around €5.2 billion in 2015, a significant increase on the year before (+8.2%). This is thanks to the increase in revenue related to holidays (+10.6%), which is the most significant, whilst revenue related to work trips decreased.

In 2015, foreign tourists that spent one day in our region, without staying overnight, spent an average of €75[13]. In almost half of cases, these were travellers on their way to other countries; a third of cases were on recreational day trips and 13% were on a non-habitual work trip. Those who stay for at least one night, but without spending anything for accommodation because they stayed with family or friends or in a second home, spend around €60 a day. Focusing, instead, on those who stay in a hospitality facility, spending varies greatly according to the chosen destination. Those visiting cities of art have greater financial resources: whilst foreign tourists spent on average €106 a day[14] in Veneto in 2015, this figure reaches €134 in the cities of art. Around 48% of overall spending by foreign tourists is devoted to a cultural holiday. Japanese tourists spend the most, with an average of €193 a day, followed by Americans and Russians. The latter of these spends the most overall for the whole holiday.

Fig. 2.5.4 – Spending by foreign travellers (millions of euro at current prices) for travel purposes (*). Veneto – Years 2011:2015



(*) This includes spending for accommodation, restaurants and bars, purchases, transport in the visited country and other services
(a) Visits to family and friends, study, therapy, honeymoons, shopping, pilgrimage, etc.
Source: Veneto Region Data Processing - Regional Statistical System Section on Bank of Italy data

"With regard, however, to Italians, considering the good recovery of domestic demand in 2015 and also taking into consideration movement in relation to unregistered buildings, such as second homes - a phenomenon especially common in seaside or mountain destinations – their spending in the region is estimated at around €6.2 billion."[15]

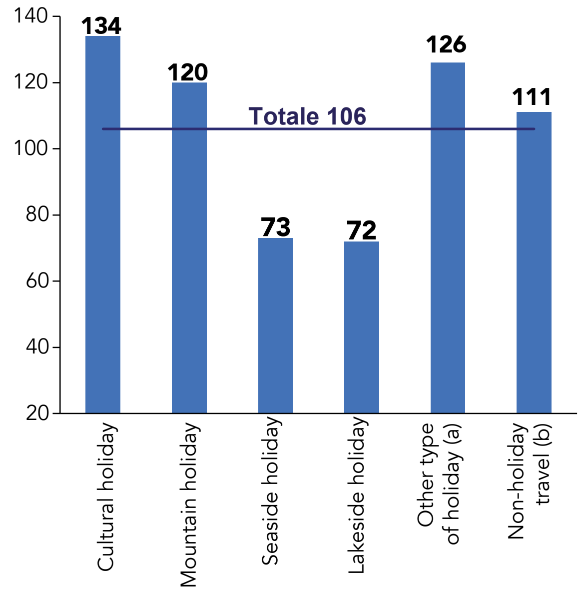
[13] Average spending by tourists not staying overnight, excluding only the return travel expenses.

[14] Average daily spending of foreign tourists staying overnight in Veneto in a hospitality facility. This spending includes expenses for accommodation, restaurants and bars, purchases, transport in Italy and other services and excludes expenses incurred to travel to Italy.

[15] CISET

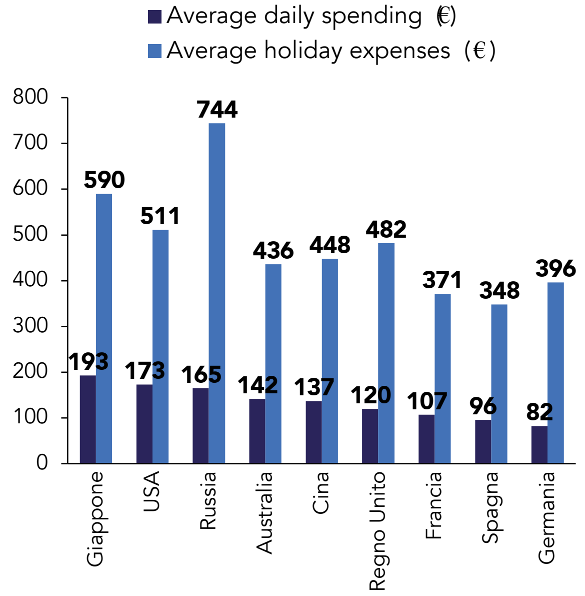
Overall, in 2015, tourist spending in Veneto was around €11.4 billion, recovering from the lower figures of recent years to get back up to the values of 2011-2012.

Fig. 2.5.5 – Average daily spending by foreign tourists who stay in hospitality facilities in Veneto (*) according to reason for travel – Year 2015



(*) Including expenses for accommodation, restaurants and bars, purchases, transport in Italy and other services and excluding the cost of the return journey to Italy
(a) Wine and food, nature, sports, for cultural or sports events
(b) Travel with at least one overnight stay in hospitality facilities for work, study, purchases, visiting family or friends, therapy, religious reasons, honeymoon, etc.
Source: Veneto Region Data Processing - Regional Statistical System Section on Bank of Italy data

Fig. 2.5.6 – Spending at destination by foreign tourists (*). Veneto – Year 2015



(*)Including expenses for accommodation, restaurants and bars, purchases, transport in Italy and other services and excluding the cost of the return journey to Italy
Source: Veneto Region Data Processing - Regional Statistical System Section on Bank of Italy data

Veneto in Europe

In the past sixty years, tourism has recorded growth rates so high as to become one of the biggest industries in the world. As is noted by the World Tourism Organisation (UNWTO), over the years, an increasing number of destinations and countries have opened up to tourism and invested in its development, transforming modern travel into a key factor of economic progress.

In 2012, the global number of international tourist arrivals surpassed one billion for the first time and estimates for 2014 and 2015 are 1,133 million and 1,184 million respectively. Europe confirms its position as leading continent for number of international arrivals (51.4% of the global total), counting mainly on three strong points: cultural heritage, variety of landscape and quality of products offered. Thus far, data comes from UNWTO, the only information that enable the comparison among countries all over the world in terms of international tourist arrivals; only those who visit and stay overnight in a foreign country are counted, excluding resident data. This is important data for the economy, insofar as foreign tourism brings wealth to the economic system in the form of added spending in the country. Comparing the EU states, Italy is clearly a strong tourist attraction, reaching second place in 2014 in terms of international tourism (behind Spain), thanks to over 51.6 million foreign arrivals, corresponding to almost 187 million overnight stays. Our country loses this position when national travellers are included in the calculations, dropping to 4th place for arrivals and 3rd for overnight stays, behind Spain and France.

Tab. 2.5.2 – Positioning in the rankings for arrivals and overnight stays. Italy and Veneto – Year 2014

	Foreign tourists		Total tourists	
	Arrivals	Overnight stays	Arrivals	Overnight stays
Italy among EU member states	2nd	2nd	4th	3rd
Veneto among European regions	3rd	6th	5th	6th
Veneto among Italian regions	1st	1st	1st	1st

Source: Veneto Region Data Processing - Regional Statistical System Section on Eurostat data

Veneto is 5th region in Europe for total number of tourists

Veneto, too, achieves its highest position among European regions when it comes to foreign tourism, sitting in 3rd place for arrivals (after Île-de-France and Cataluña) and 6th place for overnight stays. In the European rankings based on overall

Tab. 2.5.3 - Rankings of European regions according to tourist overnight stays – Year 2014

	Overnight stays (millions)	Arrivals (millions)	Average stay (nights)
Canarie	94,3	12,1	7,8
Île de France	77,7	35,4	2,2
Catalogna	72,7	21,0	3,5
Croazia	63,3	11,3	5,6
Baleari	63,0	10,1	6,2
Veneto	61,9	16,3	3,8

Source: Veneto Region Data Processing - Regional Statistical System Section on Eurostat data

flows, resident and non, Veneto is 5th for number of arrivals and 6th for overnight stays, preceded by the coastal regions of Spain and Croatia, characterised, among other things, by longer average holidays.

Predictions for 2016[16]

CISET (International Centre of Tourist Economy Studies) estimates that international tourist flows in Veneto will increase in 2016 by 3.4% as compared to 2015, confirming wholly positive dynamics for Veneto tourism.
These predictions express the good regional performance on the international market, in view of global growth predictions estimated by UNWTO at +4% for 2016, notwithstanding the economic and geopolitical turbulence. The best performances are confirmed among advanced economies, whilst the dynamics of emerging countries see a reversal in recent trends, with slowdown even on the tourist front, strongly tied to the same countries' economic trends. In terms of the Eurozone, the definitive, though still weak, emergence from the recession and the consequent recovery of consumption has a positive impact on the climate of confidence, favouring the inclination towards tourist activity, above all in Central and Northern European markets.
Looking in more detail at the predictions according to place of origin, the most dynamic is the non-EU area, from which is predicted an increase in tourist flows to Veneto of +5.7% in 2016, thanks above all to the US market (+12%) and Japanese market (+3.3%). Flows from Latin America, however will be weaker. These are followed by Northern Europe (+2.7%) and Central Europe (+2.9%). Flows from Mediterranean Europea are predicted to grow by +2%.
In terms of destination, as with recent years, cities of art will remain the outstanding leader on the international tourism front, with growth of +4.4% in 2016. These will be followed by lakeside destinations, with +2.9%, coastal locations, with +2%, together with thermal springs (+2.1%) and, in last place, mountain destinations with +1.4%.

[16] CISET

Tab. 2.5.4 – Predictions for international arrivals in Veneto in 2016 according to area of origin

	% var. 2016/15
Mediterranean Europe	2.0
Central Europe	2.9
Northern Europe	2.7
Outside Europe	5.7
Total	**3.4**

Source: CISET – STREP forecasts

Tab. 2.5.5 – Predictions for international arrivals in Veneto in 2016 according to tourist destination

	% var. 2016/15
Città d'arte	4.4
Mare	2.0
Montagna	1.4
Lago	2.9
Terme	2.1
Totale	**3.4**

Source: CISET – STREP forecasts

2.6 Families Put to the Test

As of 31 December 2014, the resident population of Veneto numbered 4,927,596, with a total of 2,057,227 families with an average of 2.38 members.
The persistent low fertility rate, the tendency of young people to delay settling down and having children, as well as the progressive ageing of the population and instability of marriage have profoundly changed the composition of the household. Households composed of one person and couples without children are on the increase: in 2011, 29.5% of households were made up of one person (23.3% in 2001), whilst childless couples form 20% of households. Single parent families are also increasing in number, usually made up of single mothers with children (83%), rising to 196,000 in 2011, 20% more than just ten years earlier. At the same time, couples with children decreased from 47.3% in 2001 to 42% in 2011 and large families with 5 or more members decreased to below 6% in 2011.
Notwithstanding the long period of financial crisis, the standard of living of Veneto families remains above the national average: annual average household income was €37.763 in 2013, against the national figure of €34.866, with a variation, in real terms[17], of 0.9% as compared to the previous year.
As far as consumption is concerned, last year marked the end of a significant period of negative trends: in 2014, average spending by families in Veneto was €2,677 a month (€2,489 nationally), the same as in 2013. Despite this, a proportion of families are still recorded as being in difficulty: in 2014, the risk of poverty or social exclusion involved 16.9% of the population. If compared with the European average of 24.5%, or the national average of 28.3%, Veneto's results are lower, though the extent of the problem in terms of individuals involved must not be overlooked: around 826,000 people are in serious difficulty, who are unable to live according to the standards of today's society and who, in more serious cases, are unable to provide for the basic demands of living. The increase in the degree of poverty or social exclusion is considerable for vulnerable social groups (women, children, foreigners). Children under 18 are the age range most exposed to the risk of poverty or social exclusion (17.5% in Veneto and 32% nationally), a risk which, today, also affects strongly the subsequent age range of 18-34 years (20.1% against 34% nationally). In 2014, in Veneto, 11.6% of the population was below the poverty line, 5.5% lived in low work intensity households and 4.7% lived in situations of serious material deprivation, i.e. forced to do without goods or services that the majority of people have available. Whilst the washing machine, television, telephone or car are now available to almost everyone, almost 8% of the population does not have the money to eat a protein-based meal with meat, fish or equivalent at least once every two days, 30% is unable to cope with an unforeseen expense of around €800 and 37% cannot afford one week of holiday per year.

Housing exclusion

Despite the fact that 92% of households in Veneto declare themselves satisfied or very satisfied with their housing situation and that around 85% own their own homes, a sign of widespread affluence, there are those who find it difficult to cope with

[17] Annual percentage variation is calculated at constant prices, i.e. considering past income as though it had the same purchasing power as 2013 income.

Tab. 2.6.1 - Indicators of social deprivation: percentage of people according to type of deprivation. Veneto. Italy. EU-28 – Year 2014

	Veneto	Italia	28UE
Risk of poverty or social exclusion (a)	16.9	28.3	24.5
Risk of poverty (b)	11.6	19.4	17.2
Low work intensity (c)	5.5	12.1	11.2
Serious material deprivation (d)	4.7	11.6	9.0
unable to afford a washing machine	*n.s.*	*0.3*	*1.1*
unable to afford a colour television	*n.s.*	*0.2*	*0.4*
unable to afford a telephone	*n.s.*	*0.1*	*0.6*
unable to afford a car	*n.s.*	*2.4*	*8.4*
unable to afford a protein-based meal at least once every two days	*7.9*	*12.6*	*9.5*
unable to cope with an unforeseen expense	*30.0*	*38.8*	*38.9*
unable to afford one week of holiday per year away from home	*36.7*	*49.5*	*36.9*
behind in payments of bills. rent. mortgage or other type of loan	*7.9*	*14.3*	*12.8*
unable to afford adequate heating	*9.5*	*18.0*	*10.2*
Serious housing deprivation (e)	7.2	9.7	5.1

a) People who find themselves in at least one of the following three situations: available income below the poverty threshold; live in a situation of serious material deprivation; are low work intensity.
(b) People who live with an equivalent household income below the poverty threshold. i.e. 60% of the average equivalent national income after social transfers.
(c) People under 60 years of age who. in the previous year. worked less than 20% of their potential.
(d) People who live in families forced to live with at least four privations of the nine listed in italics.

(e) People who live in over-crowded accommodation and who have one of the following problems: lack of inside toilet. lack of a shower or bath. lack of windows. doors or roof. damaged flooring or damp and problems of poor lighting.
n.s. = Estimate not significant due to low sample number.
Source: Veneto Region Data Processing - Regional Statistical System Section on Eurostat and ISTAT data

housing-related expenses and find themselves in situations of real deprivation.
Over recent years, the housing problem has spread, affecting even the so-called "grey band" of the population, i.e. those who, based on accrued income, do not qualify for public housing, though nor do they have the possibility of accessing the free market.
In 2014, 7.9% of the population in Veneto declared themselves behind in payments of rent, mortgage or household bills and 9.5% are unable to afford adequate heating. The housing problem is even more serious for almost 355,000 people, 7.2% of the population, who find themselves in situations of serious housing deprivation, that is to say that they live in inadequate accommodation because of overcrowding and due to serious structural limitations, damp problems or poor lighting. These are mainly families living in rented and dated housing: young people and couples with children, single-parent families and people with poor qualifications.
The situation in Veneto, although worsening over time (housing deprivation was below 6% in 2008), is better than the national average (9.7%) but worse than that of the EU (5.1%), especially if considering the 15-country European Union (3.3%).
Among the most serious forms of housing insecurity is the risk of losing the home due to eviction: in 2014, 4,937 eviction notices were issued in Veneto, one in every 415 resident households and, in 97% of cases, it was due to payments in arrears.

2.7 Work in Veneto: More Leading Players than Extras

The reduction in poverty can only come principally from an improvement in the conditions of the labour market. Indeed, during the recession, there was a strong increase in the proportion of those who are poor despite being in work, increasing the risk of social exclusion. It is not enough to create more jobs to reduce poverty. Employment must also be relatively well paid and must not involve many periods of unemployment; in addition, a good, stable job, offers greater opportunities to the individual, provides increased security and allows him to plan for the future.

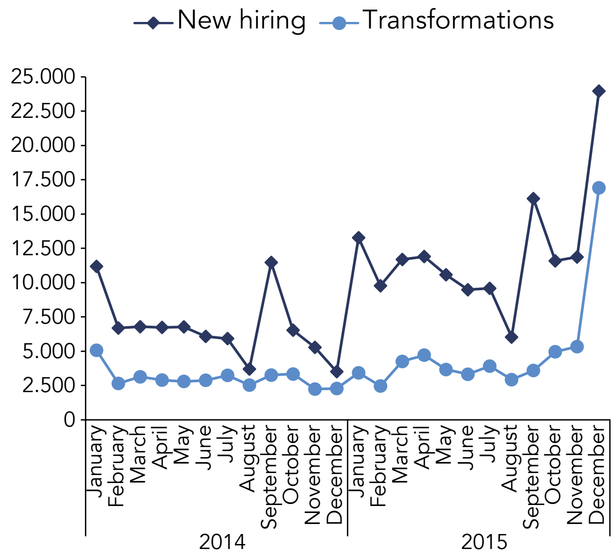
More Stable Jobs, More Connected to Society

In recent years, there have been numerous new regulations regarding the labour market.
After the labour reform developed by the Labour Minister, Ms Fornero, and the subsequent amendments and additions made by the Letta Government, the Renzi Government outlined a new programme of reforms concerning the Labour and Welfare Market, focused on the Jobs Act. By changing the rules of entry for new employees, abolishing certain insecure types of employment and increasing the range of cover of the social safety net, which now reaches even workers with discontinuous professions, an important step is taken towards the harmonisation of rules between different professional categories and towards a reduction in the dualism of contracts between permanent and temporary contract workers. The tax benefits for hiring new employees with permanent contracts, introduced by the 2015 stability law, which can also be used for the transformation of temporary contracts to permanent contracts, according to the INPS (national social security institute) circular of 29 January 2015 (no. 17), should convince business owners to hire under permanent contract and provide a new boost for the economy. This is accompanied by the implementation decree regarding the "increasing protection" contract and the new amendment to the individual contract termination regulations (that implements, in part, that foreseen by the Jobs Act).

More permanent contracts in 2015

According to Veneto Labour data (of 4 February 2016), there has been evident and significant growth in hiring on and transformations to permanent contracts; in 2015, there were around 146,000 people hired, almost twice the number of the year before, and around 59,500 transformations, an increase of 63.9% on 2014. Transformations include, as well as moving from temporary to permanent contract, with count for 93% of all transformations in 2015, the definitive hiring of apprentices who have finished training. There was a sharp increase in December, linked to the choice to bring forward new contracts and transformations in order to make use of the contributions incentive envisaged for 2015, due to the fact that the 2016 stability law reduced both the amount (from €8,060 to €3,250 a year) and the duration (from three to two years); the effects of these reduced incentives will need to be examined a few months in to 2016. At the same time, hiring on temporary contracts slowed down, whilst the extension of such contracts increased; it is to be recalled, that the reasons behind the majority of hiring on temporary contracts are not compatible in the case of permanent contracts, such as replacements or seasonal work, typical of the tourist sector, which holds a very important role in our economy.

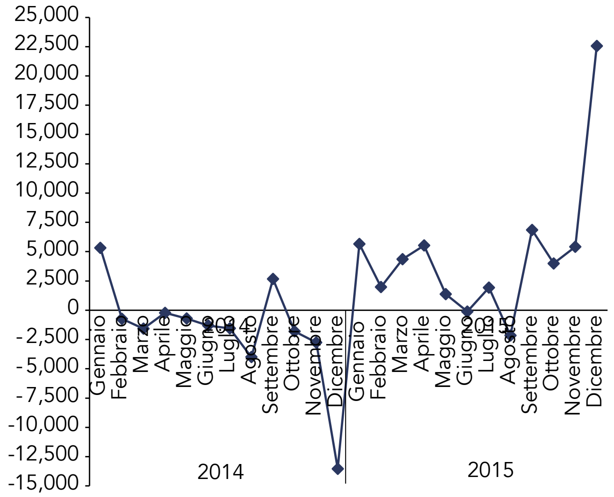
Fig. 2.7.1 - People hired on permanent contracts and transformation from temporary and apprentice contracts to permanent contracts per month (*). Veneto – Years 2015 and 2015



(*) To be borne in mind that the fall in numbers hired in the final months of 2014 was partly motivated by delaying hiring in order to benefit from the incentives foreseen by the 2015 stability law, then under discussion.
Source: Veneto Region Data Processing - Regional Statistical System Section on Veneto Labour processing on SILV data (extracted 4 February 2016)

In turn, the terminations of temporary contracts increased as compared to a year ago, but not to a great degree (+7.9%). From this, the overall result of the dynamics of hiring/transformations/terminations gives a positive balance of over 57,000 units, as compared to corresponding data from 2014 of -20,000 units. For more detailed analysis of the results, it must be taken into account that the decreasing balance of the final months of 2014 was also affected by the increase in terminations in December, which was determined by the bringing forward of terminations in order to benefit from the old regulations on the duration of mobility allowances, whilst the fall in numbers hired in the final months of 2014 was in part motivated by delaying hiring in order to benefit from the incentives envisaged by the 2015 stability law, then under discussion.

Fig. 2.7.2 – Monthly balance (*) of permanent contracts. Veneto – Years 2014 and 2015



(*) Balance = Numbers hired + Transformations from Temporary and Apprentice Contracts – Terminations It must be taken into account that the decreasing balance of the final months of 2014 was also affected by the increase in terminations in December, which was determined by the bringing forward of terminations in order to benefit from the old regulations on the duration of mobility allowances, whilst the fall in numbers hired in the final months of 2014 was in part motivated by delaying hiring in order to benefit from the incentives envisaged by the 2015 stability law, then under discussion.
Source: Veneto Region Data Processing - Regional Statistical System Section on Veneto Labour processing on SILV data (extracted 4 February 2016)

In Veneto: Little Variation in the Employment Situation...

Therefore, 2015 ended by leaving 2016 with significantly more consistent stock in terms of permanent employment contracts; but the true testing ground will be the length of time for which this phenomenon will last.
According to data from the workforce survey conducted by ISTAT, employment rose in Italy for the second year in a row: in 2015, there were 22,464,753 employed, an increase of 185,836 on the year before, or +0.8%, a superior variation to that even of ten years ago (+0.3%). Consequently, over the course of the year, the rate of employment in Italy for people of between 15 and 64 years of age grew from 55.7% to 56.3%, an improvement due mostly to men, as well as to the persisting figures of those remaining in employment among the over-50s. On the other hand, our region suffered a decrease in employment, due mainly to a fall in the female component[18]: in 2015, there were 2,051,552 employed of 15 years or over, 0.7% less than a year ago. That notwithstanding, the unemployment rate remains almost unchanged, moving from 63.7% in 2014 to 63.6% in 2015.
In detail, it is revealed that, in Veneto, there is a marked decrease in self-employed workers of -1.7% as compared to the previous year, which concerns men in particular (-1.9%), whilst the fall in number of employees (-0.3%) is led exclusively by women (-1%). The main decrease is in part-time workers and women in particular: consequently, in 2015, full-time workers make up 34.1% as compared to 34.6% in 2014, whilst male workers go from 6.3% in 2014 to 6% today.

Towards the Europe2020 target

The rate of employment among 20-64 year olds in Veneto is also slightly lower than the year before, at 68.3% (68.4% in 2014), though Veneto is still in sixth position among Italian regions and is already in line with the target set by the Italian government for the Europe2020 strategy, of between 67% and 69% to be reached by the year 2020; the target on a European level is 75%, which has already almost been reached by Trentino Alto Adige, which recorded 74% in 2015.

...but unemployment has fallen

After seven years, unemployment has finally fallen
However, the main feature of 2015 is that, after seven years, unemployment in Italy has finally fallen and in significant measure: around 203,000 fewer people are in search of work, 6.3% fewer than in 2014. Consequently, the rate of unemployment has fallen from 12.7% to 11.9%, in particular thanks to the fall in numbers of women out of work, with a decrease in rate of over one percentage point; though it must be pointed out that the greater decrease in female unemployment is connected to a rise in the rate of inactivity, which fell, instead, for men.
Unemployment fell almost all over Europe: the EU-28 rate in 2015 was 9.4%, as compared to 10.2% in the previous year. The best situation is found in Germany, where fewer than 5 people are in search of employment for every 100 in the work for-

[18] This data must be read together with data on unemployment and inactivity that is found in the following paragraph.

Tab. 2.7.1 - Rate of employment among 15-64 year olds (*) according to gender. Veneto and Italy – Years 2005:205

	Veneto			Italy		
	male	female	total	male	female	total
2005	75.9	53.1	64.6	69.7	45.4	57.5
2006	76.8	53.5	65.3	70.4	46.3	58.3
2007	77.1	54.0	65.7	70.6	46.6	58.6
2008	77.0	55.7	66.4	70.1	47.2	58.6
2009	75.0	53.9	64.6	68.5	46.4	57.4
2010	75.1	53.5	64.4	67.5	46.1	56.8
2011	74.8	54.9	64.9	67.3	46.5	56.8
2012	74.8	55.0	64.9	66.3	47.1	56.6
2013	72.7	53.3	63.1	64.7	46.5	55.5
2014	72.9	54.5	63.7	64.7	46.8	55.7
2015	73.2	54.0	63.6	65.5	47.2	56.3

(*) Employment rate = (Employed 15-64 year olds / Reference population) x 100 Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

ce (4.6%), whilst, although making progress, life is particularly difficult in Greece and in Spain, with recorded unemployment rates of 24.9% and 22.1% respectively.
And in Veneto? In our region, although there has been a decrease in the number of those in employment, the number of people looking for work has, however, fallen by 6.2% as compared to 2014, to 156,629.

Unemployment also falls in Veneto, the second region for lowest values…

The rate of unemployment fell from 7.5% in 2014 to 7.1%, once again the second lowest value among Italian regions, behind Trentino Alto Adige, with the worst performances in Calabria and Sicily.
However, certain elements related to this decrease in unemployment must be pointed out.

…but this reduction is influenced by female inactivity

This decrease in unemployment is caused only by the female component, with a fall in female unemployment of over 12% over the course of a year, whilst the number of unemployed men actually increased. These figures, related to employment, which recorded no changes in terms of male employment and, instead, a significant decrease in female employment, are reflected in the rate of unemployment, which showed a slight increase among men and a notable decrease among women. Therefore, what emerges is that it is actually the female work force of 15-64 year olds that decreased in size, i.e. the total number of employed and unemployed women, thus causing an increase in the number of inactive women and the relative rate of inactivity, which reflects, therefore, upon the rate of unemployment.

Tab. 2.7.2 - Rate of unemployment (*) according to gender. Veneto and Italy – Years 2005:2015

	Veneto			Italy		
	male	female	total	male	female	total
2005	2.9	6.2	4.2	6.2	10.0	7.7
2006	2.4	6.6	4.1	5.4	8.8	6.8
2007	2.0	5.3	3.4	4.9	7.8	6.1
2008	2.3	5.1	3.4	5.5	8.5	6.7
2009	3.5	6.3	4.7	6.7	9.2	7.7
2010	4.4	7.4	5.7	7.5	9.6	8.4
2011	3.9	6.3	4.9	7.5	9.5	8.4
2012	5.5	7.7	6.4	9.8	11.8	10.7
2013	6.1	9.6	7.6	11.5	13.1	12.1
2014	5.7	9.8	7.5	11.9	13.8	12.7
2015	5.8	8.8	7.1	11.3	12.7	11.9

(*) Employment rate = (People seeking employment / Workforce) x 100
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

In detail, there are a lot fewer active 15-24 year old young women, perhaps because they are more inclined to stay on at school and delay entering the labour market (this is taken up further on in the discussion on youth unemployment and NEETs); however, activity also decreased among 25-44 year old women. In contrast, it increased in women over 65.
Finally, it must be taken into consideration that, between 2013 and 2014, female inactivity fell by almost 4% and that, in 2015, women recorded as inactive were still fewer than the number recorded two years earlier.

Tab. 2.7.3 - Main indicators of the labour market. Veneto – Difference between 2015 and 2014 (*)

	male	female	total
Employed 15-64 years of age	0.0%	-1.2%	-0.5%
Unemployed 15+ years of age	1.7%	-12.3%	-6.2%
Workforce 15-64 years of age	0.1%	-2.3%	-1.0%
Inactive 15-64 years of age	-2.2%	2.7%	0.9%
Rate of employment 15-64 years of age	+0.3 points %	-0.5 points %	-0.1 points %
Rate of unemployment 15+ years of age	+0.1 points %	-1.0 points %	-0.4 points %
Rate of inactivity 15-64 years of age	-0.4 points %	+1.2 points %	+0.4 points %

(*) The first four indicators express the percentage variation between 2015 and 2014, given that they are relative to absolute values. The other three indicators, however, are the differences between 2015 and 2014 in percentage points because they refer to rates
Rate of employment = (Employed 15-64 year olds / Reference population) x 100 Rate of unemployment = (People seeking employment / Workforce) x 100 Workforce = Employed + Unemployed
Rate of inactivity = (NON workforce / Reference population) x 100
Source: Veneto Region Data Processing - Regional Statistical System Section on ISTAT data

Veneto's Good Performance

Vicenza has the second lowest rate of unemployment among Italian provinces

Given all of the above, it must be underlined that four of Veneto's provinces are placed within the first fifteen in terms of lowest rate of unemployment: in particular, Vicenza, with a rate of two percentage points lower than the previous year, stood at 4.8% in 2015, recording the second lowest index among all the Italian provinces; at the same time, Vicenza also recorded an increase in rate of employment of two percentage points
Belluno and Verona follow with an unemployment level of 6% and 6.2% in seventh and eighth place and finally Venice in fifteenth place with 7.1%, the latter figure decidedly lower than the figure for last year (over 2 percent less). Moreover, Belluno has always recorded good trends in job market participation and this year it has improved further, going on to occupy the third place in the classification of Italian provinces with the highest employment rate (68.3%).
In detail, after the excellent performance of last year, the situation is slowing in Verona and unemployment has started to increase while employment is decreasing; similar results were found in Padua. Conversely, in Rovigo the situation is recovering. Finally, in Treviso and Venice, as well as unemployment decreasing, employment is increasing.

Young people: how to connect to the working network

Young people are certainly those must affected by the current employment crisis: in recent years youth unemployment has greatly and progressively increased, making young people feel increasingly like extras in the job market rather than protagonists. Not being able to get into work, remaining too long out of the working network and therefore being disconnected from society increases malaise and the risk of exclusion.

After seven years youth unemployment in Italy is decreasing...

Fortunately in 2015 the youth unemployment rate finally came to a standstill: in Italy, after seven years, unemployment is also falling among young people so much so that the percentage of unemployment between those aged 15 and 24 went from 42.7% in 2014 to 40.3% in 2015, in any case still double the recorded EU average (EU28 20.4%). Once more it is Germany to bring home the trophy among the 28 nations of the European Union, for the lowest unemployment (7.3%), while Greece and Spain showed the worst conditions (49.7% and 48.3% respectively). In our country, the situation is particularly sever in the South where, in many regions, the youth unemployment rate exceeds half of the population of this age: the worst case was detected in Calabria where 65.1% of young people searching for work can't find it, followed by Sardi-

Tab. 2.7.4 - Unemployment rate (*) by province. Veneto – Years 2005:2015

	2005	2007	2009	2013	2014	2015	Position in Italian province rankings 2015
Verona	4.3	3.3	4.5	5.8	4.9	6.2	8°
Vicenza	3.5	3.5	5.1	7.3	6.7	4.8	2°
Belluno	3.8	2.2	4.3	7.0	7.5	6.0	7°
Treviso	4.2	4.0	4.7	7.3	8.3	7.7	21°
Venezia	4.4	3.0	5.5	8.9	9.4	7.1	15°
Padova	4.3	3.1	4.3	8.6	7.8	9.4	45°
Rovigo	6.3	3.8	3.3	8.5	9.3	8.5	29°

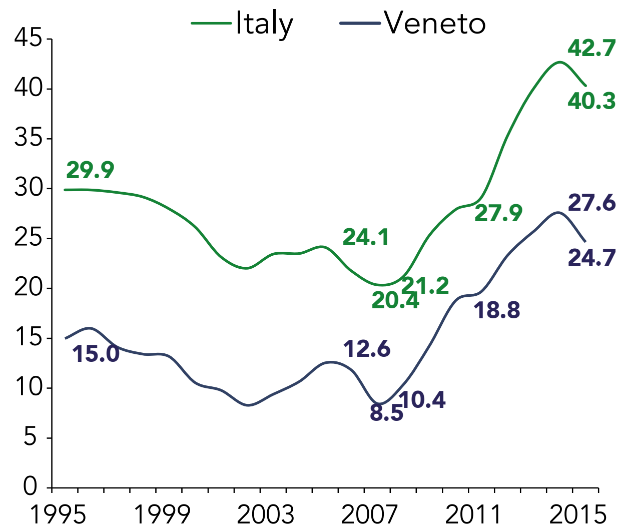
(*) Unemployment rate = (people looking for work/ work force) x100
(**) The ranking is based on the lowest rate of unemployment among all the Italia provinces Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data]

nia, Sicily, Campania and Puglia with rates equal to 56.4%, 55.9%, 52.7% and 51.3% respectively. The most worrying thing is that, although there are many regions that have recorded a marked fall in unemployment in the last year, others, like Sardinia or Calabria, are still the scene of an increase of unemployed young people.

... in Veneto as well

Fortunately, in our region youths continue to have fewer problems. In fact, Veneto maintains the lowest unemployment levels in Italy along with Trentino Alto Adige: with a rate of 24.7% in 2015, finally down after seven years by three percent compared to the previous year, Veneto is in second place for the lowest unemployment values in 15-24 year olds in the rankings of Italian regions (Trentino Alto Adige is still first with 17%).
It should be noted, however, that the greater reduction in unemployment in young people aged 15-24, in Italy and even more so in Veneto, is associated with a fall in activity and a significant increase in the rate of inactivity (in Veneto, up +2.7 percent compared to the previous year, in Italy +1). Furthermore, while in 16 out of 20 regions the unemployment rate of those aged 15-20 is also decreasing, so much so that the average Italian figure went from 31.6% to 29.9% in a year, in Veneto, however, there was an increase from 18% to 18.4%, in any case the second lowest rate in Italy.
What's hiding behind this? Let's try and explain.
When reading the data related to 15-24 year olds it emerges that for this population bracket in Veneto, between 2014 and 2015, both the share of employed and NEETs (Not in Employment, Education or Training) are decreasing.

Fig. 2.7.3 - Youth unemployment rate (*). Veneto and Italy - Years 1995+2015



(*) Youth unemployment rate = (Young people aged 15-24 looking for work / reference workforce) x100
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data] [...even if the fall in unemployment is associated with a rise in those not seeking work ...

...who are mainly continuing to study]

However, this corresponds with an increase in the portion of the 15-24 year old populating attending a study or education programme: compared to 63.1% in 2014 this value was recorded at 66.5% in 2015. It follows that the lower portion of employed persons, NEETs and even unemployed persons is replaced by young people's greater choice to continue studies, a piece of information also confirmed by the growth of students from Veneto registered at universities if we read the data emanated from the Ministry of Education, University and Research (in this regard see also the first paragraph of sub-chapter 4.2).

The issues faced by 25-29 year olds

A situation that does not arise at all if we consider the following age bracket of 25-29 year olds. In fact, if we analyse the changes that have occurred over one year for Veneto youths over a wider age bracket, or rather 15-29 year olds, since now there is not only data on 25-29 year olds for 2015, we find ourselves simultaneously faced with a decrease in the rate of employment and an increase in the levels of unemployment and NEET. The differences compared to the data available on 15-24 year olds are due to the conditions in which 25-29 year olds find themselves, youths who now are almost no longer involved in study programmes and how have perhaps even attained tertiary education.

Tab. 2.7.5 - Percentage distribution of young people by professional situation and unemployment rate (*) by age. Veneto - Years 2014 and 2015

	Young people 15-24 years old		Young people 15-29 years old 2014	
	2014	2015	2014	2015
Employed (**)	21.9	20.8	38.0	36.0
Following study or education programmes	63.1	66.5	45.2	47.0
Neet (***)	15.0	12.7	16.8	17.0
Total young people	**100.0**	**100.0**	**100.0**	**100.0**
Unemployment rate	27.6	24.7	18.0	18.4

(*) Unemployment rate = (young people seeking employment / reference work force) x100 (**) This percentage expresses the youth unemployment rate. In fact, the employment rate is given by the following formula: (those employed of an age bracket/population for the same age bracket) x100
(***)Young people not in employment, education or training
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data]

It is mainly young people who enter into the job market looking for their first job or a new job because the last one ended, in part also young people who do not have a job and at the same time aren't looking for one and are therefore inactive. Are they discouraged in the face of a society that seems to offer little or are they not willing to do a job just to be in work, maybe they can allow themselves to wait, secure in their family home.

In this regard data on NEET 25-29 year olds from recent years may suggest other considerations, especially if we consider that NEETs can be divided into unemployed and inactive.

In 2014 in Veneto the number of young people in this age bracket neither in education nor working decreased by more than 13% compared to the previous year in the face of the increase recorded in 13 of the 20 Italian regions, such a significant increase to make Veneto the region with the lowest portion of NEET 25-29 year olds in Italy.

Veneto youths: among the best off in Italy

The situation is the opposite in 2015, or rather this time in the face of a decrease of 25-29 year olds outside of the scholastic and working network for more than half the regions, Veneto showed an increase of 22.6% going from a portion of NEET in the reference population of 1.8% in 2014 to 4.3%.

In summary, we need to consider that Veneto has some of the lowest unemployment rates compared to almost all other Italian regions whether considering the population bracket of 15-24 year olds, 15-29 year olds or 25-34 year olds. Furthermore, the trends in the employment rate are also good since Veneto occupies the first place in the regional ranking of the highest levels of employment, with 36 out of 100 15-29 year olds and 72.5 out of 100 25-34 year olds employed. And finally, compared to almost all the rest of Italy, there are less youths at home as NEET in Veneto with only Trentino Alto Adige ahead of us.

Supporting the network of social safety nets

New legislation

One of the aims of the Jobs Act is the reorganisation of social safety nets, with the aim of "ensuring, in the case of involuntary unemployment, uniform protection related to past contribution of workers, rationalising regulation on salary supplementation and to encourage active involvement of those expelled from the job market or benefiting from social safety nets, by simplifying administrative procedures and reducing non-salary expenses of work"

(Italian Law n. 183 of the 10th December 2014). With the implementation of Italian Legislative Decree 148/2015, the fifth of the decrees applicable to the Jobs Act, important innovations are introduced on unemployment insurance (CIG) including the lowering of the maximum duration (from 36 to 24 months, with exceptions), the increase of the additional contribution that enterprises will have to pay when they use this instrument, prohibition of unemployment insurance at zero hours (supplementation for all workable hours) and the extension of the range of beneficiaries to apprentices as well. The ordinary unemployment insurance is then extended to all industrial and construction enterprises regardless of the number of employees (before it was only valid for enterprises with over 15 employees), but wage supplementation disappears for shrinkage or suspension of production activities, or if the enterprise closes. Furthermore, unemployment insurance in derogation is also to be cancelled, even if gradually from 2016.

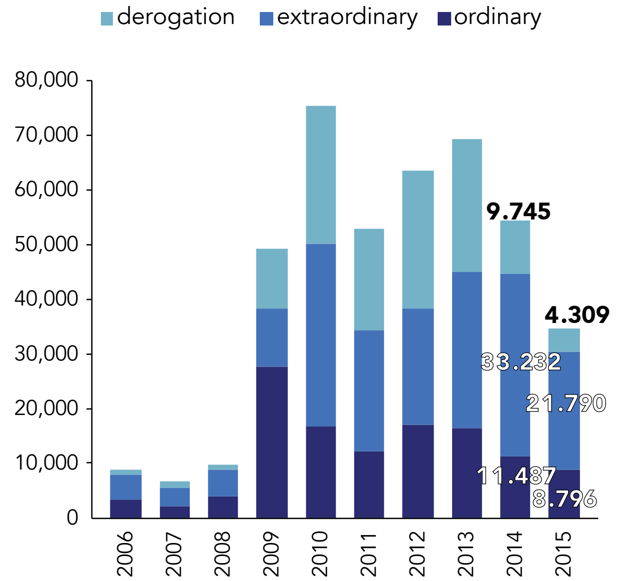
Following the transposition of this decree, INPS has planned an authorisation on the CIG "aimed at aligning the procedures with the regulatory provisions introduced" (press release by INPS of the 18th December 2015). Therefore, the trend of the hours authorised in recent months is greatly influenced by this block of the months November-December 2015 and January 2016 and the gradual authorisation resumption beginning from February 2016.

CIG and...

With this long premise, in 2015 recourse to the wage supplementation fund significantly decreased, both in Veneto and in Italy (both -36%). However, this decrease was recorded even before the authorisation block: -37% in Veneto in the period of January – October 2015 compared to the same period of the previous year; this decrease is mainly attributable to the use of the CIG in derogation: if in 2014 over 16 million hours of CIG in derogation in Veneto, in 2015 little more than 7 million were granted (-56%). Ordinary CIG decreased by 23% in Veneto and by 28% in Italy and extraordinary management cig decreased by 34% in our region and 29% throughout the country.

In summary, in 2015 it is estimated that in Veneto there are around 35 thousand CIG equivalent workers, the hypothetical number of unemployed workers who would have never worked throughout the year, compared to 55 thousand in 2014.

Fig. 2.7.4 – Equivalent workers (*) in unemployment insurance, earnings by type of management (**). Veneto – Years 2006:2015



(*) the number of equivalent workers is obtained by dividing the number of hours of unemployment insurance authorised at a number of ours worked per person of 1,650 hours. This obtains a hypothetical share of unemployed workers who over the year would have never worked (**) Please note that there was a decrease in the hours of CIG in the months of November and December 2015, essentially attributable to the authorisation block from INPS aimed at aligning the procedures to the regulatory provisions introduced following the implementation of Italian Legislative Decree 148/2015.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data]

...dismissals decreasing

As regards dismissals, according to data published by Veneto Lavoro, up to date as of December 2015, 604 enterprises activated collective dismissals, for a total of 5,340 workers dismissed and inserted into list of mobility as per Italian Law 223/1991. Compared to the same period in the previous year the enterprises involved decreased by 44% and the workers decreased by 49%.

Workers dismissed individually and not following collective actions must be added to these: in the period January – September 2015 22,515 workers were dismissed of which 74% for objective justified motives, 12% for cessation of activity and the remaining 14% for other causes (justified subjective motive, just cause, just cause dismissal). In the first nine months of 2015, compared to the same period of the previous year, the number of enterprises who

Tab. 2.7.6 - Authorised hours of earning supplement fund (*). Veneto and Italy – Years 2014 and 2015

	Italiy		Veneto	
	2015	% change 2015/14	2015	% change 2015/14
Total hours of CIG	677.321.935	-35.6	57.574.928	-35.9
Of which: ordinary	180.278.899	-28.1	14.512.827	-23.4
extraordinary	399.554.023	-29.2	35.953.022	-34.4
derogation	97.489.013	-58.9	7.109.079	-55.8

(*)Please note that there was a decrease in the hours of CIG in the months of November and December 2015, essentially attributable to the authorisation block from INPS aimed at aligning the procedures to the regulatory provisions introduced following the implementation of Italian Legislative Decree 148/2015.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data]
introdotte a seguito del recepimento del D.Lgs 148/2015.

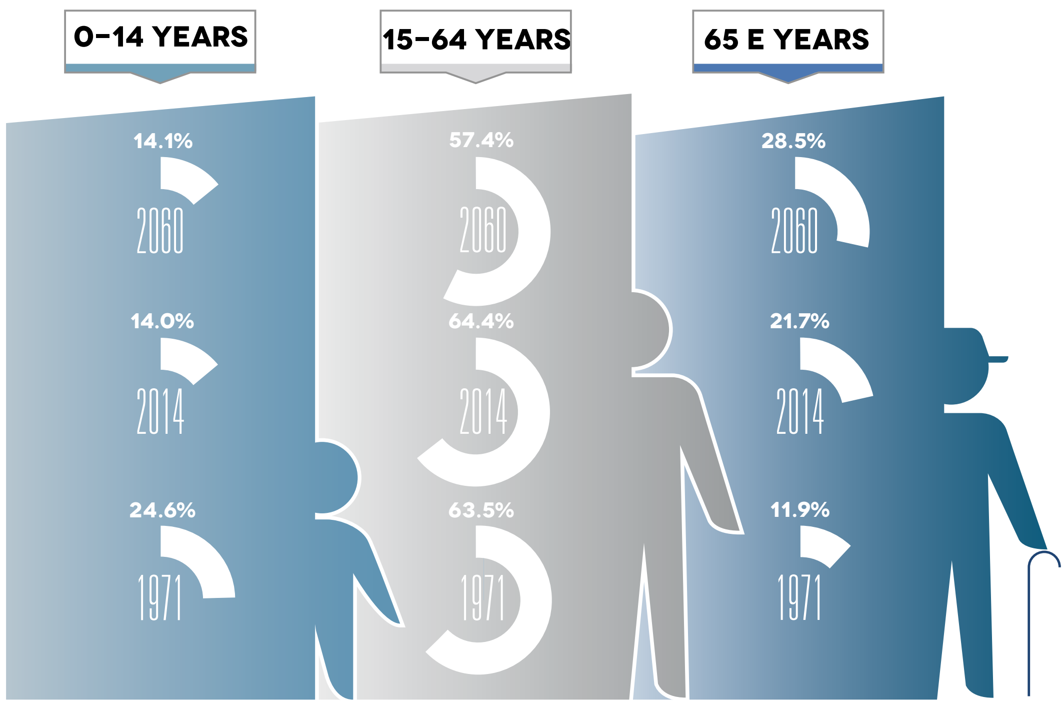
dismissed workers decreased, especially the enterprises who dismissed workers for cessation of activities (-12%) even if the number of workers involved in total remained almost constant.
Jointly considering collective dismissals and individual dismissals, in the first three quarters of 2015 the number of dismissed workers decreased by 15% compared to the first three quarters of 2014.

IL TEMA – INTERCONNESSIONI

Chapter 3 – Generations on the move

Europe, the old continent, is an increasingly old continent, in a phase of transition in which the consolidated equilibria between new and old generations are changing. The reasons are mainly due to two important phenomena: on the one hand, the increase in longevity, which allows increasing numbers of people to reach old age and stay there for longer, on the other hand the decline in fertility, which decreases the number of new-borns each year.
The transition towards the increasing age of the numerous baby boom generations from the mid '60s is a structural determinant of the aging phenomenon. In literature, however, it is preferred to speak of "youth-reversal", putting the accent of concern on the absence of young people rather than the increase in old people, which in some ways may be an opportunity. In many cases migration may contribute to redesigning the age profile of cities and countries, emptying or repopulating territories.
The changed demographic structure has important social and economic consequences. Young people's capability for change with the bolster of old people's experience: a pact between generations that knows how to give value to the present and what needs to be sustained.

DISEQUILIBRIA BETWEEN GENERATIONS



CONTINUE THE PROCESS OF AGING OF THE POPULATION:
IN 2060 50% IN MOST ELDERLY

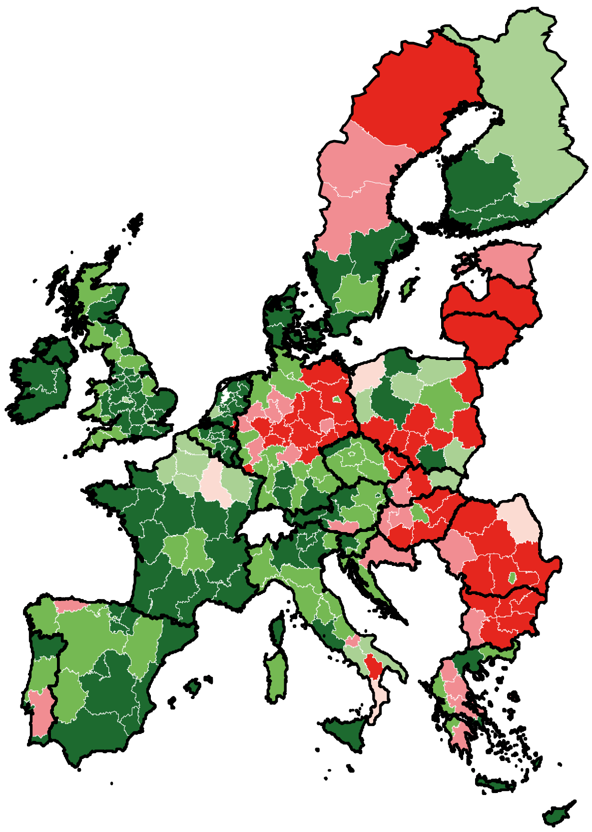
Europe's position in the world has changed in the last decades, not only due to the shocks sustained after the recent economic crisis, but also due to the drive given by globalisation, by technological changes, by economic developments and by demographic changes. These changes represent some challenges for some countries, especially for the European regions that are the most vulnerable. From a demographic point of view, European is characterised by an intense gaining process, so much so as to make it the oldest continent, today and for the coming decades[1].Contributing to this transformation are reduced numbers of births and the increase in longevity, but also migrations which have different effects in the various regions. After the latest expansion of the EU, intra-European migration has grown significantly, prevalently for migratory flows from eastern countries towards the West. Added to these are flows from less developed areas of the European territory that are not part of the European Union, as well as those from areas outside of Europe. In some European regions aging and depopulation have determined demographic disequilibria, with a territorial and social impact related to the provision of public services, the job market and the welfare systems. Conversely, other regions are experiencing an increase in their population, with new challenges and requirements for different interventions, especially in terms of an enhancement that is sustainable in social, economic and environmental terms.

3.1. Towards the Europe of tomorrow

If overall Europe is experiencing an increase in its population, the situation is not the same among its countries, nor between the different regions in the countries. The map shows the population changes in the decade 2000-2011 for all European regions, also highlighting whether the increase/decrease is due to the effect of the natural component, the migratory component or both[2].
In this period the regions with population growth are mainly those located in central-western and south-western Europe, while the decline can mainly be observed in eastern Europe, in most of Germany and in some Mediterranean regions, such as in Southern Italy and in Greece.
The regions of the European capitals are hotbeds of demographic development, often thanks to the contribution of migration, but in some cases also thanks to the contribution of natural balance, as for the Italian capital.

Fig. 3.1.1 - Population development from 2000 to 2011 in European regions - EU28

INCREASE: migratory balance + ; natural balance +
INCREASE: migratory balance + ; natural balance -
INCREASE: migratory balance - ; natural balance +
DECREASE: migratory balance - ; natural balance +
DECREASE: migratory balance + ; natural balance -
DECREASE: migratory balance - ; natural balance -



Source: Veneto Region Processing – Directorate of Regional Statistical System on ESPON data] [The contribution from births is marginal]

The marginal contribution of births

In Europe the number of births has a more marginal impact on overall population growth compared to the contribution of migratory flows, which in many regions

[1] United States Census Bureau, An Aging World: 2015. International Population Reports; March 2016

[2] 2011 is the last year for which the natural and migratory balance is available for European regions

counterbalance the impact of the negative natural balance.
Italy also presents a varied situation. Between 2000 and 2011, the period referred to in the map, a part of the South shows a certain demographic suffering, while in the rest of Italy the population increased, in some areas such as Veneto, thanks to both the natural component and the migratory component, in other cases only due to the contribution from the migratory component. But this is a situation that is already changing: in fact, in 2014 Italy recorded a substantially stable overall population in terms of its numerical consistency (+0.02%), given that the population only increased in six regions: in Trentino Alto Adige, Lazio, Lombardy and, in a smaller measure, in Emilia Romagna, Tuscany and Veneto.

If the positive contribution remains, although reduced, from the migratory component (+110 thousand), the fact that deaths significantly exceed births weights negatively, determining a decrease in the population of around 90 thousand units. This is due to a structural effect related to the aging of the population, with consequent increase in mortality, but also depends on the accentuation of the decrease in births.
Population at 31st December % change 2014/13 Natural balance Migratory Balance Total balance

Tab. 3.1.1 - Demographic indicators by region. Italy - Year 2014

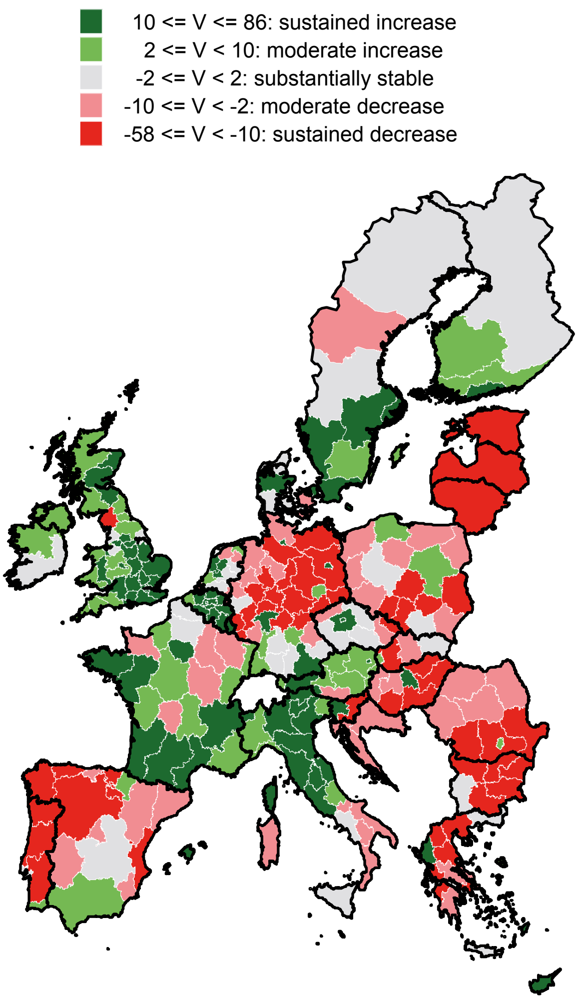
	Population at 31st December	% var. 2014/13	Natural balance	Migratory Balance	Total balance
Abruzzo	1,331,574	-0.18	-3,848	1,483	-2,365
Basilicata	576,619	-0.31	-1,841	69	-1,772
Calabria	1,976,631	-0.20	-2,786	-1,116	-3,902
Campania	5,861,529	-0.14	-634	-7,802	-8,436
Emilia Rom.	4,450,508	0.09	-11,060	15,214	4,154
Friuli V.G.	1,227,122	-0.18	-4,587	2,346	-2,241
Lazio	5,892,425	0.37	-4,577	26,551	21,974
Liguria	1,583,263	-0.54	-9,906	1,230	-8,676
Lombardia	10,002,615	0.29	-4,222	33,440	29,218
Marche	1,550,796	-0.15	-4,463	2,121	-2,342
Molise	313,348	-0.44	-1,348	-29	-1,377
Piemonte	4,424,467	-0.28	-14,775	2,444	-12,331
Puglia	4,090,105	-0.00	-3,688	3,527	-161
Sardegna	1,663,286	-0.03	-3,972	3,399	-573
Sicilia	5,092,080	-0.06	-4,789	1,932	-2,857
Toscana	3,752,654	0.06	-12,389	14,532	2,143
Trentino A.A.	1,055,934	0.38	1,505	2,478	3,983
Umbria	894,762	-0.22	-2,892	912	-1,980
V. d'Aosta	128,298	-0.23	-170	-123	-293
Veneto	4,927,596	0.02	-5,326	6,104	778
Italia	**60,795,612**	**0.02**	**-95,768**	**108,712**	**12,944**

Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data] [In Veneto the population is growing due to the migratory component]

In Veneto the population grows for migratory component

In 2014 there were 4,927,596 residents in Veneto, only 0.02% more compared to the previous year (around 800 more inhabitants). The high negative natural balance (-5,326 units difference between births and deaths) is offset by a positive migratory balance of little more (+6,104 units difference between immigrations and emigrations).
According to the demographic forecasts processed by Eurostat, the European population should increase by 3% from now to 2040, reaching almost 524 million inhabitants.

Fig. 3.1.2 - Population forecast per European region. EU28 - % Change 2040/2014 10 <= V <= 86: sustained increase



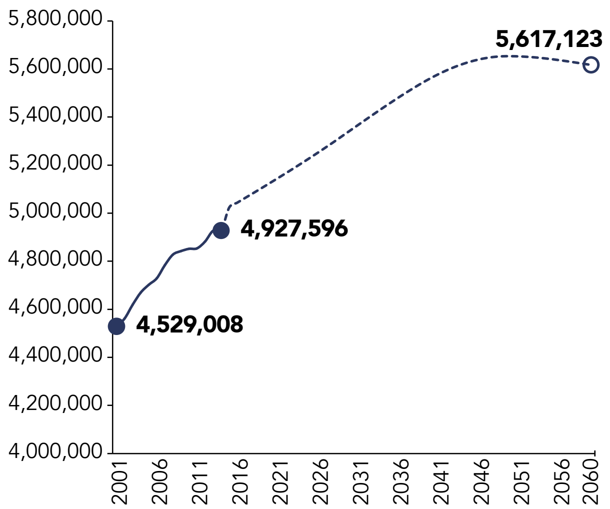
Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data

The coming decades will see an increase in internal migrations, probably also of external migrations, an increase in life expectancy and further aging of the population. The gradual decrease in mortality and the simultaneous decreased fertility are the main factors towards the aging population. Forecasts hypothesize that the average fertility rate of EU countries, currently equal to 1.54 children per women, may grow, although still remaining under the natural replacement threshold of 2.1 children per woman (1.7 in 2040). Only France and Ireland will maintain high fertility levels, equal or near to 2 children per woman, while Italy and Germany will remain under the European average. In the same period it is estimated that there will be significant earnings in terms of years of life expectancy at birth in all European countries: almost 5 years more for men, who may reach 82 years in 2040, and almost 4 years for women, who already live longer (87 years in 2040).

Different futures in Europe

The United Kingdom, France, Austria and the Netherlands are characterised by an increasing population; Spain, Greece and German will however be penalised by more or less sustained decreases in demographic terms. In eastern regions aging, along with migration, will lead to rather negative demographic balances.

Fig. 3.1.3 - Resident population. Veneto - Years 2001:2014 and forecasts 2015:2060



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data and Eurostat forecasts]

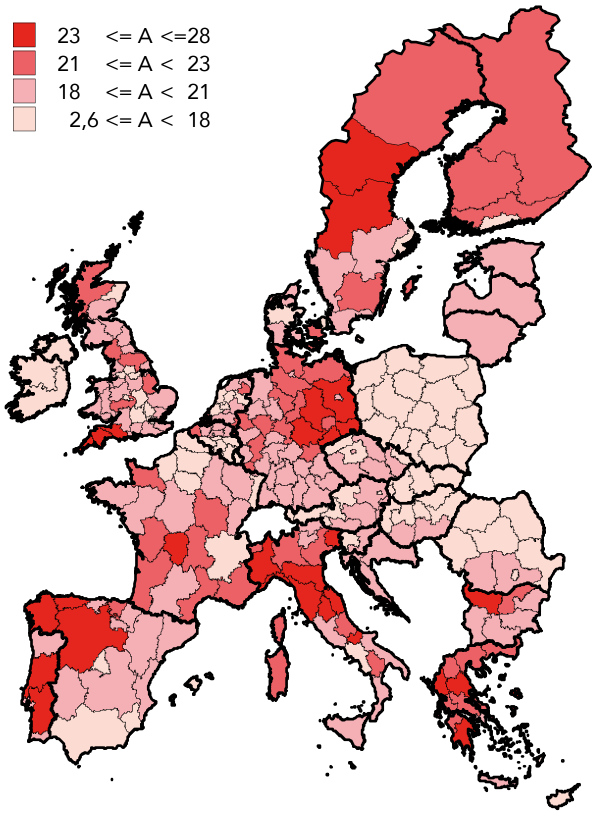
Growth for the Italian population within 2040 is estimated at 9%; looking further into the future, the expected trend is of further growth until 2050 (+10% compared to 2014), to then undergo a slight decrease.
A similar trend is expected for Veneto, which will presumably reach its maximum population peak around 2050 with around 5 million and 650 thousand inhabitants (+15% compared to 2014), to then decrease by more than 30,000 units in the subsequent ten years.

3.2 The silver society

Europe: the old continent

Aging is and will be a high impact demographic trend on all of Europe. However, there are some differences between the various European regions: those with low fertility, high life expectancy and a negative migratory balance will experience a more sustained aging phenomenon.
Extra-EU international immigration will tend to mitigate this aging process; internal migrations cause the population of large urban and developed agglomerates of the most advanced regions to become younger (like North Italy and Veneto) and a loss of younger people in the less developed peripheral areas.
Along with Germany, Italy is currently the oldest country in Europe. Over time the average age has increased and the percentage of old people has increased, at the expense of the younger age bracket and those of working age. The Italian population has a median age of 45 years old (against 42 of the EU28 and 36 years of Ireland, the youngest country), when in 1994 it was 38.
Furthermore, of the almost 61 million residents at the end of 2014, 21.7% were at least 65 years old (18.9% is the mean European percentage), with a value of up to 28% in Liguria, which thus gains the title of the oldest region in Europe.
Over the span of the next 25 years the portion of the elderly population is estimated to reach up to 29% and go up to 30% in 2060.
With the desire to limit comparison to Italy, France and Germany, three countries whose economies are fully integrated, Germany is the country in the most trouble: it will continue to lose population, which has already been in decline for around 10 years, and will age more rapidly.
Conversely France, which currently has a more balanced age structure, will also remain the youngest

Fig. 3.2.1 - Percentage of people aged 65 and over per region (A). EU28 - Year 2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data] [Italy, Germany and France compared

Italy, Germany and France compared

country in the decades to come; the percentage of young people aged under 14 is currently 18.6%, around 5 percent more compared to Italy and Germany and, although it is estimated to decrease, it will not fall below 17%. At the same time the percentage of elderly people will increase until it represents around a quarter of the population, but without reaching the value of 30% expected for Italy and Germany. The Italian population currently has an age structure most similar to the German, but the aging process expected for the coming decades should remain more contained, even if still at worrying levels.
The graphs that follow make comparisons for the three countries in terms of their current age structure (left) and their age structure hypothesised for 2040 (right), highlighting the exacerbation of the aging

process. For Italy and Germany the base of the figures, which corresponds to the new generations, will decrease further due to the effect of decreased birth rates, while the central ages will empty in favour of older age groups, visually producing an expansion of the uppermost part of the figure, and making the shape of distribution ever more mushroom shaped. The swell observed in 2014 in correspondence with the central ages, and that raises the mushroom towards more advanced ages in 2040, corresponds to the bands of children of the baby boom.
France's age structure in 2040 shows a more rectangular shape, to indicate a lesser disequilibria between the generations, and the base remains decidedly wider. After all France, along with Ireland, has always had the highest fertility rate in Europe: on average around 2 children per woman, a value that from a generational point of view is almost sufficient to ensure the population will reproduce, keeping its structure constant.

The economic impact: a social cost...

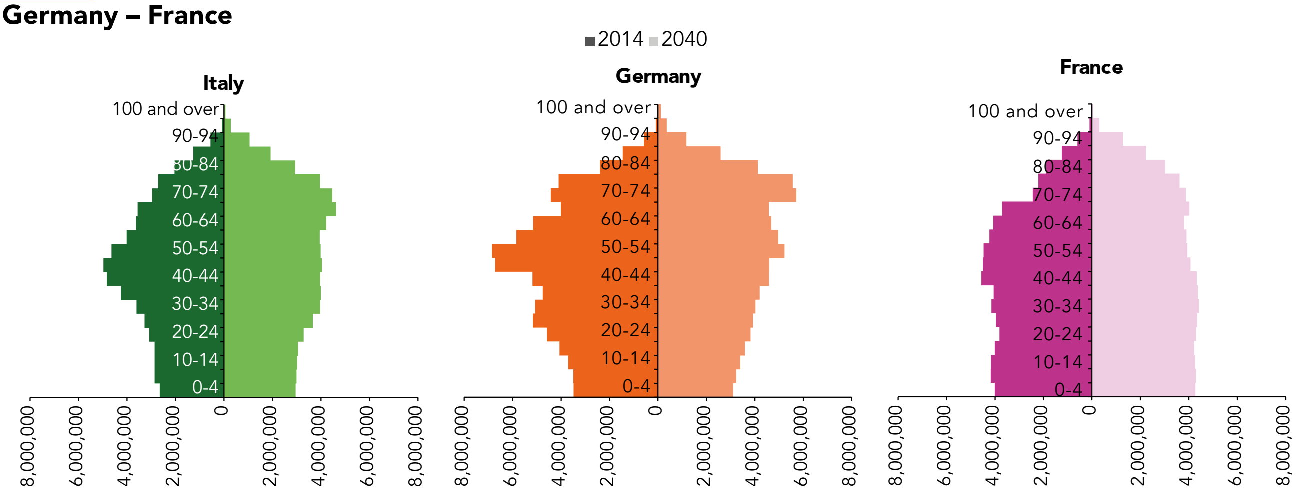
With the economic crisis, which has not yet left most European countries, national welfare systems are faced with multiple critical issues: on the one hand the increasing conditions of financial instability among families, on the other the shrinking public accounts. The effects of demographic changes come into this difficult economic context.
The aging population and the developments forecast for the coming decades are a challenge for all of Europe and, in particular, for Italy. It is recognised

Tab. 3.2.1 - Population structure indicators. Italy, Germany, and France – Year 2014 and forecasts for 2040 and 2060

	Italy			Germany			France		
	2014	2040	2060	2014	2040	2060	2014	2040	2060
Reside nt popula tion	60.795.612	66.379.035	66.241.751	81.197.537	77.545.235	70.664.468	66.415.161	72.952.690	75.736.013
Median age	45	48	49	46	50	50	41	42	43
% 0-14 years	13.8	13.5	13.5	13.2	12.5	13.1	18.6	17.6	17.2
% 15-64 years	64.5	57.4	56.6	65.8	56.2	54.6	63.0	57.2	57.9
% 65 years and over	21.7	29.1	30.0	21.0	31.2	32.3	18.4	25.2	24.9
% 80 years and over	6.5	9.4	13.1	5.6	10.8	13.4	5.8	9.4	10.6
Iold age index(a)	157.7	215.6	222.2	159.9	249.6	246.6	98.8	143.2	144.8

*(a) Old age index = (population aged 65 years and over) / (population aged 0-14 years) *100*
Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data and forecasts

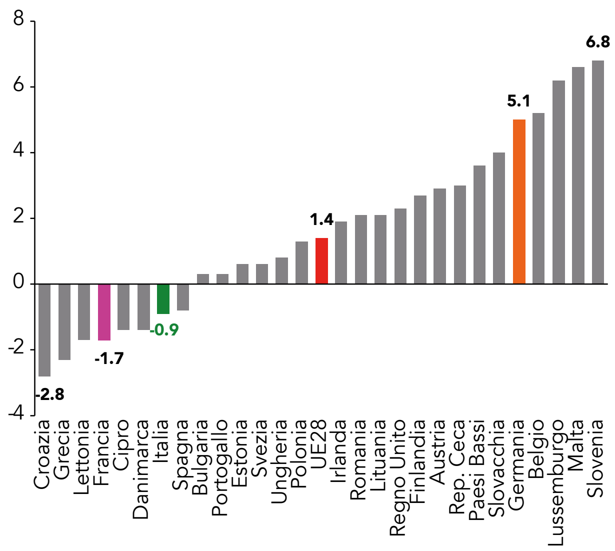
Fig. 3.2.2 - Population by age bracket. Italy, Germany and France – Year 2014 and 2040 forecasts Italy – Germany – France



Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data and forecasts

that these countries need to adopt appropriate measures to manage the impact on national accounts and to ensure the financial sustainability of social models. The report "The 2015 Ageing Report"[3] of the European Commission estimates how public spending in the European Union may change in the coming decades due to the changes in population age structure. The model is based on the population forecasts produced by Eurostat[4] and a on a series of macro-economic assumptions, such as an increase in GDP (hypothesised to increase annually by around 1.4% for the average EU28 country) and the employment rate. In the job market, if on the one hand there is expected to be a reduction in the work force due to the decrease in the population of working age, on the other hand there is expected to be an increase in the employment rate, due to the greater female participation of future generations and the effects of social security reforms that are extending the time for the necessary requirements to leave work to mature.
Specifically, the European Commission on the one hand considers spending for pensions, health and assistance care, which are closely related to the greater number of elderly people, on the other hand it considers spending for education and unemployment, which will change with the decreasing number of young people and the active population.
Based on these assumptions, the portion of public spending most closely related to aging (pensions, health and assistance) for Europe would go from the current 19.8% of GDP to 21.7% in 2060, recording an increase of 1.9 percent. This increase would be partially mitigated by the reduction expected in spending on education and unemployment (-0.5 percent). Therefore, overall, public spending for interventions and services associated with the population's age should go from 25.6% of GDP in 2013 to 27% in 2060 (+1.4 percent). However, this is a result of the different dynamics envisaged for the 28 EU countries: the impact is expected to decrease in eight countries, including Italy (-0.9 percent) and France (-1.7), while in others an increase is expected, in some cases even significant, such as in German (+5.1 percent).
In Italy spending related to the population's age currently costs a total of 28.2% of national GDP, but after a slight increase hypothesised for 2040 (28.6), it is expected to reduce to 27.3% in 2060. The reduction can mainly be attributed to the social security component, whose impact on the GDP will go from the current 15.7%[5] to 13.8% in 2060 (-1.9 percent), also thanks to the effects of the latest reforms aimed at reducing spending on pensions, through the gradual increase of the contributory and age requirement and the reduction of future pension allowances. Spending for health care and assistance, which currently represent 8% of the GDP, will increase overall by 1.5 percent of GDP, while spending for education and unemployment subsidies will not change much.Similar trends are expected for France, which over time will be able to reduce spending, which is however currently very high (31.1% of GDP). Conversely, Germany's public accounts will be notably more burdened: in particular greater weight will be held by pensions (+2.7 percent compared to 2013) and assistance for the elderly (+1.5 percent).

Fig. 3.2.3 Spending forecasts related to population age. EU28 – Percentage difference on GDP impact 2060/2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on European Commission – Commission services, Economic Policy Committee (ECP) data]

...but also an economic opportunity

[3] European Commission, The 2015 Ageing Report. Economic and budgetary projections for the 28 EU Member States (2013-2060) http://europa.eu/epc/pdf/ageing_report_2015_en.pdf

[4] The EUROPOP2013 population forecast data are produced by Eurostat, considering 2013 as the base year

[5] According to ISTAT data, in 2013 spending on pensions was equal to 16.9% of the GDP

Tab. 3.2.2 – Spending forecasts related to the population's age in percentage of GDP – Years 2013, 2040 and 2060

	Italy				Germany				France				UE28			
	% GDP			Var. 2060-2013	% GDP			Var. 2060-2013	% GDP			Var. 2060-2013	% GDP			Var. 2060-2013
	2013	2040	2060		2013	2040	2060		2013	2040	2060		2013	2040	2060	
Previdence	15.7	15.8	13.8	-1.9	10.0	12.2	12.7	2.7	14.9	13.8	12.1	-2.8	11.3	11.7	11.2	-0.1
Sanitary	6.1	6.6	6.7	0.6	7.6	8.3	8.2	0.6	7.7	8.6	8.6	0.9	6.9	7.7	7.8	0.9
Assistance	1.8	2.2	2.7	0.9	1.4	2.3	2.9	1.5	2.0	2.6	2.8	0.8	1.6	2.3	2.7	1.1
spending closely linked to the number of elderly	*23.6*	*24.6*	*23.2*	*-0.4*	*19.0*	*22.8*	*23.8*	*4.8*	*24.6*	*25.0*	*23.5*	*-1.1*	*19.8*	*21.7*	*21.7*	*1.9*
Istruction	3.7	3.4	3.5	-0.2	4.1	4.2	4.4	0.3	5.0	4.9	4.8	-0.2	4.7	4.5	4.6	-0.1
Unemployment	0.9	0.6	0.6	-0.3	0.8	0.8	0.8	0.0	1.5	1.1	1.1	-0.4	1.1	0.7	0.7	-0.4
Total	**28.2**	**28.6**	**27.3**	**-0.9**	**23.9**	**27.8**	**29.0**	**5.1**	**31.1**	**31.0**	**29.4**	**-1.7**	**25.6**	**26.9**	**27.0**	**1.4**

Source: Veneto Region Processing – Directorate of Regional Statistical System on European Commission – Commission services, Economic Policy Committee (ECP) data

While on the one hand the aging population represents a challenge to the sustainability of public accounts, on the other hand it may be an opportunity for economic development.
The demographic change of an aging country introduces new requirements to be met with specific products and services for an expanding elderly target audience with increasing needs, requiring the development of new professional skills and profiles. According to the Oxford Economics definition, the "silver economy" is the wealth produced as the "sum of all economic activities aimed at meeting the requirements of the population aged 50 and over, including both products and services purchased directly, and the economic activities that this spending generates". Based on estimations from Merril Lynch the world's silver economy is valued at 7 trillion dollars a year, so much that it has gained the title of the third largest economy in the world and by 2020 it will reach 15 trillion dollars globally.

Veneto in demographic debt

At the end of 2014 in Veneto 21.7% of the population were elderly (1,066,897 people aged 65 and over), which is in line with the national average. Among the elderly population, there are almost 316 thousand aged eighty and over, a similar percentage to the national value (6.5%), but greater than the EU28 average (5.2%).

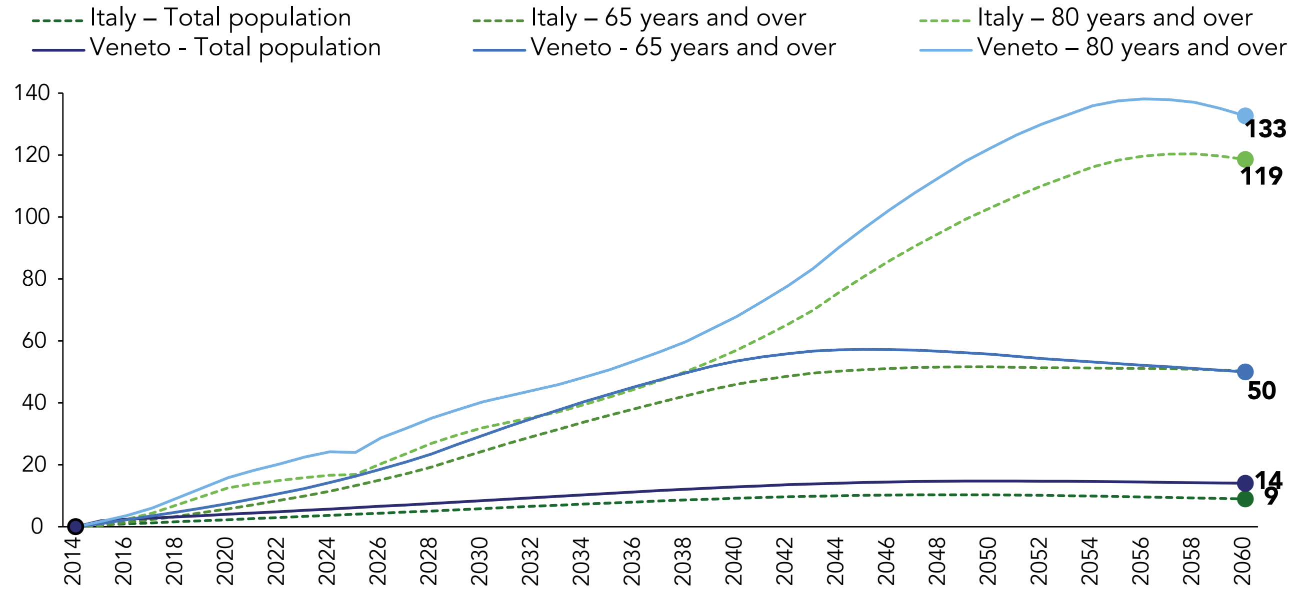
The number of elderly people will increase by 50%...

While for the coming decades there is expected to be a modest increase in the population, around 14% from now until 2060, the increase in the number of elderly people (+50%) will be greater, and greater still the number of very elderly people, or rather people aged at least 80 years old, of whom there will be more than double in 2060 than there are now (133%).
This means that if currently in Veneto there are 155 elderly people for every 100 people aged below 15, in 2060 the ratio will increase to 202, a high value but nevertheless one of the lowest regionally and lower than the expected Italian average (222). With the exception of Liguria, which currently has the highest old age index (243) which is expected to reduce in 2060, in all other regions there is estimated to be an increase in the indicator, which also represents a measurement of the "demographic debt" with regard to future generations, above all in terms of social security, and spending on health and assistance.

...weighing more on the active population

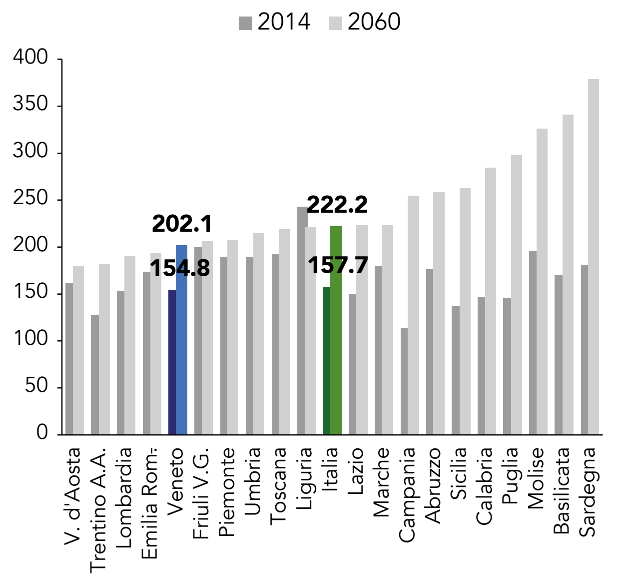
Furthermore, while today for each elderly person aged over 65 there are around three people aged between 15 and 64 who are potentially in work and therefore pay social security and pension contributions, in 2060 there will be less than two workers.

Fig. 3.2.4 – Growth forecasts for the population and the elderly population (% change with 2014 as the basis). Veneto and Italy – Years 2014:2060



Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data and forecasts]

Fig. 3.2.5 – Old age index by region. Italy – Year 2014 and 2060 forecasts (*) 202.1



*(*)Old age index = (population aged 65 years and over) / (population aged 0-14 years) *100 Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data and forecasts*

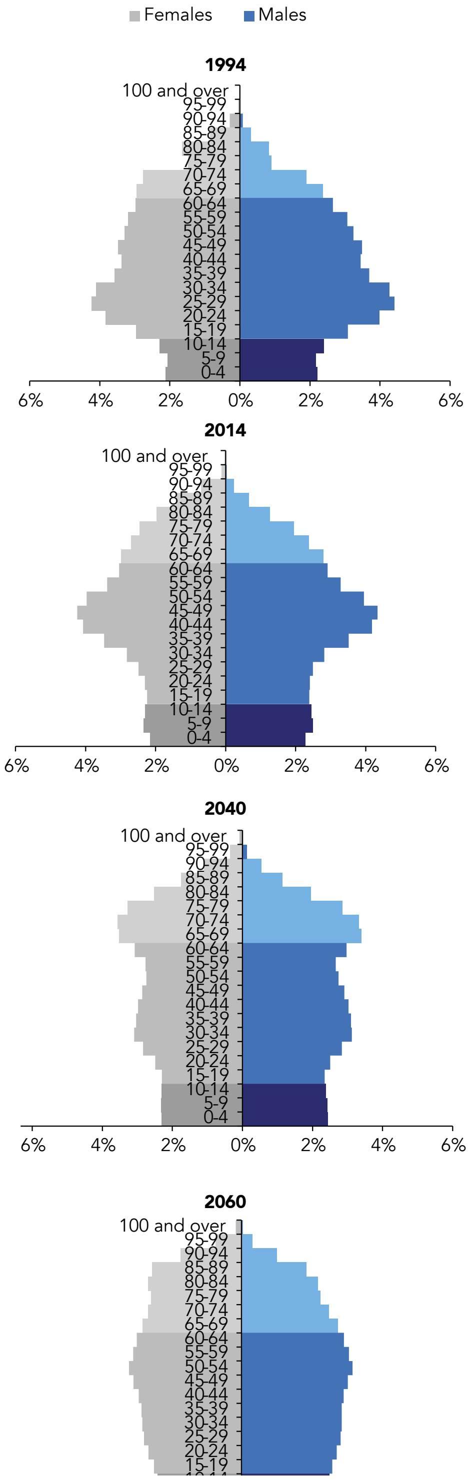
It must be said that the most critical period in terms of disequilibria between age brackets will occur around 2040, when the large group of those born in the baby boom period, who are currently aged between 40 and 50, will pour into the age bracket of the elderly, which in percentage terms will reach 29.4% of the population. In 2060, with the disappearance of this generation, the disequilibria between age brackets will appear to re-balance slightly (the elderly will be 28.8%), although remaining rather marked.

The structural change to the population has a significant impact on the job market, thereby eroding the offer consisting of the population at working age. In 1994 those aged 15-64 (the central area in the figures) represented around 70% of the overall population in Veneto, while they currently represent 64% and will further decrease to 56% in 2040, with the exit of the baby boomers.

The replacement rate of the active population contributes to measuring the generational imbalance in the job market, a rate that expresses the percentage ratio between the potentially outgoing population (60-64 years) and the incoming population (15-19 years).

Values near to 100 express a substantially balanced situation between those entering and those about to exit the job market. Today the indicator already has a value over 100, highlighting a certain difficulty in keeping the country's working capacity constant, as there are more elderly workers than incoming young

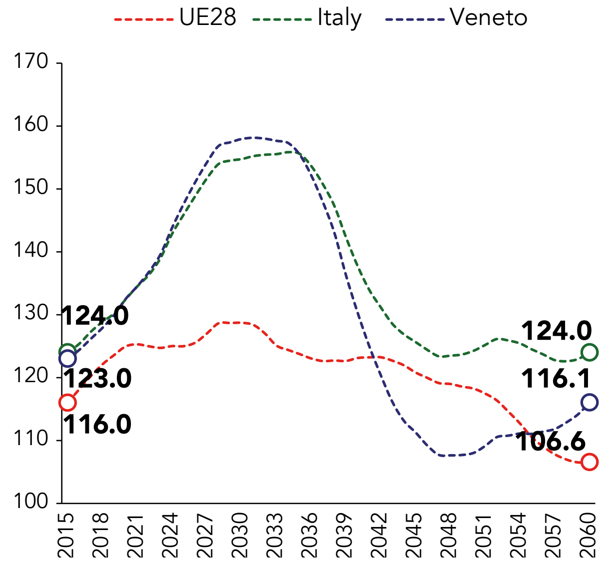
Fig. 3.2.6 – Population percentage by sex and age bracket. Veneto – Years 1994, 2015 and forecasts for 2040 and 2060



Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat data and forecasts

people. The imbalance is destined to increase, reaching extremely high levels (greater than 150) in the period 2026-2036 to then be reshaped, approaching an almost equal situation in 2060 (116 in Veneto). For further information on the effects of the aging population on the job market and the social security system, please refer to chapter 4.

Fig. 3.2.7 – Forecasts for the replacement rate of the active population. Veneto, Italy and EU28 – Years 2015:2060 (*)



*(*) replacement rate of the active population = (pop. 60-64 years) / (pop. 15-19 years) * 100 Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat forecasts]*

Staying active and healthy

Despite the slight decrease reported from the 2015 estimations, life expectancy in Italy is among the highest in Europe and has progressively increased over time, so much so that today we live almost twice as long compared to the start of the 1900s. In Veneto life expectancy is above the Italian average and goes up to 80.7 years for men (80.1 for Italy) and 85.4 years for women (84.7 for Italy) with an increase of 2.3 years for men and almost one year for women in the last ten years. While in the first half of the last century the increase was mainly a result of the large reduction in premature deaths, in recent decades it is due to improvement in the survival of the elderly. However, not every year of a person's life is spent in good health; above all in advanced age chronic diseases, frailty and disability tend to become more frequent, requiring a greater need for care and assistance. For

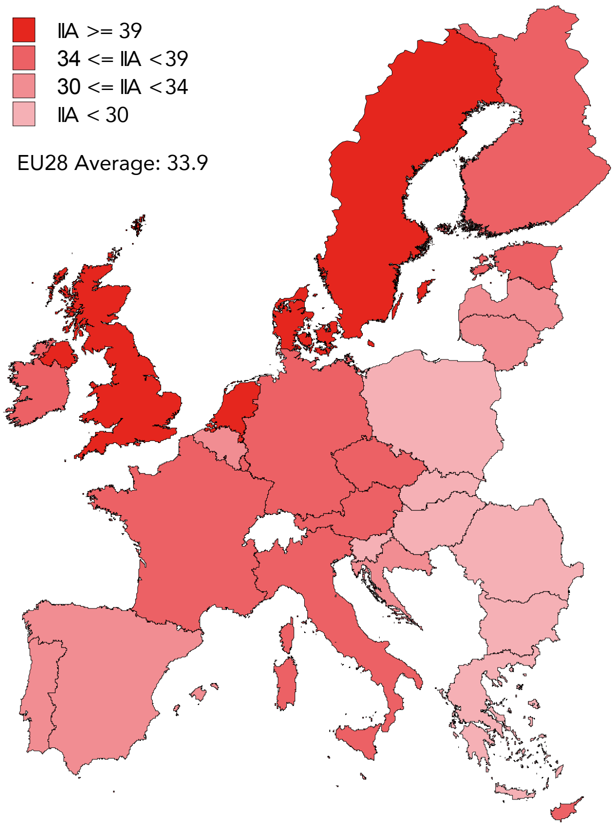
example, in Veneto 8.5% of elderly people aged 65-80 present functional limitations (10.4% for Italy), but the percentage increases to 43.1% in the age bracket of over 80s (43.3% in Italy). Women are the most affect, presenting higher rates in all brackets of old age, a disadvantage to be attributed to the greater prevalence of invalidating but non-lethal pathologies such as osteoporosis, arthrosis and arthritis.
It is in fact the increase in chronic degenerative diseases, often related to disability, and the change in assistance requirements induced by the increase in life expectancy that have led to the requirement to review the health services offered, with the need to combine the guarantee of appropriate treatments with the system's economic sustainability.
In terms of assistance, the Italian welfare system, which has always been based on the family's willingness to offer practical and emotional support to the most vulnerable, thereby compensating the failures of the public system, must also taking into account the changing structures of families. In fact, family is the most important social safety net, but while in the past the elderly could count on the presence of numerous children, many of the elderly of tomorrow may suffer in the absence of a family network.
Considering the fact that in a family the responsibility of caring for the elderly falls upon the women, who are increasingly torn between work and family commitments, we can expect a future situation of tiring sustainability: for each 100 women still at working age (45-60 years) there are currently around 88 elderly people aged at least 75, potentially in need of care, when there were around 80 ten years ago. The burden of care is destined to increase over time and in 2060 it may be almost double (180) or rather on average one woman would potentially find themselves caring for 2 elderly people.
Over time the number of elderly people living alone is increasing (they currently make up 24.4% of those 65 and over (this figure was 21% in 1991), but this is also the case for elderly couples who can't always count on the proximity of children or relatives with whom they can share their daily life or contact in case of need. In cases where elderly people are no longer enjoying good health and are not able to lead an independent and active life, these situations may be particularly vulnerable and may in fact be a motive for isolation for the elderly person.
Families facing the most difficulties and in need of the most assistance certainly includes families in which, as well as there being elderly persons, there is also at least one person aged over 80 years old, most likely not fully self-sufficient, who current represent 2.8% of families (this figure was 1.6% in 1991).

Senior citizens, the privilege of aging well

The focus and recommendations of the European Union in promoting policies for active aging certainly target the sustainability of the social security and assistance systems, but above all the improvement of the quality of life of aging people.
This means creating the environmental conditions and the opportunities so that aging people may continue to best express their potential and provide input to society, according to their wants and capabilities. This means promoting opportunities for health, for social participation, for an autonomous and independent life that's as long as possible, ensuring the elderly person a secure life, also from a financial point of view, safeguarding their dignity.
Recognising the active role of elderly people in society also responds to the wider Europe Strategy 2020, which aims to create an intelligent, sustainable and inclusive society, a society for all ages. The active aging index[6], proposed by the European Commission and by the Economic Commission for Europe of the United Nations, considers the level of participation of elderly people in the various areas of life and society, also directly expressing an assessment of the attention that policies pay to this aspect, based on as yet unreached potential. Italy is placed halfway down the rankings of the 28 EU countries (14th place): the elderly person is particularly active in the family, especially contributing to caring for the grandchildren, and in society by often participating in volunteering and social commitment initiatives.
The elderly are generally in good health; thanks to continuous progress in medicine the number of years lived without disability is also increasing, more obviously for men. For example, a woman who has reached 65 years of age may expect to live another 17 and a half years without disability of the 22 and a half years that she has left, that is around 78% of her remaining years; a man can expect almost 16 years without disability, or rather 85% of his 18.7 remaining years.

[6] The active aging index is a composite index that measures elderly people's potential for healthy and active aging. It is made up of 22 indicators grouped into four domains: employment; social participation; independence and autonomy; capacity for active aging. The indicator takes on values from 0 to 100: the higher the score, the better the status of the elderly

Fig. 3.2.8 – Active aging index (AAI). EU28 – Year 2014 (*)



(*)The active aging index is a composite index that measures elderly people's potential for healthy and active aging. It is made up of 22 indicators grouped into four domains: employment; social participation; independence and autonomy; capacity for active aging. The indicator takes on values from 0 to 100: the higher the score, the better the status of the elderly person.
Source: Veneto Region Processing – Directorate of Regional Statistical System on UNECE – European Commission data]

Compared to Nordic countries, who are at the top of the active aging ranking, in Italy the elderly are less able to maintain good levels of independence and autonomy of life, also due to some economic difficulties; they are also less interested or able to keep themselves up to date with new technology. Finally, policies for employment and training of elderly workers are decidedly less favourable.

3.3 Birth rates: discouraged desire

As previously mentioned, in Italy the number of deaths exceeds the number of births, determining a natural balance that negatively affects the total amount of the population. This is mainly due to the accentuation of the declining birth rate, which has now persisted significantly for almost 8 years. In 2014 there were 502,596 births, almost 13% less than in 2008.

Births at a record low

Istat estimates for 2015 (488 thousand) only confirm this trend, with a number of births that indicates a record low since the unification of Italy and with a birth rate that went from 9.8 born for every thousand habitants in 2008 to 8 in 2015.

In Veneto the difference is even more marked: the 40,629 children born in 2014 were 16.4% fewer compared to 2008. The characteristic of higher birth rate and fertility which has characterised our region in the past makes the decline characterising all regions stand out even more: in fact the birth rate for Veneto went from 10.1 births per thousand habitants in 2008 to an expected 8 in 2015. Trentino Alto Adige is the region with the strongest hold, given that in this period it lost less than 5% of births and maintained the highest birth rate, 9.7 births per thousand habitants. Along with Calabria, it is the only region to record a fall in births under 10%.

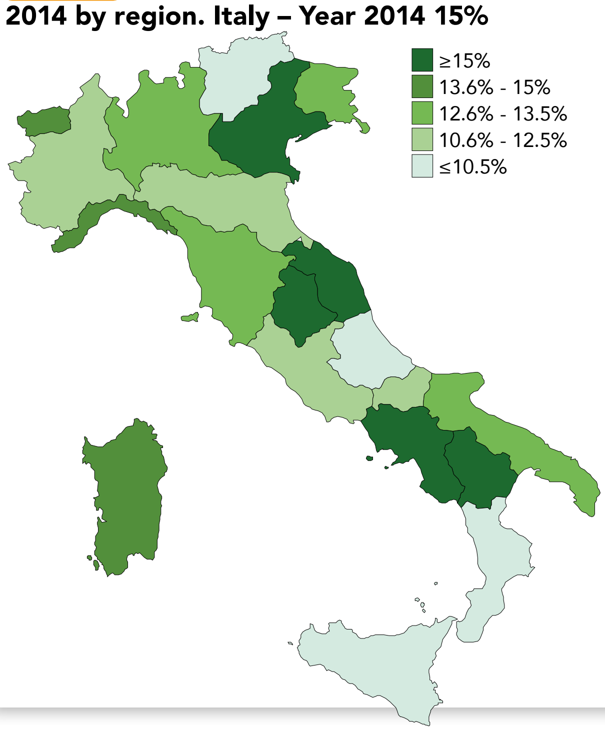
In Veneto the number of deaths began to exceed the number of births in 2011, reversing the positive trend that had characterised previous years. Although the mortality rate remains at rather stable levels (9.3 deaths per thousand habitants in 2014), the greater incidence of the elderly and very elderly determines and increase in the number of deaths (+1.6% since 2011). The estimate on the mortality rate proposed by ISTAT for 2015, which is currently being studied, is a little surprising and is expected to be 10.1, indicating a mortality peak for this year that can be found at the national level (10.7 compared to 9.8 in the previous year).

The decrease in births in our region most greatly affects the province of Belluno (-21.8% between 2008 and 2014) and Rovigo (-19.6%); the latter has the lowest fertility rate in the territory (1.16 children per woman). For Venice the decrease in births stands at 18.1%, but is slightly less in Padua, Verona and Vicenza although still well above 10%.

Fewer women and lower fertility

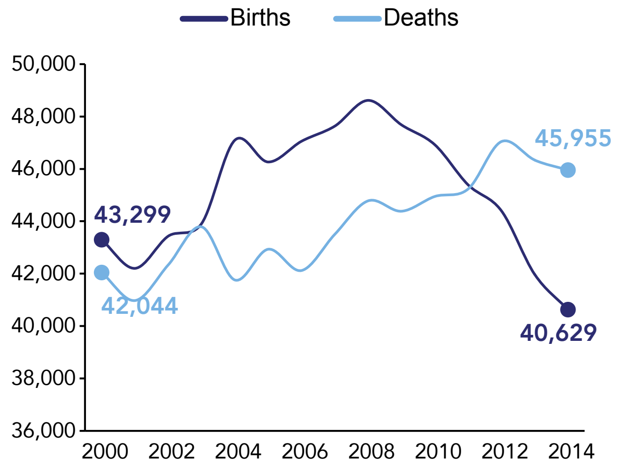
The decrease in the number of births depends on various factors, one of which is structural. In fact, in recent years the reproductive lifespan of the women born in the baby boom in the mid '60s has been coming to an end (in 2010 they were aged around 45) and reproduction is entrusted to the following generations of women, who are less numerous: in Veneto between 2010 and 2014 women of a fertile age decreased by 60 thousand units. Another factor is related to the fertility model, or rather the average number of children that each woman brings into the world.

Fig. 3.3.1 – Decrease in births between 2008 and 2014 by region. Italy – Year 2014 15%



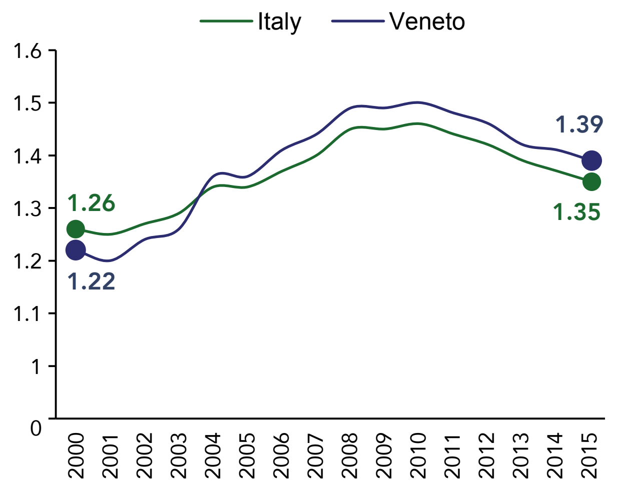
Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

Fig. 3.3.2 – Births and deaths. Veneto – Years 2000:2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

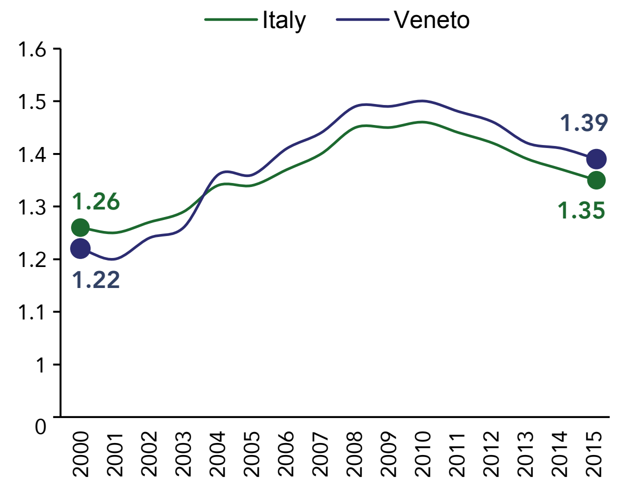
Fig.3.3.3 – Total fertility rate (*). Veneto and Italy – Years 2000:2015



(*) Fertility rate expresses the average number of children per woman
Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

This indicator, which in recent years has become weaker, tells us that, besides the structural effect of a lower number of women, there is a specific effect related to the fact that on average each woman gives birth less than in the past. For Veneto this figure went from 1.5 children in 2010 to 1.39 in 2015, although remaining slightly higher than the national average fertility level (1.35). This is a worrying phenomenon which places Italy, along side the countries of southern Europe, Germany and certain western countries, among the European countries with the lowest fertility levels. Currently, with an average of 1.54 children per woman, Europe is experiencing a diversified situation in which France, Ireland, Sweden and the United Kingdom are the most prolific countries (over 1.8 children per woman).
It is also the movement of the age of maternity towards older ages that contributes towards the decrease in birth rates. Currently in Italy a woman gives birth on average at 31.6 years old (a year older compared to 2002) and a woman from Veneto gives birth at 32. Therefore the number of women aged over 40 years old when giving birth is increasing, which in Veneto went from 3.5% in 2008 to 4.9% today; among first-time mothers there were 3.9% aged over 40 years old (this figure was 2.2% in 2008). With a

Fig. 3.3.4 – Total fertility rate by European region (TFR). EU28 – Year 2014 2<= TFR<=3.52



(*) Fertility rate expresses the average number of children per woman
Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

fertile period that has shifted towards older ages, it is easier to stay childless: with reference to data on the North-East, 16 women out of 100 women born in 1960 were childless (13 in Italy), and among those born in 1970, who are therefore towards the end of their reproductive life, there are around 25 childless women per every 100 women (21 in Italy).

Foreign women are more fertile...

Up until now it has been foreign women to partially close the gap between the decrease in the number of women at a fertile age and the low propensity for births among Italian women; however today the large flows that have characterised the migrations of previous years have alleviated, reducing new arrivals of young women. Foreign women's contribution to fertility has been particularly accentuated, if we think that in 2002 Italian women had an average of 1.21 children and foreign women had an average of 2.83. In Veneto this dynamic was even more marked as in the same year Veneto women had 1.13 children on average and foreign women had 3.09.

...a trend that is decreasing

However, this greater propensity for fertility that has characterised foreign women is decreasing. Besides the effect of the crisis, which was felt most for foreign people, causing postponement of motherhood, there is also a tendency to adjust models and habits to the reality in which we find ourselves, coming into contact with and experiencing different lifestyles, with related opportunities and difficulties. In 2014 foreign women in Veneto had an average of 2.08 children (1.97 in Italy) with an estimated further decrease for 2015 to 2.04 (1.28 in Italy). In the same year, the fertility of Veneto women is just 1.26.
On average, foreign women are younger than Italian women at the time of birth, they are more often married or cohabiting, but they are also more likely to be unemployed. Furthermore, they are more likely than Italian women to terminate their pregnancy, a probably sign of an information and knowledge deficit on contraceptive methods, which in any case has a diverse effect between the different nationalities.

Increasing number of births to unmarried parents

A trend that is characterising current fertility is the propensity for unmarried parents to have children. While in 1995 this occurred for only 8.1% of births in Italy, in 2014 it occurred for 27.6%. In Veneto the trend is even more accentuated, going from 6.8% to 28.3%. This is a change in customs that is assailing all geographic areas, although with different intensities, including the South which is traditionally less prone to the secularisation of customs.

Tab. 3.3.1 - Characteristics of mothers at childbirth and pregnancy outcomes by the women's nationality. Veneto – Year 2014

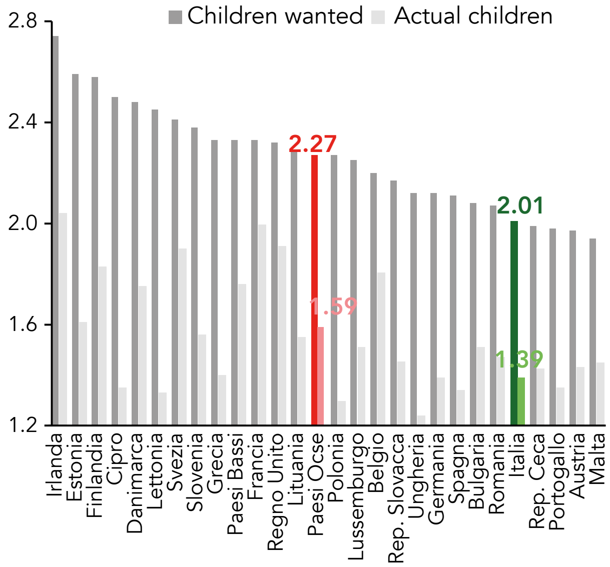
	Italiane	Foreign
Total fertility rate	1.26	2.08
Average age at childbirth	33.1	29.7
% married or cohabitingi	93.8	95.5
% single women	2.8	1.8
% unemployed	8.9	13.9
% births/pregnancies	77.8	73.8
% miscarriage/pregnancies	13.5	11.4
% voluntary terminations/pregnancies	8.7	14.8

Source: Regional Observatory of Paediatric Pathology processing of Veneto Region data] [Motherhood desires not achieved

Motherhood desires not achieved

It still remains unclear to what this change in having children over time is due. Motherhood desires, which certainly belong to the most personal and profound sphere of each person, are influenced by cultural and social factors. The number of children wanted is over 2: the OECD average is 2.27 while for Italy the value is lower (2.01). Therefore, what has the most impact is not the low desire to have children but rather the discrepancy between the number of children desired and the number actually born: the lowest gap is for French women, however the greatest gaps are for women from Eastern Europe.

Fig. 3.3.5 – Wanted and actual number of children for certain OECD countries – Year 2011



Source: Veneto Region Processing – Directorate of Regional Statistical System on OECD data] [The job market is punitive for mothers

The job market is punitive for mothers

In our country having children at a young age is still an obstacle for women's hopes of success, so much so that in literature this is called child penalty. In Italy in 2014, for every 100 employed women without children, there are only 77 working mothers with young children, a figure that is improving although still low; in Veneto the situation is better: there are 88 working mothers for every 100 childless employed women, when this was 77 in 2008, but the gaps remain.

For all fertile ages, the unemployment rate of women with children is systematically lower of that of women with no children, highlighting how little the job market provides for family conciliation. The presence of a partner does not alleviate the problem, a sign that even within a couple there still remain concrete gender roles. The employment rate is a little higher only when the mother is alone and therefore the only income earner. For young people between 25 and 34 years this trend is even clearer, for them having children is particularly punitive especially if in a couple: in the North East their employment rate goes from 82.5% if single to 55.6% if in a couple with children. Another factor affecting the decision to have children for women in this age bracket is the contractual arrangements of employment: in Veneto, among all those with children and in work, only 12% is self-employment and only 11% is fixed-term work.

A job market that is still rigid in relation to the matter and timing of conciliation with life requirements causes many women to find autonomous strategies, such as turning to part-time work (35.7% of those employed, 34.4% in Italy); in Veneto 37% of women working part time does so to be able to take care of children or family members; among these 23% do so because the care services in their area are absent or inadequate, a factor which sheds light on the weakness of a welfare system that is still little aimed at motherhood.

Tab. 3.3.2 – Female employment rate by age bracket and role in the family. North East – Year 2015

	25-34 years	35-44 years	45-54 years
Single	82.5	88.6	83.7
Single parent	68.7	83.8	80.5
Couple without children	73.4	74.5	68.1
Couple with children	55.6	69.8	68.9
Total	64.1	73.6	71.8

Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

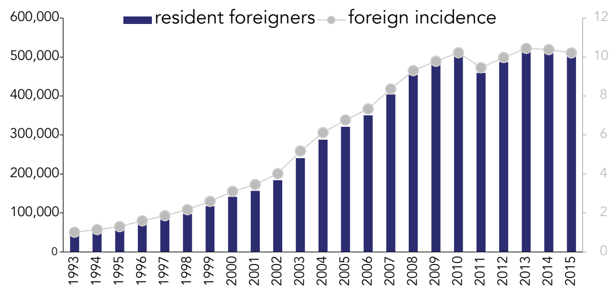
3.4 Arriving, leaving, moving elsewhere

Migratory movements, and in general population shifts, even within the national borders, can change the demographic profile of a place. In fact, they can cause demographic vacuums or abundances of certain age brackets, given that people who migrate generally do so in youth, or may unbalance the gender distribution, if it is mainly males who leave. These self-selected assumptions have social and economic consequences, both in the place of arrival and the place of departure. Phenomena are not always so intense, and not always ongoing, but the focus on demographic dynamics allows useful forecasts to be made in order to implement resultant policies in the social and economic landscape.

Resident foreigners decreasing

In 2014 the foreign component residing in our country accounts for around 5 million people and around 8.2% of the population; in Veneto there are around 511,558, or rather 10.4 for every 100 habitants, a value that makes Veneto the sixth region in Italy in terms of incidence of the foreign component. However, the turbulent increase in immigration that characterised the years pre- crisis, with an average annual increase of +15%, has today made way for different dynamics, so that in the last year the number of foreign residents has decreased slightly (-0.6%).

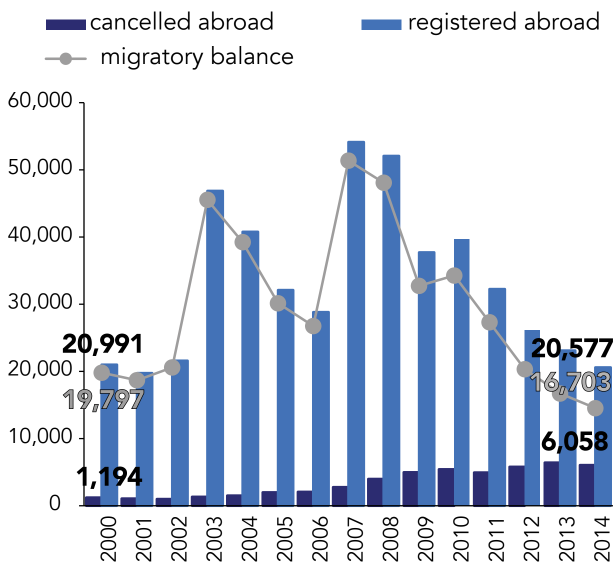
Fig. 3.4.1 – Number of resident foreigners and incidence on the population. Veneto – Years 1993:2015(*)



(*) The figure for 2015 is estimated
Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

This decrease is mainly a result of a reduction in the incoming flows from abroad, which went from an average of over 47 thousand from 2007-2010 to only 20,577 in 2014. In recent years the slight increase of foreigners moving abroad has also continued. Our territory's partial loss of attractiveness to international migrants is realistically due to the lack of employment opportunities and is the factor that is mainly responsible for the stagnation in the quota of foreign residents.

Fig.3.4.2 – Transfers of resident foreign citizens abroad. Veneto – Years 2000:2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

There is also some mobility of foreigners within the Italian territory, so that there are more people arriving to Veneto from other areas in Italy per year than there are people who arrive from abroad, but there are as many who leave for other regions (around 30 thousand).

The number of people acquiring Italian citizenship is also increasing, as even more foreigners achieve the time requirements for recognition, those removing themselves from the ranks of foreigners: in 2014 there were 20,331 people who acquired citizenship, while this figure was little more than 7,500 in 2008.

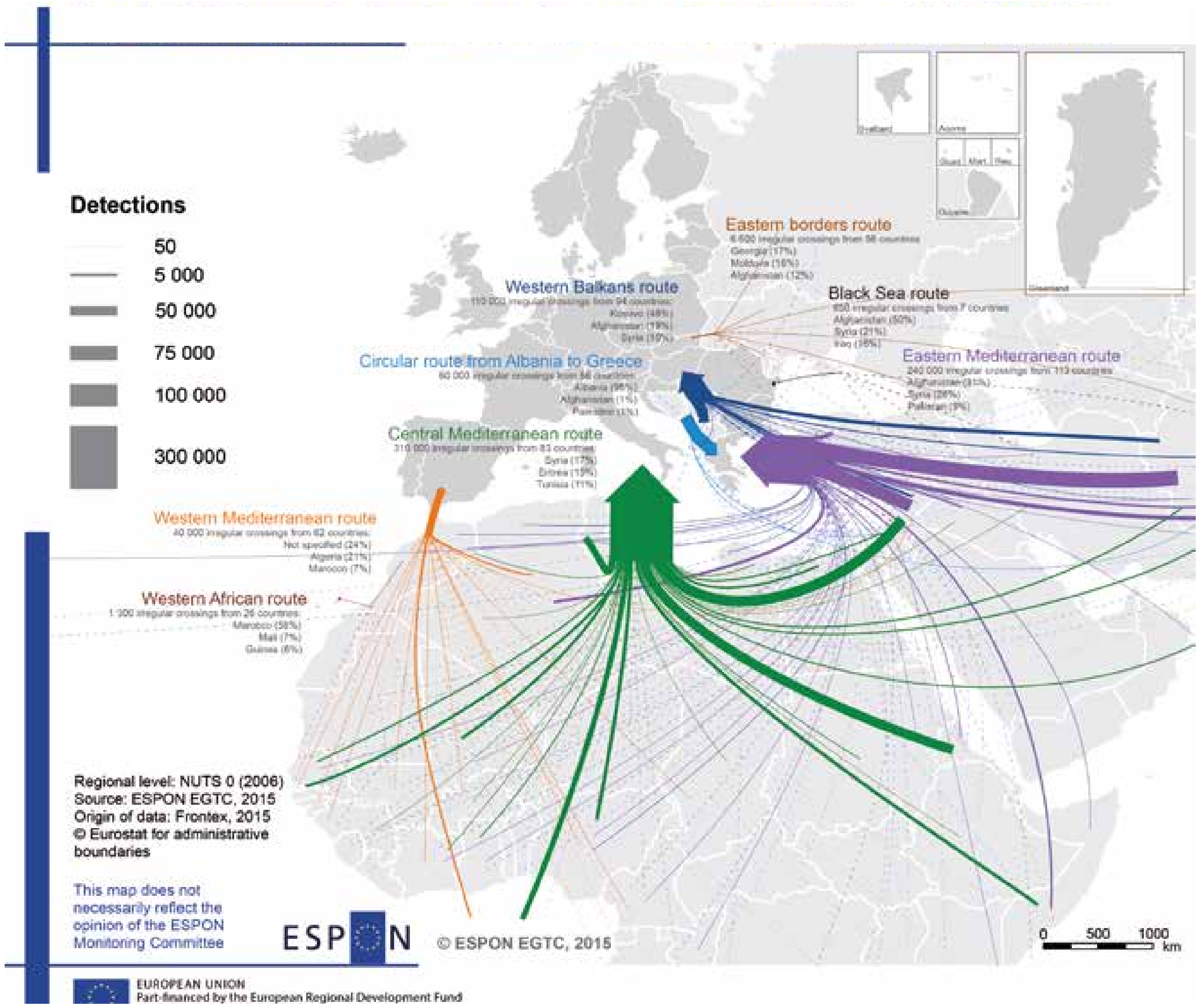
Italy is on the route of forcibly displaced

However, recent years have seen a growth in a migratory component whose consistency is currently testing the reception system of many countries. As a consequence of the instability in the Middle East and Africa, and particularly of the events related to the civil war in Syria, flows of refugees have grown quickly: at the end of 2014, the UN high commission for refugees (UNHCR) calculates that there are 16.2 million refugees and asylum seekers in the world. While not forgetting that there are also open conflict and crisis situations in Europe (Chechnya, Cyprus, Kosovo, Ukraine), currently Syria is the main source of escapees, but it is not just armed conflicts to cause mass emigration: people are escaping from famine, drought and land grabbing, or acquisition of land by large multinational enterprises, investment funds and governments[7].

[7] AA.VV. "Report on international protection in Italy 2015", Rome, 2015

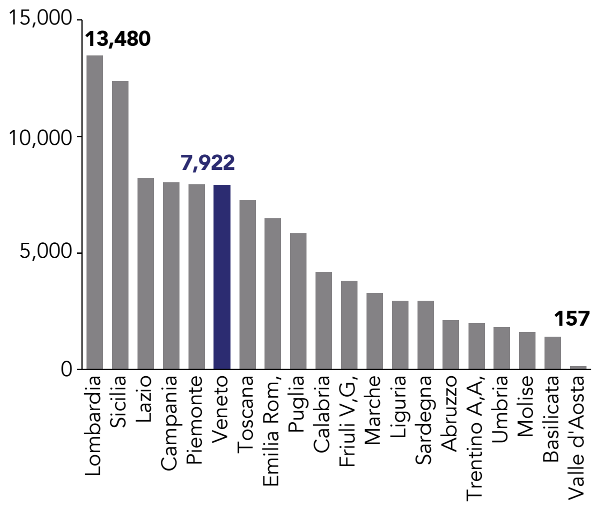
The top countries in terms of reception capacity are Turkey, Pakistan and Lebanon, who all together host more than 4 million people, while if we look at Europe the top three countries are Germany, France and the United Kingdom, with 1 million. Flows towards Europe follow routes that are almost entirely centred on the Mediterranean which is too often crossed in hazardous conditions and is the scene for tragedy such as those in October 2013 and April 2015 where 1,200 people died in two shipwrecks.
While it is an entrance door for the main routes towards Europe, the southern countries are mainly transit routes for refugees who are headed towards more attractive locations where they will find better

Fig. 3.4.3 – Main arrival routes for extra-European refugees – Years 2010:2015 Source: ESPON



Source: ESPON

Fig. 3.4.4 – Asylum seekers present in reception facilities. Italy – Year 2015 X: 0 – 15,000



Source: Veneto Region Processing – Directorate of Regional Statistical System on Ministry of Internal Affairs data

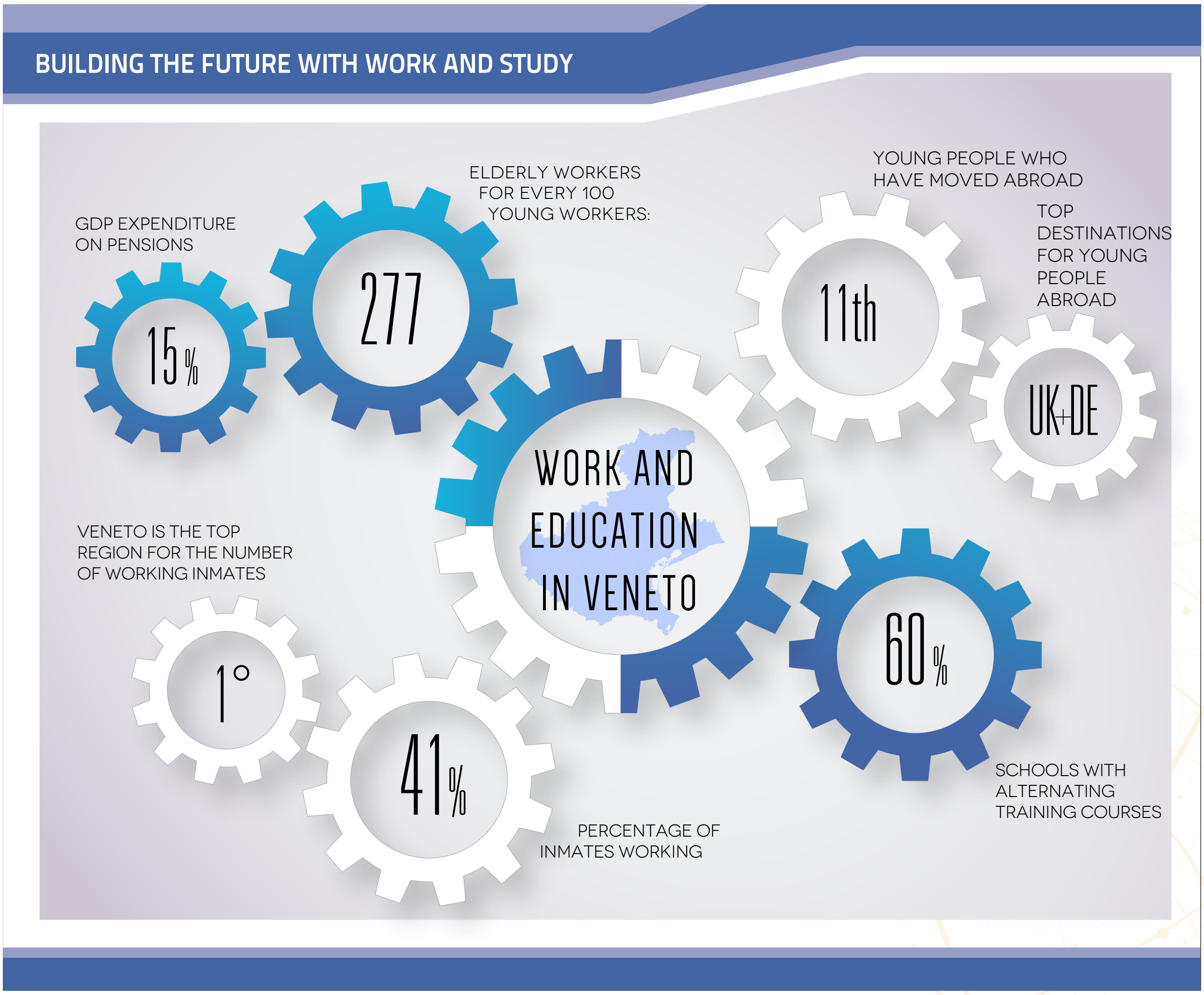
economical and more inclusive integration policies. Following the turbulent flows in 2015, applications for international protection in the EU28 have gone up to one million, 300 thousand when in 2014 this value was around 600 thousand and 400 thousand in 2013. Germany takes the lion's share with 36% of applications, followed by Hungary and Sweden (both around 12%). Italy, with around 84 thousand applications, takes on 6.4% of European requests for asylum. To face the extraordinary flow of foreign citizens requesting asylum, in 2014 a National Plan of Understanding between the Government, Regions and Local Authorities was approved which, among other things, involves prompt relocation of refugees according to a shared repartition plan in the national territory. Veneto, which up until 2014 hosted 3% of asylum seekers in Italy, hosts 8% in 2015. This is around 8 thousand people, 0.2% of the resident population, mainly allocated to the temporary structures obtained by Prefectures.

Improving the integration of foreign minori-

Given the high visibility that characterises forced migrants, the presence of refugees and asylum seekers will only partially be transformed into permanent residence in the territory. It may therefore be interesting to take a look at those who, although they are foreigners, have grown up here and live here stably: the children of foreigners born in Italy or who arrived before adulthood, who we find as students in the Italian scholastic system. School, as an institutional service, is one of the most important contexts for integration, opportunities to meet people, interact and learn together, natives and foreigners.
In Veneto there are 31,737 foreign students, the overwhelming majority of whom were born in Italy or arrived before the age of 6 (58.1%, greater than the Italian average of 54%).
But integration is a multifaceted matter, which includes many aspects of daily life, even only partially related to school; for example, it is easy for school attendances to become veritable friendships, such that it is normal for children and teenagers to meet up with their schoolmates in contexts outside of school. At times this does not happen, and this affects 16% of Italian students but 26.4% of foreign students (a worse figure than the Italian average of 24%), a discrepancy that may constitute a first indication of an integration deficit. Among the foreigners who frequent their classmates outside of school, while the overwhelming majority also meet with Italian friends, only 14.4% meet with other foreigners, a figure that is worse for those who came to Italy aged over 11, as for them this figure rises to 22%.
These small indicators of an integration defect are reflected in another figure that is worth dwelling on: the perception of self of the foreign student, "feeling foreign" or "feeling Italian" which is an experiential derivative of the relationships that the student experiences at school and in society. In 34.2% of cases the young person says they feel "Italian" but 35.8% feel decidedly "foreign" (for Italy the values are better, 37.8% and 33% respectively). This is an average figure that summarises very different sentiments even depending on the person's nationality: the proportion of those who feel Italian is generally high among youths originally from European countries and among Moroccans, but is low among Asian communities.
When questioned on where they would like to live as adults, in general all children showed a propensity towards moving to a foreign country; while Italian youths dream of this future in around 43% of cases, there are more than 46% of foreigners who see themselves in another country when they are older (this figure is 49.7% in Veneto), to which we can add the 22% who hope to return to their country of origin. The ambition to leave Italy is strongly diversified by country of citizenship and is not necessarily related to "feeling Italian"; however, the discrepancy with Italian peers is probably reflected in both a greater cultural ease for movements, even lasting, and in the awareness that the persistence of difficulties in personal realisation is connected to being foreign.

Chap.4 – Work and Education: Two Environments, Many Connections

The objective of this chapter is to present the topic of work and education, covering it as a knot of an important interweaving between different aspects that concern demographics, economy, social mobility and integration.
First of all, work must be read in the light of the intergenerational connections, as the demographic and economic aspects have profoundly altered the balances that had been created over the years. In particular, the aging population, the regulatory changes to pensions and the economic crisis which affected young people the most, are quickly increasing the average age of employed persons: it is sufficient to point out that in 2005 there were 97 elderly workers per 100 young workers, a value that has increased to 277 in 2014. Faced with these changes, young people are trying to increase their chances of success through study, enrolling in University more frequently (the number of graduates from Veneto have increased by 2% in just a year) and in many cases emigrating abroad: in the three year period 2012- 2014, 11 thousand youths from Veneto moved to another country.
Studying and training are essential tools for remaining connected to society, especially for the part of the population at risk of exclusion: as an example of social integration, in recent years the number of inmates involved in work activities in Veneto has increased from 27.1% in 2005 to 41.3% in 2015, and there were many training courses activated in various employment sectors in correctional facilities.



Covering the topic of work and education necessarily involves the study of various contexts, as the integration that the working-educational sphere involves is diverse. First of all, it is related to demographics, as the aging of the population leads to aging of the work force, with implications, also economic, on the sustainability of the pension system. It is related to mobility, since studying and working are the main reasons for which young people move. We must also not forget that school and work are extremely connected to one another, given that training is the key for accessing the world of work, but is also essential for keeping workers up to date. Finally, work and training are important from a social perspective as they allow the individual to be integrated or reintegrated, as shown by the prison employment figures reported in the previous part of this chapter.

4.1 Intergenerational connections

As explained in the third chapter of this Report, the Italian population is destined to age. From the point of view of an interconnected demographic system, the evolving trends expected for fertility, mortality and migratory movements indeed anticipate a population age structure that is increasingly distant from the "pyramid" graphic representation with a large base (high birth rates) and a narrow point (low mortality rates in old age). For decades the increasing longevity and the lower reproduction rate have been the determinant of a reconfiguration of the age structure of the Italian population first to "amphora" shaped (for the progressive aging of the baby boom generation) and then "mushroom" shaped in the medium and long term future, in view of a further and progressive imbalance in favour of older ages[1].

Clearly demographic ageing has inevitable repercussions on the job market, on public spending, on social services and therefore on economic trends and the social, sanitary and cultural development of our country.

The generational imbalance in the job market

The gradual unbalancing of the population structure towards older age brackets makes the sustainability of the pension system critical, based on the contributory load of an active population which will be increasingly insufficient compared to the growing number of those who receive insurance benefits for old age.

Aging makes the sustainability of the pension system critical

From an analysis of the age structure, a measurement of the generational imbalance in the job market, and therefore of the social impact, we are given the replacement rate of the active population which expresses the percentage ratio between the population bracket who will potentially retire (55-64 years) and those who are about to enter the world of work (15-24).

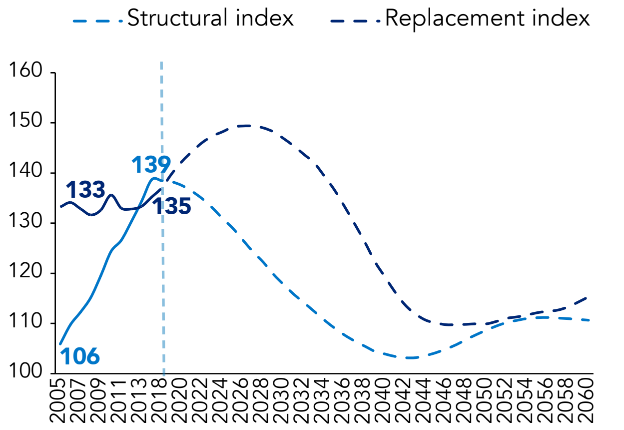
Values near to 100 express a balanced situation. In 2014 it is already evident that it is critical to keep the working capacity of our country and our region constant: in Veneto potential elderly workers exceed incoming young people by 35 units (in 2005 there were 33 more). And, according to Eurostat demographic forecasts, these issues seem destined to grow until 2026 when those born in the baby boom period will have moved into the elderly age bracket. With the loss of this generation, it is estimated that this imbalance will worsen, going on to record an index of 115 in Veneto in 2060; in any case the elderly component will continue to weigh significantly on the population: in fact 29% will be elderly.

Another index that represents the degree of aging in the working-age population is the structural indicator of the active population, or rather the percentage ratio between the oldest part of the working-age population (40-64 years) and the younger part (15-39 years). In 2005 this index highlighted an almost balanced situation in Veneto between the parts (106), but in less than 10 years this underwent an increase so significant that in 2014 the rate was recorded at 139, still due to the majority of those born from the baby boom passing into the 40-64 age bracket.

The fact that the working-age population is elderly is increasingly evident if we analyse the same indices by only considering the employed part of the population. In less than ten years the replacement index of those employed in Veneto went from the

[1] For further information on the aging population please refer to Chapter 3 of this Report

Fig.4.1.1 – Replacement index and structural index of the active population (*). Veneto – Years 2005:2014. Forecasts for 2015:2060.



(*) Replacement index = (population 55-64 years/ population 15-24 years) x100 Structural index = (population 40-64 years / population 15-39 years) x 100
Eurostat forecasts were calculated using the population at 31/12/2012 as the basis.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data and Eurostat forecasts

An increasingly aging active population

value of 97 recorded in 2005, therefore showing a situation in which employed young people were present in greater numbers than those aged 55-64, to a value of 127 in 2008 and then to 277 in 2014. The trend is similar if we examine the structural index. Among other things it is interesting to highlight the gender gap. At the beginning of the century we saw a certain female entrepreneurship, also driven by European and national strategic policies which aimed to increase women's work participation for a greater sustainability of the job market (consider the objective, which is still far off, stipulated by the Lisbon strategy of reaching a female employment rate of 60% by 2010): in the face of a portion of the female population aged 55-64 years that is over a third greater than the portion aged 15-24 years (in fact, the replacement index of the Veneto female population was 137 in 2005), employed young people from Veneto exceed their colleagues who are potentially ready to retire by almost 30 units, a figure which stands against the male structure that is more in favour of the elderly age bracket. Another influence towards the cultural change in women's relationship with work is the decreasing number of housewives and the increasing number of active women. In 2014 the gap decreased and the situation was reversed in favour of greater employment of those aged 55-64 years old, both for men and for women.

Tab 4.1.1 – Replacement and structural index of the active population (*) by sex of those employed. Veneto – Years 2005, 2008 and 2014

		Replacement index in the active population	Structural index
2005	Males	118.5	96.1
	Females	70.5	75.7
	Total	**97.4**	**87.3**
2014	Males	281.0	162.5
	Females	269.9	149.9
	Total	**276.6**	**157.0**

(*) Replacement index = (population 55-64 years/ population 15-24 years) x100 Structural index = (population 40-64 years / population 15-39 years) x 100
Eurostat forecasts were calculated using the population at 31/12/2012 as the basis.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data and Eurostat forecasts

Crisis and aging: an alarming combination...

What could be the causes of this phenomenon? Let's try and explain.

The notable variation in the replacement index of the employed population among those who are potentially about to retire (55-64) and those who are about to enter the world of work (15-24 years) is due to several factors that have acted simultaneously, but in different directions on the two components of the indicator, or rather the youngest and oldest employed people.

...there are less young people working...

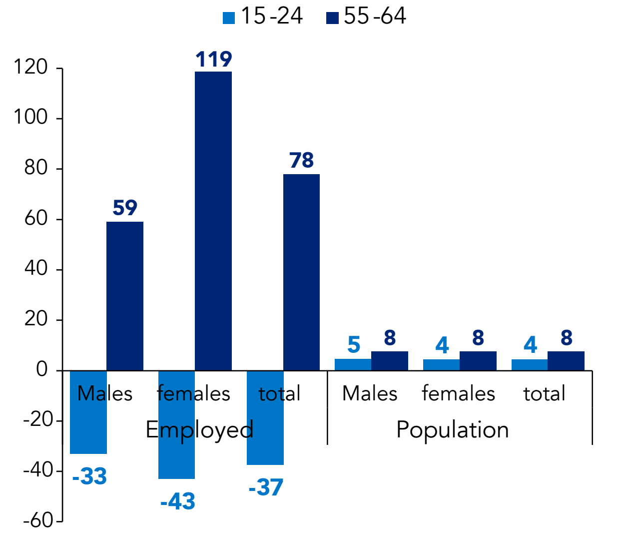
From 2005 to 2014 employed people from Veneto in the 15-24 age bracket decreased by 37% with a loss of over 60 thousand units, in the face of a growth in this population age bracket of 4.4%.

This debacle is due to the economic crisis, the difficulties in finding work, particularly for young people, and the increase in education, factors which are also correlated as the lower availability of jobs drives young people to pursue studies. As evidence of this, the tertiary education rate in the 30-34 age bracket, or the portion of graduates out of the total youths of this age bracket, increased by 7 percent between 2005 and 2014, going from 16% to 23%.

...more elderly are employed

On the other hand, the regulatory changes to pensions related to financial sustainability issues connected to the aging population and lower fertility, the European recommendations on the increasing employment among people in older age brackets and greater female participation in the job market have led to an increase in the number of employed persons in the 55-64 age bracket: in fact, the number has increased by 78% in 10 years. The aging population and its close relation with the job market has led to reasoning on policies towards the start of the century aimed at retaining older people in the employment market.

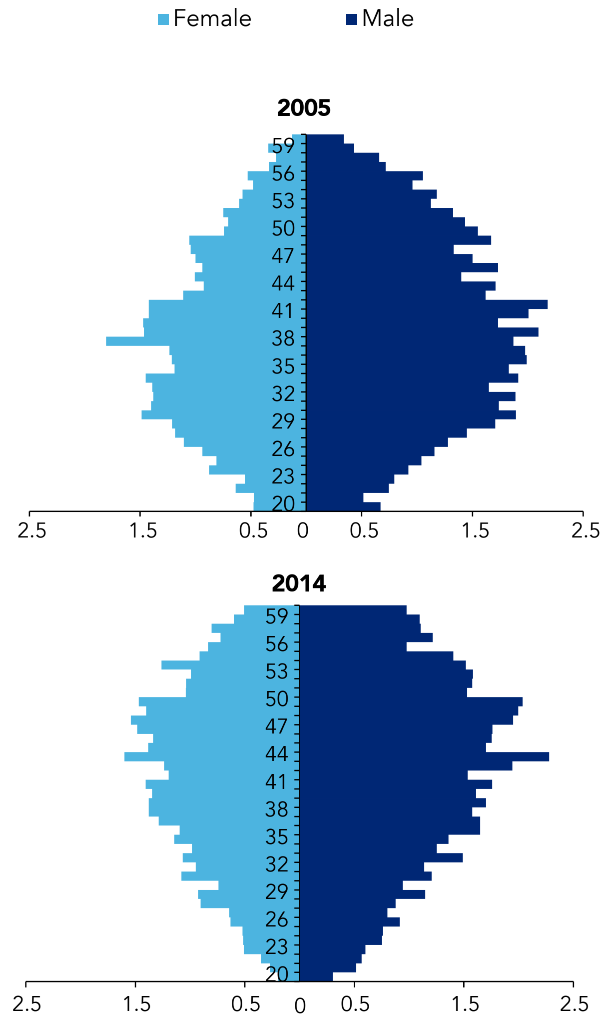
Fig. 4.1.2 – Percentage change 2014/2005 of employed persons and the resident population by sex. Veneto



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

On the one hand, in the European context, the Lisbon strategy stipulated the objective of an employment rate of 50% in the 55-64 year old population by 2010, on the other hand there have been many reforms in our country, beginning from the start of the nineties, aimed at sustainable pension spending. Among the various measures these policies raised the minimum pension age, considering the assumption that a later retirement would enable limitation of the increase in the dependency rate among the elderly produced by aging and would reduce the dynamic of pension spending. This is how between 2005 and 2015 the employment rate of those aged 55 to 64 went from 31.4% to 48.2% in Italy and from 27.4% to 46.8% in Veneto. The two components of the replacement index have, therefore, changed radically in the last ten years, following divergent dynamics: the elderly component, the numerator of the index, has grown greatly and the youth component, the denominator, has significantly decreasing. Only considering the female

Fig. 4.1.3 - Employed population by sex and age. Veneto – Years2005 and 2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

population, these changes have been even more accentuated: in fact, in recent years female employment has increased to the detriment of the crisis and conversely to male employment, and at the same time pension reforms affected women more, beginning with the elimination of baby retirement, through which it was possible to retire from work with 14 years 6 months and 1 day of contributions. For this reason, Veneto employed males aged 55-64 increased by 59% while the same group of females increased by 119%. It is therefore clear that the replacement rate has increased, especially for the female component, going from 71 in 2005 to 270 in 2014.
The changes to the employment structure are obvious in the figure below which shows the pyramid by sex and age, a graphical representation that is normally offered to describe the general population, as mentioned in the previous chapter. In less than ten years the "belly" of the diagram has moved towards older ages, narrowing the base and widening the peak of this pyramid.
Therefore, the employed population is balanced on a narrower base which will find it difficult to balance a structure that is so upwardly imbalanced.

In Veneto the pension system is more sustainable

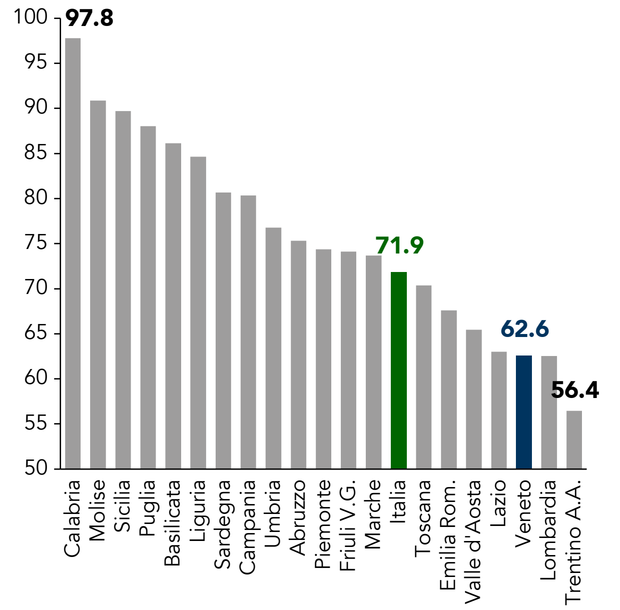
In 2013 Italy allocated 16.9% of GDP to pensions, Veneto allocated 14.6%

This complex entanglement between the emergency of aging and the crisis highlight the need for political action aimed at encouraging more prudent management of pension savings, improving the sustainability of public finances in the long term.
For a greater understanding of the phenomenon it is useful to know the starting point for Italy and our region and to this end we shall report some data relating to pensions and their beneficiaries. According to ISTAT data, in 2013 Italy allocated 16.9% of the GDP for overall pension spending, while Veneto stopped at 14.6%. A lower percentage was only recorded in Trentino Alto Adige (12%), Lombardy (13.4%) and Valle d'Aosta (13.5%): this is a positive result, as a larger part of the wealth produced can be allocated to other uses and services for citizens. As the complete opposite, however, we find Calabria where 24.4% of the GDP is allocated to pensions.
Overall the portion of Gross Domestic Profit allocated to pensions has been increasing since 2003, but according to European Commission forecasts pension spending will undergo a decrease over the long term and in 2060 it will amount to around 14%, thanks also to the effects of the latest reforms aimed at reducing this spending through the gradual increase of contributory and age requirements and the reduction in future pension checks[2].

In Veneto per 100 employed there are 63 retired....the third lowest share among the Italian regions

In Veneto in 2013 around 1.8 million pensions were provided. These were mostly old age and retirement pensions (58.7%) and survivors' pensions (20.8%), minus assistance pensions (disability support, welfare pensions and war pensions) equal to 14.2% whose cost is entirely sustained by the State. An indication of the burden of the pension system is given by the pension rate, or rather the percentage ratio between the number of pensions and the resident population: in our region 36.3 pensions were provided for every 100 people, a value lower than that recorded nationally (37.6) and lower than that recorded the previous year (-0.7 percent).

Fig. 4.1.4 – Dependency ratio: number of pension recipients per 100 employed by region – Year 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

[2] For further information please refer to Chapter 3 of this Report.

Since, however, one person may even receive several pensions, it is appropriate to analyse not only the pension trends, but also the individual beneficiaries, of which there were 1,278,745 in 2013, and take the ratio of pension dependents to employed persons as a measurement of the burden on the pension system. From a regional comparison it emerges that our region has a more sustainable system than others: in 2013, 100 employed people had to sustain 63 pension recipients against the 72 of the Italian average.
A better figure is only observed in Trentino Alto Adige with 56 pension recipients per 100 employed, while in Lombardy the figure is almost identical to our own. The most critical situations are however seen in the South where the indicator exceeds 80% and Calabria presents an almost equal ration between the number of pension recipients and people employed.

Financial sustainability of pensions and satisfactory standards of living for pension recipients, a disconnected network?

Clearly the important social consequences of the aging phenomenon also arouse attention.
While on the one hand the increase in the number of elderly people, also interconnected with the difficulties produced by the crisis, puts the financial sustainability of the pension system at risk, on the other hand we need to take car to ensure satisfactory standards of living for pensioners, in the spirit of solidarity between generations.
From an economic point of view elderly people are a vulnerable segment of the population, particularly women who encounter serious economic difficulties due to the on average lower and modest pensions.
On average a pensioner from Veneto lives with an annual income of around 13,000 euro (median income[3]), not even 1,100 a month, less even than the national situation (14,000 euros).
To assess the adequacy of the pensions provided and whether these allow pensioners to keep the same quality of life after retirement, the European Commission suggests a comparison between the economic conditions of people who have just entered retirement with those of people who will retire from work in a few years time, through the ratio between their incomes (pension replacement rate[4]). Values near to 100 indicate that newly-retired people are ensured a pension that is little different to what is received by workers nearing retirement, therefore around the amount they were earning before.
For Veneto, it emerges that today there is a rather favourable situation if compared with other regions: in 2013 the median income of the newly-retired was 76% of the median income of those near to retirement, with an Italian average of 73%.

Half of retired women live with less than 1,000 euros a month

In detail, in 2013, 38% of Veneto pensioners receive less than 1,000 euros a month (40% in Italy), while 25.4% earn between 1,000 and 1,500. The situation is very different between men and women: the latter, who represent 52% of pensioners, receive a pension that doesn't reach one thousand euros per month in 51% of cases, 36% don't even receive 750 euros, against 23% and 14% respectively for men. Furthermore 26.7% of male pensioners live with remuneration greater than 2,000 euro, against 9.6% recorded for women.
And in the future? It's difficult to say how much the future generations will be able to maintain a quality of life similar to what they led during their working life.

Will new pensions guarantee satisfactory standards of living?

From 2012 the welfare reform Fornero imposes a system based on two pillars: the "new" old-age pension and the early retirement pension.
From the 1st of January 2012 the retirement contributions for all workers that have accrued since this date are calculated with the contributory calculation system, which is based on the contributions paid during the working life, less advantageous than the payroll system, which is however based on the average pay received in the last years of working life. The minimum retirement age is then further increased: for workers in the private sector it began at 62 in 2012 and will go up to 66 in 2018, for self-employed workers and those separately managed it began at

[3] The median is the central value of the income distribution, which divides people into two equal parts so that 50% of people are below and above this threshold.

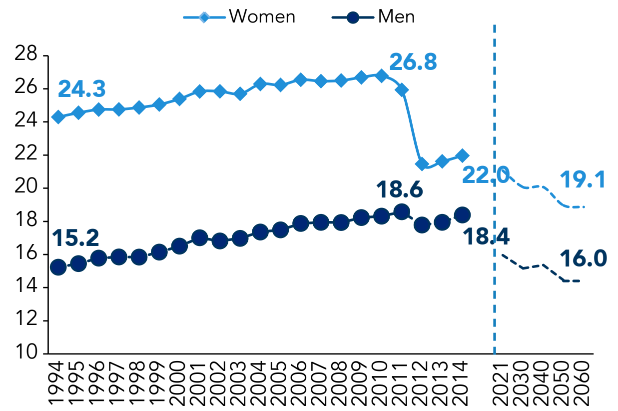
[4] Percentage ratio between the median pension income of people between 65 and 74 years and the median working income of people aged 50 to 59 years.

63 and 6 months and will go up to 66 in 2016 and for public workers and public and private workers the retirement age is 66 from 2012.
For all workers, the retirement age will also take into account updates in life expectancy. The first update was in 2013 and was an increase of 3 months. After the first two three-yearly updates, starting from 2019 the figure will be updated every two years. It is established that in 2021, also considering life expectancy growth forecasts, the old-age pension age should be at least 67 years, it being understood that the minimum requirement for benefiting from the old-age pension, other than the age requirement, is having paid contributions for a minimum of 20 years. Finally, as regards the early retirement pension, it will no longer be sufficient to work for 40 years, but the age requirement, which has been raised to 42 and 1 month for men and 41 and 1 month for women since 2012, will be updated based on life expectancy trends. In this regard, the Italian Decree of the Ministry of Economy and Finance of the 16th December 2014 came into effect and from the 1st of January 2016 the access requirements for pensions further increased by 4 months and the summed values of actual age and contributory age, for those who perfect old-age pension entitlement with the system of "shares", further increased by 0.3 units.

What effect will a later retirement have on people?] But what are the

While on the one hand the assumption that a later retirement enables limitation of the growth in the elderly dependence rate produced by the aging population and reduces the pension spending dynamics, on the other hand we need to consider the conditions that pensioners will find themselves in in the medium and long term.
For this purpose we have created the graph 4.1.5 by taking into consideration the assumptions of the latest welfare reform, excluding all possible regulatory changes that may come into effect in the coming decades, and hypothesising a constant increase of the life expectancy at birth and therefore the relative adjustment of the retirement age, in spite of the slight decrease recently reported from the 2015 forecasts. It emerges that, as much as demographic forecasts show a progressive increase in life expectancy, the number of years left to live when people reach old-age retirement would be constantly decreasing. In particular, while in 2010 Veneto women still had almost 27 years to dedicate to themselves having reached retirement age and men still had over 18 years, in 2021 this is expected to change to 21.6 and 17.7 respectively, until we reach an estimate of 19 and 16 years respectively in 2060, losing all of the years gained in post-retirement life in the nineties, in particular by women.

Fig. 4.1.5 – Life expectancy in years post-retirement by sex (*). Veneto – Years 1994:2014 and 2021:2060 forecasts (**)



(*) This is the number of years expected to be lived having reached retirement age. In this regard we took into consideration the highest retirement age among all the working categories (employed, self-employed, public and private).
(**)Eurostat forecasts were calculated using the population at 31/12/2012 as the basis.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data and Eurostat forecasts

A future with lower pensions and fewer years to dedicate to ourselves after a life spent working?

Although we need to take into account the possibility of the early retirement pension, the old age pension with the "shares"[5] system, as well as all possible changes that may arise at a regulatory level, today the situation doesn't seem optimistic. And not just this, thanks to the contributory system, the money available for supporting oneself will be significantly less than that received while working (even if there is the possibility of a supplementary pension which, in any

[5] Individuals for which provisions on requirements for pension entitlement with the so-called shares system, which combines the summed values of actual age and contributory age, continues to be applicable

case, sets aside money that may even be needed today to live), but the years we have to dedicate to ourselves, to hobbies and family after a life spent working will also be fewer. And the impact will not stop at just the individual but may branch out in several directions: just think, for example, how great a resource grandparents who look after their grandchildren are today, by continuing to work into old age they will certainly not be able to dedicate much time to the family and this will also bring about a review of the services offered aimed at children.

4.2 Regional connections

In this society on the move, young people voluntarily or necessarily move and experience the territory dynamically. They move in order to achieve a higher education than what their parents achieved, they study to build themselves a future even if their future is very uncertain. They move to find better jobs, but in many cases they move to find any jobs. These youths on the move come into contact with other realities, they interact with other youths, they make experiences outside of the national borders and find themselves increasingly connected with Europe and the rest of the world.

Veneto residents at university

Study is usually the first time that young people start to move away. In the academic year 2014/2014 there were 111,772 people from Veneto enrolled in Italian universities and there were a little under 19 thousand of those newly enrolled. Overall, out of 100 Veneto youths aged 19-25 it is estimated that 34 are enrolled in university, a value slightly lower than the Italian average of 38.
Compared to the previous academic year, there has been a decrease in the number of students enrolled, but a positive increase in new enrolments (+2.1%). The most popular degree programmes are those related to the economical-statistical group, the engineering group and the medical group.

Veneto undergraduates and graduates are increasing

In the 2014 calendar year there are 23,669 graduates from Veneto, an increase compared to 2013. The growing trend of young people gaining a university qualification is a phenomenon that has been in place for some time, with positive effects on the education level of a region like Veneto which has strong manufacturing vocation and on average lower study qualifications than the rest of the country. The higher education rate, or rather the percentage of 30-34 year old graduates, reached 23.5% in 2014, a value that didn't even reach 15% in 2004.

Tab 4.2.1 – University: Enrolled students, newly enrolled students and graduates. Veneto (*) and Italy – Academic Year 2014/2015

	Veneto	Italy
Enrolled	111,772	1,652,592
Newly enrolled	18,939	255,294
Graduates	23,669	304,608
% Change in enrolled compared to previous year	-1.1	-1.5
% Change in newly enrolled compared to previous year	2.1	1.1
% Change in graduates compared to previous year	2.1	0.8
Year 2014		
University enrolment rate (**)	34.4	38.4
Education rate over 30-34 years	23.5	23.9
Employment rate among graduates at 1-3 years from graduation (***)	62.7	52.9

(*) Referring to all Veneto students enrolled in all Italian universities
(**) Those enrolled in university – at any site – resident in a region, per 100 youths aged 19-25 resident in the same region
(***) Employment rate of those aged 20-34 no longer in education / training with a tertiary education qualification achieved 1 to 3 years ago in Italy
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat and Miur data

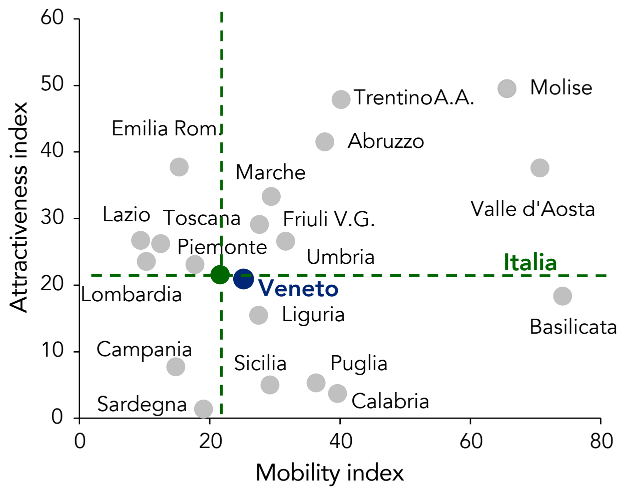
The unfavourable economic situation of recent years has curbed the job opportunities for these young people. The employment rate among newly graduated students from Veneto was equal to 88.3% in 2008, the highest value among all the Italian regions; in only six years the situation has changed significantly: with an employment rate that has decreased to 62.7%, Veneto has slid down to sixth position and among the northern regions only Valle d'Aosta and Emilia Romagna recorded lower rates. Choice of university is a fundamental stage in the pathway of education and growth of the students. Some opt for a university close to home, others

take other routes. Out of 100 newly enrolled Veneto youths, 75 choose a university in Veneto and 25 move to other universities outside of the region, especially in Emilia Romagna and Trentino Alto Adige.
Conversely, out of 100 newly enrolled students at Veneto universities, 79 come from Veneto and 21 from the rest of Italy.
Comparison with the other Italian regions places Veneto in an average position, with a mobility index and attractiveness index in line with the national value: the mobility index measures the likelihood of young people to study outside of their home region, while the attractiveness index measures the capacity of universities in a region to attract students from other regions. In any case the situation appears to be very diverse: Emilia Romagna, Lazio and Tuscany are characterised by high attractiveness and reduced mobility of its residents, as opposed to Puglia and Calabria where many young people decide to enrol in universities in other regions and few students come from elsewhere. Campania and Sardinia are the most closed regions, with few young people incoming and outgoing, while Molise is the most dynamic.

Veneto universities networking with inter-university courses

The synergy of Veneto universities could be an important factor for increasing the attractiveness to students from other regions: interconnecting human, professional and economic resources, knowledge and experiences of the four Veneto universities would be an advantage for the quality of teaching and research. Combining resources to create a shared university network would in fact allow us to improve the teaching offered, rationalising the study programmes with an overview of the territory, and strengthen research by creating hubs of specialisation.
For some time now our universities have been experimenting with shared organisation projects, with inter-university degree programmes. To mention, for example, the Master's degree programme in Science and Technologies of Bio and Nano-materials, activated by Ca' Foscari university and the University of Verona, the Master's degree programme in Viticulture, oenology and wine markets in collaboration between Padua, Verona and Udine, and other courses such as Religious sciences, Cultural anthropology, ethnology, ethno-linguistics, History and management of archival and bibliographic heritage and Music and performing arts between Ca' Foscari and Padua. Not only teaching, but research can also be inter-university: examples of doctorate programmes supported by several universities and research contexts and extended by teachers from different facilities are important.

Fig. 4.2.1 – Attractiveness index and mobility index of newly enrolled students at Italian universities (*) – Academic Year 2014/2015

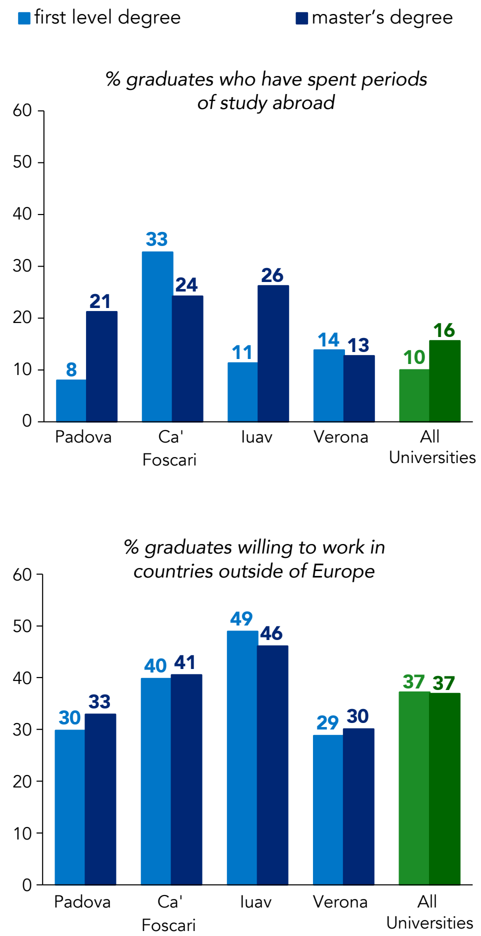


(*) Mobility index of a region: (newly enrolled students from the region enrolled at university in a region other than their region of residence) / (newly enrolled students from the region) x 100
Attractiveness index of a region: (students from other regions newly enrolled in programmes located in a region other than their region of residence) /(newly enrolled students in the region) x 100
Example: For Veneto the mobility index is given by the ratio between Veneto newly enrolled students enrolled outside of the region and the total of Veneto newly enrolled students. The attractiveness index of Veneto universities is given by the ratio between non-Veneto newly enrolled students enrolled in Veneto and the total of newly enrolled students in Veneto.
Source: Veneto Region Processing – Directorate of Regional Statistical System on Miur data

Young people on the move...

University is often the bridge towards experiences abroad that allow young people to experience new societies, cultures and lifestyles, different from where they have come from. The Erasmus project is only one of the opportunities that young people have to connect to Europe which can increase the likelihood of mobility, integration and occupational prospects. According to Eurostat data, Italy is one of the European countries with the greatest number of students incoming and outgoing. In particular the University of Padua is the sixth European university for the number of Erasmus students outgoing (1,308 in the academic year 2012/2013), preceded by other Spanish universities and by just one Italian university, Bologna (in third place). Conversely, among the top 100 European universities for welcoming Erasmus students, the first Italian university is still Bologna, in fifth place, while Padua is in 40th place with 693 students. Furthermore, according to the "Sole 24 Ore" rankings on the quality of Italian universities, in 2015 the IUAV of Venice was placed in first position as regards international mobility, or rather the percentage of credits obtained abroad.

Fig. 4.2.2 Study experiences abroad and willingness to move abroad for work purposes among 2014 graduates by University and degree programme



Source: Veneto Region Processing – Directorate of Regional Statistical System on AlmaLaurea Inter-university Consortium data

University experiences abroad are widespread

According to data from the AlmaLaurea Inter-university Consortium, 10% of Italian graduates on three year degree programmes and 16% of Master's graduates have spent a study period abroad during the course of their studies. As regards Veneto universities, Ca' Foscari is characterised by a high portion of three-year students, 33%, who have chosen to depart to a foreign country, 10% of which was with Erasmus and 23% was with other university or personal initiatives. The Universities of Padua and Venice are distinguished from other Italian universities by a greater likelihood of their Master's students to study abroad.

These young millennials therefore live in Europe in a different way to their parents and the possibility to emigrate abroad to find a job that fits with their study pathway is considered by many. Over half of Italian graduates stated that they would be willing to move for work: around 48% would accept work in European countries and 37% in countries outside of Europe. Graduates from Veneto universities were less willing to move, even if among all the universities in our region the percentage of graduates willing to move away does not fall below 39%. The most mobile would be young people who graduated from IUAV, who in 54-56% of cases would emigrate to Europe and 46-49% to outside of Europe.

...or young people escaping?

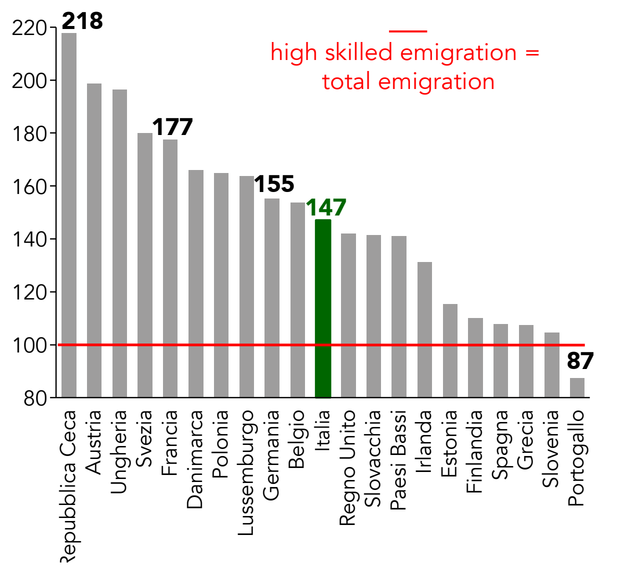
Economic crisis, distances getting shorter, desire for new experiences: young people are therefore more dynamic and the national borders do not limit their movements. Youth emigration is not a negative phenomenon in itself: cultural exchanges create generations that are more open towards building a European population, they bring scientific modernisation, personal growth. The negative aspect is however realised when emigration becomes a necessity, the only alternative for entering the world of work and gaining financial independence.

High levels of emigration or low levels of immigration?

This is added to the problem of low attractiveness of Italy to young foreigners. In a recent study, the Fondazione Leone Moressa examined the wellbeing levels of foreigners and the integration levels in certain European countries, synthesising this information into a migratory attractiveness index: at the bottom of the rankings

we find Italy and Greece which are characterised by low levels of wellbeing and low levels of integration, consequently being not very attractive to the foreign population. High levels of emigration or low levels of immigration? This is the main starting point for assessing the migratory flows of our youths.
According to the most recent data issues by OECD, which however date back to 2011, the emigration rate of the high skilled population, or rather the most qualified population, is greater than the total emigration rate in almost all countries considered. In this context, Italy is not distinguished by alarming emigration rates, but rather the mobility of Italians is lower compared to that of habitants in other European countries, such as the Germans and the French: while the high skilled emigration rate is 47% greater than the total emigration rate in Italy, in Germany it is 55% greater and 77% greater in France.
The mobility of highly qualified people is therefore physiological: the need for personal and professional growth drives these people towards foreign institutions where there is a greater possibility of obtaining better results.

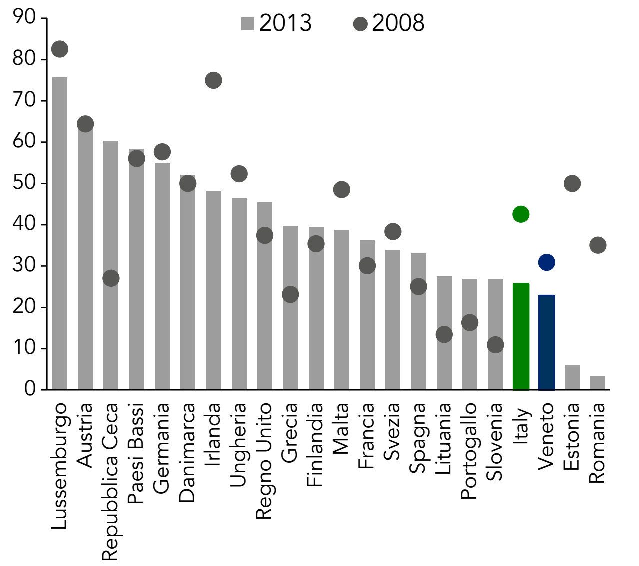
Fig 4.2.3 – Ratio between the high skilled emigration rate and the total emigration rate. Year 2011



(*) The emigration rate is the portion of the population born in a country and living abroad: mi=Mi/(Mi +Ni)
Where Mi is the emigrated population that was born in the country i but lives abroad and Ni is the population residing in the country i.
Source: Source: Veneto Region Processing – Directorate of Regional Statistical System on OECD data

However, the decision to seek fortune abroad is often a necessity dictated by the difficulty of finding a job suited to one's own qualification. According to ISTAT data, doctors of research in Italy are not satisfied by their career opportunities and the stability of their job. This is added to the fact that doctorates have neither improved their working position nor their income from work for those who were employed before achieving the qualification. Thus the increasing proportion of doctors working abroad: from 7% in 2010 to 13% in 2014. In Veneto in 2014 this value is a little lower at 11%.
According to the European Commission report on macro-economic imbalances, the loss of qualified personnel has not been offset by equally qualified foreigners, much less by Italians with equal qualifications returning home. This "may cause a net lose in human capital to the detriment of Italy's competitiveness. In the medium and long term it may compromise the economic growth prospects of Italy and even of its public finances".

Fig. 4.2.4 – Percentage of foreign immigrants aged 25-34 from EU28 countries out of all foreign immigrants of the same age bracket. Years 2008 and 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Eurostat and Istat data

To gain an overview, although unfocused and estimated, of Italy's low attractiveness it is possible to analyse the incoming migratory components of the various European countries. In France for every 100 young foreigners aged 25-34 who have moved to this country, 36 are European citizens while this figure stands at 55 in Germany and 65 in Austria. In Italy there are 26 Europeans out of 100 and in Veneto this figure is 23 (in 2008 these figures were 43 and 41 respectively). Lower percentages are only recorded in Estonia and in Romania. Estimating the size of this brain drain is however a complex exercise, as it is difficult for the official information sources to capture the actual size. We will therefore limit ourselves to analysing registry and census data, while remaining aware that this will be an underestimate of the phenomenon in question.

11 thousand Veneto youths have moved abroad

In the three year period 2012-2014, 11 thousand Veneto youths aged 25-34 moved abroad. A comparison with 2008, a year in which the economic crisis had not yet affected our region, shows an extremely explanatory picture: in six years the number of young people who have decided to abandon Veneto in favour of a foreign country increased by 44% while the number of young people who moved within the national borders decreased by 17%. The difference is even more significant if we limit the analysis to youths with Italian citizenship: internal movements decrease by 19% and the number of those who have forfeited their Italian residence to move abroad increased by 60%.
Furthermore the portion of young foreigners returning to their own country is reducing and at the same time the number of those deciding to change country is increasing, even though their numbers are remaining the same, a probable sign that Veneto and Italy in general are not able to ensure economic and social stability for these people.
Among Italian youths who have left Italy for abroad, in the three year period 2012-2014 the top destination is still the United Kingdom (22%), followed by Germany and France (12% and 7%), while for foreign youths moving to a country other than their home country the first choice is Germany (25%).
The choice of the destination country is closely related to the age of the migrant: Great Britain, Ireland, Netherlands and Australia are chosen the most by youths aged 25-34 while Brazil, Argentina, Mexico and Romania are the top choices for over 35s.
The Population and Housing Census provides further indications, going on to expand on the characteristics of the young people who although remain residents in Italy, find themselves abroad for study or work. In 2011, at the date of the census survey, around 4,900 Veneto residents aged 20-34 declared that they were working in a foreign country, which can be added to the little less than 2,500 youths who have left our country for study purposes. The education level influences these choices: out of 1,000 young people aged 20-34 with a high school diploma 6 are working abroad, while among graduates this value increases to 23. In the same way, young people with a university qualification are more likely to pursue studies abroad compared to others: 61 graduates out of 1,000 and 17 high

Tab. 4.2.2 - Youths aged 25-34 who have changed residence by citizenship. Veneto – Years 2008 and 2015

	N		% of the total		Change 2014/200
	2008	2014	2008	2014	
Moved to other Italian municipalities	49,144	40,868	95.0	91.6	-16.8
of which Italians	37,251	30,377	72.0	68.0	-18.6
foreigners	11,893	10,531	23.0	23.6	-11.5
Moved abroad	2,604	3,743	5.0	8.4	43.7
of which Italians	1,461	2,334	2.8	5.2	59.8
foreigners returning to their home country	1,034	1,011	2.0	2.3	-2.2
foreigners emigrating to other countries	109	398	0.2	0.9	265.1
Total	**51,748**	**44,611**	**100.0**	**100.0**	**-13.8**

Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

school graduates out of 1,000 take this route.
The desire to work in a field that is consistent with the qualification achieved also emerges from census data: out of 100 young graduates working abroad over half are working in highly specialised fields (56%) while those who stay in Italy are only able to find this type of employment in 40% of cases.
However, when young people without a degree go abroad they generally find work in the hotel and catering sector, mostly carrying out sales activities to the public.

4.3 Sector connections

When speaking of connections in a working context, it is necessary to analyse the close connection that runs between school and work: these are two rings of a chain that combines knowledge acquired throughout the educational pathway and skills developed in the world of work.
Knowledge and skills are closely related as the first is the base and the starting point for the development of the latter. Furthermore, it is necessary for the growth of a region to occur through dialogue between the educational and working structures: it is only through this collaboration that the world of work can have the human capital at its disposal that is most suitable for the needs of the region.

When school meets work

In our country educational collaboration between school and work has recently undergone important developments in two directions: the reinforcement of the alternating training educational offer and the valorisation of apprenticeships aimed at achieving a secondary education diploma, based on the innovations introduced by Italian legislative decree 81/2015, implementing the Jobs Act.
Alternating training, which was introduced in 2003 and has been reviewed and enhanced several times, "consists of creating courses that are designed, implemented, verified and evaluated under the responsibility of the scholastic or training institution, based on appropriate agreements with enterprises, or with the respective representative associations, or with the chambers of commerce, industry, handicraft and agriculture, or with public and private entities including those in the third sector, willing to host students for periods of learning in a working situation, which to not constitute individual work relationships" (art. 1 of Italian legislative decree 77/2005). This is therefore a period of training within the enterprise in a context of supplementary learning outside of laboratory and class work.
With Italian law 107/2015 this teaching strategy was inserted in all secondary school study courses as an integral part of the educational pathways, establishing a mandatory total number of hours for all stu-

Tab. 4.2.3 - Veneto youths aged 20-34 who study or work in Italy or abroad. Year 2011

	Middle school diploma	High school diploma	Degree	Total
Venetians studying abroad per every 1,000 youths studying	16.8	17.4	61.0	27.5
Veneto residents working abroad per every 1,000 youths working	3.9	5.5	22.7	8.7
Veneto residents in high speciality jobs working in Italy per 100 youths working in Italy	0.0	2.2	39.4	9.3
Veneto residents in high speciality jobs working abroad per 100 youths working abroad	0.5	2.6	55.6	30.7
Veneto residents carrying out sales activities to the public in Italy per 100 youths working in Italy	20.9	22.9	10.3	19.9
Veneto residents carrying out sales activities to the public abroad per 100 youths working abroad	53.9	56.0	11.5	32.0

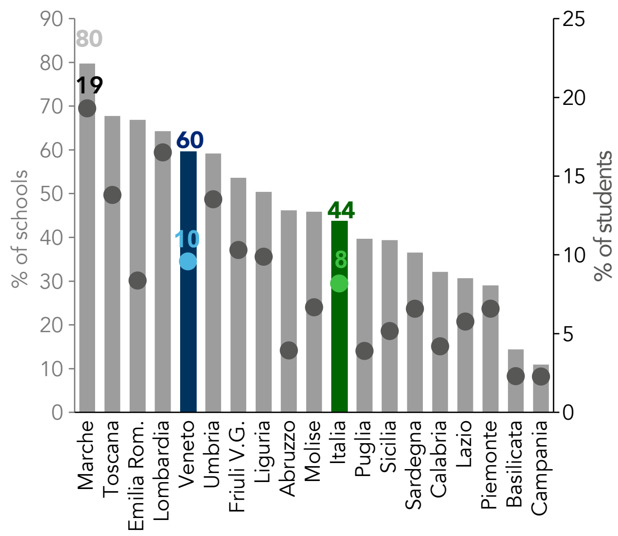
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data – Population and Housing Census

dents starting from the third year.
There are multiple objectives of alternating training and they range from education to orientation. In fact, it is an alternative and flexible learning method that joins theoretic and practical experiences and allows students to integrate their scholastic knowledge with the skills that can be acquired and used in the world of work. But it is also a connection that enables students to actively participate in the training processes and that favours orientation for future choices.

School at work: alternating projects

According to data from the Italian National Institute of Documentation, Innovation and Educational Research (INDIRE), in the scholastic year 2013/2014, 60% of high schools in Veneto activated alternating training courses, the fifth highest percentage in the regional rankings (the Italian average is 44%). Overall around 19 thousand Veneto students participated in these initiatives (10% of the total of Veneto students), of which 63% were attending professional institutes, 29% technical institutes and the remaining 7% were attending high schools.
As regards the type of intervention, most of the activities in the host structures were organised as internships, guided visits and participating observations (74% of the hours provided), but also as classroom and laboratory education in "Simulated Training Enterprise (IFS)": the latter teaching method consists of the students creating a virtual animated enterprise which carries out online market activities (e-commerce) and refers to a real enterprise which is the model to be emulated. The host structures are mostly private enterprises (63%), particularly manufacturing activities and accommodation and catering services, but independent workers and freelance professionals are also well represented (9%, especially professional, scientific and technical activities and the construction sector). In this context the Regional Statistical System Section has also carried out alternating training courses: in the scholastic years 2014/2015 and 2015/2016 laboratory meetings with students in the fourth year of a high school in the province of Vicenza were organised, with the objective of bringing young people closer to the job market and to present the statistical profession in a view of a direction to be taken after the end of high school. Students were offered an interactive seminar day: after filling out an initial online questionnaire to focus the attention of the teenagers onto the topics offered, i.e. immigration and tourism, some data was presented to describe these aspects. Subsequently the teenagers were asked to fill in the questionnaire again to check the knowledge they had acquired. This type of organisation allowed the achievement of a double objective: not only bringing students closer to the topics presented, but above all presenting the methodological instruments for collecting and processing data to them.

Fig. 4.3.1 - Percentage of schools that have activated alternating training courses and percentage of students involved by region – Scholastic year 2013/2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on INDIRE and MIUR data

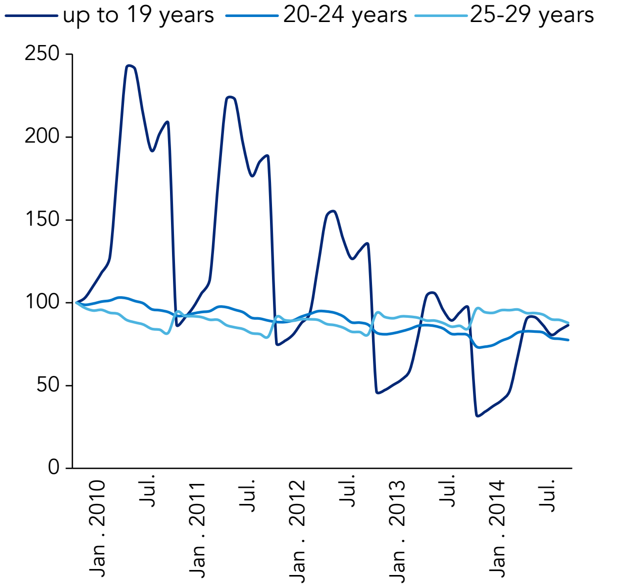
Young people and apprenticeships

As mentioned above, the educational collaboration between school and the world of work is also carried out through apprenticeships, partially reformed by the Jobs Act and the subsequent Italian legislative decree 81/2015. The apprenticeship is a form of contract aimed at the education and employment of young people. Through this type of contract teenagers can enter into the job market and simultaneously continue their education towards achieving a diploma, a professional or vocational qualification and secondary education qualifications. There is no lack of benefits for the enterprise who takes on an apprentice: in

fact, they benefit from a series of tax concessions, incentives and contribution reductions; for example the working costs for taking on and training an apprentice are more advantageous, as the remuneration, social security costs and assistance costs are reduced.
Current legislation envisages three types of apprenticeship: the apprenticeship for professional qualification and diploma, the vocational apprenticeship (aimed at young people between 18 and 29 years and which allows the worker to obtain a professional qualification) and the higher education and research apprenticeship for young people up to 29 years which allows them to achieve a Master's or PhD. The first type of apprenticeship is geared towards young people aged between 15 and 25 and is valid for fulfilment of compulsory education up to 16 years old and for compulsory training up to 18 years old; in this case the apprentice is enrolled in a training programme with a training plan that has been agreed between the institution, the enterprise and the young person themselves.
According to data published in INPS, on average in 2014 in Veneto there are 54,387 apprenticeship work relationships[6], which correspond to 4.5% of the working relationships recorded overall; the age bracket most represented is 20-24 year olds (52% of apprentices) which is followed by 25-29 year olds (36%). Around a third of apprentices are employed in the manufacturing sector, while 23% work in commerce[7].
In recent years the number of apprentices has progressively decreased: while in 2010 in Veneto there was an average of 64,345 young people taken on with an apprenticeship contract, within five years around 10 thousand units (-15% were lost). This decrease is in line with the declining employment levels recorded by ISTAT through the Italian Work Force Survey: from 2010 to 2014 the number of employed people aged 15-29 decreased by exactly 15% with an employment rate that fell from 45% to 38%. The following graph clearly shows this trend: despite the strong seasonality of the phenomenon, apprenticeship contracts are clearly decreasing, particularly contracts for apprentices aged under 20.

[6] Average annual number of apprenticeship employment relations calculated as an average of the monthly number of relations
[7] This entry includes wholesale and retail commerce; repair of motor vehicles, motorcycles and personal goods and goods for the house.

Fig 4.3.2 – Trends in apprenticeship contracts by age bracket (January 2010 = 100). Veneto – Years 2010:2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on INPS data

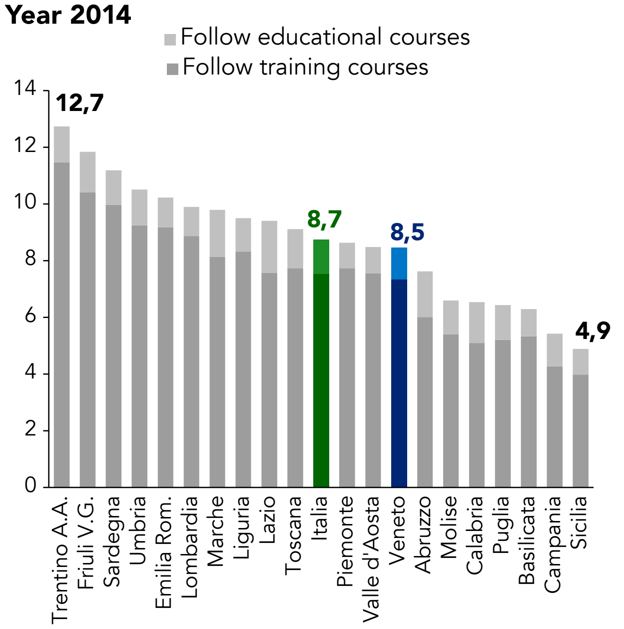
Workers updating themselves

Learning does not end upon achieving a study qualification: it is a continuous pathway that the individual takes in their own life and in all working and social experiences. In fact, we speak of formal, non formal and informal learning depending on the context in which it occurs: it may be related to formal contexts dedicated to teaching (e.g. school, university), non formal contexts (e.g. associations, clubs) or informal, such as in family and work contexts, leisure time and in society in general. While learning can occur in various circumstances, it is important to be able to certify the knowledge acquired so that the individual can best make use of it to improve their working and social position. In this view Italian Legislative Decree 13/2013 establishes that "In the context of the public policies on education, training, work, competitiveness, active citizenship and welfare, the Republic promotes permanent learning as a person's right and ensures equal opportunities for all for the recognition and valorisation of the skills acquired in accordance with the individual attitudes and choices and from a personal, civic, social and occupational perspective".
The working context is therefore a non formal and informal learning environment, in which the worker

8.5% of employed persons have followed training activities

learns while performing their tasks, but also through training courses organised by their enterprise. According to data from the ISTAT Work Force Survey, 8.5% of employed people in Veneto aged 25-64 have carried out a training activity or an educational course (7.3% a training activity, 1.1% an educational course) in the month preceding the interview: compared to other Italian regions Veneto does not stand out, placing in 13th position.

Fig. 4.3.3 – Percentage of those employed aged 25-64 who participate in training and educational activities out of the total of those employed in the same age bracket. Regional ranking – Year 2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on ISTAT data

Considering only those employed who have carried out training activities, there are no significant differences according to sex and age, even if women and workers aged 45-55 are more likely to undergo training. It is rather the study qualification that seems to be most decisive: in 2014 among Veneto workers with at most a middle school diploma 3.7% carried out some training activities, a percentage which increases to 7.3% among workers with high school diplomas and 14.1% among graduates.

Among employed workers, executives and managers are the professional positions that most declare to have undertaken training courses (19%), while among self-employed workers it is mostly freelance professionals (18%). Those employed in the services sector are even more trained, particularly those employed in finance and insurance activities and in education, health and other social services that probably manifest greater requirements for updating knowledge. 73% of those employed who have carried out training activities did so for professional purposes and mainly during working hours. Among these, most attended a course organised by the enterprise or the region, and seminars and conferences less so. The main topic covered during these activities is the topic of safety: one in four workers who carried out training activities for work purposes carried out a course on safety. In fact, Italian legislative decree 8/2008, implementing Italian law 3/2007 on the measures for protecting health and safety at work, establishes that "The employer ensures that each worker receives sufficient and adequate training on health and safety, also with regard to linguistic knowledge, with particular reference to: a) concepts of risk, damage, prevention, protection, organisation of enterprise prevention, rights and duties of various corporate figures, supervisory, control and assistance bodies; b) risks related to tasks and possible damages and the consequent measures and prevention and protection procedures characteristic of the industry or sector to which the enterprise belongs" (art. 37). The employer is therefore required to organise these types of courses and the data reported above confirm the frequency of this by workers. As well as this topic, workers were trained on topics related to economic sciences (economics, commerce, marketing, finance, insurance, administration) and health (medicine, medical services, assistance services, etc.).

4.4 Reconnections: employment of inmates[8]

The articulated institutional duty held by the prison administration explicitly recalls art. 27 of the Constitution, which establishes the prerequisite by which punishments may not consist of treatment contrary to the sense of humanity and must, rather, be

[8] In collaboration with the Office of Detainees and Treatment of the Regional Superintendence for Veneto, Friuli Venezia Giulia, Trentino Alto Adige – Department of Prison Administration

aimed at rehabilitation, thus validating an absolute cornerstone of civilization and attributing an intent of practical usefulness to serving the sentence.
One of the essential instruments for achieving these goals is undoubtedly represented by work. Legislation concerning prison work was reinforced in the late '70s when, with the reform, it became an essential element for the detained individual, central to the process of encouraging their social reintegration, thereby obtaining equal status in terms of the concept of work as any other citizen. The regulations that govern prison work define it as "mandatory, not punitive, lucrative", useful for obtaining appropriate professional training for the purpose of future social reintegration, therefore involving constant cooperation with public and private enterprises, as regards both training and actual work.

Prison work to the benefit of the inmate, entrepreneurs and society

The work activities, which are organised based on rules similar to those in force in free society, also adequately supplemented by teaching and tutoring services, are one of the focal points around which to create effective reintegration projects. In fact, it has been shown how the opportunity of holding stable employment after having served one's sentences, is one of the substantial premises for avoiding the risk of reintegrating into a criminal circuit.
Society must focus on these solutions, with the knowledge that reducing social distress generates direct benefits to those receiving the interventions, and indirect benefits on society overall, as it would reduce the economic costs of the disadvantage and would develop social security.
The efforts aimed towards activating reintegration projects for inmates that begin within the prison, and are then realised outside of it, requires intense collaboration between the productive energies of the territory and the Public Administration. In fact, the rehabilitation treatment is carried out in a continuum between prison and region.
In 1975 the legislator had already cemented these principles within the Penitentiary Law, incentivising the destination of incarcerated subjects for work and participation in professional training courses. With the enactment of the Smuraglia Law in 2000, some measures were introduced which incentivised enterprises to welcome the working activities of the inmates, both inside and outside of prisons, through the opportunity to benefit from tax allowances and contribution reductions for private or public entities who take on workers serving their sentence, in order to establish a direct link between the prison world and the world of production, offering benefits to both parties involved.
The possibility of employment for the inmate will facilitate and support them for their way forward into social reintegration and, simultaneously, for the entrepreneur prison work will be a "handy" resource in the region, an immediate economic yield and not a form of social assistance. This is, in fact, the opportunity to realise and know how to recognise the underlying economic interest, with marked potential for implementation, institutionalised and regulated by special regulations which allows cooperatives and enterprises to customise their interventions, considering prison work as an instrument of enterprise strategy whose growth would generate obvious benefits for enterprises.
The granting of loaned free use of the premises, the competitive cost of production, the good quality, the indirectly ensured supervision and the reduction of absenteeism embody an effective alternative to the externalisation towards Asian or eastern European countries.
The enterprises and cooperative involved do not implement these behaviours solely for solidarity, rather they administer this economic activity with an added value of an ethical footprint, operating at a profit and not only in terms of public assistance, achieving an enhancement of the product and paving the way for other key players in the economic sector.

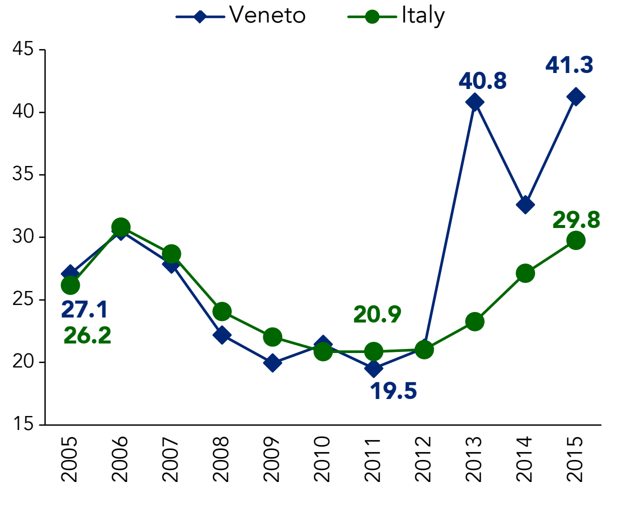
Increasing numbers of inmates working

Considering the above, the increase in the last decade of the portion of inmates working becomes particularly positive and significant: in Italy, as at 31 December 2005, the percentage of employed inmates out of the total detainees was 26.2%, ten years later at the same date the figure stood at 29.8%. Better still is the situation seen in Veneto, which shows an increase of 14 percent from 2005 to 2015.

Veneto, top region in Italy for the highest percentage of employed inmates

With a percentage of working inmates of 41.3% recorded on the last day of 2015, against 27.1% in 2005, is the top region in Italy in the ranking established for the highest incidence of employed inmates compared to the total number of inmates serving their sentence; Molise is not too far away with a percentage of 40.8%, while Friuli Venezia Giulia is in last position with 21.2%.

Fig. 4.4.1 – Percentage of inmates working out of the total number of inmates. Veneto and Italy – Years 2005:2015



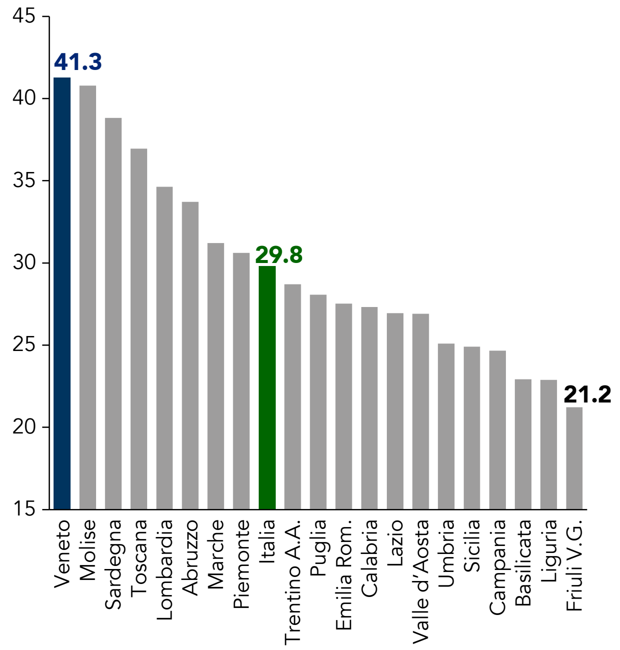
(*) The data is a snapshot of the situation as at 31st December for each year
Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

For our region the increase that has occurred in the last three years is particularly significant: in fact, while there were 21 per 100 people serving their sentence participating in the job market in 2012, in 2014 this figure rose to 33 and in 2015 it stands at 41 per 100, determined by multiple variables, identified within the particular sensitivity of the region, the widespread work of promotion and information encouraged by the Regional Superintendence, as well as the intuition from entrepreneurs in relation to the possibility of interpreting prison as a resource.

The profile of the employed inmate

Italy records an imprisonment rate that is much lower than the European average: according to Eurostat data, in 2013 there were 107 inmates per 100,000 habitants in Italy against 122 in the EU28. Today the rate is even lower: at the 31st December 2015 in Italy the number of detainees present in prisons is equal to 52,164 for adults, or rather 86 inmates per 100,000 habitants, a reduction of 3% compared to the previous year. Although the imprisonment rate is lower than the rest of Europe, the problem of overcrowding in Italian prisons was also taken up by the European Court which condemned Italy for having violated the Convention on Human Rights for the conditions of the inmates considered "inhuman" (the "Torreggiani" judgement), requiring us to intervene to eliminate overcrowding and to promptly adopt measures for the repair of the rights violated. In response to the provisions of the European Court, with Italian Law n. 117/2014 the right to compensation was recognised for those who were forced to live in cells at the limits of tolerable conditions: inmates who have already been freed are granted monetary compensation, those still incarcerated are granted a reduced sentence. As at March 31st 2016, for every 100 places available there are 108 inmates at the national level and 124 in Veneto.

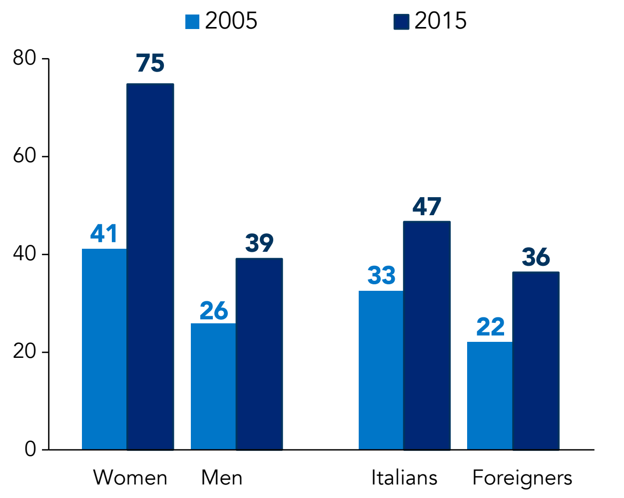
Fig. 4.4.2 – Percentage of inmates working out of the total number of inmates. Regional ranking – Year 2015 (*)



(*) The data is a snapshot of the situation as at 31st December for each year
Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

In our region the inmate population located within the two Houses of Imprisonment and the 7 District Prisons amounts to 2,080 units as at the 31st December 2015, 16% less than 2014, which a quota of women of 6.1% of the total detainees.

Fig. 4.4.3 – Proportion of inmates working out of the total number of inmates by sex and citizenship. Veneto – Years 2005 and 2015



(*) The data is a snapshot of the situation as at 31st December for each year
Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

Many women and more foreigners than Italians are employed

Proportionally more detained women are employed compared to men, and more Italians are employed compared to foreigners. At the end of 2015 74.8% of female detainees had a job (40.9% in Italy) against 39.1% of men (29.3% in Italy). Compared to the national average, in Veneto the increase in the proportion of working inmates over the last ten years is much greater, for both men and women: in fact, while in Italy this figure increased by just 3 percent for men and 7 percent for women, in our region an increase of 13 percent for men and 34 percent for women was recorded. These are important figures considering that staying outside the working network for too long, and therefore being disconnected from society, decreases the probability of good social reintegration at the end of the sentence and therefore increases malaise, the risk of exclusion and possible further deviant behaviour. However, as regards citizenship in 2015 over half of inmates in Veneto were foreigners. Of these, 36.3% were involved in employment against the 46.6% recorded among inmates with Italian citizenship, both values that have significantly increased compared to those snapshots from ten years prior.
In Veneto around a third of detainees who work under the employment of cooperatives are aged between 41 and 50, while 27% are in the 31-40 age bracket. Younger inmates are less present (16% were aged under 31 years) as well as elderly inmates, especially those aged over 60. By comparing the age distribution of the inmates as a whole and excluding the over 60s, it can be estimated that the employment rate for detainees varies from 8.7% in the younger inmates aged 18-30 years to 17% for inmates in the 51-60 age bracket.

The type of work

Of the 858 employed inmates recorded at the 31st December 2015 in Veneto, 54.3% work under the

Tab. 4.4.1 – Working inmates by type of work. Veneto – Year 2015 (*)

	Men	Women	Total
Total working inmates	**763**	**95**	**858**
employed by the Prison Administration	434	32	466
NOT employed by the Prison Administration	329	63	392
of which (% distribution)			
Semi-freelance (a)	*7.9*	*3.2*	*7.1*
Working externally art. 21 (b)	*13.1*	*36.5*	*16.8*
Working in prison on behalf of enterprises (c)	*14.3*	*15.9*	*14.5*
Working in prison on behalf of cooperatives (c)	*64.7*	*44.4*	*61.5*

(*) The data is a snapshot of the situation as at 31st December for each year
(a) Exclusively semi-freelancers for themselves or for external employers involved in work activities were counted
(b) Italian Law n.354 of 1975 – Penitentiary Law
(c) Inmates working as partners-employees-co.co.co for cooperatives and enterprises were counted, including homeworkers pursuant to art. 52 of Italian Presidential Decree 230/2000 and those employed in prison work not managed by the Prison Administration
Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

Tab. 4.4.2 – Prison jobs. Posts available and posts filled by type of work and prison. Veneto – Year 2015 (*)

Prison and course	% posts filled out of available posts	% of posts filled out respective regional total
District prison of Belluno		
Miscellaneous component assembly	87.5	4.7
Laundry	100.0	0.3
Miscellaneous	42.9	2.0
Imprisonment home of Padua		
Miscellaneous component assembly	100.0	14.8
Call centre	100.0	23.5
Data entry/document dematerial.	100.0	1.0
Confectioner/bakery/pizzeria	100.0	11.4
printing/ publishing/bindery	100.0	1.3
District prison of Treviso		
Gifts miscellaneous materials	100.0	3.7
Women's imprisonment home of Venezia Giudecca		
Laundry	100.0	4.0
Tailoring/hosiery/clothing	100.0	2.0
Miscellaneous	100.0	1.0
nursery/greenhouse/agricultural	100.0	1.7
District Prison of Venezia S. Maria M.		
Shoemaking/leather wear	100.0	2.0
printing/ publishing/bindery	100.0	0.7
District prison of Verona Montorio		
Miscellaneous component assembly	100.0	18.8
Shoemaking/ leather wear	100.0	0.3
confectioner/bakery/pizzeria	100.0	1.3
Tailor/hosiery/clothing	100.0	0.7
nursery/greenhouse/agricultural	100.0	0.3
District prison of Vicenza		
Metalworking	25.0	0.7
confectioner/bakery/pizzeria	100.0	0.7
Miscellaneous	100.0	3.0
Total	**94.9**	**100.0**

(*) The data is a snapshot of the situation as at 31st December
Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

employment of the Prison Administration, while the remaining 45.7% are semi-freelance workers or have been assigned an external job according to article 21 of Italian Law n.345 of 1975 or are working in prisons on behalf of enterprises or mostly cooperatives. In particular, the highest proportion of inmates not working under the employment of the Prison Administration are working in the prison on behalf of cooperatives: 241 detainees out of 392, or rather 61.5%.
Proportionally women are more employed in jobs not under the employment of the Prison Administration, 66.3% of female employed inmates; conversely men are more employed by the Prison Administration (56.9%).
There are many types of work that inmates lend themselves to (see Tab. 4.4.2).
Considering those working in prison on behalf of enterprises and cooperatives, these are mainly assembly jobs with 38.3% of the total posts occupied for all prisons, call centre jobs (23.5%) and confectioner/bakery/pizzeria (13.4%). Some job posts are still available: a total of 5.1% divided between the district prison of Belluno and the district prison of Vicenza.

Receiving training to stay connected with society

Professional training is an essential instrument for social and productive reintegration of detainees. The reform of the penitentiary system outlines the significance of training as the start of the pathway for social and work reintegration; training should be considered in close relation with work activities as together they constitute an integral part of the prison treatment aimed at the rehabilitation of the inmate. In particular, it is the prerequisite for implementing a productive policy on work in prisons that is closely connected to the requirements of the outside world and an effective reintegration policy for after the prison experience. Therefore, it is a glimpse into the future for the inmate and society itself: staying outside of the job network for too long and therefore being disconnected from society would increase malaise, dissatisfaction, the risk of exclusion and consequently the possibility of deviant behaviours. Furthermore, training in itself expands this view, opens the mind and permits a "healthy" approach to the social context, often experienced by the inmate as expulsive, rigid and unavailable towards people how have committed significant crimes.

It can be seen from the statistics on the second half of 2015 that in Veneto prisons training courses in various fields of work were activated. There are 129 inmates enrolled, of which 57.4% are non-Italians, conversely to the lower number of foreign inmates who are in work compared to their Italian peers.

34% of those attending professional courses choose training in the field of construction

The majority of inmates, who are mainly foreigners, choose professional courses in the field of construction with over 34% of those enrolled overall, although in the recent years of crisis this is a context in which signs of difficulty are evident. Italians, however, are more inclined towards computer related studies: in detail, there are two courses that have been implemented in this field, one at the district prison of Belluno and one at Rovigo, and in total they are attended by 14% of the total number of inmates registered. Decorator's courses in the construction branch and book binding courses are chosen more by native inmates: respectively only 9.1% of foreigners are involved in the first type of training and a quarter in the second. In all other courses at least half of those enrolled are of non-Italian citizenship.

Other than the courses described that are organised by professional training bodies, school education courses are also available.

Almost all participants achieve their qualification certificate

As regards the results obtained by inmates at the end of their professional training courses, in the second half of 2015 there was total suc

Tab. 4.4.3 - % Distribution of those enrolled and percentage of foreigners in professional training courses implemented by type and by prison. Veneto – II Semester 2015

Prison and course	% distribution of those enrolled	% foreigners
District prison of Belluno		
Cooking and catering	3.1	75.0
Computing	8.5	36.4
Imprisonment home of Padua		
Construction decorating	8.5	9.1
Gardening	7.8	60.0
Book binding	6.2	25.0
District prison of Rovigo		
Computing	5.4	42.9
District prison of Verona		
General maintenance	4.7	50.0
Handicrafts	9.3	75.0
Carpentry	6.2	50.0
Construction	14.0	88.9
District prison of Vicenza		
Construction	20.2	73.1
Cosmetics	6.2	50.0
Total	**100.0**	**57.4**

Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section

Tab.4.4.4 - Percentage of promoted to vocational training courses completed by type and Penitentiary Institute. Veneto - second semester 2015

Prison and course	% passed out of those enrolled
District prison of Belluno	
Cooking and catering	100.0
Computing	100.0
Imprisonment home of Padua	
Construction decorating	100.0
District prison of Rovigo	
Computing	100.0
District prison of Verona	
General maintenance	75.0
Handicrafts	69.6
Carpentry	87.5
Construction	44.4
District prison of Vicenza	
Construction	100.0
Cosmetics	100.0

Source: Veneto Region Processing – Directorate of Regional Statistical System on D.A.P data – Office for the Development and Management of the Automated Information System – Statistics Section cess in the courses implemented in almost all district prisons or imprisonment homes in Veneto. This is with the exception of Verona where there were many inmates who were not able to achieve their qualification certificate: in particular, less than half of those who undertook the construction training course achieved positive results. This circumstance must be interpreted based on the high turnover of inmates at the Verona facility which, among the district prisons of Veneto, has the largest number of inmates. It is appropriate to highlight that scholastic and professional training within the prisons is carried out by ensuring the application of effort and attainment assessment criteria equivalent to those used outside of the prisons.

For the inmate's reintegration and job placement, it may also be significant to consider the work experiences prior to incarceration: almost all inmates do not have any certified work experience if not simple statements made during the selection interview. In some rare cases the inmates selected provided a curriculum vitae with reliable certifications.

Conclusions

The constant and thorough monitoring of the data shown and other related variables, obligatorily inscribed in the context of an economic crisis which hit numerous classes of workers and that inevitably had repercussions on one of the weakest categories, represented by the inmate population, becomes necessary for the purposes of identifying any shortcomings as regards both the number of individuals involved in training and work activities and the instruments used for this purpose. In this way the Prison Administration may, from time to time, focus their support interventions with even more precision, which are offered through initiatives for supporting and stimulating the enterprises that are preparing to undertake an experience of production or services in the prisons, thereby granting inmates the opportunity to make themselves an active part of vocational work activities.

Particular caution must be had when seeking a joined commitment between the prison and the outside entity, which would undoubtedly enable an increase in the competitiveness of in-prison production so as to expand the work demand and offer according to market mechanisms. When assessed closely, the variables reported show some interesting prospects that, in view of the significant developmental potential of the work reintegration policies for inmates, could only enhance already favourable findings.

This has been established as the most constructive intervention from the Prison Administration, holding a role of indispensable support which, as well as involving a system of fiscal and contribution incentives and the possible use of adequate premises, guarantees the best living conditions and adequacy of the structural context. It also provides adequate training to the inmates, with the fundamental contribution of accredited training agencies, making the vision of work a real opportunity to be provided to inmates, in line with a system aimed at the humanisation of the sentence and social-environmental and cultural reintegration.

The desire normalisation of prison work, to make it similar to that carried out in freedom, involves recognition of the retribution for the activities carried out as a veritable salary, just like in the outside world, adjusting it to that of collective contracts to ensure similar conditions, thus recognising its rehabilitative value. This enables a notable improvement in the opportunities for reintegration among inmates, simultaneously proposing that the enterprises organise intensive professional training courses.

An increasingly trenchant intervention by enterprises and cooperatives in the prison world would enable working around a situation which frequently sees the majority of prison work ensured by employment in prison services, in simple or non-vocational activities. To overcome this numerous ideas and proposals are continuously evolving on the topic of work organisation, which can also be implemented regardless of legislative provisions.

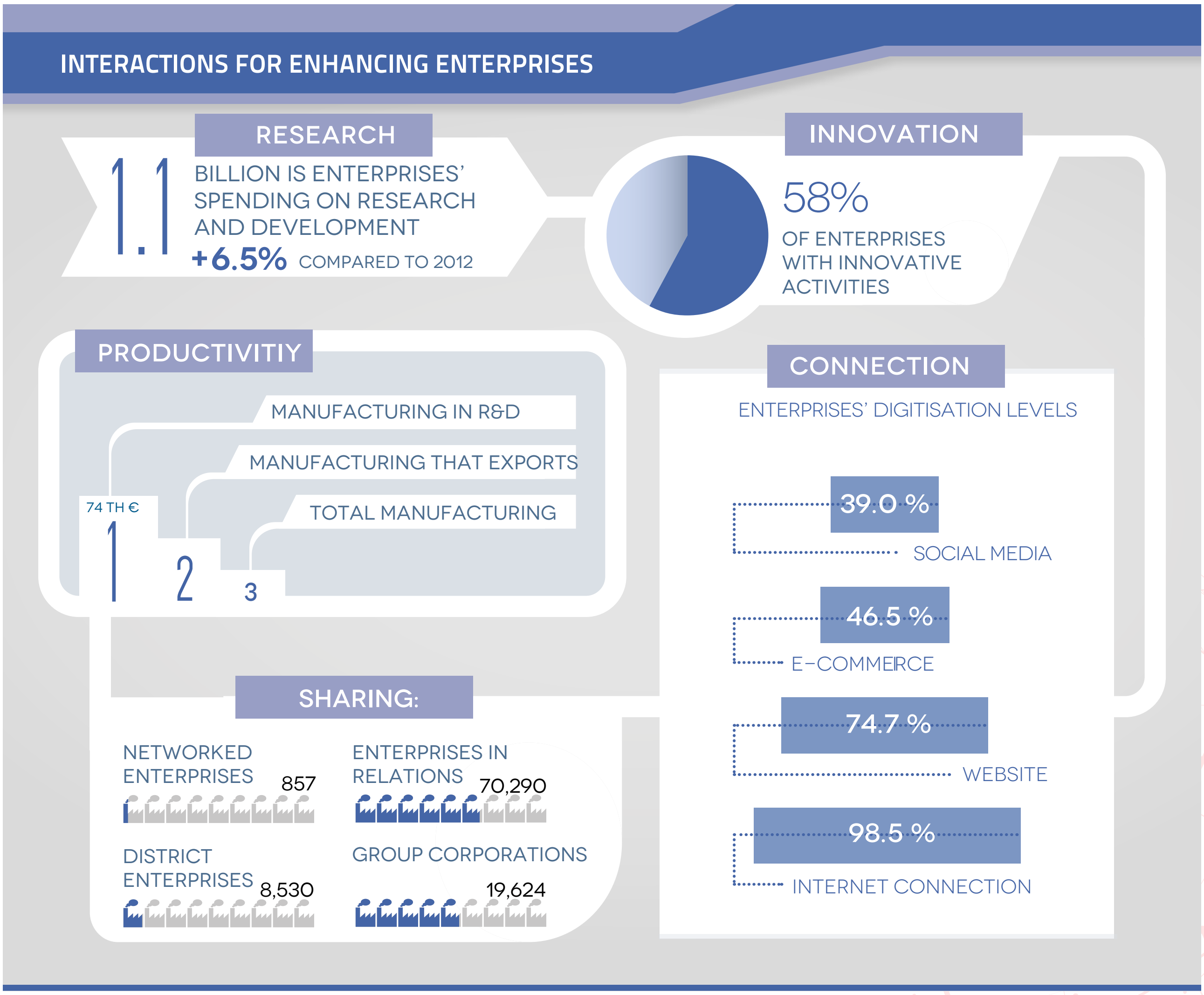
The improvement of the system by the Prison Administration may occur through a redistribution of the various work activities into prisons or departments, channelling those that require greater professionalism to places with a stable inmate population with lower turn-over, creating, where possible, departments that facilitate internal movements and are conducive to the needs of the external employers.

On the other hand, the institution should be supported in its task of managing and organising the jobs and identifying the employment opportunities, as this is a function that is not completely tailored to the institutional mandate entrusted to them and which would therefore need intervention from entities with specialised expertise on the topic of the job market, marketing, staff management and production organisation. This would enable prisons to make use of indispensable knowledge for the most efficient management of the production line, from

identifying job opportunities to controlling activities, to supporting the inmate in their reintegration into free society.
Furthermore, if the entrepreneurs were able to understand how big the return would be - even in economical terms - on an investment in prisons and in the enhancement and promotion of this at the social level, they would become fully aware of their mission and continue on that path.
The joint effort from the Prison Administration, the legislator, the enterprises and the community as a whole, aimed at enabling the greatest number of inmates to experience significant professional training experiences, will allow them to be prepared adequately for release into the external world of work and integration into the territory.

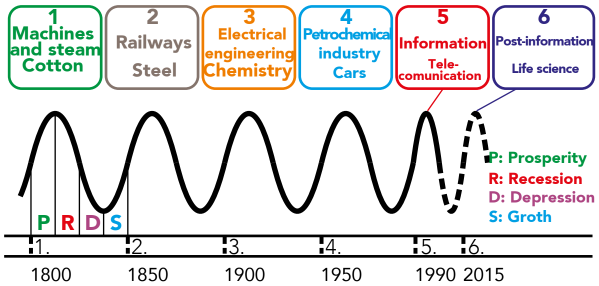
Chap. 5 – Innovation: Engine for Recovery if Created in Collaboration

In a comparison with Europe Veneto is a moderate innovator, but in terms of the national average it is the second region in Italy for enterprises' propensity to innovate.
These trends show how the connection between enterprises, other than the digital connection, may present itself as a greater guarantee of success for the growth, internationalisation, productivity and competitiveness of the 437 thousand Veneto enterprises.
The use of the web's potential is more intense in Veneto compared to average national trends, both as an opportunity to promote themselves in a global shop window, and as an instrument for closing commercial deals. But the real engine that can re-launch the system of Veneto enterprises is research. In 2013 spending on Research & Development (R&D) supported by enterprises, public institutions, non-profit private institutions and universities in Veneto amounted to 1.6 billion euros, an increase of over 5% compared to 2012.
Analyses carried out evidence that the propensity for export is tending to grow with the increasing size of enterprises and that the winning strategy for facing foreign markets involves a market capacity for investing in R&D. The added value generated by enterprises is in fact greater when the enterprise makes investments in R&D, even if the size of the effect is different based on the enterprise size.



The territory is no longer conceived as just a physical space, connected by settlement and infrastructure networks, but it is also considered as a place with a complex network of socio- economic connections, favoured by the community of culture, history and human skills. These are the connections that create innovation.
Innovation is considered to be the engine that can relaunch the system and support the positive turning point that the economic cycle is adopting.
According to Kondratiev's theory, the depression phase that the world is trying to come out of is nothing more than a phase of the fifth economic cycle which began in 1985-1990. In fact, in 1925 the Russian economist first hypothesised the wave theory: it integrated an economic and political analysis within a historical context made up of wars, important discoveries and changes to public opinion, coming to a result that in a capitalistic economy would have followed trends. His "K- cycle" can be broken down into 4 phases: prosperity, recession, depression and development; this is based on small inventions and innovations that trigger technological revolution.
As confirmation of Kondratiev's theory, Joseph Schumpeter demonstrated the correlation between technological innovation and the start and end of the various economic cycles. Development of the innovations occurs in when the economic crisis is in full swing and their introduction produces a phase of rapid growth and even financial euphoria. The "Schumpeter- Freeman-Perez" paradigm, currently revived and revised by the research Danial Šmihula considers the following waves:
The era of machines and steam;
- The era of railways and steel;
- The era of electrical engineering and chemistry;
- The era of petroleum, the car and mass production;
- The era of information and telecommunications;
- The "hypothetical era of the post-information technological revolution" (2015-2035?).
Unlike Kondratiev and Schumpeter, Šmihula[1] believes that each new cycle is shorter than its predecessor due to the speed of technological progress and the application of the new technologies. According to him the economic crisis in the 2007-2010 period is the result of one of the impacts of the "wave of the technological revolution of information and telecommunications". Some authors[2] expect that the sixth wave may be guided by innovations related to the efficiency of clean resources and technologies. Others[3] more prudently limit themselves to studying the current technological and digital revolution, also defined as the economy of knowledge, as a result of the accumulation of knowledge from previous technical-economical paradigms, with a progression to development connected to past and future waves of innovation.

Fig. 5.1 – Kondratiev's theory of economic cycles



Source: Veneto Region Processing – Directorate of Regional Statistical System on Kondratiev, Schumpeter, Nefiodow, Šmihula

Present day experts believe that innovation is the cause and effect of continuous transformation and, conversely to the claims of Schumpeter, that there is a continuous interconnection between economic growth, technological development, social and cultural factors so as to affect every aspect of people's lives.
This chapter will analyse the state of the art of innovation and research in Veneto in an international comparison. The identikit of the Veneto enterprise involved in research will be presented in relation with its economic performance and its degree of international outlook. Reference will be made to the various types of entrepreneurial "connections" as tools to make use of "critical mass" for the purpose of making investments in research that are not otherwise available.
Confindustria Veneto will also provide a contribution for identifying the trajectories of innovation for Veneto enterprises.

[1] Šmihula, Daniel (2011): Long waves of technological innovations

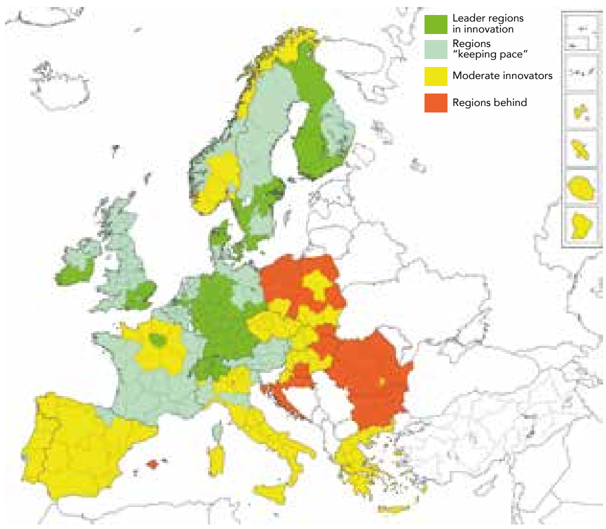
[2] James Bradfield Moody and Bianca Nogrady

[3] Carlota Perez, Freeman e Soerte

5.1 Veneto's innovation capacity in the European context

Research, innovative capacity and knowledge depend on various factors such as: entrepreneurial culture, competence of the work force, education and training institutes, innovation support services, and still, mechanisms for technological transfer, mobility of researchers, sources of funding and creative potential. Development of a more innovative society may help enterprises to maintain a competitive advantage, to create products with a high added value and therefore protect or create jobs.

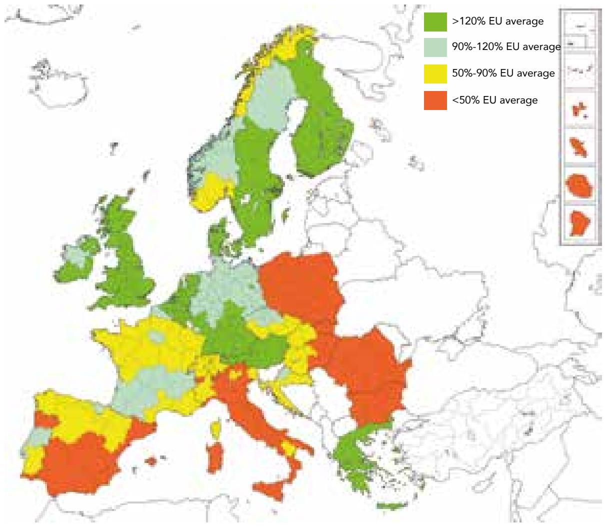
Fig. 5.1.1 – Classification of European regions based on innovative performance – Year 2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on European Commission data – Regional Innovation Scoreboard 2014

In the same European Strategy 2020 the priority of "intelligent growth" promotes knowledge and innovation as engines in our future growth. Europe favours innovation and the transfer of knowledge to the entire Union, the optimal use of information technology and communication and incentivises the transformation of innovative ideas into new products and services. To combat the challenges that our current society is facing, from energy efficiency to demographic changes, investments in research and innovation must be increased, so as to ensure a more efficient and sustainable future for both people and our territory.

Fig. 5.1.2 - % Share of innovative SMEs collaborating with each other – Year 2014



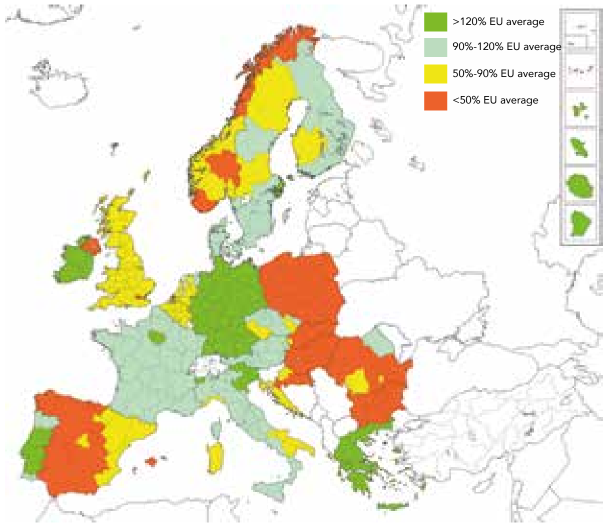
Source: Veneto Region Processing – Directorate of Regional Statistical System on European Commission data – Regional Innovation Scoreboard 2014

In particular, the 2014-2020 EU framework programme for research and development, Horizon 2020, aims to remove barriers to innovation, to close the gap between research and market and to make interaction between the public and private sector easier.
A comparative assessment of the innovative performance of the regions of the European Union has been carried out in the latest RIS Report – Regional Innovation Scoreboard – published in 2014 by the European Commission. Based on the measurement of 11 indicators[4] the regions are classified into 4 groups: innovation leaders (34), regions "keeping pace" or "innovation followers" (57), moderate innovator regions (68) and regions that are behind

[4] The indicators used in the Regional Innovation Scoreboard are: population that has completed education after high school; spending on R&D in the public sector; spending on R&D in the private sector; SME spending on innovation; number of SMEs innovating on their own; number of SMEs with cooperative innovation with one another; number of patent applications; number of SMEs that have introduced process or product innovations; number of SMEs who have introduced marketing or organisation innovations; number of employed in medium/high technological level manufacturing industry and in high knowledge intensity services and, finally, sales of innovative products in relation to the market or the enterprise

(31). The leading regions in innovation are located in eight countries: France, Germany, Holland, Denmark, United Kingdom, Ireland, Finland and Sweden.

Fig. 5.1.3 - % Share of SMEs that have introduced organisational or marketing innovations – Year 2014



Source: Veneto Region Processing – Directorate of Regional Statistical System on European Commission data – Regional Innovation Scoreboard 2014

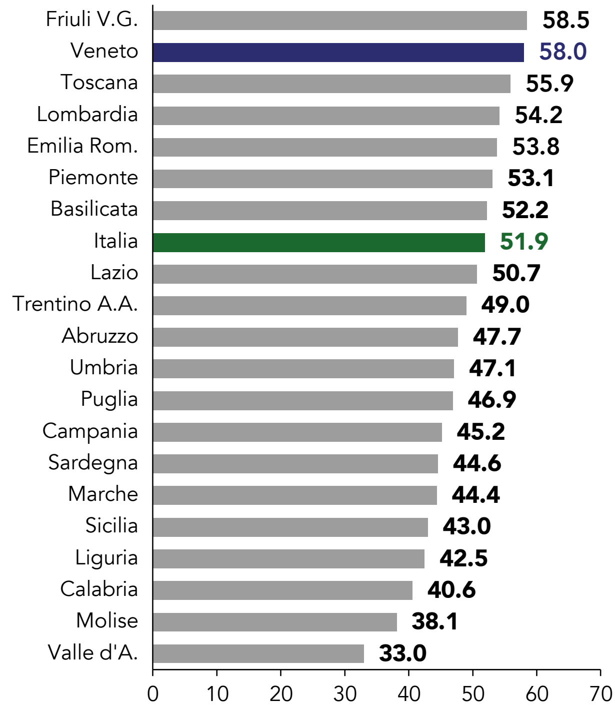
Veneto is a moderate innovator

Veneto, just like the majority of Italian regions, is classified as a moderate innovator, although between 2004 and 2014 innovation in our region rose above the European average.
In the RIS Report, the capacity of Small Medium Enterprises (SMEs) to introduce new innovations "on their own", and particular organisational and marketing innovations, emerged as the driving force for innovation in Veneto.
The critical issues for innovation are however attributable to the reduced investments in R&D, both in the public and private sector, the modest education level of the population, and the difficulties that SMEs have in cooperating with one another.
A developed system of public financial support for innovation, access to broadband connection, continuous training, a positive attitude towards new products and ideas and different forms of entrepreneurial relations are all elements that, if developed, may be a strong force in regional innovation.

5.2 Innovation, computerisation and protection of intellectual property

Although the small size of the Italian and Veneto entrepreneurial structure can be seen as a factor that reduces the amount of spending on innovation, our country is above the European average in terms of the percentage of innovative enterprises (51% and 48.9% respectively). The Italian propensity for innovation is even greater in relation to product innovation, a type for which our country is among the main innovators.

Fig. 5.2.1 – Percentage of enterprises with 10 or more employees with innovative activities by region – Year 2012



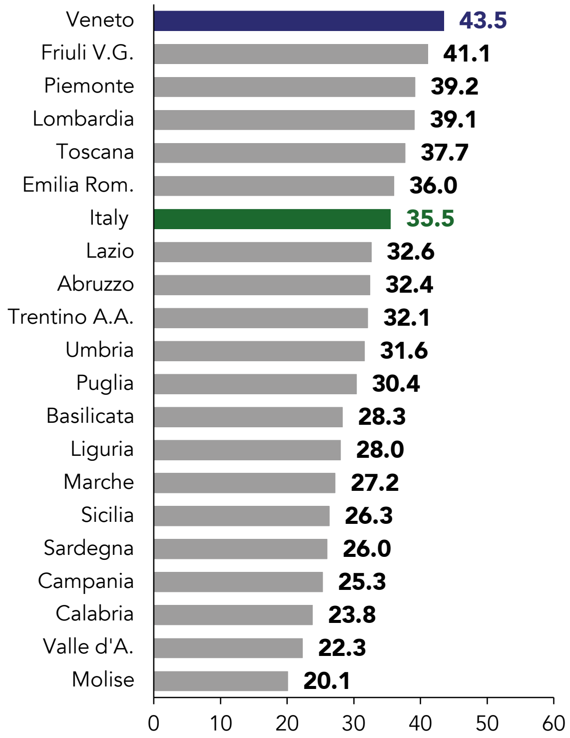
Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

The percentage of Italian enterprises that are carrying out at least one innovative activity is slightly increasing; greater propensity for innovation is recorded in industry and tends to grow with the increasing size of the enterprise.

Veneto is the second region with the highest enterprise propensity for innovation...

Veneto is the second region in Italy in terms of enterprise propensity for innovation: 58% of enterprises with at least 10 employees carried out innovative activities in the reference period.

Fig. 5.2.2 – Percentage of enterprises with 10 or more employees with product/process innovative activities by region – Year 2012



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

The available data allow us to observe a strong tendency to combine product/process innovative activities and organisational/marketing innovations (56.6%); next are the enterprises that have exclusively introduced innovations of an organisational/marketing nature (25%) and those that only dedicated themselves to product/process innovative activities (18.4%)

Solely focusing on the enterprises that carried out innovative activities aimed at the introduction of product/process innovations, Veneto rises to the top of the regional rankings, with 43.5% of enterprises with 10 or more employees, in the face of a national average of 35.5% of enterprises. 10.8% of these enterprises with product/process innovative activities also maintain cooperation agreements for innovation: the number of enterprises who decide to cooperate with the outside and national indications show how collaborations with universities or foreign partners are infrequent

... although with few investments

In 2012 enterprises in Veneto invested a total of 2.6 billion euros for innovation; average spending on innovation per employee in Veneto was equal to 5,600 euros, a value lower than the Italian average of 6,300 euros.

New opportunities arise in enterprise computerisation

It is common knowledge that the use of new information and communication technologies contributes to enterprises' competitiveness, opening the way towards new channels and new opportunities; trends show how good digital maturity may present itself as a greater guarantee of success in terms of the growth, internationalisation, productivity and competitiveness of the enterprise. Internet connections are used by 98.5% of enterprises in Veneto, against the Italian average of 97.7%. The percentage of Veneto enterprises connected to the internet via fixed or mobile broad band connection is equal to 95.4%, greater than the Italian average by one percent.

The use of the web's potential is more intense in Veneto compared to the average national trend, both as an opportunity to promote themselves in a global shop window, and as an instrument for closing commercial deals. In fact, 39% of Veneto enterprises use social media and 3 out of 4 enterprises in Veneto own an enterprise website (for Italian enterprises the figures are 37.3% and 70.7% respectively). 46.5% of enterprises in Veneto actively use e-commerce, 5 percent higher than the Italian average. In particular, 43.1% have made purchases online, which is well above the Italian average (38%); 9.6% have made sales on the web, in line with the national average (10%). The uncertainties brought on by the crisis have also had repercussions on enterprises' intention to invest in industrial property, which at times is mistakenly seen as an unnecessary cost.

European Patent Office (EPO) data show how the national trend has returned to a positive status in 2015, after several years of decline in patenting activities, with a growth of +9% compared to 2014: the main fields of patenting concern mechanical engineering (37.2%) and chemistry (22.5%). Italy remains one of the top European countries for the number of applications submitted, but it remains a little behind in the rankings concerning the number of patents per million inhabitants (64.3%), an indicator that is dominated by the countries of Northern Europe.

Veneto innovative enterprises show interest in asserting their patent rights on the European technological market

Our country's delay increases if we focus on the levels of patenting intensity in the high-tech, ICT and biotechnology fields.

In 2015 Veneto is the third region in Italy in terms of numbers of patent applications, with over 500 applications, immediately after Lombardy and Emilia Romagna;

The regions most oriented towards patenting, in relation with the resident population, are Emilia Romagna, Lombardy, Marche, Friuli Venezia Giulia and Veneto.

5.3 Investing in research and development Research in Veneto

In 2013 internal spending on Research & Development (R&D)[5] sustained by enterprises, public institutions, non-profit private institutions and universities in Veneto amounted to 1.6 billion euros, an increase of over 5% compared to 2012.

R&D spending in Veneto compared to 2012 increased considerably in the sector of enterprises and universities (+6.5% and 5.7% respectively) and moderately in non-profits (+3.5%). Public administration, however, underwent a modest reduction (-3.5% compared to the previous year). The contribution of the private sector, cumulative of enterprises and non-profit private institutions, (67.4%) was in line with the objective of private funding of two thirds of R&D spending; university sustains 25.3% of spending in Veneto, and the remaining public sector incurs the remaining 7.3%.

The distribution of Veneto spending is significantly different from the national average, which however sees a weighting of 57.7% in the private sector, while public administration contributes 14%, a percentage that includes the substantial contribution from central government, and 28.3% from universities.

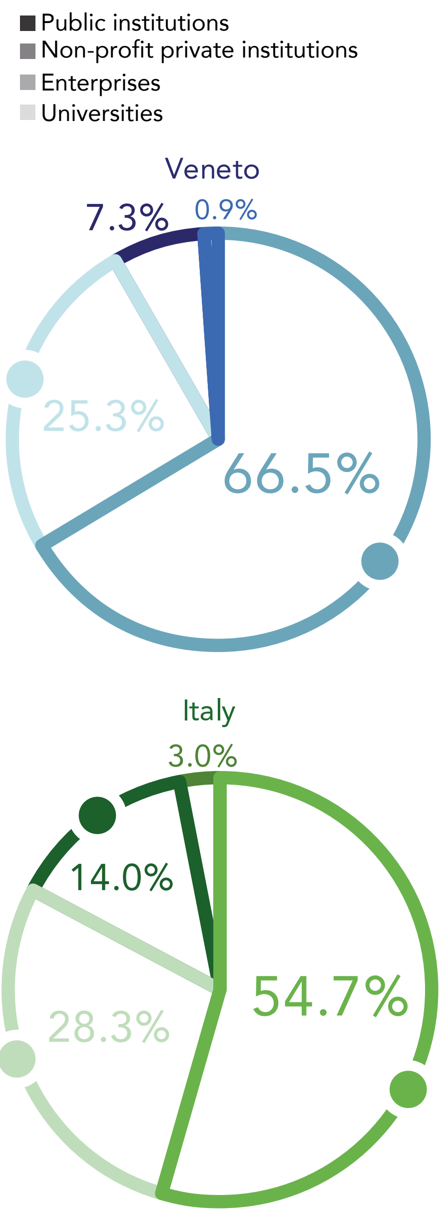
[5] Research is intended as "the complex of creative works undertaken systematically, both for the purpose of increasing the body of knowledge (including knowledge of man, culture and society) and for using such knowledge in new practical applications".

Tab.5.2.1 - Indicators of computerisation of enterprises with at least 10 employees. Veneto and Italy – Year 2015

	Veneto	Italy
Percentage of enterprises:		
with internet connection	98.5	97.7
with fixed or mobile broadband connection	95.4	94.4
with fixed broadband connection	91.4	91.8
with mobile broadband connection	65.3	63.3
with website	74.7	70.7
who use social media	39.0	37.3
who use e-commerce (on-line sales and/or purchases)	46.5	41.6
who make sales on-line	9.6	10.0
who make purchases on-line	43.1	38.0

Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

Fig. 5.3.1 – Percentage distribution of internal R&D spending by institutional sector. Veneto and Italy – Year 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

In 2013 R&D spending in Veneto was equal to 1.13% of GDP

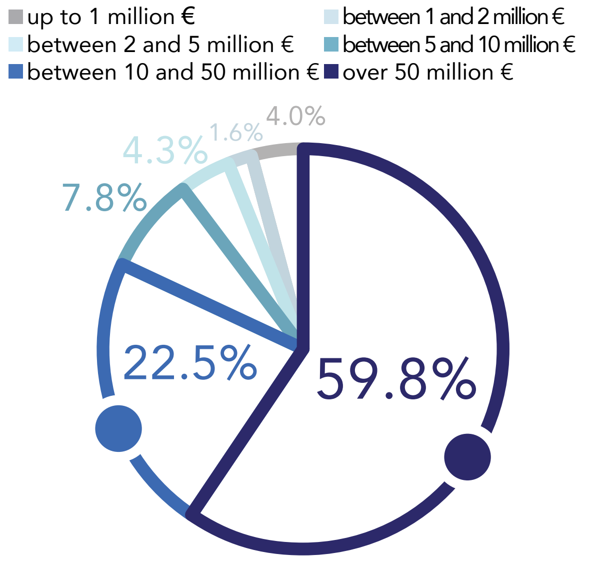
The percentage of GDP spent on R&D in Veneto was equal to 1.13% in 2013, an increase compared to 2012. In the same year Italy spent 1.31% of Gross Domestic Product on R&D, a figure that is slowly but constantly getting closer to the national target of 1.5% established by the Europe Strategy 2020. In the rankings of European countries Italy lies in 16th position, with a difference of 0.7 percent compared to the European average (2%). In Veneto R&D personnel[6] amounts to over 23 thousand units over all sectors, with a 1.9% annual growth. In Italy the overall number of employees involved in R&D increased by 2.7% in the same period. In this context females are also generally undervalued: around 80% of those employed in R&D are male.
The sector with the greatest employment of R&D staff is the entrepreneurial sector, with a percentage similar to that related to spending; furthermore, of the over 15 thousand R&D personnel of the enterprises in Veneto, almost 27% work as a researcher. The percentage of researchers in Italian enterprises was equal to 34.6% in the same year.

Research in Veneto enterprises

There are over one thousand Veneto enterprises that invested in research and development in 2013; they use 94.6% of their R&D spending in our region and the remaining portion in other Italian regions, including mainly Lombardy and Friuli Venezia Giulia (1.4% and 1.2% respectively). More than one third of Veneto enterprises who carry out research state that they belong to a group: alone these cover over 60% of total spending carried out by Veneto enterprises.
The prevalent type of research is applied research, to which 45.8% of R&D spending in Veneto enterprises is allocated; to follow around 39.4% of spending is allocated to experimental development and the remaining 14.7% to basic research, a type of research that Veneto enterprises contribute more towards than the national average.
Almost three quarters of spending on R&D among Veneto enterprises is allocated for current spending for internal staff and over 15% for other current spending; around 5% is allocated to external consultation and an equal amount is spent on in

[6] The number of employees is expressed in full time equivalent (FTE) units. One FTE is equivalent to one person working full time (8 hours a day) for one working year, which is quantified as an average of 220 days of work. For example, a person with a part-time job contract of 6 hours a day is equivalent to 0.75 FTE (6 out of 8 hours), while a person who works 4 hours is equal to 0.5 FTE.

Fig. 5.3.2 - % Distribution of internal R&D spending in Veneto enterprises by enterprise revenue class – Year 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

vestments for plants, equipment, moveable and immoveable property.

The enterprises that are most likely to invest are the largest and most structured enterprises: around 60% of spending on R&D pertains to enterprises with an annual revenue of over 50 million euros and another 20% to countries with a revenue between 10 and 50 million euros.

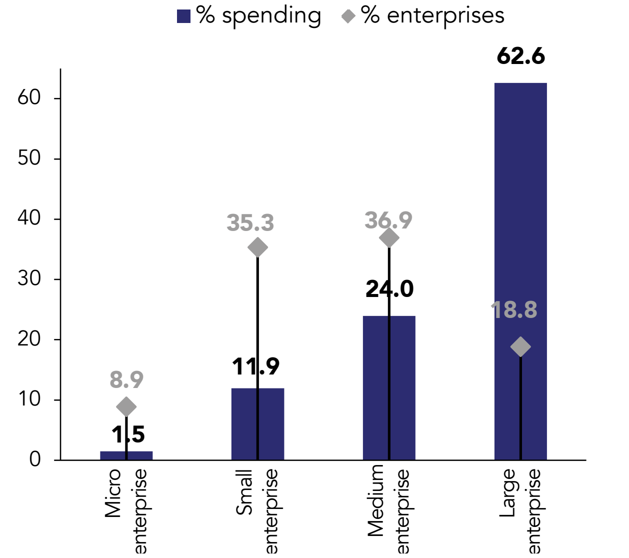
Over 80% of Veneto enterprises involved in R&D are SMEs

Small and Medium Enterprises contribute 37.4% in terms of spending, but they cover over 80% of the Veneto enterprises involved in R&D.

The main contribution to R&D spending in Veneto enterprises comes from the enterprises in the manufacturing sector, with a percentage of over 70%; this is followed by professional, scientific and technical activities, including the sector dedicated to Research and Development, with more than 10% of spending among enterprises from Veneto.

The contribution of manufacturing enterprises exceeds 70% of spending

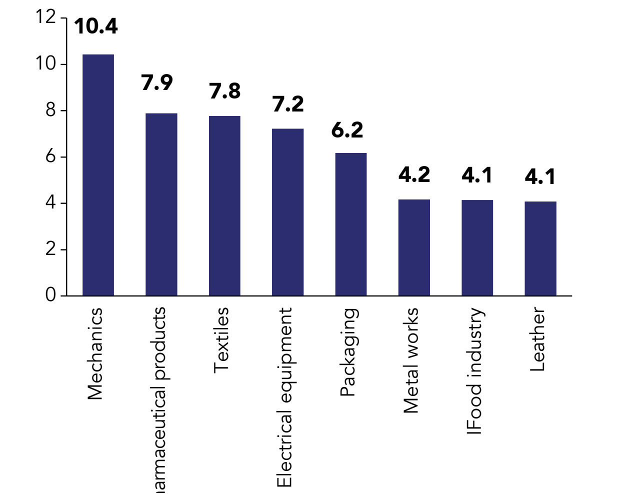
Fig. 5.3.3 - % Distribution of internal R&D spending of Veneto SMEs and large enterprises – year 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

Within the manufacturing sector more than a quarter of spending for enterprises from Veneto comes from mechanics enterprises (28.4%), followed by electronics enterprises (19.0%), fashion enterprises (15.9%), chemical enterprises (8.7%) and metal enterprises (8.4%).

Fig. 5.3.4 - Internal R&D spending in enterprises from Veneto: the main products and/or production techniques (%) – Year 2013



Source: Veneto Region Processing – Directorate of Regional Statistical System on Istat data

Products to which Veneto enterprises allocate their research are, above all, mechanics, the pharmaceutical industry and the textile industry

Going on to investigate the products and/or production techniques subject to research and development products from the mechanics industry (to which 10.4% of spending is allocated), pharmaceutical industry (7.9%), textile industry (7.8%), electrical equipment manufacturing (7.2%), packaging (6.2%), metal working (4.2%), the food industry (4.1%) and from leather production (4.1%) emerge.

In 2013 Veneto enterprises invested over 100 million euros in the energy sector, equal to around 10% of total spending: the main areas of research include energy efficiency for industry and transport, nuclear fusion, production and treatment of fossil fuels such as petrol and natural gas, and renewable energy sources.

Furthermore, in the same year almost 8 million euros were invested in nanotechnologies and over 3 million euros in biotechnologies.

5.4 Innovation as the answer to productivity problems

Through the introduction of new technologies over the years it has been possible to continuously increase work productivity and consequently increase the economical wealth of a determined region. A country's economic performance is fundamentally determined by the capacity to develop and apply technological progress. Although spending on research and development (R&D) is only one of the factors towards technological change, it has been the most used variable in literature as a measure of innovative activity.

By using the new Istat information system, only available for the year 2013, which enables thorough analysis of the competitiveness of the enterprises of industry and services (excluding financial services), we tried to analyse the possible connections between investments made in research and development activities and productivity, defined as the ratio between the added value generated and the staff employed in the enterprise.

In 2013 there were almost 1,200 enterprises in Veneto who carried out R&D; this is prevalently small-medium enterprises (with a very low percentage of micro-enterprises) belonging to the manufacturing sector.

In percentage terms there represent 0.3% of enterprises located in the region but the percentage increase if compared with staff employed (10% of regional staff) and the added value generated by the same (18% of regional added value). Over 30% of large Veneto enterprises invest in research and this percentage increases (55%) if only enterprises in the manufacturing sector are considered.

The regional production structure is altogether characterised by a large presence of "micro" enterprises (over 90% of the regional total, a

The regional production structure is altogether characterised by a large presence of "micro" enterprises (over 90% of the regional total, to which almost 44% of staff employed in Veneto are attributable) that mainly operate in the domestic market and have a most propensity for making investments in R&D, partially due to the difficulty in accessing bank funding. These are production units that are mainly set up as individual firms, which mainly seem to represent forms of self- employment, with which the objectives of growth and productivity are exceptionally associated. For this reason, we have decided to focus the analysis on other on other enterprise sizes[7]: small, medium and large enterprises, which employ 56% of regional staff and generate 72%of added value in the private sector, are more likely to invest in R&D activities and more open to international markets.

The analysis was performed by comparing the economic performance of the enterprises compared to the following business models: enterprises that export their products abroad (exporters), those who invest in research and development (R&D), and those who do both (exporters and R&D).

From an initial analysis of average and median[8] data of certain enterprise variables, the diversity between enterprises that invest in R&D and the total en-

[7] A micro enterprise employs fewer than nine staff members and has a revenue under 2 million euros; a small enterprise employs from 9 to below 50 staff members and has a revenue between 2 and 10 million euros; a medium enterprise employs from 50 to below 250 staff members and has a revenue between 10 and 50 million euros; a large enterprise employs over 250 staff members and its revenue exceeds 50 million euros.

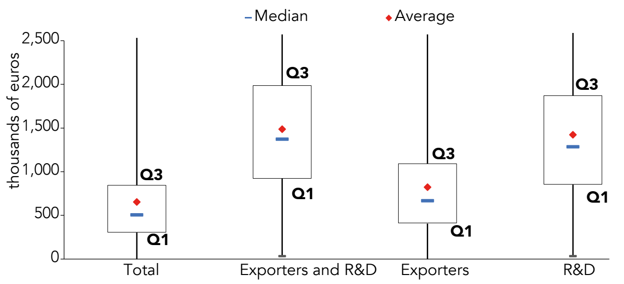
[8] The median (2nd quartile) is defined as the value assumed by the statistical units located in the middle of the distribution, or rather the value that leaves 50% of enterprises below and 50% above

trepreneurial world in Veneto emerges (excluding micro enterprises).

Do those involved in research earn more?

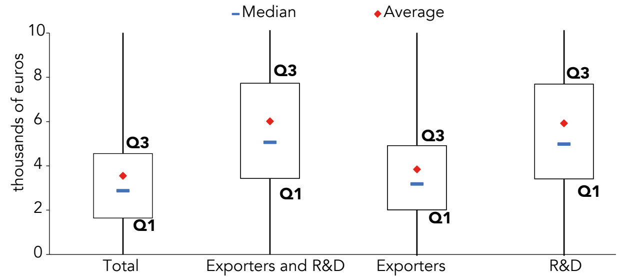
Those who carry out research are certainly of a larger size, both in terms of employees and in terms of added value produced and revenue earned, also compared to the number of employees. The result of the study will further investigate this phenomenon in relation to the size class and the various business models.

Fig. 5.4.1 - Distribution of added value among small enterprises (*) by type. Average and position indices (**). Veneto – Year 2013



(*) Enterprise that employs from 9 to below 50 staff members and has a revenue between 2 and 10 million euros.
(**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

Fig. 5.4.2 - Distribution of added value among medium enterprises (*) by type. Average and position indices (**). Veneto – Year 2013



(*) Enterprise that employs from 50 to below 250 staff members and has a revenue between 10 and 50 million euros.
(**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

A first item of interest emerges from the study of the distribution of added value by enterprise size. We decided to analyse the added value in order to have a measurement free from the costs of raw materials, therefore comparable even between different sectors.

The added value produced is greater among those involved in research

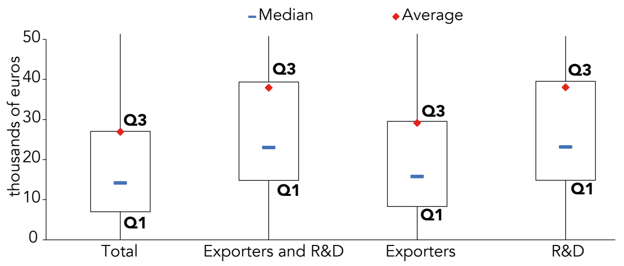
The average and median data for the added value generated by enterprises are greater, within each size class considered, when the enterprise makes investments in R&D. This seems to be more evident

Tab.5.4.1 - Average and median values of certain enterprise variables. Veneto – Year 2013

	Total enterprises (a)			R&D enterprises		
	Employees	Added value	Revenue	Employees	Added value	Revenue
	Number	Euros	Euros	Number	Euros	Euros
Median	14.0	588,979	2,279,047	48.0	3,057,165	10,353,169
Average	32.3	1,719,872	8,295,437	134.0	9,823,439	42,810,903

Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

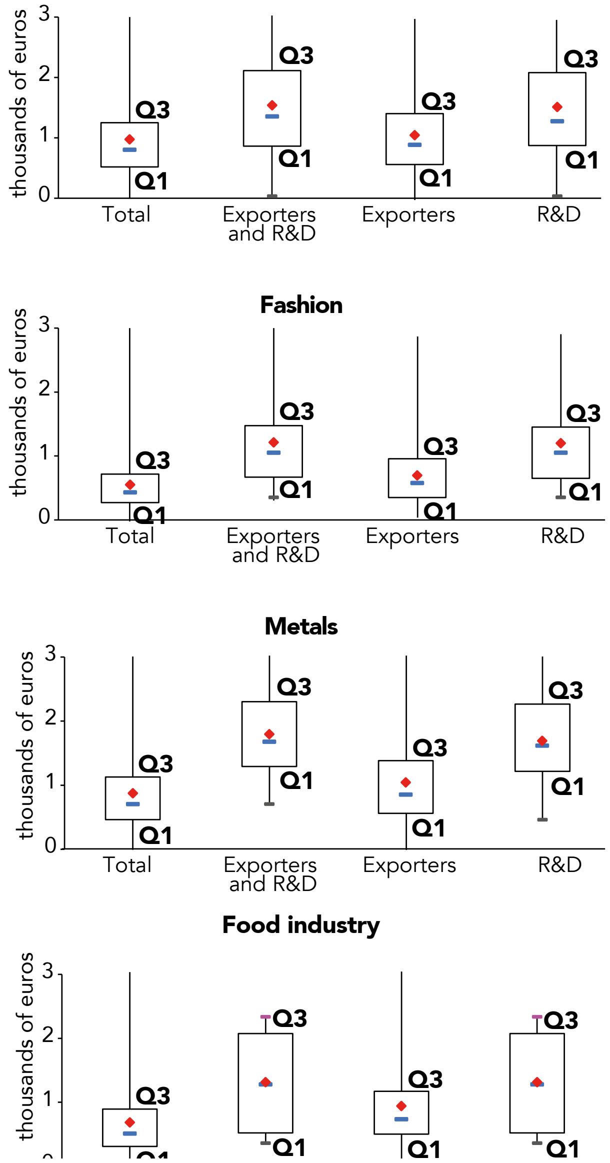
Fig. 5.4.3 - Distribution of added value among large enterprises (*) by type. Average and position indices (**). Veneto – Year 2013



(*) Enterprise that employs over 250 staff members and has a revenue of over 50 million euros. (**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

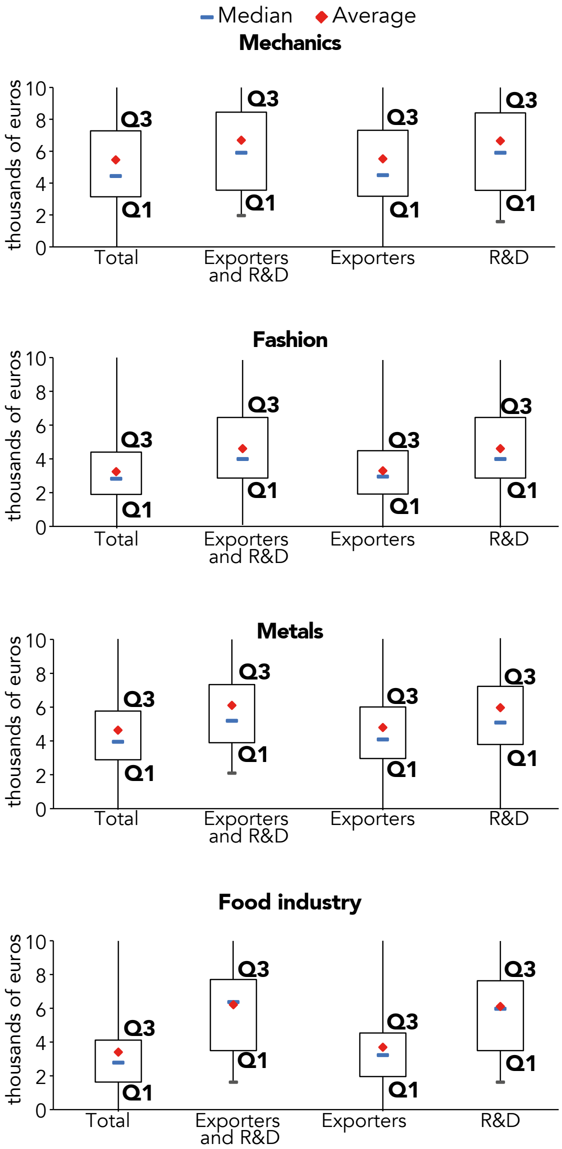
in small and medium enterprises.
While overall small enterprises (over 23 thousand units) record an average added value of little more than 500 thousand euros, the same variable stands at almost 1.5 million euros for small enterprises that carry out R&D.
Presence in international markets doesn't seem to greatly influence the performance of the added value in this type of enterprise: the average added value in small enterprises who export stands at around 820 thousand. For medium sized enterprises (3,682 units) the same thing is happening: the average added value of all enterprises attributable to this size class stands at 3.5 million euros, which becomes 3.8 million euros for medium exporter enterprises, to then reach almost six million euros for the 440 medium sized enterprises that carry out R&D. Even the trends of the median value confirm the importance of investments in R&D for the economic growth of medium-sized enterprises.
In the case of large enterprises, the connection between investments in R&D and economic performance is less obvious because around 2/3 of enterprises belonging to this size class are active on international markets and around 1/3 carry out R&D. The average added value of large enterprises from Veneto stands at 27 million euros, which then reaches 38 million for large enterprises involved in R&D.

Fig. 5.4.4 – Distribution of added value among small enterprises (*) for certain manufacturing sectors. Average and position indices (**). Veneto – Year 2013



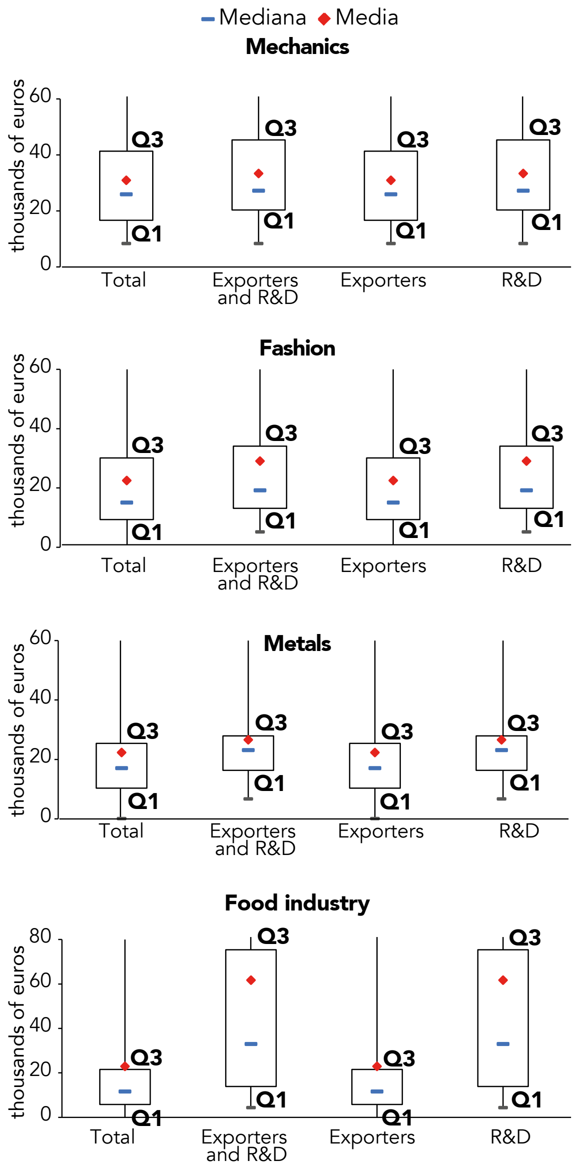
(*) Enterprise that employs from 9 to below 50 staff members and has a revenue between 2 and 10 million euros.
(**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

Fig. 5.4.5 – Distribution of added value among medium enterprises (*) for certain manufacturing sectors. Average and position indices (**). Veneto – Year 2013



(*) Enterprise that employs from 50 to below 250 staff members and has a revenue between 10 and 50 million euros.
(**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

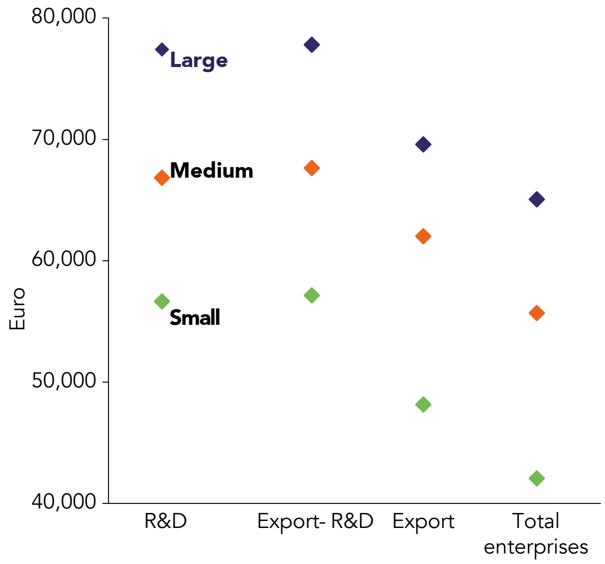
Fig. 5.4.6 – Distribution of added value among large enterprises (*) for certain manufacturing sectors. Average and position indices (**). Veneto – Year 2013



(*) Enterprise that employs over 250 staff members and has a revenue of over 50 million euros. (**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

From an analysis of the information for some of the main sectors of regional manufacturing, it is observed that the dynamic of average and median values is related to the presence of investments in R&D in this case as well.
The sectors of the food industry, the fashion aggregate (textiles, clothing and processing of leather), metals and mechanics were chosen because they are the most important sectors for commercial internationalisation in Veneto and they present some differences in the degree of technological intensity used in production. For example, fashion, the food industry and metal processing (excluding weapon manufacturing) are commonly considered sectors that traditionally have medium-low technological intensity, while mechanics is a sector that is specialised in medium and high technological intensity manufacturing.
The average and median values are higher in the mechanics and metal processing sectors and tend to increase when the enterprises are involved in R&D; this is more obvious in the intermediate size classes. The average added value of small enterprises in the metallurgy sector who invest in R&D is around double the overall average of enterprises in the sector: the added value goes from an average of 874 thousand euros for the entire sector to 1.8 million euros for enterprises in the sector who carry out R&D. The trends of small and medium sized enterprise performance confirms and outlines how the results of innovative enterprises are substantially greater than the other enterprises in the sector considered: for example in the Food and Beverage sector the average added value stands at 3.4 million euros, which becomes 6.2 million euros for industries in the sector that invest in R&D, while for enterprises in the same sector that are present on international markets the average added value stands at 3.7 million euros. The second indicator considered in this section is work productivity.
The size of the enterprise, investments in capital goods and technological progress influence the way in which work and its productivity are combined in the production process.
In general there is a positive correlation between enterprise size and productivity, measured in terms of added value per employee. In fact, productivity levels grow with the increasing enterprise size.
Productivity trends, however, also depend on investments in research and innovation. In fact, what matters for productivity trends stems from the process and product innovations generated by enterprises. We have observed that the added value per employee relationship is always greater when the enterprises are innovators and this occurs in all of the size classes examined.

Fig. 5.4.7 – Average productivity per enterprise type and size class (*). Veneto – Year 2013 Large Medium Small

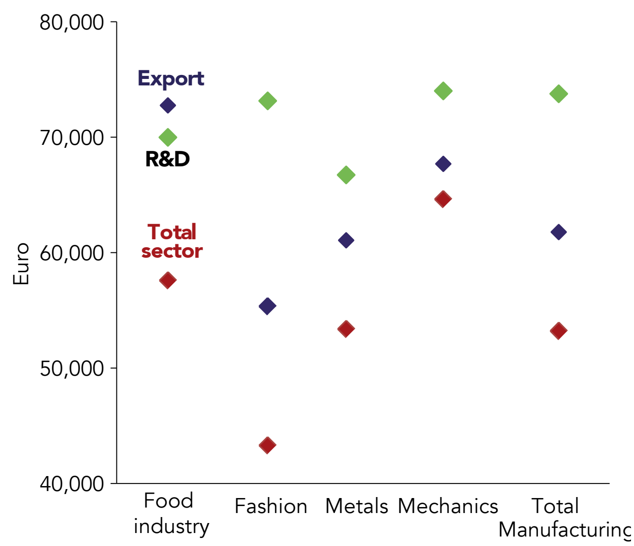


(*)A small enterprise employs from 9 to below 50 staff members and has a revenue between 2 and 10 million euros; a medium enterprise employs from 50 to below 250 staff members and has a revenue between 10 and 50 million euros; a large enterprise employs over 250 staff members and its revenue exceeds 50 million euros.
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

Productivity is greater for those involved in research

For large enterprises, productivity among innovator enterprises is 77 thousand euros, around 7 thousand euros greater than the figure recorded by large exporter enterprises and 12 thousand euros greater than the average figure for large enterprises. The same thing happens for the other two size classes: productivity of medium sized enterprises is equal to 56 thousand euros, which then becomes 67 thousand euros per employee for enterprises in the same size class that are involved in R&D, while for small enterprises the average added value per employee goes from 42 thousand euros to a productivity of 57 thousand euros for innovator enterprises belonging to this size class.

Fig. 5.4.8 – Average productivity for certain manufacturing sectors. Veneto – Year 2013 Export, R&D, Total sector



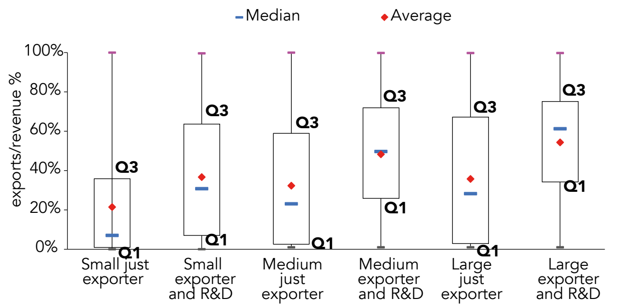
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

The analysis of the dynamics concerning the productivity of some of the main sectors in the manufacturing segment also indicates a similar trend between productivity and innovator enterprises, with the exception of the food industry, where productivity of exporter enterprises is slightly greater than that of innovator enterprises.
The fashion sector is the sector in which there is the greatest gap in the performance of enterprises who invest in R&D: the productivity of enterprises in the sector who invest in research activities is 30 thousand euros greater than the average value recorded for the total of textile- clothing-leather enterprises (from 43 thousand euros to 73 thousand euros). Investment in research and development in this sector, such as in smart textiles where innovative technologies are used (integration of electronics and micro-mechanics) which provide intelligent properties and functions to the fabrics without compromising the customary technical characteristics and fit, requires knowledge and generates important economic returns for enterprises in the sector.

Mechanics records the highest productivity

The mechanics sector records the highest average productivity among the sectors examined: 65 thousand for sector enterprises which then becomes 74 thousand for innovator mechanics enterprises. This is due to the fact that the mechanics segment is one of the industrial sectors characterised by high added value production.
Enterprises of the metallurgy sector are those that record the lowest productivity among the innovative enterprises of the four sectors examined: in 2013 average productivity almost reached 67 thousand euros.

Fig. 5.4.9 – Distribution of the export/revenue relationship by enterprise type and size class (*). Average and position indices (**). Veneto – Year 2013



(*)A small enterprise employs from 9 to below 50 staff members and has a revenue between 2 and 10 million euros; a medium enterprise employs from 50 to below 250 staff members and has a revenue between 10 and 50 million euros; a large enterprise employs over 250 staff members and its revenue exceeds 50 million euros.
(**) This type of graph, called a "box plot" enables us to concisely represent the significant parameters of the distribution, highlighting the differences (or any similarities), even between several groups. The "box" is delimited by the first (Q1) and third (Q3) quartile. By using this graph it is possible to have a graphical view of both the position indices (median and quartiles), and the variability indices (the height of the box represents the inter-quartile gap).
Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

Over the course of recent years the capacity to introduce innovations has become essential for enterprises to be successful in the context of international competition. Analysis of the propensity for export among enterprises that invest in R&D, measured as the percentage of revenue exported out of the total, highlights that the propensity for export tends to increase with the increasing size of the enterprise and that exporter enterprises who invest in research and development have greater propensity for export compared to solely exporter enterprises. On average, small exporter enterprises export 20% of their goods, while for small exporter enterprises

who invest in R&D the percentage of foreign sales out of total sales is slightly below 40%.
For medium-sized exporter enterprises the value of the revenue earned abroad is a little over 30%, while enterprises of the same size that export and invest in research and innovation have an average propensity for export of 48%, with a median value slightly higher than the average (50%). This is an asymmetric distribution of the enterprises observed and therefore means that over half of exporter and innovator enterprises have a propensity for export that is higher than the average. The trends in propensity for export among large enterprises follows the same dynamic as the other two size classes, with slightly higher average and median values.

Size and innovation are essential for facing foreign markets

The analysis of this variable clearly indicates that small enterprises are less likely to export compared to large enterprises, who more frequently turn to foreign markets also thanks to the possibility of better handling the higher fixed costs arising from commercial internationalisation. Size, however, does not seem to be the only characteristic that matters for enterprises' international opening: in large enterprises' internationalisation strategy the size is associated with the capacity to invest in research in development, as well as a greater capital intensity and wide use of skilled labour.
These characteristics aren't necessarily the exclusive property of medium and large enterprises but they can also be found among small enterprises, in a smaller amount.

5.5 Working together to benefit from investments in innovation

The necessity to maintain an important role in international competitiveness surely depends on the offer of innovative and high quality products/services, high level skills, comprehensive projects, excellent use of technology and substantial investments. Elements that are poorly combined with the industrial "dwarfism" that characterises the industrial landscape in Italy and Veneto.

Making networks to compensate for size?

In Veneto the average enterprise size is of little more than 4 employees and micro enterprises represent over 90% of the total. In most cases the small enterprise does not have the resources to face the challenge of globalisation.
SMEs in Veneto and in Italy cannot compete on the markets with the leverage of costs, therefore to maintain their own independence they must focus on the "networks", forms of aggregation for achieving better performance: establishment of groups, districts, sector associations, consortia, collaborations with research institutes, etc.
There are many economists[9] who have identified the "network economy" as the basis of Veneto's success since the eighties, a concept that goes beyond administrative-management relations, but rather arises from the existence of a community characterised by shared values and a strong sense of ancient belonging which combines technological progress with globalisation. At the basis of the relations between players in the network there is trust. Not necessarily in hierarchal order, the players in the network include: the final enterprise, suppliers, contractors, customers, the "team" of employees, service enterprises, unions, banking institutes, sector associations, training institutions, research entities and political players.
As thoroughly examined in the analysis in last year's Report[10], over 65% of Veneto enterprises held stable relations, whether contractual or informal, with other enterprises or institutions in the two year period 2011-2012. In this case there was a prevalence of productive agreements, in particular commissioning and sub-supply.

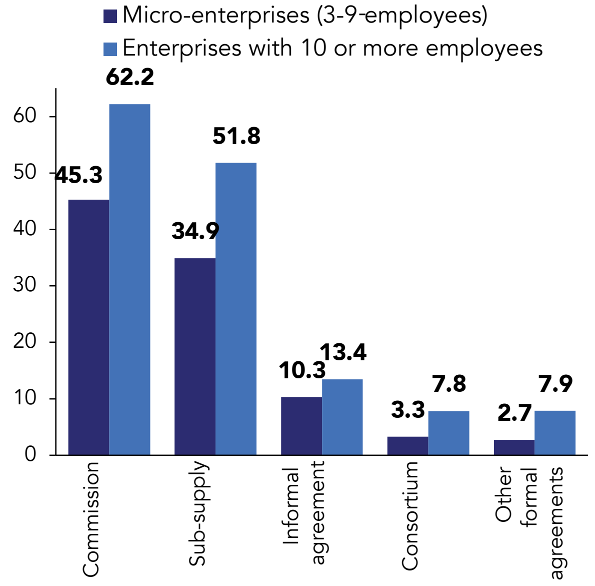
The interest in managing relations grows with the increasing size of the enterprise.

45.3% of micro enterprises and 62.2% of other enterprises in Veneto have managed relations with other enterprises as a commission and, simultaneously, 34.9% of micro enterprises and 51.8% of businesses with at least 10 employees have been sub-suppliers or sub-contractors.
Furthermore, it is rather frequent for enterprises of a larger size to turn to formal agreements such as consortia or joint ventures, while informal agreements substantially concern small, medium and large enterprises.

[9] Beccatini, Rullani 1993; Hirsch-Kreinsen 2002

[10] Region of Veneto, Statistical Report 2015 – chapter 6: Which energies are needed to ensure a turnaround in Veneto's businesses?

Fig. 5.5.1 – Percentage of enterprises that have held relations by main type of relation and enterprise size. Veneto – Years 2011:2012



Source: Veneto Region Processing– Directorate of Regional Statistical System on Istat data

Relations are most widespread in the industrial sector, in particular in the metal, optics and electronics and mechanics industry. However, the percentage of Veneto enterprises in the service sector that hold relations with other entities is not even at 55%.
Over half of Veneto enterprises have relations specifically for the management of the enterprise's main activities; this is followed by marketing functions (13.6%), legal and financial services (11.8%) and innovation and research and development (9%).
The main reasoning for the above relations is the necessity to reduce production costs.
The intent to develop new products or processes is one of the most stated reasons by enterprises who take on network commissions or contracts, just as the interest for accessing new markets is the most cited reason for enterprises that choose franchises or consortia and other formal agreements.
The data allows us to observe that for most the network is a necessity: 69.4% of enterprises maintain these types of collaborations to support their own market share. Less than half (46.4%), does so to expand the range of products and services offered, and around a third does so to access new markets (32.1%).
The effects related to these relations, specifically in the case of formal and informal agreements other than commission and sub-supply, have proven to be more than positive for the foreign competitiveness of Veneto enterprises: 22.6% of Veneto enterprises who have developed agreements in the two year period in question ascribe a positive impact on the enterprise competitiveness, compared to 12.6% who indicate a reduction in competitiveness related to the new agreements.

Agreements have a positive impact on competitiveness in foreign markets

Next we will provide a brief overview of specific forms of relation: network contract, enterprise groups and the district system in the regional view.

The network contract

Regulation of the network contract was introduced with Italian law n.33 of 2009 (converting Italian Decree Law 5/09). This is an innovative legal instrument in Italian law to encourage more systematic and conscious collaboration processes between enterprises around shared products, leaving the full operational independence of the enterprises intact. With the aim of making several entrepreneurial efforts converge on common objectives, without imposing constraints to their operation, network contracts have been structured around the following distinctive elements: the increase of the competitive and innovative capacity of adherent enterprises; the sharing of knowledge and information; operational independence of the individual adherent enterprises; the absence of constraints related to territorial factors, the size of the enterprise and the sector of business.

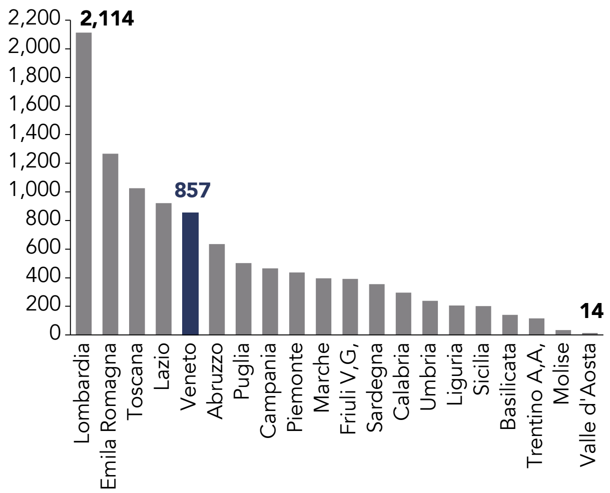
The network contract has taken on macro-economic significance

Since 2010, the year of introduction of this instrument, the growth of network contracts has been exponential: from 19 networks in 2010 to 1,227 in 2013, going on to reach 2,200 networks in 2015 involving over 11,000 enterprises[11]. Trends in the last two year period also appear to be particularly significant in light of the fact that the network contracts stipulated have benefited from lower fiscal incentives compared to what happened until 2013, both in terms of natio-

[11] Source Confindustria on InfoCamere data. The figure relating to 2015 is obtained by using the updated figures as at January 2016; the number exclusively refers to network contracts without legal subjectivity.

nal concessions, no longer renewed, and regional concessions; the latter were provided in a greater amount in Lombardy, Emilia Romagna and Abruzzo. Lombardy and Emilia Romagna are also the regions with the greatest number of enterprises participating in networks, 2,114 and 1,266 respectively between 2011 and August 2015. In Veneto there are 857 enterprises in networks, a share of 8.1% of the national total, a figure that is evolving over the years: 250 enterprises entered into networks in 2014 and there are already 173 who have entered into networks half way through 2015.

Fig. 5.5.2 – Number of enterprises in networks by region – Years 2011: August 2015



Source: Veneto Region Processing - Directorate of Regional Statistical System on Confindustria data

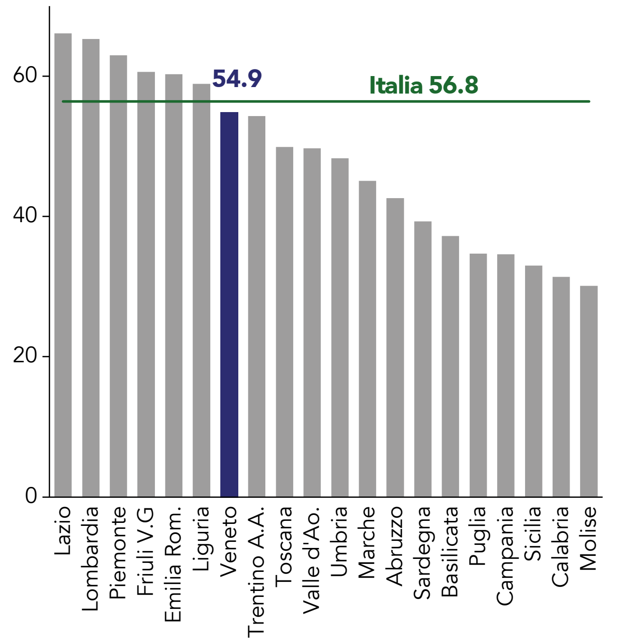
Nationally, in 2011 enterprises in networks, excluding those in the agricultural sector and individual firms (for which it was not possible to collect information), employed 340,000 staff members, with an aggregate turnover of 86 billion euros, corresponding to an added value of over 19 billion euros. These are mostly aggregations between enterprises in close geographical proximity. 74.1% of networks exclusively involve enterprises belonging to the same region, 58.4% to the same province. Smaller sized networks are most prevalent: 89.9% are composed of less than 10 enterprises, 45.8% less than four enterprises. Over the years, however, the proportion of enterprises made up of ten enterprises and over has doubled, going from 8.2% in 2011 to 16.3% in August 2015.
The enterprises that enter into networks are mainly micro-enterprises: the proportion of enterprises with less than 50 employees is 87.6%, of which 45.8% have less than 10 employees; however 10.3% are production units who employ between 40 and 249 staff members, while only the remaining 2.6% have 250 or more employees.
Networks are mainly multi-sectoral: 84.0% of networks are made up of enterprises belonging to different production sectors, while 45.1% of these are at least half made up of enterprises belonging to the same production sector. In terms of number of participating enterprises the mechanics sector is at the top of the rankings (12.0% of the total), followed by the technological services sector (11.8%).
Integration between manufacturing and services is strong: in 53.6% of networks participated in by manufacturing enterprises there are also service enterprises, above all technological services (in 32.5% of cases). Internationalisation and technical-scientific research are topics that are significantly present in the networks' objectives: 24.5% is aimed at the penetration of foreign markets while 14.9% focuses on R&D. In both cases the percentage of manufacturing enterprises is 59.0% and 63.9% respectively.

Enterprise groups

The type of entrepreneurial relationship that most constitutes an organisational, financial and productive governance feature of our entrepreneurial landscape is represented by the enterprise group.
In very simple terms we could say that the group is made up of an aggregation of enterprises, each as an independent legal entity, controlled by a single economic entity and subject to unitary management. In general the formation of a group is dictated by a tax and equity necessities or strategic necessity. In both cases the economic advantages are much greater and of higher impact on both the organisation and management of the enterprise. Through upstream integration, the group structure enables enterprises to have privileged procurement channels, with a flow of incoming materials characterised by times and methods in line with the requirements of the central enterprise, with a more controlled quality and greater possibilities for customisation; through downstream integration, enterprises are able to have privileged distribution channels and therefore are better able to reach their target market; to create horizontal integrations in the same business area to increase production capacity and therefore the market share; to diversify business, creating several business lines to focus on

new market segments with enterprises created ad hoc, in order to dilute the risks and not prejudice the image of the main enterprise in case of failure.

Fig. 5.5.3 – Percentage of employees of joint stock enterprises belonging to groups by region compared to employees of joint stock enterprises overall – Year 2014



Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

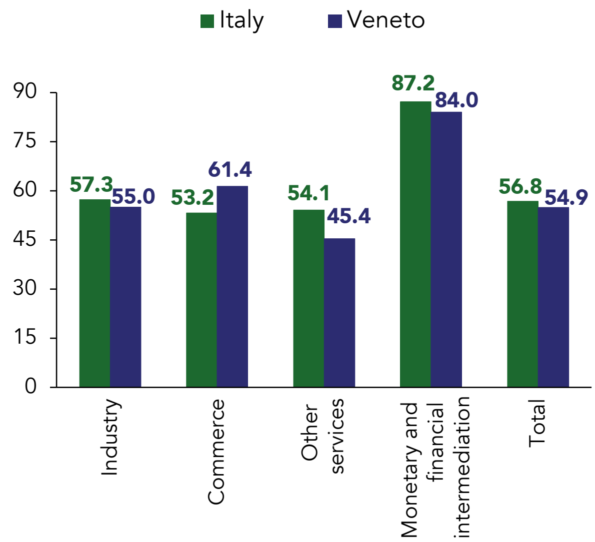
Ultimately, the widest objective could be summarised as the creation of a network of enterprises in which common activities are amalgamated and rationalised and, at the same time, the particularities of each unit are enhanced in order to avoid waste and duplications and to increase the competitive capacity of the group[12].

In 2013 in Veneto, the groups present involved 19,626 active joint stock enterprises, around a quarter of Veneto joint stock enterprises and they employed 530,412 staff members in total, over half of those employed by Veneto enterprises[13].

61.7% of joint stock enterprises in groups belong to the service sector, and 34.2% to industry.

The 530,412 employees of Veneto joint stock enterprises who belong to a group represent 54.9% of employees of Veneto enterprises overall; the percentage (61.4%) is greater in the commerce sectors, and even more so in monetary and financial intermediation (84%).

Fig. 5.5.4 – Percentage of employees of joint stock enterprises belonging to groups by region compared to employees of joint stock enterprises overall. Veneto and Italy – Year 2013



Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

Groups are prevalently made up of large enterprises

Both in terms of enterprises and in terms of employees, the portion of joint stock enterprises in groups in relation to the total number of Veneto joint stock enterprises increases with increasing size: joint stock enterprises belong to groups with over 500 employees represent almost all joint stock enterprises of this size in Veneto and employ 92.4% of employees of enterprises in this class. 82.8% of enterprises from Veneto that are part of a group have their parent enterprise in Veneto; however the percentage is more reserved in terms of employees: 65.6% of people employed by Veneto enterprises organised into a group are employed by a Veneto vertex. 8.9% of group enterprises have

[12] Franceschetti, 2003

[13] The analysis of the structural characteristics of the enterprises that belong to groups is explored in more detail for enterprises that have the legal form of joint stock enterprise to ensure a homogenous evaluation compared to a same field of observation.

a parent enterprise located in another Italian region and the remaining 8.4% have a vertex located abroad; the later employ 21.4% of Veneto employees.

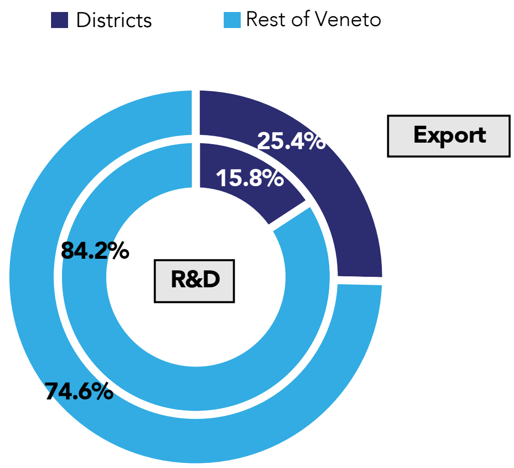
The Veneto district system

Veneto's production districts are an example of the utilisation of agglomeration economies that enable a stable form of shared labour between enterprises, with consequent specialisation/integration processes between units that remain independent, without assuming any control and a unitary management. Districts base their strength on strategic alliances, collaboration agreements, creation of consortia, systems based on cooperation and coordination between enterprises or other organisations under conditions of interdependence.
Interdependence that, in turn, "…may unfold both along the vertical dimension, in practice along the chain of value generation (for example a supplier and a customer), and in relation to the horizontal dimension, or rather between enterprises that carry out the same activities and operate in the same environment (for example two competitors)"[14].
In the '80s, '90s and over half of the first decade of 2000, the creation and reinforcement of the Veneto district system have been a winning strategy that has allowed our industrial system to be competitive on international markets.
Subsequently, there have been many reflections by economists on their efficacy and their future in the face of the changing economic scenario, the problem of the generational continuum of enterprises that are mainly family-run and the changes to the social fabric (the loss of cultural homogeneity for insertion of immigrants has, in some cases, led to a closure of the working community).
In this context, it has been necessary to review the pre-existing legislation[15] and the Region of Veneto has adopted new law on districts, the Italian Regional Law 30th May 2014, n. 13 "Regulation of industrial districts, regional innovative networks and enterprise aggregations", which defines the criteria for identifying industrial districts, regional innovative networks and enterprise aggregations, as well as the methods for implementing the interventions for local development.
There are 17 industrial districts recognised by the Regional Council of Veneto, with Resolution n.2415

[14] Soda, 1998

[15] Italian Regional Laws on Production Districts, R.L n.8 of 4th April 2003 and R.L n.5 of 16th March 2006

Fig. 5.5.5 – Exports and spending on research and development in enterprises belonging to industrial districts (% distribution). Veneto – Year 2013



Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

of the 29th September 2014, and they are an established strong point of Veneto's economy. These are the footwear district of the Riviera del Brenta, the tanning district of Arzignano, the mechanics district of Alto Vicentino, the furniture district of Livenza, the eyewear district of Belluno, the goldsmith district of Vicento, the technical footwear and sports items (Sportsystem) district of Asolo and Montebelluna, the artistic ceramics district of Nove and Bassano del Grappa, the district of electronic appliances and stainless steel of Conegliano and Trevigo, the air conditioning and refrigeration district of Padua, the funfair district of Polesine, the fishery district of Polesine and of southern Venice, the marble and stone district of Verona, the classical furniture district of southern Verona, the prosecco district of Conegliano and Valdobbiadene, the artistic glass district of Murano and the glass district of Venice.
The industrial districts of Veneto represent around 16% of local units of the manufacturing sector in Veneto and they employ over a fifth of those employed at local units present in the regional territory.
Industrial districts are rewarded with a greater capacity for export: over 25% of regional foreign revenue is generated by district enterprises.
Around 16% of spending on research and development in the region is attributable to the industrial districts in Veneto.

5.6 Confindustria Veneto's action in support of the creation of innovative regional networks[16]

By comparing Veneto's characteristics with the best performing regions in Europe, it is possible to note at least two conditions that are critical elements in the development of a structured innovation system: the absence of large enterprises, which are fundamental drivers of development, and an extremely fragmented range of knowledge although with some specialities, both in the Universities and (even more so) in the technological transfer centres present in the region.
Conversely, the system's strengths lie in its extremely high rate of entrepreneurialism (1 entrepreneur per 10 habitants) and the highly evolved manufacturing connotation of the region. Manufacturing enterprises from Veneto are mostly B2B, with a history of around 50 years in sub- supply, and with a business model that has been strongly questioned in view of the crisis and global competition. The enterprises that are now performance well are those that were able to transform themselves into evolved innovation systems, overcoming the constraints of the supply chain and anticipating the needs of their customers, as successful B2C enterprises do.
To support these transformation processes in an impactful and widespread manner, it is necessary to implement policies aimed at promoting and establishing a KNOWLEDGE TRANSFER system for these enterprises.
The challenge lies in identifying a new model that permits the passage from a spontaneous form of development such as the district system towards the creation of business ecosystems, even disparate enterprises that obtain a greater added value from the continuous relationship with one another and with other entities, in particular knowledge providers (KIBS, Technological transfer centres, Universities).
The role played by intermediate entities is fundamental in this process. These can encourage the creation of aggregations, manage business plans, intercept knowledge and propose visions that often individual enterprises are not able to reach.
The new community and regional programming also appropriately meets these needs, on the one hand by identifying certain Smart specialisations coherent with the industrial conformation of Veneto, on the other hand with a new legislative instrument (Italian regional law 13/2014) which identifies certain aggregate forms upon which to focus support interventions.
Of these the regional innovative networks are of particular interest. These are expansive aggregations of enterprises and centres of knowledge which have the objective of developing projects from common innovation needs.
Around one year ago Confindustria Veneto activated a work group on these topics – with the collaboration of all local authorities – with a work agenda that involves the following phases:
- Identification of the common innovation needs of enterprises in the context of regional smart specialisation, through the involvement of certain reference entrepreneurs;
- Involvement from the world of academia and knowledge to identify the skills needed to meet these needs;
- Extension of the work programme to other enterprises in the region;
- Identification and/or establishment of the legal entity representing the Regional Innovation Network (RIN) and application to the Region of Veneto.

To date – although in different stages of implementation – the Confindustria system is supporting the creation of RINs in the following contexts: Hi tech manufacturing, rubber and plastics, bio- medicine, circular economy, fashion, agricultural and food business, thermo-mechanics and energy, precision mechanics, construction, steel.

Good examples of Regional Innovative Networks: SINFONET...

Although different in their technical content, the business plans present many common elements. The need to introduce product and process innovations that involve the entire production line is ever present.
A very interesting example is the SINFONET network (Smart and Innovative Foundry Network), which represents the Veneto foundry sector (cast iron, steel, aluminium – Universities, laboratories, promotion entities, material and services suppliers, foundries, component manufacturers) with 45 partners, of which 41 are in the region of Veneto, 4500 employees in Veneto and a revenue of around 1.5 billion euros.
This network's objective is process and product innovation pursued through research and technolo-

[16] By Confindustria Veneto

gical transfer, training and development of human capital, internationalisation, energy efficiency, and participation in competitive tenders at the regional, national and European level. SINFONET is a transverse network which incorporates a number of materials, processes and technologies for its regulation, quality control, report and information handling and numerical simulation. Process innovation is well understood and shared within the industrial system this network belongs to in the general framework of the sub-supply paradigm in which foundries feel firmly rooted: producing three-dimensional objects through mould casting of a molten metal, in compliance with requirements defined by the customer as part of shared standards with increasingly restrictive quality tolerances.
The process of obtaining three-dimensional objects through melting a metal, casting, solidification and cooling presents complexities that are at times little known in the same industrial environment that uses these objects as normally available standardised commodities.
There are also largely unexplored frontiers in the context of the product, as foundry castings, parts of moving mechanical components, are subject to fatigue and shock stresses, variables that are often difficult to calculate but whose safety requirements are essential. In this context there are still many steps forward to be taken. In reality the identification of high standards would favour European producers, who produce with higher quality compared to more competitive countries in terms of price.

...the innovative network of plastic rubber...

Another example of an innovative network of B2B enterprises and manufacturers is the plastic rubber network.
The network, which has the University of Padua as its technical and scientific reference, focuses on the study of Materials and Technologies for Sustainability and Competitive Performance in the Supply Chain of Polymeric Materials.
It involves enterprises from Veneto from the entire supply chain such as designers, mould and machine manufacturers, manufacturers of raw materials and additives, transformers of plastic materials, suppliers of auxiliary systems (e.g. polymer drying), plastic and rubber recyclers and software enterprises.
The areas of intervention are made up of:
- Technologies and procedures for effective and efficient recovery of polymeric materials through mechanical, chemical and energy recycling;
- Technologies and procedures for the effective and efficient use of renewable and/or eco- sustainable sources in the production of polymeric materials;
- Technologies and procedures for the economic, energy and environmental sustainability of the manufacturing processes in the context of plastic and rubber materials;
- Development of technologies in the context of extremely high performance polymeric materials.

...the in-progress High Tech Manufacturing network...

Another network which is currently being established – with the scientific support of the University of Padua – is the network related to High Tech Manufacturing.
It is being established to meet the need common to many enterprises in the manufacturing sector of offering high quality, safe and reliable products on the market that are able to satisfy customers who are increasingly less willing to tolerate uncertainty and the unexpected. It involves large and small sized production and service enterprises from different supply chains and focuses on the development of new knowledge and skills in an expansive interdisciplinary context with obvious advantages for the competitiveness of enterprises from Veneto.
The strategic development lines proposed by the High Tech Manufacturing RIN, in the context of mechanical and electronic industrial technologies, concern:
- New products and services and improving the quality of processes;
- The sharing of techniques aimed at improving and ensuring mechanical and electronic quality and reliability, with particular reference to the critical applications in the automobile, aeronautic and industrial sector etc.;
- Diagnostic techniques for the analysis of materials and components, reliability assessment and waste analysis in the mechanical context;
- Techniques for improving the safety and security of the products that make use of electronic systems;
- Techniques for mechanical, thermal and electronic multi-scale, multi-physical design and simulation of devices and systems.
Other activities include transverse actions on human capital for skill development in a wide interdisciplinary context along with technological training, the development of common laboratories for trials, tests and creation of experimental prototypes, internationalisation to establish industrial relations

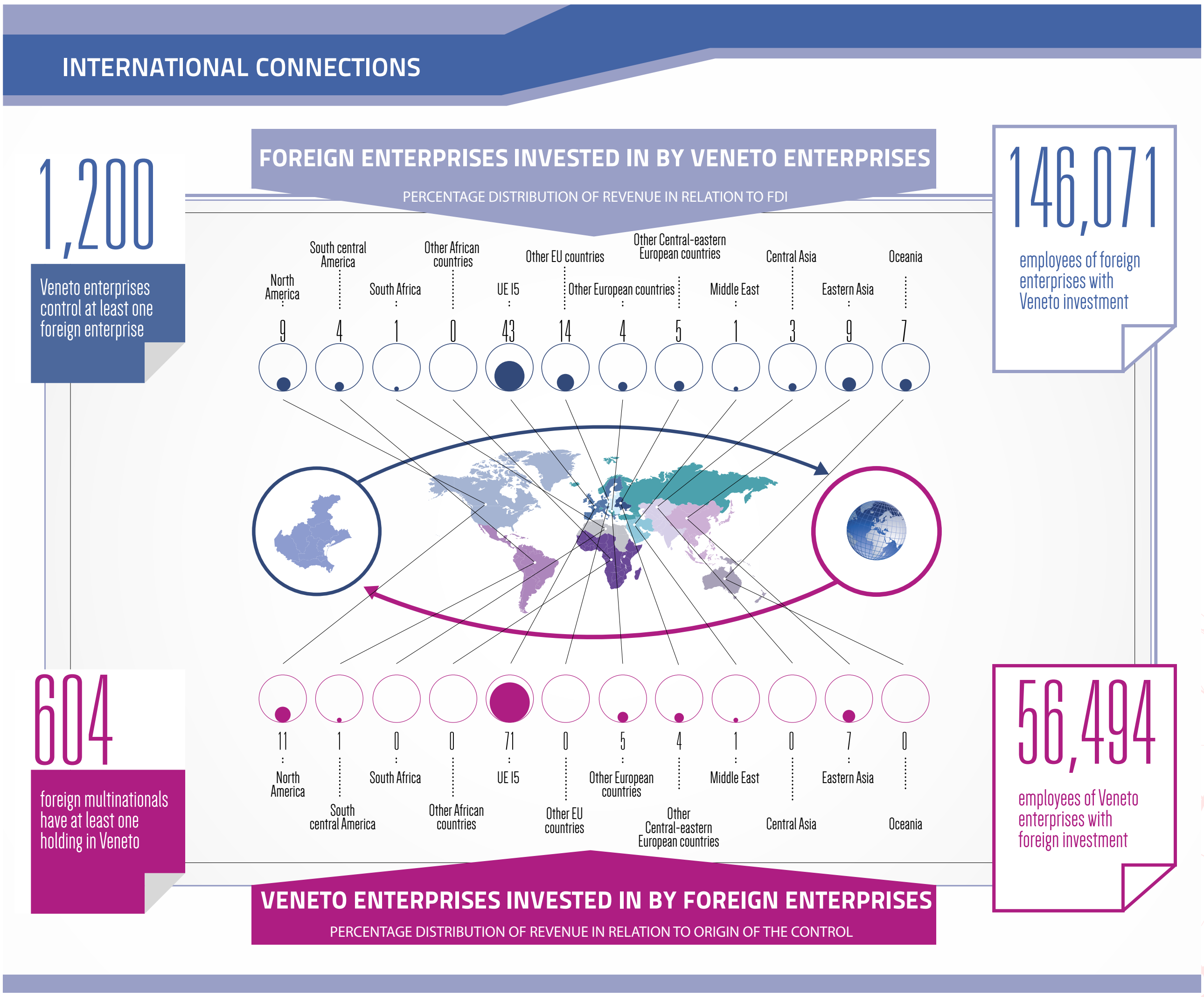
with European clusters, missions at international research centres, and "economic intelligence" activities for the sectors represented by the RIN. An activity that the RIN intends to support in favour of the supply chains represented is to do with regulations, intended as the analysis of regulations and "pre-regulatory" documents to activate specific lobby actions and, where applicable, proposals for amendments to existing regulations.

...the requirements of the fashion sector

Even in an apparently diverse sector such as the fashion sector, requirements similar to those observed up until now have been highlighted. In fact, by analysing the sector it can be seen that it is mainly made up of a supply chain of B2B enterprises that produce for well-known brands, often managed by multi-national enterprises, in which there are higher technical and product skills.
This is when the requirements identified concern:
- Actions on human capital to increase possession of technical and specialist skills, which are not always easy to find on the market. In this context it is essential to oversee the entire educational sector, from technical training right up to universities;
- Introduction of automated and robotic processes that are currently hardly present in the sector;
- Innovation in design, with the use of 3D technologies and 3D printing;
- Innovation in the context of the sector's supply chain.

Cap.6 – Veneto's Model of Internationalisation

In a national comparison, Veneto enterprises' propensity for internationalisation is decidedly greater than the Italian average. In fact 13.9% of national exports originate from the region as well as 13.8% of Italian-based multinational enterprises, or enterprises that are active abroad through their own subsidiaries and/or joint ventures.
In terms of enterprise numbers, the incidence is 1.5 times that of the region; it can therefore be ascertained that the propensity for internationalisation among Veneto enterprises, whether commercial or through direct investments abroad, is over 50% greater than the national average. There are 1,200 enterprises from Veneto with at least one subsidiary enterprise abroad, while there are 3,374 subsidiary enterprises abroad, with over 134,000 employees and a revenue of a little under 18 billion euros.
In terms of direct investments abroad, at the end of 2014 there were 759 foreign-owned enterprises located in Veneto; these enterprises employ over 56 thousand employees and their aggregate turnover exceeds billion euros, with a regional GDP contribution of 4.3 billion euros. There are 604 multinational enterprises active in Veneto through at least related undertaking.



THE STRUCTURE AND TRENDS OF VENETO EXPORTS IN THE CRISIS PERIOD

A Report focused on the theme of "connections" cannot miss even a brief analysis of enterprises' international connections, or rather their capacity to compete in the global economy. This chapter intends to analyse if an how the internationalisation model of Veneto enterprises has changed in the period of the major crisis, comparing the most recent data (referring to 2014 and 2015, depending on the indicators) with the situation in 2007, the year in which the crisis had not even minimally affected our economic system (it is appropriate to recall how its effects started to affect the Italian economy in the last quarter of 2008, to then "explode" during 2009). This analysis will inevitably be carried out succinctly not only with reference to exports, whose economic analysis can be found in the second chapter of this Report, but also and above all with reference to the multinational activities of the enterprises active in the region, whether based in Veneto (or Veneto enterprises with their subsidiaries and joint ventures abroad) or based abroad (or rather Veneto enterprises invested in by foreign multinational enterprises (MNC)). In the global economy of the third millennium the expansion and above all the quality of the MNC sector increasingly represent a decisive factor in terms of the competitiveness of a region and its potential for growth. In terms of "active", or "outgoing", internationalisation, the capacity of local enterprises to invest abroad is an essential indicator of their ability to permanently establish themselves on the sales markets and access privileged resources, making their enterprise structures more efficient and reactive to the continually changing economic conditions and the socio-political conditions of the international arena. In terms of "passive", or "incoming", internationalisation, the settling of MNCs in a territory is an obvious indicator of its attractiveness and competitiveness, on account of the cumulative effects related to the contribution of technological and managerial skills and the spill overs that are generated by the interactions of MNCs with the local economic structure.
In the next paragraph attention will be focused on the merchant internationalisation model of Veneto enterprises, or rather on the analysis of the sectoral and geographic structures of Veneto's exports and the changes that have been made to these structures between 2007 and 2015.
Subsequently the focus will be moved onto the MNC sector. After a necessary placement of Italy in the international arena – the analysis may not taking into account a fundamental assumption, or the lower degree of active and passive multi-nationalisation compared to that of other large European countries, our direct competitors – the sectoral and geographic structures of Veneto investments abroad and foreign investments in Veneto will be analysed in relation to national data and by comparing the latest available data (2014) with the situation in 2007. Some brief summary considerations will end the chapter.

6.1 The structure and trends of Veneto exports in the crisis period

An overall picture of the different variables related to the internationalisation of the economic system in Veneto, compared with certain demographic and economic variables, shows that Veneto houses 8.1% of the Italian resident population; the region's burden increases to 9% of the national total in terms of the number of local units and to 10.1% in terms of the number of employees.

Tab. 6.1.1 – Demographic and internationalisation indicators for Veneto in terms of the national total – Various years

	Share %
Resident population in 2014	8.1
Active LUs in 2013	9.0
LU employees in 2013	10.1
Exports 2015	13.9
Imports 2015	11.4
Investee enterprises abroad in 2014	13.8
Employees to investee enterprises abroad in 2014	9.8
Employees to foreign investment enterprises in 2014	6.1
Foreign investment enterprises in 2014	6.0

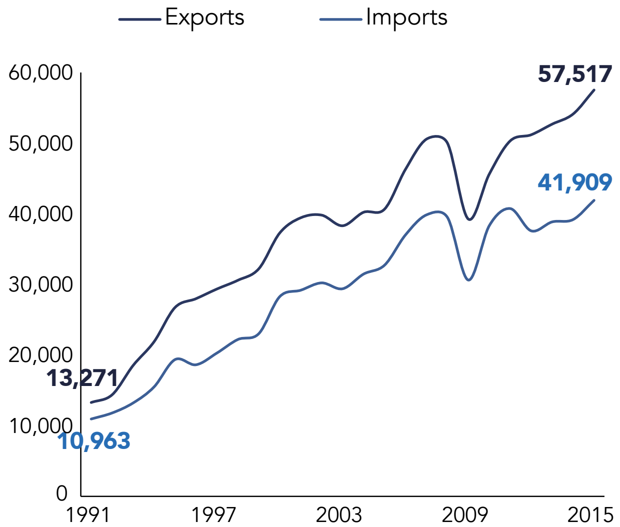
Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data and Reprint Data Base, Agenzia ICE –R&P-Politecnico di Milano

In the face of these figures, Veneto enterprises show a decidedly higher propensity for internationalisation than the national average. In fact 13.9% of national exports and 13.8% of Italian based multinational enterprises, or enterprises that are active abroad through their subsidiaries and/or joint ventures, originate from the region.
In terms of enterprise numbers, the incidence is 1.5 times that of the region; it can therefore be ascer-

Veneto has a large propensity for internationalisation

tained that the propensity for internationalisation among Veneto enterprises, whether commercial or through direct investments abroad, is over 50% greater than the national average. In a long-term analysis of Veneto exports, after the veritable collapse recorded in 2009 due to the international financial crisis (-21.5% compared to 2008), since 2010 Veneto exports have shown an increase in the six consecutive years, already returning to pre-crisis values in 2011.

Fig. 6.1.1 - Exports and imports. Values expressed in millions of euros at current value. Veneto – Years 1991:2015

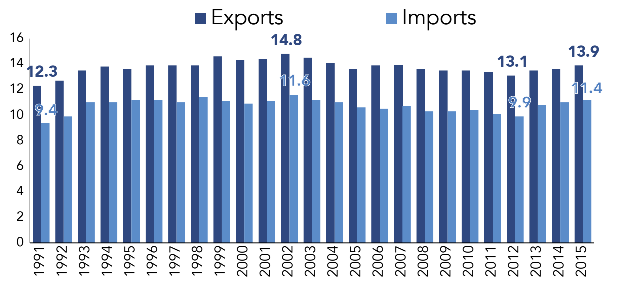


Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

Veneto has fully recovered pre-crisis volumes in international trade

However, it should be noted that in relative terms the growth rate of Veneto exports remained lower than the national average for the entire three year period 2010-2012, while in the three year period 2013-2015 this trend reversed, with growth rates higher than the national average which allowed Veneto to recover part of the share of national exports lost in the previous years.
The general trend also underlies trends that are largely different between the various sectors.

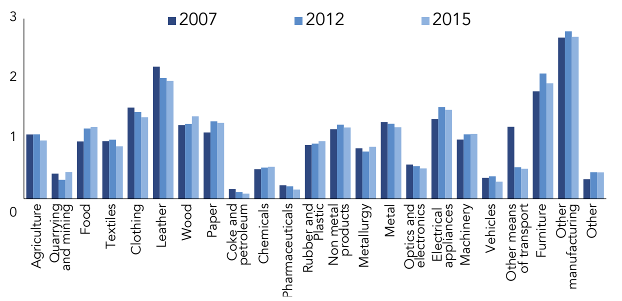
Fig. 6.1.2 - Imports and exports: percentage incidence on the national total. Veneto – Years 1991:2015



Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

Compared to 2007 exports of food, drink and tobacco products have almost doubled (second largest export sector for Veneto, with 8.7% of regional exports in 2015). Increases of over 30% were recorded for paper and printing and chemical products, while the export of agricultural, fishing and forestry products, pharmaceutical products, rubber and plastic products and mechanical machinery and equipment also increased by 20%, the latter being a sector that by far provides the largest contribution to Veneto exports, with a little under 20% of the total (a little under 11.4 billion euros). However exports of means of transport, petrol products and textile products are strongly declining.

Fig. 6.1.3 – Index of sectoral specialisation (*) of exports compared to Italy. Veneto – Years 2007, 2012 and 2015



(*) Index of sectoral specialisation: Veneto's % share of Italian exports in the sector j / Veneto's % share of total Italian exports
Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

Despite these variations, the specialisation model of Veneto exports did not undergo significant

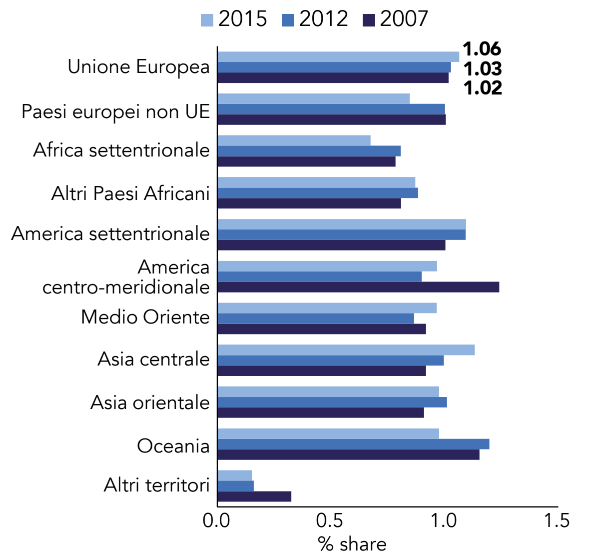
Veneto has maintained its specialisations

changes in the period considered[1]. In general, Veneto has maintained high specialisation in all sectors in which it was significantly specialised (index >1.2) and strong unspecialisation in all sectors where it was significantly unspecialised (index <0.8). The most significant exception is that of other means of transport (not on wheels) where in 2007 Veneto demonstrated a degree of specialisation and is now however highly unspecialised. Conversely, in the paper products and printing sector Veneto now shows a degree of specialisation, against a substantial alignment to the national average in 2007.

Significant changes are also present in the geographical direction of exports. Exports towards EU countries increased between 2007 and 2015 much less than the average and their incidence decreased by 5 percent, decreasing from 63.1% of the total in 2007 to 58.2% of the total in 2015. Conversely, exports towards central and eastern Asia increased by over 60 percent, whose overall percentage increased from 6.8% to 9.8%; trends for exports towards Africa (increasing by around 40 percent) and North America (+25%) were also rather positive.

[1] The index of sectoral specialisation of Veneto exports are calculated for each year as the ratio between the percentage of Veneto exports out of the national total in a certain sector and the total percentage of Veneto exports out of the national total.

Fig. 6.1.4 – Geographical index of specialisation of exports (*) from Veneto compared to Italy – Years 2007, 2012 and 2015



(*) Index of geographical specialisation: Veneto's % share of Italian exports in the area j / Veneto's % share of total Italian exports

Source: Veneto Region Processing - Directorate of Regional Statistical System on Istat data

As a result of these changes, to date Veneto exports are deemed to be specialised[2] with regard to North America and central Asia, while they continue to

[2] The index of geographical specialisation of Veneto exports are calculated for each year as the ratio between the percentage of Veneto exports out of the national total towards a certain

Tab. 6.1.2 - Geographical structure of exports from Veneto. Values expressed in millions of euros at current value – Years 2007 and 2015

	2007		2015		
	Value	%	Value	%	% var.
European Union	31,903	63.1	33,458	58.2	4.0
Non-EU European Countries	5,188	10.3	5,747	10.0	10.8
North Africa	985	1.9	1,365	2.4	38.6
Other African countries	540	1.1	781	1.4	44.6
North America	4,159	8.2	5,196	9.0	25.0
Central-South America	1,866	3.7	1,944	3.4	4.2
Middle East	1,894	3.7	2,767	4.8	46.1
Central Asia	524	1.0	838	1.5	59.9
Eastern Asia	2,916	5.8	4,786	8.3	64.1
Oceania	522	1.0	585	1.0	12.1
Other territories	60	0.1	47	0.1	-21.7
Total	**50,577**	**100.0**	**57,517**	**100.0**	**13.8**

Source: Veneto Region Processing - Directorate of Regional Statistical System and Agenzia ICE – R&P – Politecnico di Milano on Istat data show a degree of unspecialisation wit regard to the Mediterranean basin, Africa and the Middle East.

6.2 Active and passive multinationalisation: Italy's position on the international scene

Moving on to the analysis of internationalisation through foreign direct investments (FDI), we cannot but begin with the dispute that our country continues to be characterised by a significantly lower degree of multinational integration than that of its biggest European partners.

Italy is behind in terms of multinational integration

According to the most recent available data[3], in 2014 the percentage ratio between outgoing FDI stocks and GDP was equal to 25.5% in Italy, a figure less than half of the EU and United Kingdom average (56.5% and 53.8% respectively) and in any case also much lower than the average in Spain (47.9%), France (44.9%) and Germany (41%). It should be noted that the disparities between Italy and other European countries remain high, despite the fact that Italy has "benefited" from a significant reduction in GDP in recent years, which is the denominator of the indicator considered. In terms of investments from abroad, Italy's position also remains modest, as reflected by the country's persistent low international attractiveness. The ratio between incoming FDI stock and GDP (17.4%) remains significantly lower than the global (33.6%), European (37.4%) and EU (49.6%) average, as well as that of its main European competitors (United Kingdom 56.5%, Spain 51.3%, France 25.6% and Germany 19.3%). On the other hand, this positioning can be seen in the various competitiveness/attractiveness surveys and rankings conduct annually by international institutions, in which Italy is regularly and invariably relegated to positions that are rather far from the prominence that this country should have in the global economy. Limiting ourselves to citing the latest available sources, "The Global Competitiveness Report 2015/2016" from the World Economic Forum places Italy in 43rd position, bringing up the rear among industrialised countries and even behind countries such as Indonesia, Azerbaijan and Kazakhstan.

To assess the significance of MNCs in our economic system it is appropriate to look at the figures related to the structure of Italian-controlled enterprises resident abroad (or rather foreign subsidiaries of Italian enterprises) and foreign-controlled Italian enterprises (or rather Italian affiliates of foreign MNCs) provided by Istat. In terms of active internationalisation, at the end of 2013 Italian-based MNCs controlled around 22 thousand subsidiaries abroad located in 160 different countries; these enterprises employed almost 1.8 million employees, with a total revenue of 542 billion euros. Excluding the financial sector, there were 20,500 foreign branches of Italian enterprises, with 1.55 million employees and 445 billion in revenue[4]. Comparing these figures with those related to resident enterprises, it can be seen that Italian enterprises can count on one employee abroad for every 10 employees in Italy (employees of foreign subsidiaries in fact represent 9.9% of resident enterprises), while the ratio between the revenue of foreign branches and that of resident enterprises exceeds 15%.

In terms of passive internationalisation, at the end of 2013 there were 13,165 foreign-controlled enterprises resident in Italy, employing a little under 1.2 million employees; still in 2013 they generated a revenue of around 500 billion euros – net of financial and insurance activities – and an added value of over 92 billion euros[5]. Foreign-controlled enterprises represent only 0.3% of active enterprises in Italy, but their prominence increases to 7.1% in terms of number of employees, 13.6% in terms of added value and 16.7% for revenue. The contribution of enterprises with foreign capital increases further with reference to foreign trade (they are responsible for 26.2% of national exports and 46.2% of imports) and research and development, a context in which they represent over a quarter of total spending in R&D out of all Italian enterprises; investment in R&D per employee is almost four times that of nationally-controlled enterprises. Finally it should be noted

geographic area and the total percentage of Veneto exports out of the national total.

[3] UNCTAD – United Nations Conference on Trade and Development, World Investment Report 2015. Reforming International Investment Governance, United Nations, New York and Geneva, 2015.

[4] Istat, Structure, performance and new investments 2014-2015 of Italian multinationals, Roma, 15th December 2015.

[5] Istat, Structure and activities of foreign multinationals in Italy – Year 2013, Rome, 15th December 2015.

that foreign-controlled enterprises present far better performance than that of Italian enterprises even in terms of added value per employee (78.5 against 38.4 thousand euros in 2013), also thanks to the greater average enterprise size (89.1 employees per enterprise on average, against 3.5 in domestic enterprises).

Empirical analysis conducted internationally also suggest that similar to the economic conditions, the economic performance of MNC branches is greater than that of domestic enterprises, thanks to the contribution of greater skills, technologies, managerial capabilities and scale and network advantages[6].

6.3 The structure and trends of internationalisation among Veneto enterprises

The Istat figures, which are the result of estimations based on a sample survey, were unfortunately not provided in a broken down form (due a defect in statistical representation) in relation to the territories of residence of the Italian enterprises with branches abroad and foreign- controlled Italian enterprises and therefore do not enable the analysis of the international structure and activities of Veneto enterprises involved in the processes of active and passive internationalisation.

This knowledge gap can largely be bridged thanks to the Reprint database, the result of a multi- year research project developed by R&P in collaboration with the Politecnico di Milano. This database, upon which the "Multinational Italy" reports promoted by ICE[7] are based, is based on a census of the multinational activities of Italian enterprises, both in terms of Italian enterprises with holdings in foreign enterprises, and in terms of Italian enterprises invested in by foreign multinationals, enabling us to separately (national, regional, provincial and local work systems) measure the number of enterprises involved, the economic consistency and the sectoral and geographic structures of the investee enterprises. The field of observation of the Reprint database does not cover all sectors of economic activity, but in any case includes the entire industrial system and the real services that support its activities (wholesale trade, logistics and transport, ICT services, other services to enterprises); agricultural activities, retail trade, banking, insurance, finance and property services and social and personal services are therefore excluded from the survey. It should also be observed that, compared to the Istat survey, the Reprint database, although inevitably sustaining certain limits of completeness above all with reference to the sectors considered and smaller sized activities, has the advantage of not only surveying controlling shareholdings, but also equal and minority shareholdings, which represent a considerable slice of the phenomenon, above all in reference to the processes of internationalisation of small and medium enterprises.

Here results of the preliminary processing of the Reprint database relating to 31 December 2014 are discussed, carried out specifically for the region of Veneto.

Subsequently the trends of the main variables relating to foreign shareholdings in Veneto enterprises are illustrated, both outgoing (Veneto enterprises with holdings abroad) and incoming (foreign holdings in Veneto enterprises), in the period between 2007 and 2014 inclusive: they provide an interesting framework for the analysis of what has happened on this front in the years of the crisis.

1200 Veneto enterprises have holdings in at least one enterprise abroad

At the end of 2014 there were 1,355 multinationals in Veneto, this term intended as all enterprises that have their main headquarters in the region and are active abroad through at least one investee enterprise, obviously with exclusive reference to the sectoral perimeter covered by the database. There were over 4,100 foreign enterprises invested in by these enterprises and they employed over 146 thousand employees. In 2014 these enterprises generated an aggregate turnover of over 20.6 billion euros.

[]

There were 1,200 Veneto enterprises with controlling

[6] Görg H., Strobl E., Multinational Enterprises and Productivity Spillovers: a Meta-analysis in "Economic Journal", 111, 475: 723-739, 2001; Barba Navaretti G., Venables A., Multinational firms in the world economy, Princeton: Princeton University Press, 2004; Castellani D., Zanfei A., Multinational Firms, Innovation and Productivity, Cheltenham: Edward Elgar, 2006.

[7] The most recent Report was published in Mariotti M., Mutinelli M. and Sansoucy L., Italia Multinazionale 2014, Rubettino Editore, Soveria Mannelli 2015. Based on the update to the database at the beginning of 2014, we refer all readers interested in gaining further insight into the methods at the basis of the construction and updating of the data base, to that Report.

shareholdings in at least one enterprise abroad, while there were 3,374 investee enterprises abroad with over 134,000 employees and a revenue of a little over 18 billion euros. In line with the national figure, for Veneto enterprises the incidence of controlling shareholdings also varies between80 and 90% depending on the indicator considered, with a peak of 89% in terms of investor enterprises. Enterprises with minority and equal shareholdings involve 330 Veneto investors and 745 foreign enterprises, with almost 17 thousand employees and a turnover of over 2 billion euros[8].

In terms of direct investments abroad, at the end of 2014 there were 749 foreign-investment enterprises located in Veneto[9];

Nationally these account for over 3 thousand foreign-investment enterprises in just the sectors considered by the Reprint database, largely recently established and mostly concentrated in the tertiary and renewable energy sectors (in particular these are investment holding enterprises, service enterprises to enterprises and photovoltaic field projects); many of these enterprises correspond to investment projects intended to never become operational; their exclusion therefore allows us to avoid important distortions in temporal analyses, with particular reference to sectoral and territorial variables.

These enterprises employ over 56 thousand employees and their aggregate turnover exceeds 24 billion euros, with a regional GDP contribution of 4.3 billion euros[10].

There are 604 multinationals active in Veneto through at least one investee enterprise.

[8] The total number of Veneto investors (1,355) is lower than the sum of investors with controlling shareholdings (1,200) and investors with minority and equal shareholdings (330), as 175 Veneto enterprises are present abroad with both forms of shareholding.

[9] It should be noted that foreign-investment enterprises which in the period considered never had employees and whose revenue never exceeded 100 thousand euros were excluded from the analysis.

[10] This contribution is measured by the sum of the added value of each foreign-investment enterprise

Tab. 6.3.1 - The multi-nationalisation of Veneto enterprises – Years 2007:2014

	Foreign enterprises with Veneto shareholding				Veneto enterprises with foreign shareholding			
	Enterprises	Employees		Revenue	Enterprises	Employees		Revenue
	N.	N.	% in Italy	Mln Euros	N.	N.	% in Italy	Mln Euros
Total shareholding (controlling, equal and minority)								
2007	3,491	161,209	10.6	23,141	634	46,387	5.0	23,563
2008	3,626	167,481	10.5	23,512	673	49,147	5.2	24,538
2009	3,830	157,743	10.1	22,354	682	47,961	5.1	20,577
2010	3,942	159,056	10.1	22,579	696	50,434	5.5	23,664
2011	4,039	153,392	9.7	21,689	723	53,896	5.8	26,848
2012	4,126	149,510	9.5	21,200	725	55,300	6.0	24,715
2013	4,277	155,470	10.1	21,582	716	52,992	5.7	22,813
2014(a)	4,119	146,071	9.8	20,664	749	56,494	6.0	24,493
Controlling shareholding								
2007	2,903	152,180	13.2	21,482	570	41,295	5.1	21,482
2008	3,017	156,822	12.9	22,072	603	41,381	5.1	21,763
2009	3,178	145,629	12.6	20,113	607	41,083	5.2	18,294
2010	3,256	146,617	12.3	20,213	623	43,509	5.6	20,944
2011	3,318	140,842	11.6	19,239	649	47,543	6.0	24,089
2012	3,382	137,168	11.2	18,754	651	48,749	6.2	21,997
2013	3,503	143,038	11.6	19,122	640	46,238	5.8	19,991
2014 (a)	3,374	134,391	11.3	18,309	674	50,401	6.1	21,480

(a) 2014: preliminary calculations
Source: Veneto Region Processing - Directorate of Regional Statistical System on Reprint database, Agenzia ICE – R&P – Politecnico di Milano

Once more in this case, and again in line with the rest of the country, in most cases the foreign investors have control of the investee enterprises. In Veneto foreign-investment enterprises represent almost 90% of shareholdings, with the remaining percentage made up enterprises whose capital involves foreign investors with equal or minority shareholdings, supported by Italian investors.

604 foreign multinationals have at least one investee enterprise in Veneto

There are 549 foreign multinationals with at least one investee enterprise in Veneto, while 79 multinationals are present in the region with only equal or minority shareholdings[11].

The dynamics of Veneto shareholdings abroad

Investors are increasing, but employees and revenue are falling

The dynamics of Veneto shareholdings abroad in the period of 2007-2014 show diverse trends in relation to various indicators. Despite the crisis, the number of investor entities and the number of initiatives abroad have continued to grow over time, only the latter showing a decline in the most recent year, which may also be partially determined by the difficulty in immediately identifying all initiatives in which small and medium sized enterprises are protagonists.

Conversely, trends in the number of employees and the revenue of investee enterprises appear to be negative, determining a reduction of Veneto's contribution to the national total (in terms of number of employees of foreign investee enterprises, the region's portion decreased from 10.6% in 2007 to 9.8% in 2014). This decline is also mainly determined by the disappearance of foreign shareholdings in medium and medium-large Veneto enterprises which in the period considered were bought by foreign multinationals; in fact this event automatically determines the exclusion of foreign enterprises invested in by these investors from the group of shareholdings attributed to Veneto[12].

It can however be seen how, even against an overall negative trend, the three year period of 2012- 2014 saw a stop in the decline in Veneto's contribution to the national total; in other terms, the national dynamic remained, albeit slightly, more negative than that of Veneto. It should also be noted how the number of Veneto investors counted by the database continued to grow, going from 1,340 units in 2013 to 1355 in 2014.

Foreign shareholdings in Veneto

On the other hand, as regards foreign shareholdings in Veneto, in the period considered there was a slow but continuous growth in the amount of enterprises with foreign shareholdings: between 2007 and 2014 the number of investee enterprises increased by 18.1%, going from 634 to 749 units, while the relative number of employees increased by 21.8%, going from around 46,400 to around 56,500 units.

Growth is slow but continuous

This growth was mostly determined by M&A[13] transactions, while the contribution in terms of numbers of additional employees of greenfield investments was rather modest, unfortunately in line with the rather reduced capacity of our economic system to attract significantly sized additional investments, both in the manufacturing sector, and in services (and particularly the most advanced ones).

In terms of number of employees of the investee enterprises, the Veneto's incidence on the national total increased from 5% in 2007 to 6% in 2014, but remains distinctly lower in terms of the region's contribution measured through other internationalisation, economic and demographic variables. This situation certainly depends on structural causes, such as the region's high level of specialisation in medium-low level technological sectors, which are intrinsically less involved than medium-high and high technological sectors in internationalisation processes through FDI and the

[11] The total number of investors (604) is lower than the sum of investors with controlling shareholdings (549) and investors with minority and equal shareholdings (79), as 24 foreign multinational enterprises are present in Veneto with both forms of shareholding.

[12] The database follows the ultimate investor criteria; foreign shareholdings of Italian enterprises with foreign control are consequently excluded from the list of Italian shareholdings abroad, as they are attributed to the foreign controlling enterprise

[13] M&A transactions (mergers & acquisitions) concern the acquisition of pre-existing assets and contrast greenfield investments, which consist of the start up of new assets.

high incidence on the regional economic structure of the family SME, certainly not easy targets for many reasons for M&A transactions by multinational enterprises.

The sectoral and geographic structure

Let's now analyse the evolution of the sectoral and geographic structure of the internationalisation through FDI of Veneto enterprises, beginning with Veneto shareholdings abroad.

As regards the sectoral structure of businesses abroad with shareholdings held by Veneto enterprises, these continue to be concentrated into the two closely related sectors of the manufacturing

Tab. 6.3.2 - Foreign enterprises invested in by Veneto enterprises, by sector – Years 2007 and 201

	2007				2014 (a)			
	Enterpri-ses N.	Enterprises N.	Enterprises % in Italy	Revenue Mln Euros	Enterpri-ses N.	Enterprises N.	Enterprises % in Italy	Revenue Mln Euros
Minin g indust ry	14	80	0.1	17	18	69	0.2	19
Manu factur ing industry	1,140	107,970	12.1	10,122	1,237	89,613	10.4	9,353
Food, drink and tobac co indust ry	56	3,039	4.2	367	66	2,906	6.1	474
Textil e indust ry	58	8,625	24.7	461	67	5,692	20.9	460
Clothi ng; leath er items	133	24,564	37.0	901	118	23,654	40.0	890
Produ ction of leath er items and simila r	101	11,461	40.8	469	115	8,112	36.9	440
Wood and wood en and cork produ cts indust ry	42	1,373	12.5	66	49	1,275	13.5	78
Paper and paper produ cts; editin g and publis	21	979	3.2	117	17	359	1.4	193
Coke and products from oil refine ment	2	84	1.0	9	2	62	0.6	7
Chem ical produ cts	13	621	2.7	39	20	521	2.1	43
Phar mace utical produ cts	7	517	3.1	145	10	491	2.3	298
Rubb er and plasti c mater ials produ cts	65	3,129	6.5	413	70	2,860	5.7	323
Other produ cts from the proce ssing of non-metal miner als	87	7,384	11.9	685	91	4,664	10.9	337
Metal lurgy and metal produ cts	199	10,171	10.1	2,858	193	7,367	8.3	1,946
Comp uters, electr onic and optics products; instru ment ation	49	13,055	15.9	1,236	55	8,313	10.9	1,184
Electr ical and dome stic applia nces	77	10,910	19.2	982	90	10,919	17.9	1,095
Mech anical machi nery and appar atus	143	7,131	7.4	984	171	6,609	7.2	1,005
Vehicl es, trailer and semit railers	24	2,163	2.0	140	23	2,563	1.7	273
Other mean s of trans port	6	361	1.5	44	10	520	2.0	93
Furnit ure	22	1,326	9.8	86	29	1,493	14.0	90
Other manu factur ing indust ries	35	1,077	8.4	120	41	1,233	9.7	124
Energ y, gas and water	37	571	1.0	57	44	34	1.1	78
Const ructio n	138	2,724	5.6	531	161	1,750	2.7	270
Whol esale com merce	1,783	41,811	19.6	11,420	2,200	54,933	17.0	9,632
Logist ics and trans port	74	1,518	3.2	210	100	1,402	4.4	385
IT and teleco mmu nicati ons servic es	21	86	0.1	28	39	189	0.4	123
Other profe ssion al servic es	284	6,449	6.0	756	320	6,360	6.8	803
Total	**3,491**	**161,209**	**10.6**	**23,141**	**4,119**	**146,071**	**9.8**	**20,664**

(a) 2014: preliminary calculations
Source: Veneto Region Processing - Directorate of Regional Statistical System on Reprint database, Agenzia ICE – R&P – Politecnico di Milano

industry (30% of enterprises and 61.3% of employees) and wholesale commerce (53.4% of enterprises and 37.6% of employees), the latter sector being mainly made up of pre- and post-sale commercial supply chains and technical assistance for manufacturing enterprises.
In the post-crisis period a rebalancing of the two sectors was recorded, with a decline in the incidence relating to shareholdings in the manufacturing sector more than offset by the increase in shareholdings in commercial activities.
This evidence seems to suggest a progressive strategic change in operations abroad, now less dictated by the motivation of reducing production (and particularly manual labour) costs than in the past and increasingly frequently aimed at enhancing marketing activities, commercial penetration and post-sales support towards foreign customers, both in the most important markets and in those furthest away or in any case less accessible.
In this context the conditions for the re-entry of certain relocations carried out in the past were also created, which didn't always achieve the objectives set[14]; this may partially explain the strong decline in employees of foreign shareholdings in the manufacturing sector (decreased from 108 thousand units in 2007 to less than 90 thousand in 2014.
The multinational projection of Veneto enterprises is modest in the remaining sectors covered by the database, with the only exception of "other professional services" (sector that includes, among other things, hire, consultancy, engineering and research and development services, but also operational holdings), where there are over 6,300 abroad in 320 investee enterprises, thanks in particular to the technical and engineering services sector. Activities abroad in the construction sector however appear to be in strong decline.
As regards the geographic structure, Europe continues to be the mean area for the location of foreign investee enterprises: the EU-28 countries house 52% of foreign affiliates and 46% of their employees; also considering the other European countries, the incidence of the old continent exceeds 62% of investee enterprises abroad and 56% of their employees. Over 17.4% of enterprises and 15% of employees are concentrated on the side of the Atlantic, with a more accentuated presence in the United States and in Canada (419 enterprises and almost 10,700 employees) compared to Latin America (296 enterprises and over 11,100 employees). Asia's contribution remains stable, housing almost 600 investee enterprises (14.5% of the total) with over 33 thousand employees (23%) thanks to the marked growth recorded in China in recent years.
For many aspects the sectoral and geographic structure of foreign shareholdings in Veneto appears to be symmetrical. From a sectoral point of view, the absolute prevalence of manufacturing and wholesale commerce activities are confirmed, which jointly represent 77.2% of Veneto enterprises with foreign investment and almost 86% of relative employees (almost 70% is related to just the manufacturing sector).
In absolute terms, the mechanical machinery and apparatus sector stands out with a little under 9,300 employees in 89 investee enterprises, followed by the electronics, optics and instrumentation sector (over 6,300 employees in 37 investee enterprises), metallurgy (almost 5,400 employees in 38 investee enterprises) and electrical appliances (little less than 4,400 employees in 23 investee enterprises). In these sectors Veneto contributes between 10 and 12% of the national total in terms of numbers of employees, against an overall average with reference to the sectors covered by the Reprint database of 6% and 7.9% with reference to the manufacturing sector.

Mechanics stands out in absolute terms; traditional products stand out in relative terms

However, in relative terms the traditional sectors of made in Italy stand out in which Veneto shows a marked specialisation, such as clothing, leather, furniture and other manufacturing industries, which show a high incidence on the national average for the region, albeit being sectors in which multi-nationalisation through foreign direct investments is much less significant than most other manufacturing sectors in Italy, as in other developed countries.
In fact the clothing sector recorded the most significant variation in the post-crisis period, going from 1 to 10 investee enterprises, with an increase equal to six times the relative employees (from 200 to 1,200). The dynamics of the electronics,

[14] This re-entry, in the absence of specific statistics on foreign disinvestments, would be corroborated by the decrease in imports of intermediate goods (generalised in Italy and also present in Veneto).

Tab. 6.3.3 - Foreign enterprises invested in by Veneto enterprises by geographic area – Years 2007 and 2014

	2007				2014 (a)			
	Enterprises	Employees		Revenue	Enterprises	Employees		Revenue
	N.	N.	% in Italy	mln. Euro	N.	N.	% in Italy	mln. Euro
Count ries	1,243	40,164	8.5	10,689	1,341	33,834	8.3	8,983
Other EU	730	43.410	18,1	2.960	784	33.721	14,8	2.919
count ries	730	43,410	18.1	2,960	784	33,721	14.8	2,919
Other centr al- easte rn Europ ean	283	12,673	8.2	906	371	13,485	11.0	1,091
Other Europ ean count ries	72	1,864	8.3	795	74	1,108	6.0	735
North ern Africa	78	5,335	11.8	256	131	5,847	10.6	275
Other Africa n count ries	33	1,592	3.2	62	43	1,531	3.6	59
North Ameri ca	323	12,357	9.7	2,232	419	10,751	6.5	1,812
Latin America	201	8,342	3.8	743	296	11,108	4.5	874
Middl e East	38	434	5.8	113	58	397	3.0	120
Centr al Asia	79	14,283	38.7	484	114	17,788	37.4	543
Easte rn Asia	356	19,947	15.5	2,745	424	15,656	11.5	1,765
Ocea nia	**55**	**808**	**8.8**	**1,158**	**64**	**845**	**12.8**	**1,487**
Total	**3,491**	**161,209**	**10.6**	**23,141**	**4,119**	**146,071**	**9.8**	**20,664**

(a) 2014: preliminary calculations
Source: Veneto Region Processing - Directorate of Regional Statistical System on Reprint database, Agenzia ICE – R&P – Politecnico di Milano

optics and instrumentation sector should also be noted, which in the period considered saw both the number of employees of foreign investment enterprises and the incidence on the national total more than double.
As was recorded for the "outgoing" investments, in the case of "incoming" investments in the remaining sectors covered by the Reprint database the presence of MNC in Veneto remains rather modest overall.
Once more, the only sector in the tertiary industry – apart from wholesale commerce – in which the overall economic consistency of enterprises with foreign investment is not marginal, both in absolute terms and in relation to the national average, is that of "other professional services" (a sector that includes, among other things hire, consultancy, engineering and research and development services, but also operational holdings) with 78 enterprises with shares held by foreign investors, which employ over 4 thousand employees.
Finally, as regards the geographic origin of foreign investors who are active in Veneto, in the post-crisis period no particularly significant changes were recorded; the geographic structure of shareholdings in fact only undergoes slight changes. In a little under two thirds of cases, the foreign investor continues to come from an EU country (and in particular an EU-15 country); for a further 7.3% of investee enterprises the investor comes from another country in Western Europe (mainly from Switzerland). Enterprises with north American holdings (mainly from the United States) represent a little under 15% of the total, while among the remaining geographic areas only eastern Asia is particularly significant (7.6% of enterprises), an area within which the share attributable to China is growing.

6.4 Conclusions

In brief, the analyses carried out in these pages have shown how the model of internationalisation of Veneto enterprises has undergone changes and adjustments in the post-crisis years, despite these being fundamentally coherent with the more general model of internationalisation of Italian enterprises.
Above all beginning from 2012 some positive signs have been seen, both in terms of exports, which have increased at higher rates than the

ab. 6.3.4 - Veneto enterprises with foreign investment by sector – Years 2007 and 2014

	2007				2014 (a)			
	Enterprises	Employees		Revenue	Enterprises	Employees		Revenue
	N.	N.	% in Italy	mln. Euro	N.	N.	% in Italy	mln. Euro
Minin g industry	1	90	5.5	29	1	61	3.0	24
Manu factur ing industry	263	33,433	6.5	10,997	333	39,418	7.9	12,132
Food, drink and tobac co industry	7	600	1.8	516	18	878	2.6	915
Textil e industry	5	333	7.2	67	6	222	4.9	39
Clothi ng; leath er items	1	210	5.0	25	10	1,200	13.6	265
Produ ction of leath er items and similar	16	1,501	31.4	402	15	1,489	22.3	632
Wood and wood en and cork produ cts industry	3	90	20.8	30	3	79	16.2	46
Paper and paper produ cts; editin g and	13	1,129	5.3	320	10	1,494	7.7	465
Coke and produ cts from oil refine ment	0	0	0.0	0	1	35	0.5	11
Chem ical produ cts	16	2,148	5.2	1,098	16	1,372	3.9	639
Phar mace utical produ cts	4	1,175	3.0	513	5	1,407	4.0	330
Rubb er and plasti c mater ials produ cts	31	3,244	9.7	853	27	2,639	8.0	740
Other produ cts from the proce ssing of non-metal miner als	9	718	3.3	198	8,499	2.1	133	133
Metal lurgy and metal products	32	4,793	10.0	1,938	38	5,369	12.8	2,204
Comp uters, electr onic and optics products; instrumentation	29	3,094	6.3	629	376,365	12.2	1,282	1.282
Electrical and dome stic appliances	21	3,654	7.2	1,192	23	4,372	9.6	1,168
Mechanical machi nery and appar atus	58	9,257	10.8	2,788	89	9,278	10.6	2,378
Vehicles, trailer and semit railers	5	635	1.5	157	6	646	1.7	225
Other means of trans port	2	45	0.3	34	5	340	2.1	196
Furniture	3	524	34.8	146	4	497	28.0	134
Othermanu factur ing indust ries	8	283	4.2	92	12	1,237	14.8	329
Energy, gas and water	12	327	2.5	506	11	406	3.1	1,742
Const ructio n	13	323	3.4	93	18	442	3.8	158
Whol esale com merc e	240	6,382	5.4	9,629	245	9,096	7.6	8,485
Logist ics and trans port	38	881	1.6	317	40	1,139	2.0	416
IT and telecommu nicati ons services	15	1,447	1.0	275	23	1,471	1.1	191
Other profe ssion al servic es	52	3,504	4.3	1,717	78	4,461	4.0	1,344
Total	**634**	**46,387**	**5.0**	**23,563**	**749**	**56,494**	**6.0**	**24,493**

(a) 2014: preliminary calculations
Source: Veneto Region Processing - Directorate of Regional Statistical System on Reprint database, Agenzia ICE – R&P – Politecnico di Milano

national average, and in terms of foreign direct investments, which showed a progressive increase in the investment base, even during the crisis, or rather the number of enterprises, albeit often small or extremely small, that are able to establish a direct presence abroad. This is a "weak" sign but certainly an indicator of the renewed vitality of the region's system of small and medium enterprises: also during 2014, as during the entire period of the big crisis, there was a certain number of small and medium enterprises from Veneto that invested outside of their borders for the first time, mostly

Tab. 6.3.5 - Veneto enterprises with foreign investment by geographic area – Years 2007 and 2014

	2007				2014 (a)			
	Enterprises N.	Employees		Revenue mln. Euro	Enterprises N.	Employees		Revenue mln. Euro
		N.	% in Italy			N.	% in Italy	
Count ries	417	29,316	5.5	17,223	480	34,934	6.8	17,414
Other EU countries	4	101	8.5	59	10	156	6.3	22
Other centr al- eastern	6	448	7.2	546	11	923	4.8	884
Europ ean countries	0	0	0.0	0	0	0	0.0	0
Other Europ ean countries	53	4,942	7.3	1,265	55	4,771	7.5	1,270
North ern Africa	0	0	0.0	0	0	0	0.0	0
Other Africa n countries	2	38	1.4	15	0	0	0.0	0
North America	95	6,921	2.7	2,660	109	8,272	3.3	2,643
Latin America	2	31	0.6	29	4	258	2.9	173
Middle East	4	180	2.8	74	13	1,512	13.9	332
Central Asia	7	567	13.3	100	7	422	6.9	110
Eastern Asia	39	3,316	8.0	1,490	57	5,132	8.0	1,613
Oceania	**5**	**527**	**26.3**	**102**	**3**	**114**	**6.8**	**31**
Total	**634**	**46,387**	**5.0**	**23,563**	**749**	**56,494**	**6.0**	**24,493**

(a) 2014: preliminary calculations

Source: Veneto Region Processing - Directorate of Regional Statistical System on Reprint database, Agenzia ICE – R&P – Politecnico di Milano

to consolidate their presence on the main sales markets (in most cases these are enterprises that have opened new commercial locations abroad) and more rarely to implement new production activities in neighbouring markets or to relocate production activities to countries with lower labour costs. It is hoped that this sign will be a prelude – as other recent initiatives also seem to confirm – of a recovery of the region's "multinational pursuit", which began in the Eighties by the (few) large and medium-large leading enterprises and was then pursued in the Nineties and the early Noughties with the vehement entrance of small and medium enterprises onto the international scene.

As recalled at the start of this chapter, the capacity of local enterprises to invest abroad in production, commercial and service activities is a fundamental indicator of their capacity to make their enterprise structures more efficient and reactive to the changing economic climate and the socio-political conditions of the international arena.

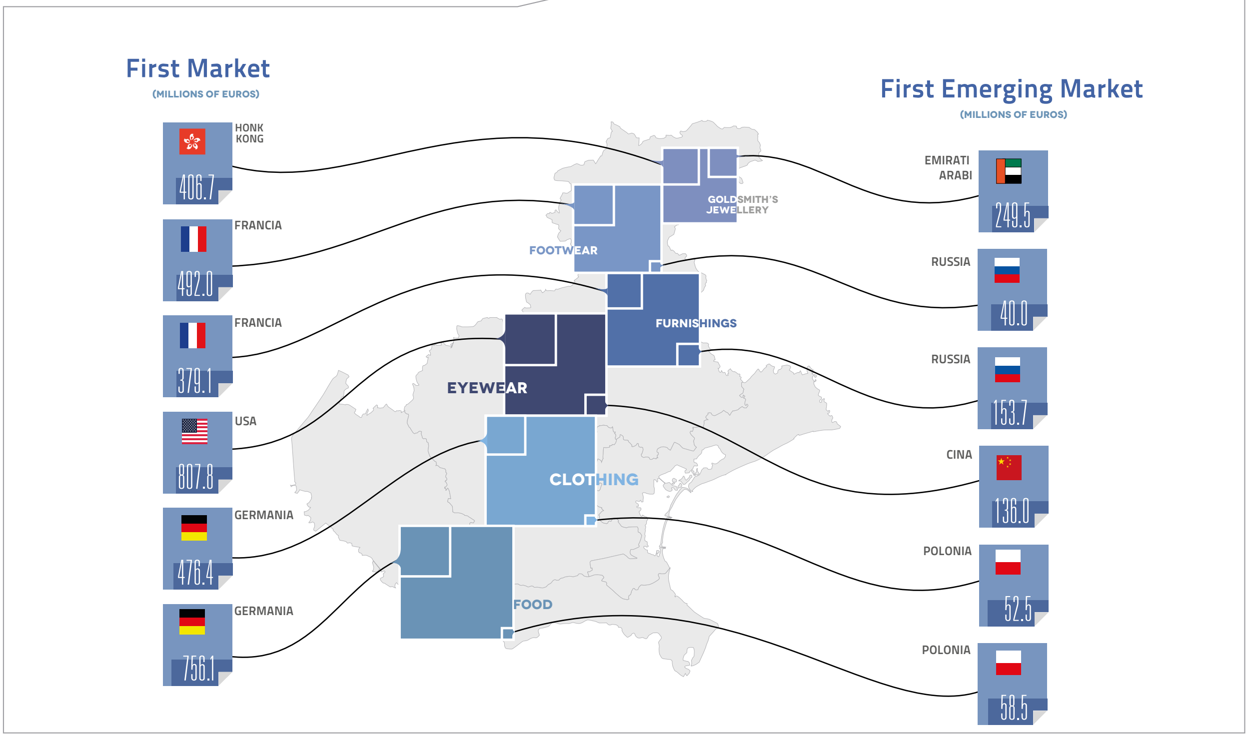
The increased presence of MNCs in the region should also be welcomed, which as well as signalling the attractiveness and competitiveness of our region, may also contribute to increasing these factors, both due to the cumulative effects related to the contribution of technological and managerial skills and the spill-overs that are generated in the interaction between MNCs with the local economic fabric, as many studies have shown[15].

[15] With reference to Veneto, see the empirical evidence collected by M. Barzotto, I. Mariotti, M. Mutinelli, "Multinazionali estere nel Nord Est. Quali opportunita per il territorio?" in S.Micelli and S. Olivia "Nord Est 2016", Marsilio Editori, Venice, 2016. In this essay there is also a concise discussion of the main effects (direct and indirect) of the presence of MNCs in a determined territory.

Cap.7 - Beautiful, Well-made and Good[11] (BW&G): the Resilience of Veneto Exports on Global Markets

Beautiful, Well-made and Good (BW&G) products consist of medium-high range finished goods from the food, furnishing, clothing and home textiles, footwear, eyewear and goldsmith-jewellery sectors.
In the two year period 2014-2015 the structural characteristics of the region's export system were confirmed: sales abroad of BW&G products increased by 6%, reaching 17.2 billion euros, 30% of overall exports. As in 2014, the sector showed a better trend than that recorded for total Veneto exports. The greater dynamism is mainly attributable to the mature economies towards which exports increased by 6.5% in 2014 and 8.9% in 2015.
In 2015 the United Arab Emirates (17.9%) lie at the top of the ranking of the 15 most important new markets for Veneto BW&G, which took first place away from Russia which it had held for some time. In fact, the crisis that the country is experience led to a decrease in BW&G imports from Veneto of -34% in 2015. Therefore Russia, who in 2014 represented 22.4% of direct exports in new markets, went down to 15% in 2015. In the same year China was confirmed in third place, followed by Poland and Turkey. Similarly to what has already been highlighted for Russia, Brazil also fell a few place, a country towards which exports of BW&G decreased by 19%.

QUALITY MEETS THE MARKETS



17.180 MILLION THE TOTAL EXPORTS OF BW&G

FOOD	CLOTHING	EYEWEAR	FURNISHINGS	FOOTWEAR	GOLDSMITH'S JEWELLERY
3,848	3,610	3,100	2,617	2,315	1,691

1 This chapter is based on the methodological approach and the results of the Confindustria – Prometeia report "Esportare la dolce vita. Il bello e ben fatto Italiano nei nuovi mercati: le forze che trasformano i consumi", May 2016

Beautiful, Well-made and Good (BW&G) products consist of medium-high range finished goods from the food, furnishing, clothing and home textiles, footwear, eyewear and goldsmith-jewellery sectors. They are the products that combine the ancient tradition of Veneto know-how with innovation in the design, materials and production techniques and represent one of the pillars of the local production system, a heritage that should be supported and enhance to reinforce the region's positioning on international markets. This is a category of products that is more significant for Veneto than it is in Italy, if we consider that exports of BW&G products contribute 30% towards regional manufacturing export, compared to the national average of 18%.

Once more, as in the last four editions of the Report, the focus is on the potential growth opportunities for Veneto exports in emerging economies. These consist of 30 countries (Russia, Poland, Kazakhstan, Turkey, Hungary, United Arab Emirates, Saudi Arabia, Egypt, Algeria, Morocco, Tunisia, South Africa, Angola, Nigeria, Ghana, Kenya, China, Malaysia, Vietnam, Thailand, Indonesia, India, the Philippines, Pakistan, Mexico, Brazil, Chile, Columbia, Peru, Argentina) which have been compared with a group of 10 mature economies (Austria, Canada, France, Germany, Japan, United Kingdom, Spain, United States, Sweden and Switzerland).

The underlying reasons that drove us to focus the analysis on new economies are as follows: in these countries the progressive expansion of the affluent class, the phenomena of urbanisation and an increasing sophistication in consumers' tastes and awareness provide a particularly favourable environment for the dissemination of high quality products from Veneto. Nevertheless in the last five years the international context has changed. Already in last year's Report we outlined the risks connected to the difficult climate faced by certain new economies.

A year on and the issues still remain and, for certain aspects, are even amplified. Russia, which in 2013 represented 27% of direct Veneto exports of BW&G products into new markets, saw its incidence fall to 15% in 2015. Between 2014 and 2014 direct regional exports to Brazil underwent a decline of close to 20%. China, whose potential for expansion has been outlined several times, is experiencing a slowdown which is being attentively monitored due to possible repercussions on the global economy. This is added to the intensification of geopolitical tensions at the global level and, in particular, in the Middle Eastern area. In a more complex and heterogeneous international framework further effort is required of Veneto enterprises for selecting winning strategies and the markets on which to focus.

Veneto BW&G reacts to fluctuations in demand: in 2015 direct exports to mature markets accelerated, and despite everything, exports towards new markets is also increasing

For now, there has already been a response from the Veneto system. Firstly, Veneto BW&G knew how to exploit the recovery in demand from mature economies, towards which the growth in regional exports underwent acceleration between 2014 and 2015. Secondly in 2015, despite the volatility of the international context, above all despite the fall in demand from Russia, regional exports of BW&G products in new markets have, although slight, increased, halting the decline that was recorded in 2014. This is an important sign of the resilience of the local economic system which knew how to react quickly to the declines in demand from areas facing difficulty, directing their exports elsewhere, proving versatility and determination. And thus in 2015 the losses in exports towards Russia, Brazil and other less significant countries were offset by the increase in BW&G exports towards China, Mexico, Poland, South Africa, Saudi Arabia and Turkey, to name the most important. At the level of the individual sectors the impact of the Russian recession emerges more clearly. In 2015 direct Veneto exports to new markets in the clothing, furnishing and footwear sectors decreased, in which Russia counts more as a destination area. However, if we consider the flows net of those directed towards Russia, both furnishings and footwear would have recorded an increase.

It has been mentioned that in 2015 China contributed to offsetting the decline in exports directed towards the Russian market. In fact, despite the slowdown of GDP direct Veneto exports of BW&G products towards China have increased by 17%. And indeed the transition of the Chinese economy towards a development model that is more directed towards consumption may favour the demand of BW&G goods, especially if we take into account the appeal exerted on the Chinese middle class in terms of the elegance, style and quality of Veneto and Italian products.

But the presence of a favourable economic-social fabric for the dissemination BW&G should not take

away from the obstacles that Veneto enterprises who take on these opportunities are faced with in new markets. For this reason, as in previous years, an accessibility index for each BW&G sector is proposed. The index varies from 0 to 100 and is the summary of five strategic components. The first is given by the degree of modernisation of the distribution system; in this regard shortcomings mainly represent an obstacle for small and medium enterprises that lack autonomous power to manage sales channels. The second component is the quality of the logistics system; in this case we assess the infrastructural facilities of the countries as well as social phenomena such as urbanisation, which make it more or less costly to serve a particular market.
The third component derives from the World Bank's doing business indicator which assesses the quality of the market in terms of the operation of the enterprises, considering administrative aspects (such as bureaucracy times), fiscal aspects (taxation levels) and other operational risk factors (for example intellectual property protection). The last two components of the indicator consider the tariff barriers (duties) and non-tariff barriers (for example licenses, import quotas, regulations).

Opportunities are also assessed in light of the actual accessibility of new markets

In many cases the value of the indicator and its main components explain a relatively limited presence of Veneto enterprises where growth opportunities would be. A market like India, forexample, is characterised by excellent demand prospects for BW&G goods, but difficulties not only related to the geographic distance, but above all to the shortcomings in the infrastructure and the underdeveloped and highly fragmented distribution network persist. In other cases the low accessibility is conditioned by the intensification of political tensions that can not but have repercussions on enterprises' operation (just think of Russia or countries of the Middle East and North Africa). Once more, another very important component of the indicator is that related to commercial barriers. In some cases these represent the main obstacle for the dissemination of Veneto products on new markets. In China, for example, despite a recent reduction in duties on certain product categories, non-tariff barriers persist that limit the penetration of Veneto BW&G, especially in the furnishing, fashion, eyewear and food sectors.

But in the next few years which markets will be of greatest interest for Veneto BW&G? Assuming it maintains its positioning, in 2021 regional exports directed towards the United Arab Emirates, the top importer of BW&G among new markets, may reach 674 euros, 240 more than the current 434 million. By reinforcing its role as a commercial and tourism centre, the country will continue to represent an ideal shop window for valorising Veneto BW&G throughout the world. It is mainly the furnishings and goldsmith's-jewellery sectors that offer the best prospects. The former benefits from the enhancement of tourism and hotel facilities, the latter benefits from the fact that the Arab Emirates are a sorting centre for flows of gold into Asia, as well as international tourist flows. The Asian country's first place positioning in terms of the accessibility index for all sectors also favours the penetration of Veneto BW&G.

The United Arab Emirates, China and Russia remain markets of great interest

As previously mentioned, China will maintain its attractiveness for Veneto products thanks to the social transformations it is experiencing and, as will be further discussed in the third paragraph, based on expansionary public policies. Despite its current difficulties, in 2021 Russia will remain the second importer of BW&G products among new markets. The Russian new consumer now knows how to recognise the quality of Veneto productions, but in order to not nullify the strategies carried out to oversee the market, enterprises must keep interest for their products alive and consolidate the link with the urban middle class.
Closer and more accessible markets such as Turkey and Poland will maintain their appeal, although in the former, as well as uncertainties related to political risk, there are still difficulties in approaching the consumer that lives outside of the most important urban centres and in the latter the pressure from other international competitors is felt more and more, such as the Chinese and Germans in fashion or the same local producers in furnishings. There are also some more promising markets, characterised by large growth prospects in terms of demand for BW&G goods.
The first country of all is India, where the imports in the sector
are expected to grow by 94% in 6 years. As already indicated, the expansion of Veneto products in

In India the best prospects clash with a low accessibility

this country is negatively impacted by the low accessibility and high non-tariff barriers, especially in the clothing, footwear, eyewear, goldwear, and jewellery sectors.

As you will be able to see in the following chapter, the analysis provides a positive insight for Veneto BB&B. In the short term, indeed, exporting companies are showing to be able to adapt themselves to the volatility of the demand, whilst in the medium term prospects of potential growth remain high for Veneto BB&B on the international markets. On this regard, it is appropriate to underline some key reflections that arise from the analysis. Firstly, although on many important new markets the Veneto quality product is known and appreciated by new consumers, other competitors could cause them to lose their ranking. In certain cases, the same local businesses are starting upgrading their production; in other cases, the risk of a shift in the demand towards lower quality products could favour competitors that operate based on a lower price. Secondly, the accessibility of many new markets is hampered especially by unfavourable commercial politics, which are assumed unchanged within the forecast period. Would these politics, even through negotiated agreements in Europe, become more obliging, the penetration of BB&B products could also be more widespread. In order to continue to control the new markets, however, it is required to keep alive the interest in the BB&B products, also through locally organised events or international trade shows table to attract buyers from the new markets.

Another important channel which is to be fully exploited is the online one, especially in some new countries particularly digitalised, first of all China. Lastly, in certain areas, the growth in the sophistication of the tastes of the consumer also increases their awareness on issues such the traceability of the supply chain, environmental sensitivity, innovation, and quality of the materials. All these elements are inherent to Veneto BB&B and which it is necessary to keep enhancing.

7.1 The export of BB&B in the last two years[2]

2

Just like in the last editions of the Report, the perspective dynamics of Veneto BB&B in the new markets is preceded by the analysis of recent history.

In the 2014-2015 period the structural characteristics of the regional export system were confirmed: BB&B continues to play a significant role for Veneto exports and to represent a relevant part of quality exports for Italy. This does not surprise if you consider that the quality, accuracy and professionalism of the productions stand out amongst the strong points of the regional economic system. These factors, along with the courage to address the risk connected to the entry into new markets and to the ability to grab new opportunities in the context of a complex and changing market, have allowed Veneto BB&B to continue to grow on the international markets. Coming into the more conjunctural aspects, in the last year's Report the possibility that the difficult economic situation arising in some of the new economies was shown to reflect negatively

[2] In the analysis, Istat data on foreign trade of Veneto which is final d up to 2014, and provisional for 2015, was used.

Tab.7.1.1 - BB&B's exports in 2014/15. Million euros Veneto Italy Veneto

	2014		2015
	Veneto	Italy	Veneto
Foodstuff	3,405	22,431	3,848
Clothing	3,678	18,920	3,610
Footwear	2,248	8,291	2,315
Furniture	2,488	9,827	2,617
Eyewear	2,753	2,999	3,100
Goldwear and jewellery	1,634	5,300	1,691
Total	**16,206**	**67,769**	**17,180**

Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

on the region. After one year these difficulties do not only persist, but in some respects they have become even worst. Veneto, however, knew how to react: in 2015, the growth of direct exports to some new markets more than compensated for the losses suffered in the economies under recession.

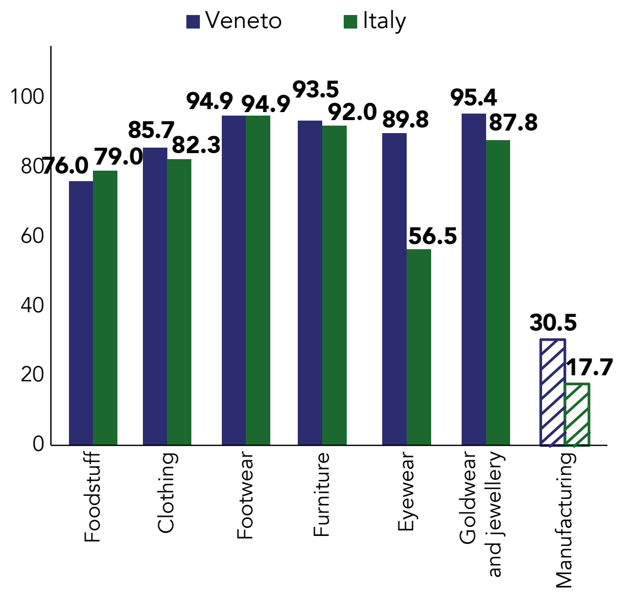
BB&B Veneto knows how to successfully adapt to the conjunctural changes.

In 2014, the regional exports of BB&B climbed to 16.2 billion euros, 24% of the Italian exports in the sector. The weight on Italy's share was particularly high in the goldwear and jewellery sector (31%) and especially in the eyewear sector, which exceeded 90%. Always in 2014, the share of BB&B out of manufacturing products exported outside of the region was about 30%, whilst on a national scale the figure was 17.7%.

A quarter of BB&B exported from Italy comes from Veneto

The role of BB&B in Veneto sticks out also when analysing their weight on exports in the reference macro- sectors: it ranges from goldwear and jewellery where the weight of BB&B is 95.4%, to foodstuff (76%). In almost all

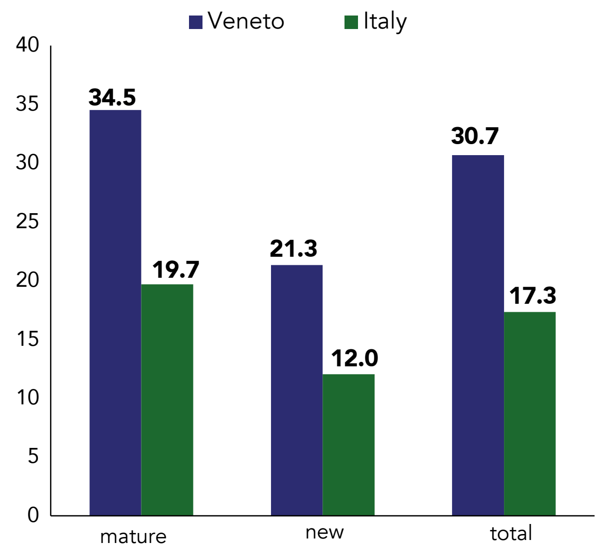
Fig. 7.1.1 – Percentage weight of BB&B export on the reference sector and on the manufacturing sector. Veneto and Italy – Year 2014



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

sectors, however, the percentages are higher than the national average. The analysis contained within this Report proposes a list of the new markets which is similar to that of last year and it is made up of the following 30 countries: Russia, Poland, Kazakhstan, Turkey, Hungary, UAE, Saudi Arabia, Egypt, Algeria, Morocco, Tunisia, South Africa, Angola, Nigeria, Ghana, Kenya, China, Malaysia, Vietnam, Thailand, Indonesia, India, the Philippines, Pakistan, Mexico, Brazil, Chile, Colombia, Peru, Argentina. Also the list of the 10 mature economies used as comparison remains unchanged (Austria, Canada, France, Germany, Japan, UK, Spain, USA, Sweden and Switzerland).
In 2014, BB&B products represented 21.3% of Veneto exports to the new markets, while an even higher percentage (34.5%) was recorded for regional exports to areas with mature markets. In both cases, however, there was a greater rate than that of Italy.
As would be logical to expect, in some new markets

Fig. 7.1.2 – The percentage weight of BB&B on exports to the new and mature markets*. Veneto and Italy – Year 2014



**New markets: Russia, Poland, Kazakhstan, Turkey, Hungary, UAE, Saudi Arabia, Egypt, Algeria, Morocco, Tunisia, South Africa, Angola, Nigeria, Ghana, Kenya, China, Malaysia, Vietnam, Thailand, Indonesia, India, the Philippines, Pakistan, Mexico, Brazil, Chile, Colombia, Peru, Argentina. Mature markets: Austria, Canada, France, Germany, Japan, UK, Spain, USA, Sweden and Switzerland.*
Source: Veneto Region Processing- Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

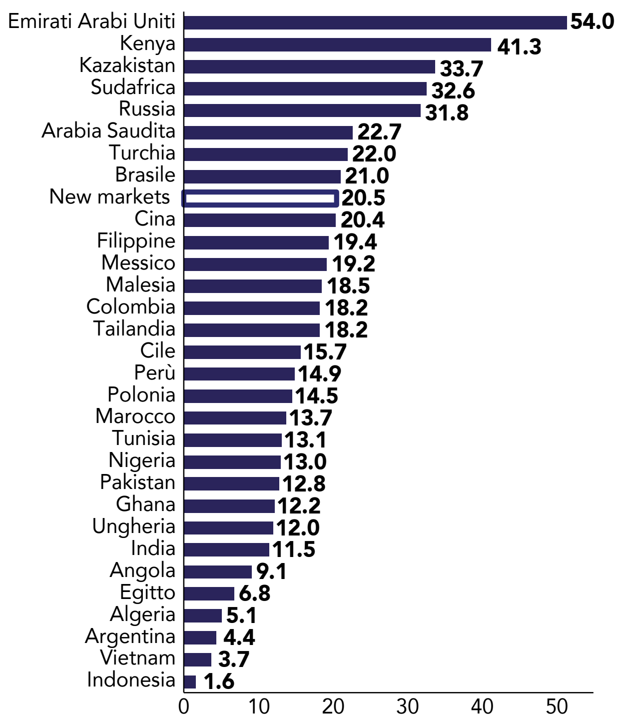
the demand for BB&B weighs more than in others. In 2015, for example, the sector represented 54% of Veneto exports to the UAE, and figures more than 30% were found in Russia, South Africa and in areas in which the export flows are more restricted, such as Kazakhstan and Kenya.

In 2015, the UAE ranked first instead of Russia

As previously noted for the markets as a whole, Veneto BB&B makes up a significant part of the national one, which is exported to the new countries, particularly in the eye wear, goldwear and jewellery sectors, which represent the regional production excellence.

In 2015, UAE (17.9%) found themselves first out of the 15 most important new markets for Veneto BB&B, having stolen top spot from Russia which they had held

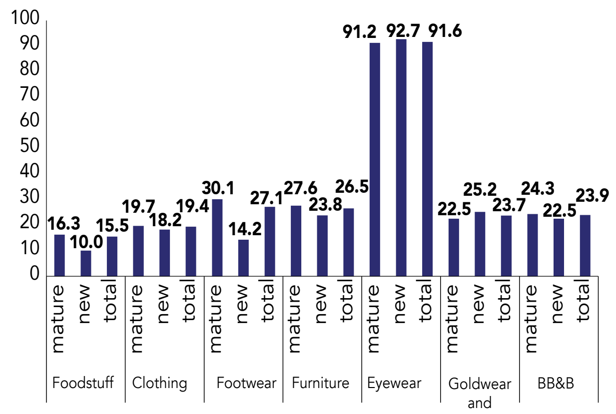
Fig.7.1.3 – The percentage market share of BB&B on the total Veneto exports to the new markets – Year 2015



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

for a long time. In 2015, the crisis which the country is facing, brought about a decrease in BB&B imports from Veneto equal to 34%. Therefore Russia, which in 2014 accounted for 22.4% of the exports to the new markets, dropped to 15% in 2015. In the same year China remained in third place, followed by Poland and Turkey. Similarly to what was already shown for Russia, Brazil lost several places as well, to which BB&B export fell by 19%.

Fig. 7.1.4 – Percentage weight of Venetian exports on the national exports of BB&B – Year 2014



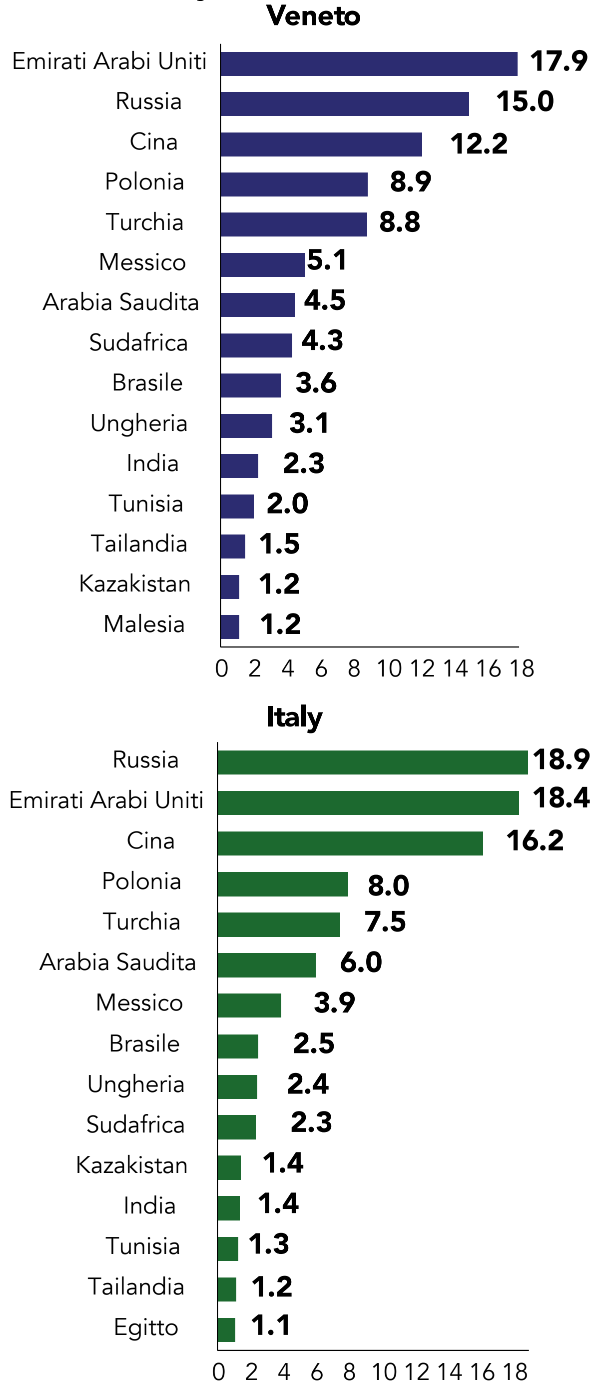
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

The analysis of the exports by sectors highlights that between 2014 and 2015 the total weight of the eyewear and the foodstuff sector on Veneto exports, sectors which alongside clothing are characterised by higher values.

In 2015 China slows down, Russia and Brazil are under recession, but Veneto BB&B grows again on the new markets

In 2015, BB&B Veneto exports grew by 6%, being equal to 17.2 billion euros. This sector, just as in 2014, showed a greater increase than that registered for the overall Veneto exports. As already highlighted in the Report for last year, such a greater dynamicity is mainly attributable to the mature economies the exports to which grew by 6.5% in 2014 and by 8.9% in 2015. But it is important to note that there was also improvement in exports towards the new markets. In fact in 2015, the decline which was registered by the indicator the previous year was halted.

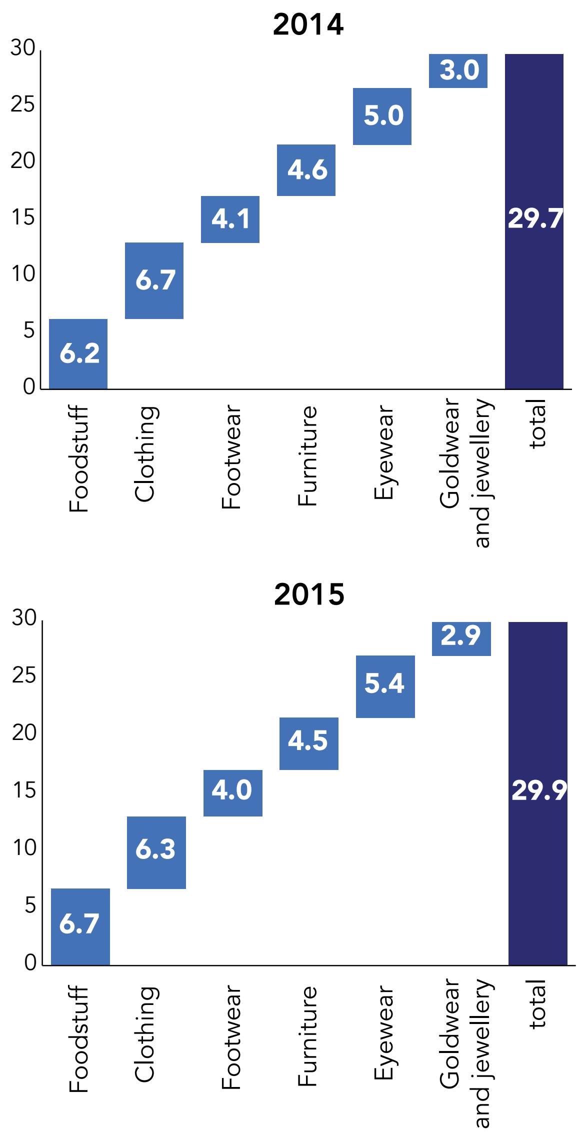
Fig. 7.1.5 - The main new markets for BB&B exports: the country's percentage weight based on the total BB&B export to new markets. Veneto and Italy



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

The ability of Veneto to increase exports to the new markets, even though it was barely 0.4% in 2015, is an important result because it is emerging out of a declining context, if not in a situation of real and true recession for some of the most important new countries (China, Russia, and Brazil).

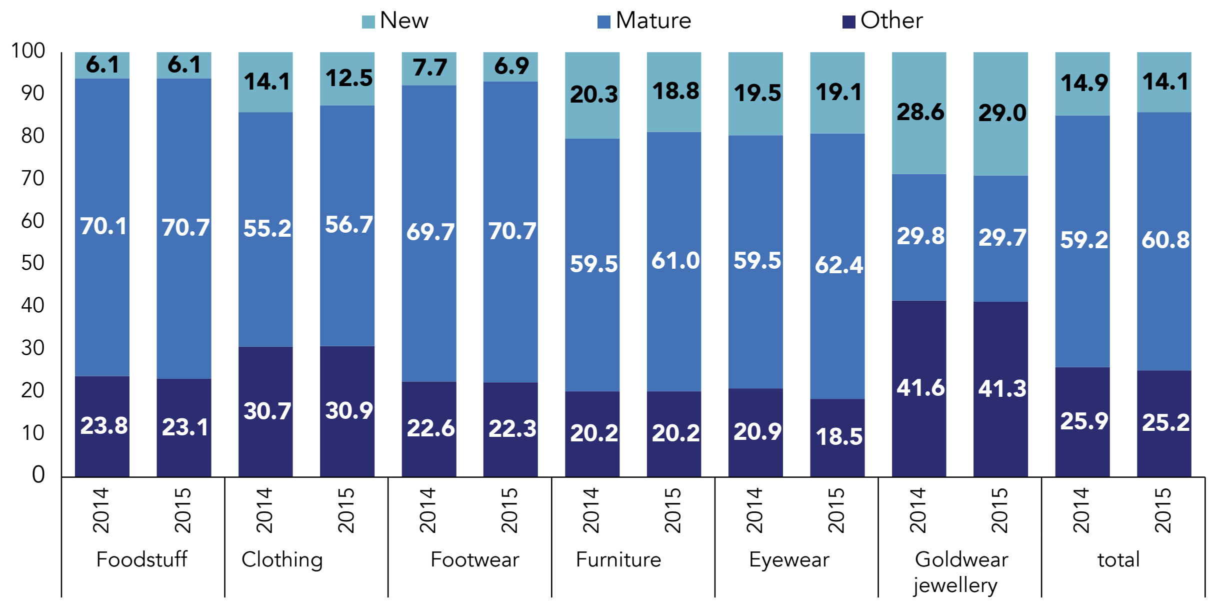
Fig 7.1.6 – Percentage weight of BB&B on the overall exports. Veneto – Years 2014 and 2015



Source: Veneto Region Processing- Regional Statistics System and Prometeia on Istat data

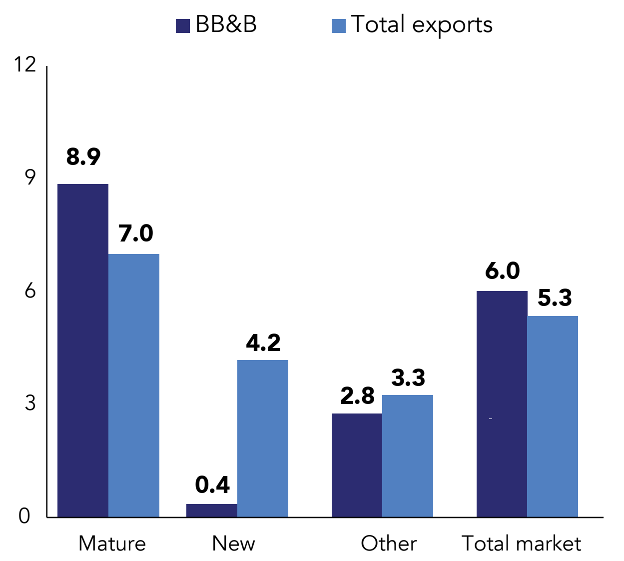
In absolute terms, in 2015, Veneto BB&B fell by 189 million euros in Russia and by 29 million euros in Brazil, but the losses suffered in these and other

Fig. 7.1.7 - The percentage weight of the markets analysed on the BB&B export. Veneto. Years 2014 and 2015.



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

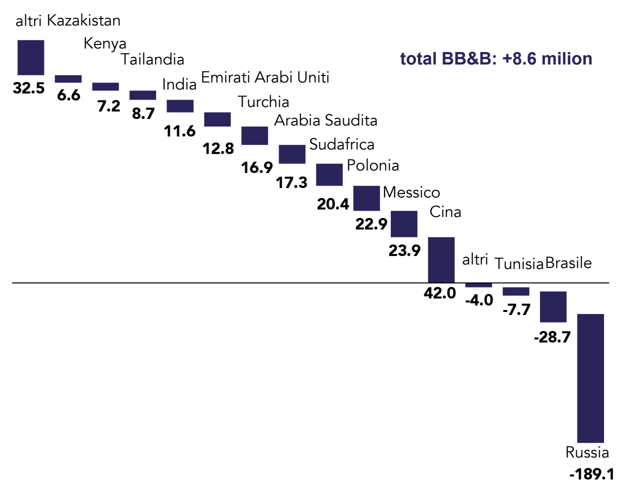
Fig 7.1.8 - Percentage changes in Veneto exports – Years 2014 and 2015 BB& B Total exports



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

countries were subsidised thanks to the recorded increases in other emerging areas: +42 million in China, +24 in Mexico, +23 in Poland, +20 in South Africa were the most consistent, but across the new markets the most notably increases were seen in Saudi Arabia, Turkey, UAE and India.

Fig. 7.1.9 – BB&B exports to new markets. Absolute changes in millions of euros. Veneto – Years 2014 and 2015. Total BB&B +8.6 million



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

The Russian crisis disadvantages the furniture and footwear sectors

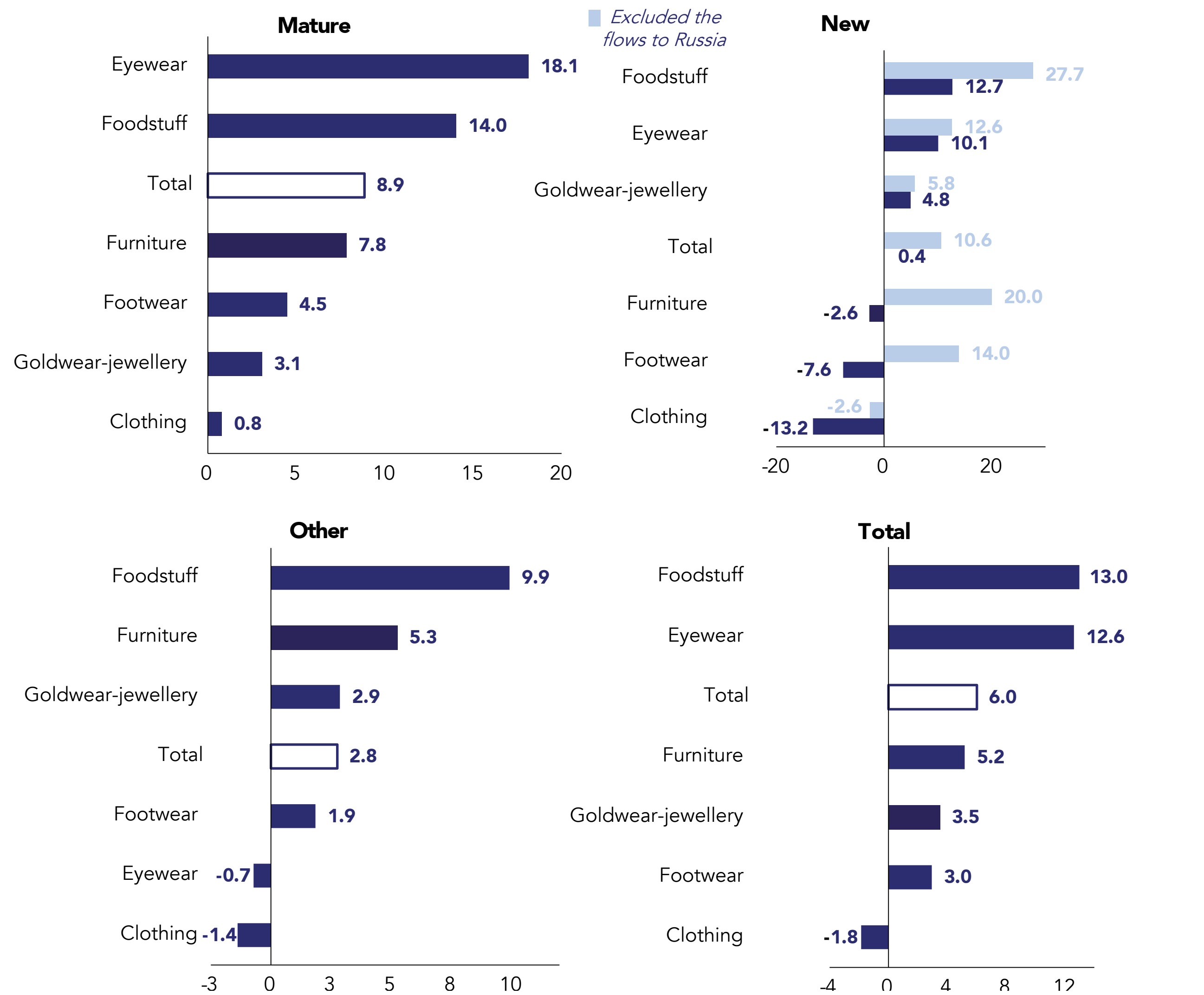
However, the increase in BB&B exports to the new markets isn't widespread across all sectors. Against an increase recorded in the foodstuff (12.7%), eyewear (10.1%) and eyewear-jewellery (4.8%) sectors, other sectors didn't fare so well.
In 2015, Poland was the country which added the biggest contribution to the growth of the Veneto 'good looking product' sector within the new markets, a market in which exports in the sector are favoured by a consolidated knowledge of quality Veneto products, but also by the lack of commercial barriers which, in other areas, represent a significant obstacle in the spreading of products. In 2015, China too offered a big contribution to the growth of foodstuff exports and it is a positive signal if you take into account the potential for the growth of the market, which we will talk about more extensively in the next paragraph. Overall, especially Russia was the country that most slowed down the growth in the new markets, wherein the "good looking product" sector fell by 38% in comparison to 2014. The growth of the eyewear was mainly stimulated by the Chinese and Turkish markets, whilst the goldwear-jewellery sector saw a significant growth in exports to South Africa. Moving on to the sectors that had a drop in 2015 in the new markets, clothing was the one that suffered the most (-13.2%) as well as experienced a more disappointing dynamic in the mature markets. The country that most contributed to penalise the demand in the sector was, besides Russia (-34.5% in comparison to 2014) China (-12.9), whilst the most significant positive contribution came from Kazakhstan, Peru, Mexico and South Africa. To get an idea of how the crisis of the demand coming from Russia affected BB&B, we must consider that in both the footwear and furniture sectors the exports to the new markets, excluded those to Russia, increased in 2015. In the footwear sector the biggest positive contribution came from the UAE, and in second place from Kazakhstan and China. In furniture, China and Saudi Arabia most contributed to the increase of exports, although they didn't manage to compensate for the 31% decline in the Russian market.
Even if the analysis is focused on the opportunities offered by the new markets, the positive evolution of BB&B in the mature economies in 2014-2015 shows that the productive regional system knew how to profit from the recovery of the internal demand in certain advanced economies, in particular, the USA.

Tab.7.1.2 - The countries which contribute the most or the least to the growth of BB&B exports in the new markets. Veneto. Year 2015

Foodstuff		Furniture		Clothing	
Polonia	+ +	Kazakistan	+	Emirati Arabi Uniti	+
Cina	+	Perù	+	Kazakistan	+
Kenya	+	Messico	+	Cina	+
Nigeria	-	Sudafrica	+	Brasile	-
Ghana	-	Cina	-	Sudafrica	-
Russia	- -	Russia	- -	Russia	- -
woodstile		**Eyewear**		**Goldwear-jewellery**	
Cina	+ +	Cina	+ +	Sudafrica	+ +
Arabia Saudita	+ +	Turchia	+ +	Messico	+
Emirati Arabi Uniti	+	Emirati Arabi Uniti	+	Polonia	+
Algeria	+	Arabia Saudita	+	Russia	-
Turchia	-	Russia	-	Cina	-
Russia	- -	Brasile	-	Emirati Arabi Uniti	-

Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

Fig. 7.1.10 - Percentage variations in the BB&B exports by target markets. Veneto. Year 2015



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat data

7.2 The growth path[33] of Veneto BB&B in the new markets

In 2021, the demand for BB&B products from the new markets will amount to 234 billion euros[44], i.e. 28% of the global demand in this sector. In percentage terms, between 2015 and 2021 there will be a 48% increase in the demand, which is double the intensity of that foreseen for the mature economies. Firmly at the peak in the ranking of the most important new importers of BB&B products in 2021 will be the UAE, followed by Russia, China and Vietnam. In the same year, these four countries will import 36% of the BB&B products requested from the new economies.

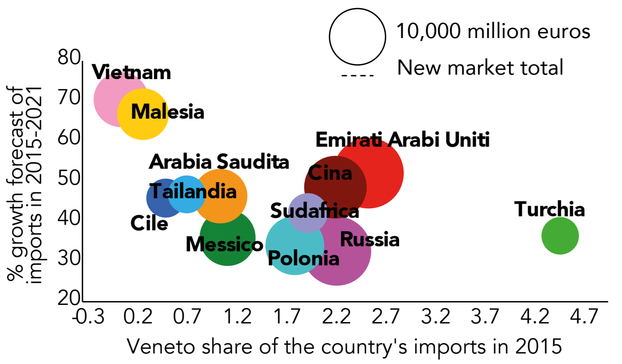
Among the most important markets there is Vietnam for which the most intense growth in BB&B demand (+70% between 2015 and 2021) is expected. In most recent years, the country had a real and true consumer boom, thanks to the enlargement

[3] The imports growth forecasts for the new and mature countries have been taken from the Confindustria- Prometeia (2016). The imports forecasts for Veneto were taken, assuming a constant market share for every BB&B sector in every country with the aim to quantify the potential growth from the most recent positioning (2015). In goldwear-jewellery, the exports to China in 2015 were higher than the provisory data from Istat, because they incorporate an estimate of possible commercial triangulations.

[4] Values expressed at constant prices and currencies.

of the new well-off class. Moreover, Vietnam is becoming even more important on the international trade scenario as a logistic and productive hub. The demand will continue to show a fast growth in the UAE (+52%) and in China (49%), countries that have very good prospects for Veneto BB&B. The prospects of the Russian market will be much weaker, which will see an international demand growth in BB&B by 33% in 6 years. Among the other main new markets, Malaysia, Indonesia, Saudi Arabia, Chile and Thailand can expect a potential growth in demand greater than 45%. In 2015, Veneto accounted for 1.5% of the total imports of BB&B in the new markets. If you consider the main BB&B importers, you can see that the region's market share achieves high values in the UAE (2.6%), in China and Russia (2.3% each). Also in Poland (4th largest BB&B importer in 2015) the region's market share wasn't minimal (1.8%), whilst still very modest is that concerning those markets which are characterised by wide growth prospects, but are far away and not easy to approach such as Vietnam and Malaysia.

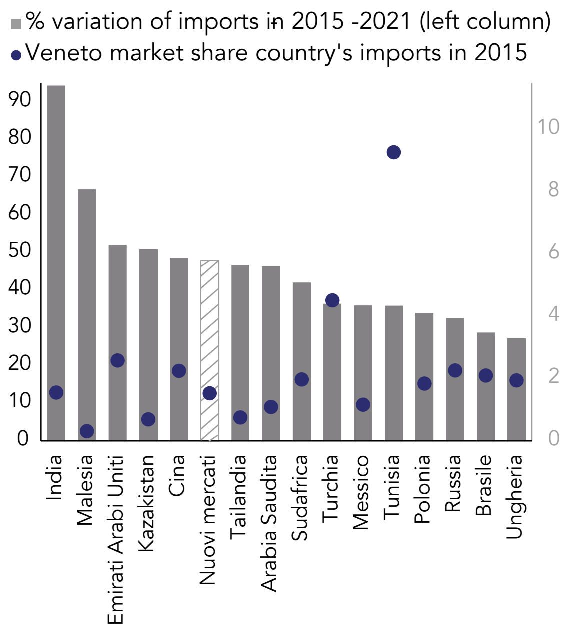
Fig.7.2.1 – The top 12 new BB&B importing markets: Veneto share of the country's imports in 2015 and percentage cumulative growth in imports between 2015-2021 (*)



(*) The dimension of the circles is proportional to the weight which the country holds in the global BB&B imports
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistical National Institutes data.

If we consider the most important new markets for Veneto export of BB&B, you can see a particularly high penetration in Tunisia, where the region's market share in 2015 was 9.3%, and 4.5% in Turkey. Both countries, however, expect a BB&B growth lower than the average in the new markets. In India, the country which can expect the greatest growth in BB&B consumption (94% in 6 years), the Veneto market share in 2015 was 1.6%. More modest is the weight of the region on the demand from Malaysia, another, particularly dynamic, market.

Fig. 7.2.2 – BB&B: percentage variations between 2015 – 2021 of imports by country and Veneto market share – Year 2015



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

BB&B Foodstuff

In 2021, the Veneto export of BB&B foodstuff to the new markets could settle at around 300 million euros.

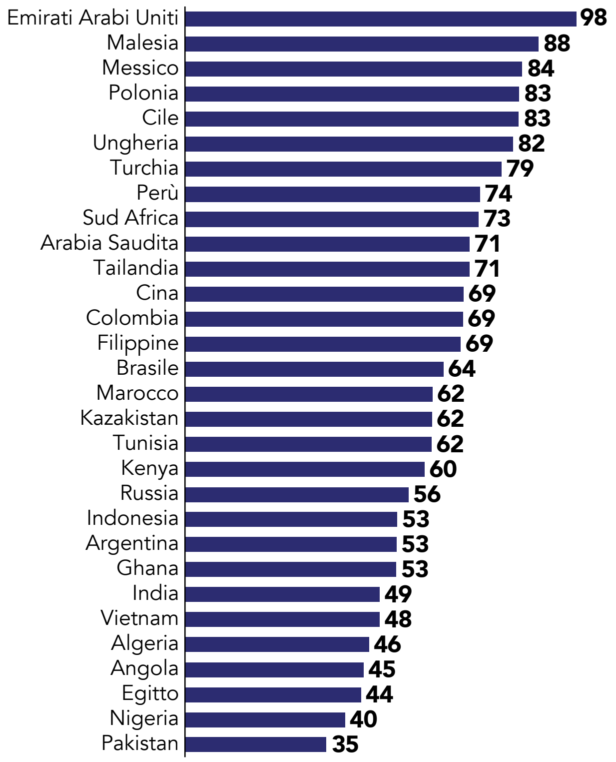
Commercial tariff and above all non tariff barriers are the main obstacles to the spread of Veneto foodstuff

In the emerging markets there isn't a lack of opportunities for the Veneto quality foodstuff, but the presence of tariff barriers cannot but represent a significant obstacle to the penetration of the products: food safety norms, restrictions on imports, high duties, and long procedures to obtain necessary certifications are all factors limiting the potential growth in Veneto export in certain emerging areas. Among the most important new markets the region's market share is higher in Poland and Hungary, areas in which aside from a greater knowledge on the part of the consumers of the Veneto wine and food, the absence of duties favours a greater penetration of quality food and wine products. Poland and Hungary are followed by Russia and Brazil where Veneto has the highest market share. These areas, as already noted, are characterized by a difficult economic situation which impacts consumption prospects in the medium term. Moreover there is a certain deterioration of accessibility of the Russian market due to continued tensions with the international community. As much as accessibility is concerned, Brazil too suffers from certain shortcomings either concerning the operability of the companies or the logistical and distribution infrastructure. Among the elements that however favour the penetration of Veneto foodstuff in Russia and Brazil there is a higher tendency in the consumption of BB&B than in other emerging economies.

While the accessibility in Brazil and Russia is worsening, it remains high in the UAE.

China is the main importer of quality foodstuff, and for which a wide increase in the demand (+43% between 2015 and 2021 compared to 31% for the new markets as a whole) is expected. In this country, the Veneto market share in 2015 was 0.5%, a considerable result if you take into account the dimensions of the market. The new Chinese middle class is showing an ever growing interest for quality foodstuff, the premium segment, wherein foreign businesses continue to maintain leadership, is significantly growing. A few scandals happened in the last few years, however, made Chinese consumers more aware and interested in health and food safety[5]. The aforementioned high commercial barriers, particularly the non-tariff obstacles, contribute to limit the accessibility of China . A greater penetration for Veneto foodstuff, particularly for wine, the leading regional export product, could benefit from the strengthening of the online channel, at least to make the products known to potential Chinese consumers, who are among the most digitally advanced in the world. In the UAE too, the market share was 0.5%. Differently to that which was noted for China, Russia, and Brazil, the level of accessibility of the country is high for all the indicators which build the composite index and the country is aimed to strengthen their role as a tourist and commercial hub, representing an important showcase for the international spread of traditional Veneto food and wine.

Fig.7.2.3 – BB&B foodstuff: index of accessibility (*) for Veneto – Year 2014 UAE 98



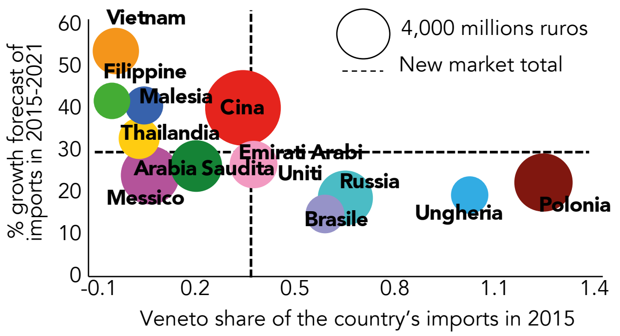
(*) Index of accessibility: naximum accessibility = 100.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE data

Among the most significant new markets for the Veneto 'good looking product' sector, Poland will be first in 2021 which could take on over 70 millions of regional exports. Such performance is explained by the high accessibility of the country, as well by the tourist and migrant flows, all factors which facilitate the spread of Veneto food culture in this market. In China, the imports for the Veneto sector could reach 50 million, even though the hypothesis of maintaining this market share on a consistent basis could be optimistic if you consider the presence of important competitors such as the French busi-

[5] McKinsey&Company (2016) The modernization of the Chinese Consumer

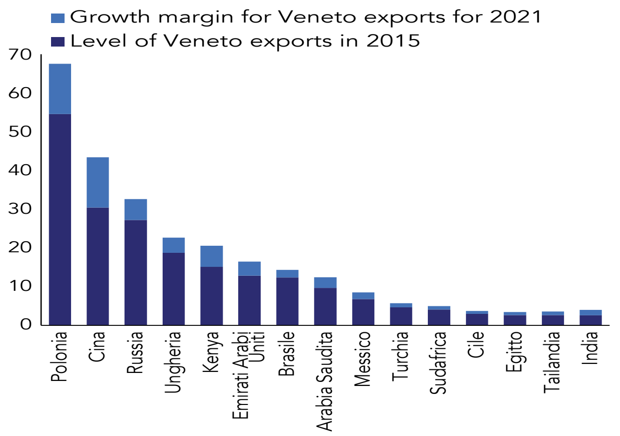
nesses and, more recently, those in Spain, able of topping the lead now reached. The importance of the Russian market is becoming diminished in the prospects too, since it will show, in comparison to Poland and China, a more modest capacity of acquiring Veneto imports, but that will however continue to be third in the ranking of the most important new markets for the Veneto exports in this sector.

Fig. 7.2.4 – BB&B foodstuff: the Veneto share on the country's imports in 2015 and percentage cumulative growth of imports between 2015 and 2021 in the top 12 markets (*)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

Fig. 7.2.5 – BB&B foodstuff: Veneto exports in 2015 by target country and their growth margin for 2021 (expressed in millions of euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, Eurostat, IHS and Statistics National Institutes data.

BB&B clothing[6]

Between 2015 and 2021 the imports of BB&B clothing to the new markets is expected to increase by 46%, recording an almost double the growth expected for the mature markets. In spite of the crisis, Russia, after Vietnam, will be the largest market with a demand that could exceed 9 billion euros.

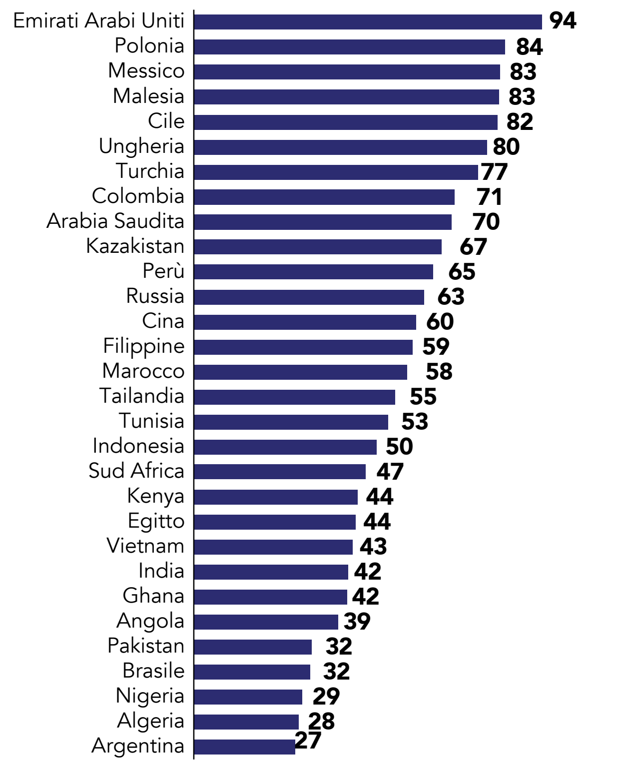
In 2015 the Veneto market share in Russia was 1.6% and the hypothesis of maintaining this on a consistent basis in the medium term seems coherent with the efforts undertaken by the companies to retain their consumers. The middle class will continue to expand, which is sensitive to Italian fashion and made in Veneto clothing. In order to truly not frustrate the strategies adopted to oversee the market, businesses are called to keep the interest in their own products alive and to strengthen the link with the urban middle class, using the lever of international tourism as well as on site trade shows. The prospects of the Russian market, therefore, remain good, and in 2021 Veneto could export around 150 million euros to it, whilst having to face with an unfavourable accessibility. Non tariff barriers in fact persist, which have grown also due to the geo-political crisis, but also due to the deficiencies concerning the logistical and distribution infrastructure, with exception to those in Moscow and Saint Petersburg.

In spite of the crisis, Russia will remain one of the most important importers

Among the main new importers of BB&B clothing, after Russia, there is China where Veneto recorded the largest market share (1.5%) in 2015, and in 2021 the regional export in China could exceed 62 million euros, in comparison to the current 44 million. The country could become, after Russia and Poland, the third largest market for the Veneto export of BB&B clothing. New Chinese consumers continue to represent an opportunity for considerable growth for the made in Veneto fashion. Firstly, the middle class will continue its expansion at a good pace in the coming years; secondly, the transition towards a more balanced growth model will mean a strengthening of the consumer component. An expanding middle class and a higher propensity to consume are elements which could positively impact the demand for quality Veneto clothing, since style and elegance of Italian fashion benefit from

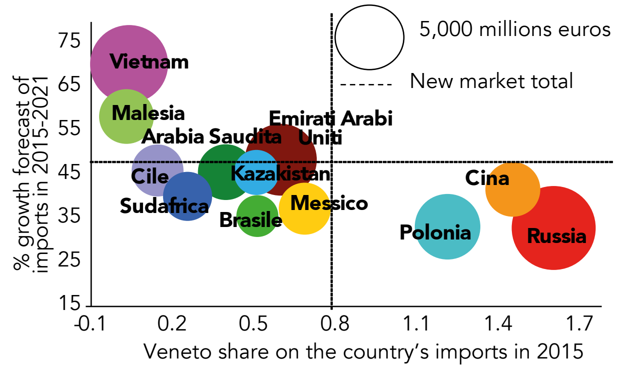
[6] For sake of brevity, in this article only the term 'clothing' will be used, but the aggregate will also include home textiles

Fig. 7.2.6 – BB&B clothing: index of accessibility (*) for Veneto – Year 2014 UAE 94



(*) Index of accessibility: maximum accessibility = 100.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE data

Fig 7.2.7 – BB&B clothing: Veneto share on the country's imports in 2015, and the percentage cumulative growth of imports 2015-2021 of the top 12 markets (*)



(*) The dimension of the circles is proportional to the weight which the country holds in the global BB&B imports Source: Veneto Region Processing - Regional Statistics System and Prometeia oni Eurostat, IHS and Statistics National Institutes data.

a consolidated reputation within the international markets. All that does not protect, however, from the risk of a decline in the reached market share. The competition in the Chinese market is not felt on the side of local producers, that continue to focus largely on lower quality sectors, but from other international competitors such as France and Spain that are strengthening their presence in the country. The accessibility index for the Chinese market remains very modest: in spite of the reduction of duties which involved certain consumer categories, among which also clothing, there still remain non tariff barriers, weaknesses in the logistical infrastructure and a difficult operability for businesses.

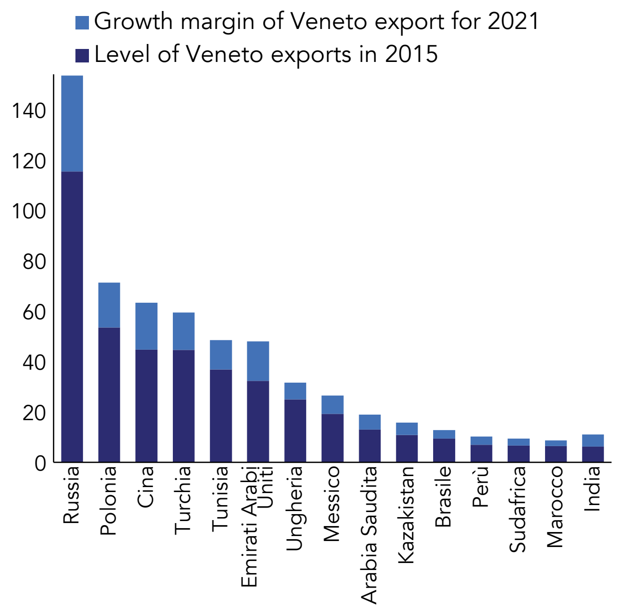
Wide middle class expansion and a transition towards a more balanced growth model in China

Good prospects for growth in demand (+48% between 2015 and 2021) are also confirmed for the UAE, that consolidate their role as a touristic and commercial hub and in which the region's market share was 0.6% in 2015. In this case, the penetration of Veneto products is facilitated by favourable commercial politics, be it in terms of duties or non tariff barriers, and by modern logistics and distribution infrastructure. Out of the competitors, Chinese businesses stand out, but also Spanish ones, have climbed the rankings in the most recent period.

In 2021, after Russia, Poland and China will be the most important markets for Veneto.

Poland has been confirmed as an important market for Veneto: strong commercial relationships and a good knowledge, on the part of the consumers, of the aesthetic and qualitative features of the products are aspects which favour Veneto businesses which export to the country. Moreover, the accessibility is high, notably due to the absence of commercial barriers. In this case, the main caveats are found in the competition from other important international importers, Chinese, for example, especially in woman's clothing and knitwear, and Germans, in the sector of men's fashion.
As already mentioned, in 2021 the largest BB&B importer will be Vietnam, whose international demand in this sector could exceed 10 million euros.

Fig.7.2.8 - BB&B clothing: Veneto exports in 2015 by country and their growth margin for 2021 (expressed in million euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia onEurostat, IHS and Statistics National Institutes data

The Veneto market share in this country is now very low, not only because of the large geographical distance, but also because of no shortage of obstacles concerning the accessibility: an inadequate distribution network, high barriers above all the non tariff ones, a place which doesn't favour the operability of business, as highlighted by the World Bank doing business indicator.

BB&B footwear

In 2021, the imports of BB&B footwear by the new markets could almost reach 27 billion euros and over 240 million could come from Veneto. Among the largest areas with potential demand, Russia will retain top spot, also remaining as the most important target country for Veneto among the new markets. Even if the recession had a considerable effect on the consumer buying power and the footwear demand within the country had a vast decline in 2015, the Veneto positioning remained the same, about 2% in terms of market share. The new Russian consumer is now able to recognize and appreciate the features of Veneto products and is inclined to not pass up the opportunity.

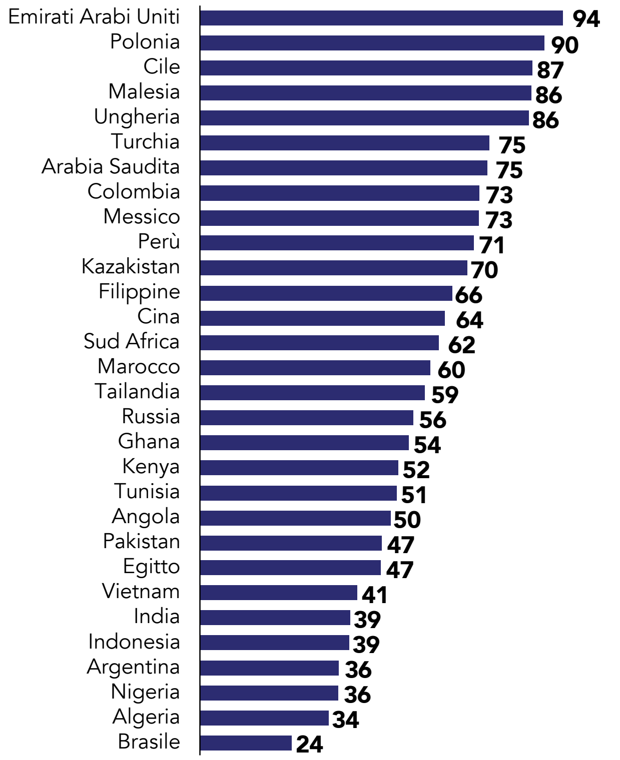
In Russia it is needed to strenghten the high quality standard perception to fend off Chinese competition

Certainly, a high quality standard perception has continuously to be strengthened in a market where Chinese businesses are gaining ever more ground, levering on a lower spending capacity due to the crisis. Russia, in this sector as well as in others, continues to show a limited accessibility because of various factors such as, in particular. commercial politics , which are not favourable especially from a non tariff point of view, but also logistics and distribution shortcomings.
Another market which is particularly significant is that of China, where Veneto could export up to 28 million euros in 2021, compared to the current 19 million. The growth in demand in the premium sectors based on the tendency for Chinese consumers to show even more sophisticated tastes, with a growing attention to the environment, the quality of materials, and the supply chain traceability. The Veneto businesses' leading position in the market depends on the enhancement of these aspects. Exactly in this direction is leading the project of the footwear district of the Riviera del Brenta, that aims at highlighting the transparency of the production process and ensuring the traceability of the product. Not only in the Chinese, but also in other international markets this initiative could represent an effective method to helping the brand awareness of products.

The attention paid to material quality and supply chain traceability is growing in China

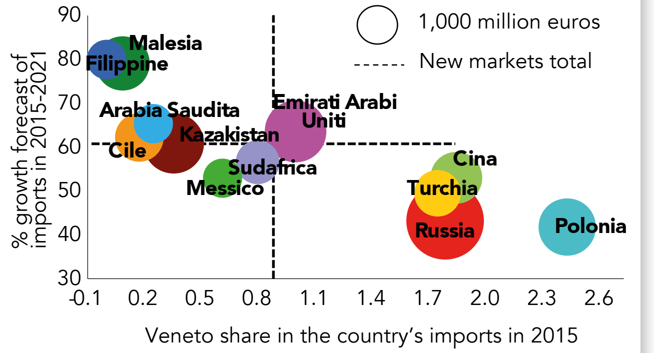
As much as competitors are concerned, Indonesia producers are gaining shares in China; for now, they are placed at a lower price range and specialized in sports footwear. The accessibility of the Chinese market confirms the relevant issues in the operability of businesses and the high non tariff barriers.
Poland was confirmed as the second largest market for Veneto exports after Russia. The region's market share in 2015 was 2.5%, and in 2021 the import of the country from Veneto could exceed 40 million euros. Poland is a market whose leading position has been consolidated for a long time, supported by close commercial relationships as well as tourist and migrant flows. Furthermore, as already underlined previously, the accessibility is high mainly due to being part of the EU. The main risks come from

Fig. 7.2.9 – BB&B footwear: accessibility index (*) for Veneto – Year 2014 UAE 94



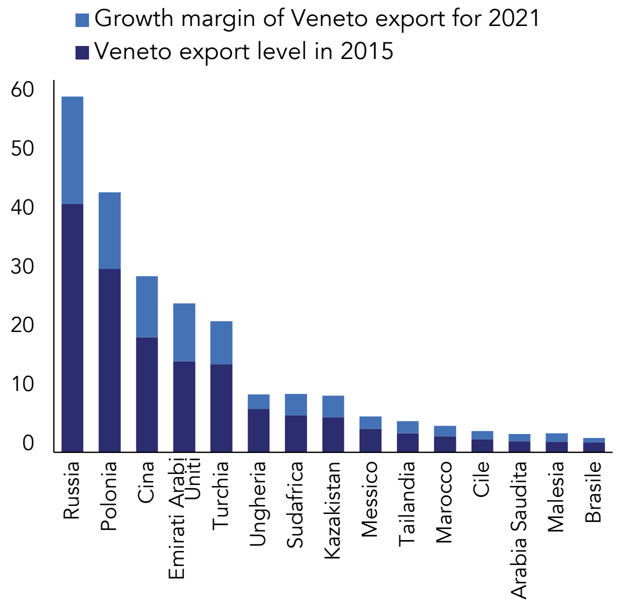
(*) Index of accessibility: maximum accessibility = 100.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE data

Fig.7.2.10 - BB&B footwear: Veneto share on the country's imports in 2015 and the cumulative percentage growth of imports between 2015 and 2021 in the top 12 new markets (*)



(*) The dimension of the circles is proportional to the weight which the country holds in the global BB&B imports
Source: Veneto Region Processing - Regional Statistics System and Prometeia onEurostat, IHS and Statistics National Institutes data

Fig.7.2.11 - BB&B footwear: Veneto exports in 2015 for by target country and their growth margin for 2021 (expressed in million euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institutes data

the presence of important competitors such as China and Germany.

The UAE and Poland are the most accessible markets, but also the most open to international competition

The UAE are the forth most important market for the Veneto export. They are among the most dynamic emerging countries in terms of prospective demand. The penetration of quality Veneto footwear in the country is facilitated by the high accessibility, but exactly the wide opening to foreign products increases international competition. Chinese businesses overlook the market, but they focus mainly on sports footwear and at a lower price range, whilst among the other relevant competitors for Veneto businesses there are French companies.
The Veneto market share is relatively high also in Turkey, a country where the tastes of the growing

middle class are ever closer to those of the western world. Moreover, the accessibility of the country is high according to all of the indicators, except from that concerning the operability of businesses due to persistent political tensions in the Middle East. An interesting market for Veneto export remains Kazakhstan, which between 2015 and 2021 should show a 61% demand growth. The country holds an important role, also due to the free trade agreement with Russia and Belarus and could represent a key bridge to strengthen the commercial flow into these areas. Moreover, Kazakhstan continues to host an event for Italian fashion enhancement in the area, the Fair of Italian footwear, shown off in Almaty in April. In terms of accessibility, however, the country is suffering from considerable weaknesses under a logistics and above all distribution profile.

BB&B furniture

In 6 years, the imports of BB&B furniture from the new markets will increase by 66%, more than double the demand forecast for the mature markets. Under the current forecast for the export of Veneto goods to new consumers, by 2021 the figure could have settled at around 760 million euros.

There are still uncertainties linked to the evolution of the Russian market...

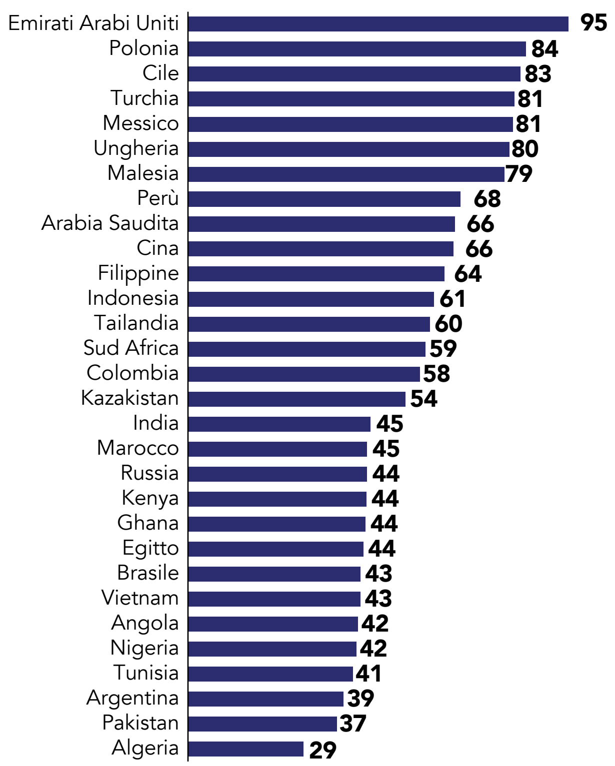
For Veneto the most important market will remain Russia, where the regional export level could arrive at 213 million euros in 2021. The signals for concern related to the evolution of the Russian market, already evident in last year report, still remain. The new Russian consumers are however conscious of the characteristics of the Veneto product, but the loss of purchasing power increases the risk of a decline in demand which could result in it orientating itself more around products with a lower price range. Actually, in the country in the past years they have seen an increase in the market share of Chinese competitors. The political tensions with the western world, however, worsen the accessibility of the country, especially in terms of non tariff barriers and the operability of the businesses.

...Meanwhile China maintains its attractiveness

In China, the international demand in the sector should rise between 2015 and 2021 by 65%. Feeding this increase on one hand is the enlargement of the middle class and on the other hand the increase in levels of urbanization. Moreover, there is also an increase in the sophistication of tastes of Chinese consumers, which are now not only interested in the aesthetics, but also in the quality and the reliability of the product. It is necessary to continue to strengthen this greater awareness in order to distinguish from local producers that often are a long way from the qualitative standards of the Veneto produce. The accessibility of the Chinese market isn't among the highest, especially penalized in terms of operability of the businesses as well as the commercial non tariff barriers.

The UAE and Saudi Arabia offer good demand growth prospects and will remain the third and fourth most important markets in Veneto exports respectively. These countries have started to diversify their economy that should see a further increase in the role of services to reduce the dependency on the oil income. In terms of furniture, the best opportunities reside in the enhancement of the hotel structures which play host to a huge flow of

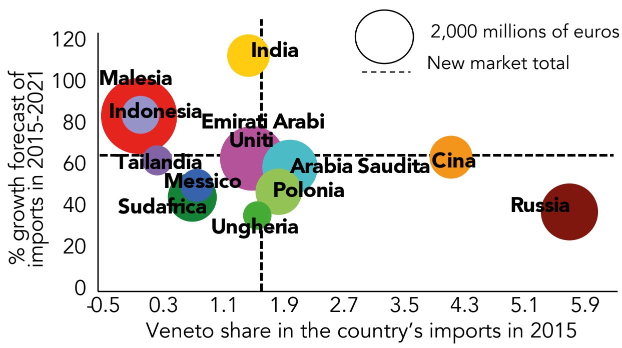
Fig. 7.2.12 - BB & B furnishings: affordability index (*) Veneto - Year 2014



(*) Accessibility index: maximum accessibility = 100
Source: Processing by Veneto Region - Regional Section Statistical System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE.

international tourism, and they are thus a very good instrument through which to make the beauty and the quality of Veneto furniture known and appreciated in the world. In terms of accessibility, however, Saudi Arabia is in the backseat compared to the UAE, due to some shortcomings in the distribution channels.Veneto exports in the UAE and in Saudi Arabia could rise by 2021, to as much as 87 and 82 million euros respectively. In these countries, just like in others, the market share of the Chinese businesses is increasing in the same way as only in Saudi Arabia, it is happening for the Turkish businesses.

Fig.7.2.13 - BB&B furniture: Veneto percentage share on the country's imports in 2015 and cumulative percentage growth of imports between 2015 and 2021 in the top 12 markets (*)

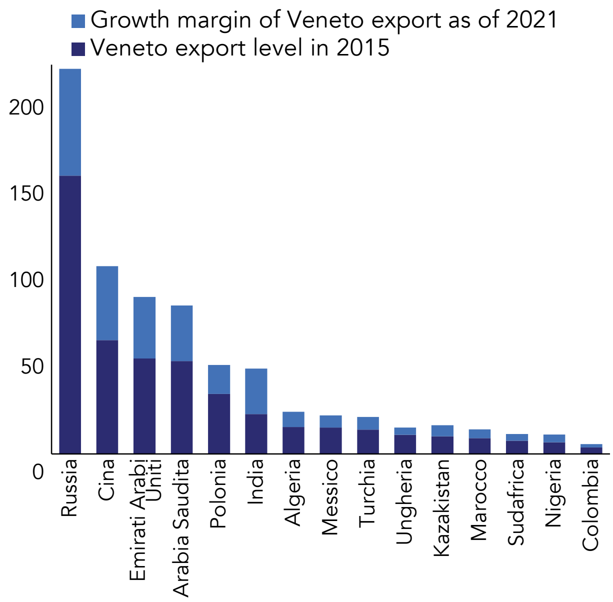


(*) The dimension of the circles is proportional to the weight which the country holds in the global BB&B imports
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institutes data

Demographic growth and urbanisation support the demand in India, but the accessibility of the country remains low

The fifth largest market for Veneto export and the most accessible after the UAE, Poland will show a growth in demand smaller than the average of the new markets. The country isn't only a target market, but it is also a competitor that is building an ever increasing role in the international markets, even though the Polish furniture businesses generally turn to a less sophisticated type of customers than those which the Veneto businesses turn to.Among the largest new markets, India is the one which will show the most intense growth in demand, with a prospective evolution by 114% in 6 years. As we will go into more detail in the next paragraph, India will experience an intense demographic dynamics in the coming years, a considerable enlarging of the middle class, an extensive process for urbanization, all elements which will favour the demand in the sector. But the obstacles to this penetration of Veneto products are not lacking. Firstly, the new Indian consumers still have a certain Anglo-Saxon influence on furniture and are less sensitive than others to the Veneto design and quality. Moreover, it is a not easy market to approach: the distribution channels are very fragmented, the infrastructure is insufficient, and the operational risk for businesses is high.

Fig.7.2.14 - BB&B furniture: Veneto exports in 2015 by target country and their growth margins for 2021 (expressed in millions euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institutes data

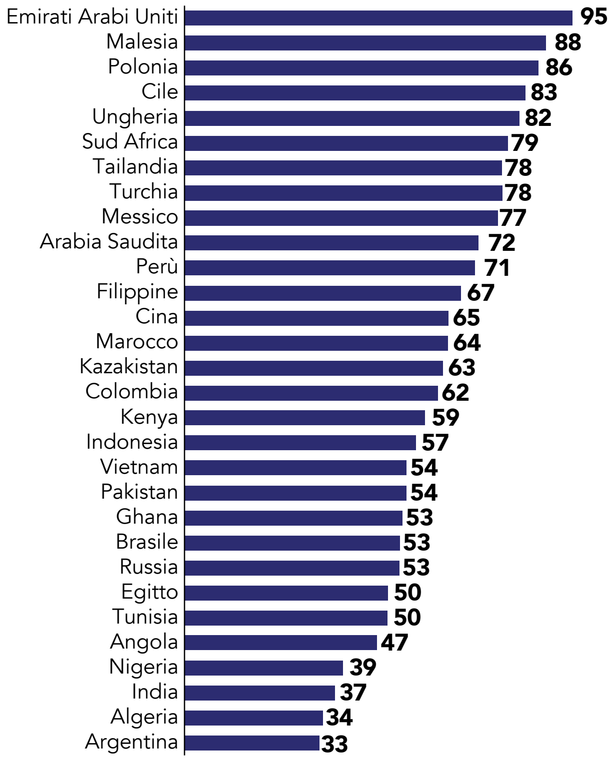
BB&B eyewear

Between 2015 and 2021 the growth in the demand in the sector in the new markets will reach 62%, with peaks higher than 100% in Indonesia and especially in India. It is a sector within which Veneto confirms its leadership over the mature and the new markets. In the latter, over a quarter of the demand was supplied by Veneto, and the region retained an ever high weight in important markets such as China and the UAE. In a period in which the demand on the international markets for various sectors didn't shine with creativity, design, accurate manufacturing, client attention, valorisation of the online stream were all winning elements in the aim of expanding the Veneto eyewear globally. And whilst the crisis was felt by the Veneto eyewear exported to Russia and Brazil, countries where the regional export declined in 2015, by 31% and 21% respectively, Veneto BB&B increased in the UAE (+10%) and especially in China (+39%).

In 2015 export to Russia and Brazil fell, but it grew to the UAE and especially to China

In the Chinese market Veneto market share reached 40% in 2015. As previously underlined, the expansion of the middle class, the transition to a growth model more oriented to consumption and less to investments, a better awareness from the new Chinese customers of their purchasing choices are all factors which favour Veneto production which has proved to be able to mould design, innovation and quality of materials together. Even though this winning formula isn't easily replicable and even though, as we have already noted, today's Chinese consumers are more aware of differences between original and copy, the risk of counterfeit remains high, something which always increases competition of local businesses and, more generally, Asian businesses, which undergo an upgrading production path. China, however, isn't an easily accessible market. In spite of the recent reduction in import taxes for certain products, including eyewear, the commercial barriers remain high especially in terms of the non tariff obstacles.
In 2021, Turkey and the UAE will find themselves placed after China in the ranking of the most important new markets for Veneto export. The first is favoured by a geographical closeness and a market control by Veneto businesses dating back over time. The main issues consist in the political risk, with its repercussions in terms of operability of the businesses and a certain difficulty in the approach with the consumer, which, with exception of those living in the large urban cities, have different tastes, sensitivity and values. The UAE have a high accessibility and Veneto eyewear profits in the country from international leisure and business tourism and from the demand of a more wealthy local population. In spite of the high Veneto market share in the

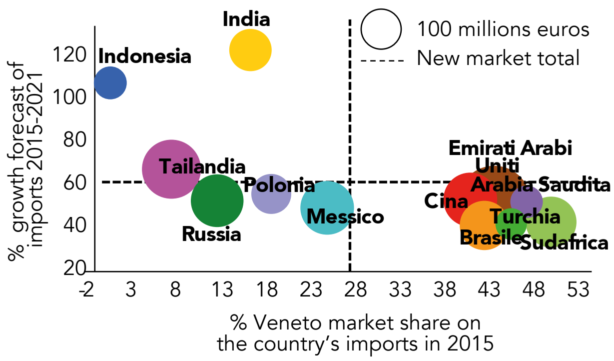
Fig. 7.2.15 – BB&B eyewear: accessibility index (*) for Veneto – Year 2014 UAE 95



(*) Index of accessibility: maximum accessibility = 100.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE data

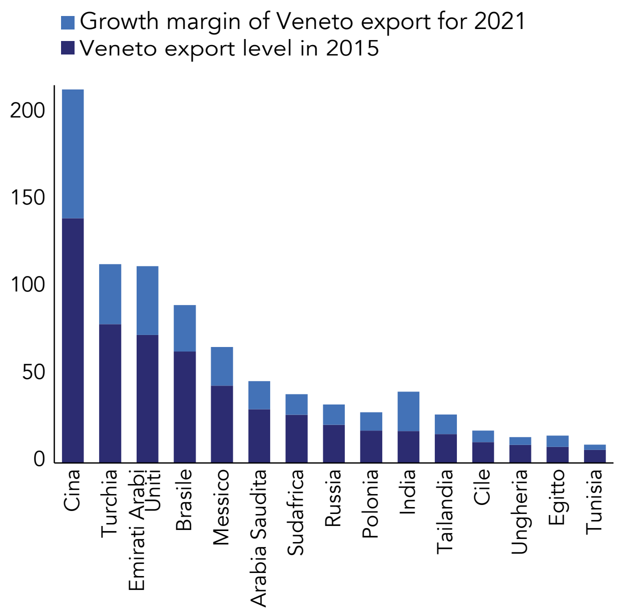
UAE in this, just like in other sectors, they need to monitor the activity of the Chinese businesses, which in recent years, have been gaining ground.
Medium-term growth prospects of Brazilian demand are lower than the average for the new markets, since the country is suffering from the ongoing difficulty to haul itself out of recession. In spite of this, the position reached by Veneto eyewear in the country was such as to represent a competitive advantage which is difficult to be beaten by other competitors. In Brazil, aside from the difficult economic conjuncture, there are other obstacles to the penetration of products such as high tariff barriers, the fragmentation of the distribution network and a series of operational difficulties.
Among the new markets, the most promising in terms of prospective demand growth is India (+124% in 6 years). Now, it is an area which is overlooked by Chinese producers, but the growth forecast for average wages and the following expansion of the

Fig.7.2.16 - BB&B eyewear: Veneto percentage share on the country's imports in 2015 and the cumulative percentage growth of imports between 2015 and 2021 in the top 12 new markets (*)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institute data

Fig.7.2.17 - BB&B eyewear: Veneto exports in 2015 by target country and their growth margins for 2021 (expressed in million euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institute data

middle class suggest a possible shift of the demand towards products with a higher quality, a sector in which Veneto have subscribed to fully.

India is the country with the highest demand in growth, but apart from the competition of Chinese businesses there is also a low accessibility for Veneto businesses.

However, for the moment the Indian market maintains a low accessibility. The non tariff barriers are high, specifically due to the request for conformity certificates to technical specifications and local standards, in some cases additional or in any case different from those acknowledged at the international level. Moreover, there is a distribution system which is fragmented and old-fashioned.

BB&B goldwear-jewellery

In 2021, the international growth in jewellery and goldwear coming from the new markets could reach up to 13 billion euros; out of these, 734 million could come from Veneto. In 2015, moreover, the weight which the new market held on Veneto exports in the sector was high, in line with that to the mature countries[7].

Tariff barriers are the main obstacle for the spread of jewellery in the international markets

Even if Veneto goldsmiths are renowned and appreciated in the international markets, the sector is continuing to suffer from high taxes (not only for the new markets) that limit their spread.

The most important market for Veneto is the UAE where the region's share reached 5% in 2015. The UAE also show the widest demand among the new markets. To the requests from a more wealthy local population, there are also those linked to the development of international tourism. The feature as showcase for Made in Veneto in the world explains the realization, for the second consecutive year, of Vicenzaoro Dubai, a show that represents a place to meet for all of the important players within the sector and which gives Italian and Veneto businesses a good opportunity to showcase the excellent characteristics of their products. The UAE play a significant role for the sector also because they represent an important centre for sorting gold,

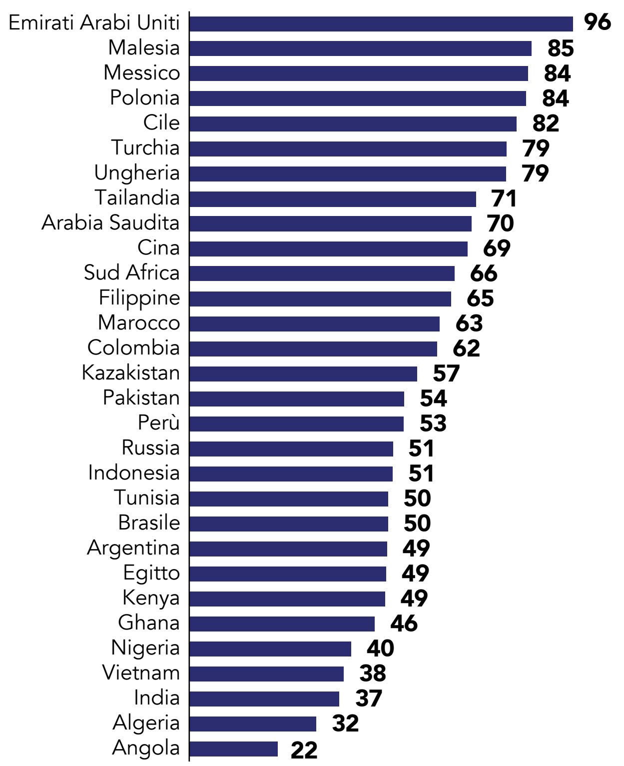
[7] It is necessary to underline that among the other countries, not included either among the 10 mature, nor among the 30 new, there is Hong Kong, which had a relative weight for the Veneto export in 2015 (24%).

especially that going to the Asian continent. The clearance and re-dispatch operations are fast and rely on an efficient logistical programme, all factors which prompt a higher index of accessibility for the market.

The UAE remain the main importer and the most important target market for Veneto

At a significant distance from the UAE, in 2021 South Africa could be the second most important new market for Veneto. In 2015, the market share of the region peaked at 8%; in the same year Veneto exports to the country grew by 42%.
The imports of South Africa in the sector are expected to increase by 51% in 6 years and the country boasts quite a high accessibility, thanks to the commercial barriers which are relatively low. Moreover, there is a wider penetration for Veneto

Fig. 7.2.18 – BB&B goldwear-jewellery: accessibility index (*) for Veneto – Year 2014 UAE 96

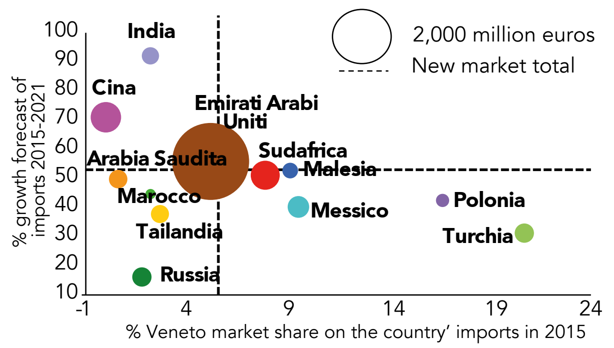


(*) Index of accessibility: maximum accessibility = 100.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Istat, WTO, GTA, World Bank, Euromonitor and CBRE data

Great prospects for growth in the demand in India, slowed down by local competition and a low accessibility

in the country which could represent a bridge to extend out to other African markets. At a very short distance behind South Africa, in 2021 will be Turkey, which could find itself placed in third place among the most important new markets for regional exports. Turkey is a country where the Veneto market share is high, around 20% in 2015. On one hand, Turkey plays a similar role to that of the UAE, acting as a centre for sorting gold, especially concerning the flow to Russia; on the other hand, the market has a certain weight in terms of potential local demand. However, in the ranking of the 30 new markets, Turkey was 6th based on the accessibility index: favourable commercial politics are the factors the most contributed to this performance.
Among the countries for which a particular dynamic for demand is expected there is India, which should record an increase in imports by 92% between 2015 and 2021. The country is characterised by an attention for jewellery firmly rooted in its own cultural and religious traditions. The vast prospect growth of the new middle class, already very sensitive to the design and the beauty of Italian jewellery, increases the amount of opportunity for Veneto businesses in this sector in the country. But this is a path with lots of obstacles. Firstly, the significance of the

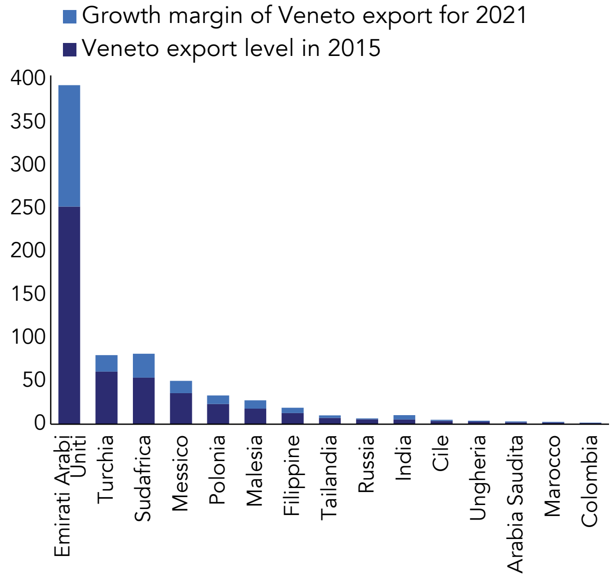
Fig.7.2.19 - BB&B jewellery-goldwear: Veneto percentage share on the country's imports in 2015 and the cumulative percentage growth of imports between 2015 and 2021 in the top 12 new markets (*)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institute data

jewellery in the Indian culture makes local producers and competitors more fearsome, also favoured by the availability of raw materials. Secondly, the accessibility of India is low, due to high non tariff barriers and a distribution system which is old-fashioned.

Fig.7.2.20 - BB&B goldwear-jewellery: Veneto exports in 2015 by target country and their growth margins for 2021 (expressed in million euros at 2015 prices)



Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institute data

Tab. 7.2.1 - The new markets for BB&B: percentage share of the global demand (*) and import growth forecasts (**). Values expressed in million euros, at 2015 prices (***)

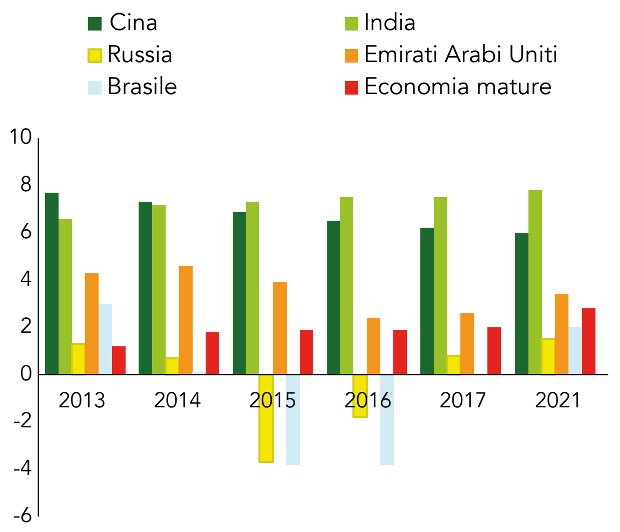
	% Weight on the world imports 2014	Imports 2021		Cumulative growth 2015-2021	
		Worldwide	from Veneto	Worldwide	from Veneto
- Russia	3.8	21,272	495	5,231	132
- Polonia	1.7	15,642	295	3,967	80
- Kazakistan	0.8	6,093	43	2,055	15
- Turchia	0.7	6,467	296	1,726	82
- Ungheria	0.6	4,928	98	1,054	22
Central-eastern Europe total	**7.7**	**54,402**	**1,226**	**14,033**	**330**
- Emirati Arabi Uniti	2.8	25,513	674	8,733	240
- Arabia Saudita	1.3	14,557	166	4,606	57
- Egitto	0.4	4,354	31	1,490	12
- Algeria	0.3	1,995	34	594	12
- Marocco	0.2	1,770	40	525	13
- Tunisia	0.1	714	65	189	17
North Africa and Middle East total	**5.1**	**48,902**	**1,009**	**16,137**	**351**
- Sudafrica	0.7	7,542	154	2,234	49
- Angola	0.4	1,639	3	559	1
- Nigeria	0.4	3,463	16	1,174	6
- Ghana	0.1	1,142	6	452	3
- Kenya	0.1	2,039	27	826	8
Sub-Saharan Africa Total	**1.8**	**15,824**	**206**	**5,245**	**67**
- Cina	1.8	19,485	451	6,367	155
- Malesia	1.3	14,950	44	5,984	16
- Vietnam	1.3	17,258	16	7,129	7
- Tailandia	0.7	7,060	56	2,249	20
- Indonesia	0.6	7,559	5	3,015	2
- India	0.6	6,883	114	3,341	59
- Filippine	0.6	6,508	28	2,443	10
- Pakistan	0.1	1,934	14	800	7
Asia total	**7.0**	**81,637**	**729**	**31,329**	**278**
- Messico	1.4	14,415	177	3,812	53
- Brasile	0.8	5,408	121	1,208	33
- Cile	0.7	7,419	41	2,331	13
- Colombia	0.3	2,561	27	688	9
- Perù	0.2	2,252	23	699	8
- Argentina	0.1	1,374	9	345	3
Latin America total	**3.5**	**33,430**	**397**	**9,084**	**119**
New markets total	**25.2**	**234,196**	**3,567**	**75,827**	**1,145**
Mature markets tota	**74.8**	**598,978**	**13,516**	**116,601**	**3,079**

(*) Globally means the 38 exporting countries which represent 85% of the global export. These statistics date back to 2014; for 2015 figures are partially estimated, the following ones are forecast.
(**)The annual data for the imports are not to be taken as forecast actual values, but as a referral to the absorption potential of the markets. In particular, the data for Veneto were obtained assuming for each BB&B sector a constant market share in each country with the aim to quantify the growth potential using the most recent ranking.
(***) The same table but with data referring to every sector of BB&B is available in the Regional Statistics System Section.
Source: Veneto Region Processing - Regional Statistics System and Prometeia on Eurostat, IHS and Statistics National Institute data

7.3 Policy spaces and consumer models in the new markets: what are the effects on Veneto BB&B?

As is now increasingly clear, the emerging markets don't represent a monolith, but, rather, a heterogeneous group, characterized by differences, sometimes deep rooted, between the countries. In a setting of generally declining economy, for example, some countries are experiencing a real recession, whilst others are starting up on a long transition path towards their own model of production and modernisation of the economic system.

Fig.7.3.1 – The economies in the emerging countries and in the mature economies (% variation) – Years 2013:2017 and 2021



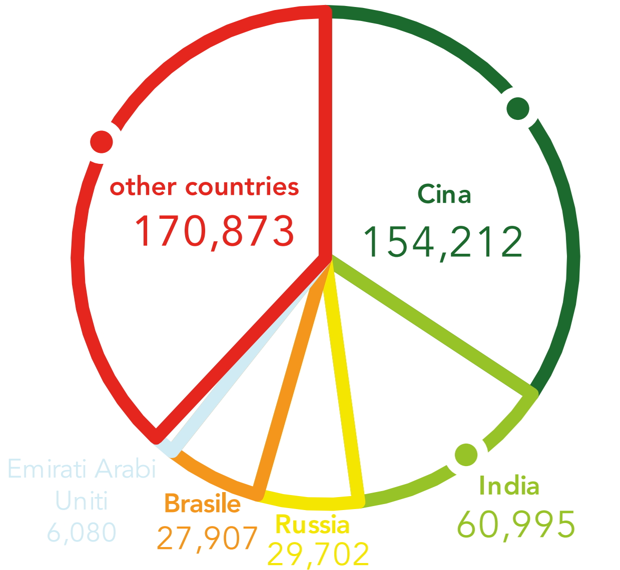
Source: Veneto Region Processing - Regional Statistics System and Prometeia on International Monetary Fund data, World Economic Outlook, April 2016

In this context, the national governments find themselves applying different policy measures that could reflect on the trends of the BB&B consumption. This latter is also conditioned by the characteristics and the social transformation that can be observed in the new markets, and which affect the single countries with different intensity. In this paragraph, we will examine 5 new markets which are of particular interest for Veneto BB&B (China, India, Russia, Brazil, UAE) with the aim to identify those elements which could favour or stop the spread of medium-high level consumer goods.
Referring to the economic situation, open space for the governmental policies orientated to the consumption support is very different in each of the countries we are looking at. In China, the change process of the own model of development towards a more balanced system, less favouring investments and more favouring consumption and services, can reflect well on the demand for BB&B. Among the measures aimed at favouring the consumption, particularly important is the reduction of import taxes for certain categories of goods including clothing, eyewear and footwear that are part of the BB&B. The attitude of the Chinese politics suggests supporting consumption even through more general measures, like expanding the health and pension coverage or those aiming to protect the environment. What is more, the implementation of urban zone plans could bring about an increase in the average income and, therefore, of the purchasing capacity of the individuals. In India too, in the medium term there is open space for politics aimed at increasing income, in particular for those that live in the countryside and represent the overwhelming majority of the population. Furthermore, among the objectives of the Indian government there is the strengthening of the infrastructure, which represents a significant obstacle to the economic development aside from the accessibility of the country from foreign businesses. As for the UAE, in the coming years the orientation of the budgetary policy will be restrictive and, with difficulty, there will be space for policies favourable to BB&B. There isn't much room for expansive policies in Russia either. In response to a low level of oil prices, the government must implement a more restrictive budgetary policy in the medium term. Brazil finds itself in a very similar situation, which, like Russia, experienced a decline in the economy due to the recession in the 2015-2016 period. In order for Brazil to come out of the recession it would need a political stance which supports the economy, which collide, however, with an already very high level of inflation. It is more likely that the government will follow a restrictive budgetary policy with the aim to re-install faith in foreign investors.
But it isn't only the choices of public policy which affect the evolution of the demand in BB&B: social characteristics and consumption preferences are also to be considered.
In 2015, the number of new rich people[8], the ideal target for high-quality Veneto BB&B, in the 5

[8] Under new rich people or the new middle class we intend the group of individuals who have an average pro-capite income of

countries we are examining was almost 290 million people, 62% of the new middle class in the new markets.

Fig. 7.3.2 - The new wealthy class (*), in thousands of Euros - Year 2015

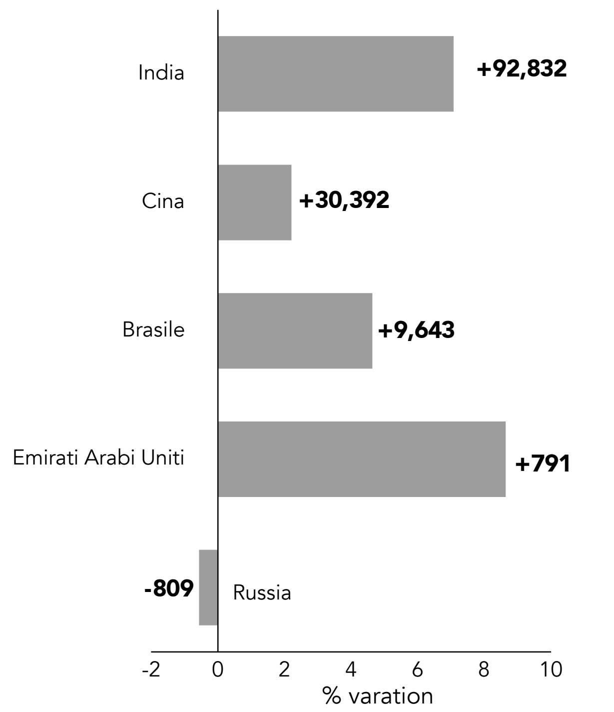


) For new wealthy class is the set of individuals with an average per capita income of $ 35 thousand on a comparable purchasing power standards (PPS) in 2010.
Source: Processing by Veneto Region - Regional Statistics System Section of Confindustria and Prometeia data - Prometeia "Exporting the sweet life. The beautiful and well-made Italian in new markets: the forces that transform consumption ", in May 2016.

In the next years, however, in all five of the countries the number of these consumers is expected to rise, with the most intense growth coming from India and China, and the most modest growth from the UAE; here, however, the weight of the middle class compared to the whole population is much higher than the same figure recorded in other new markets. Not only the growth of the middle class, but also, more generally, the demographic tendencies which represent an important factor in valuing the potential consumption demand. The demographic push is particularly intense in India. In the UN demographical projections the country will see an increase by about 93 million people between 2015 and 2021, followed by China with an increase of about 30 million people. The demography will not be favourable in Russia, where a small loss of population is expected, whilst the UAE, facing a modest variation in absolute terms, will see a demographic growth greater than that of the global average in percentage terms.

35 thousand dollars, calculated by parity of purchasing power (PPP) in 2010.

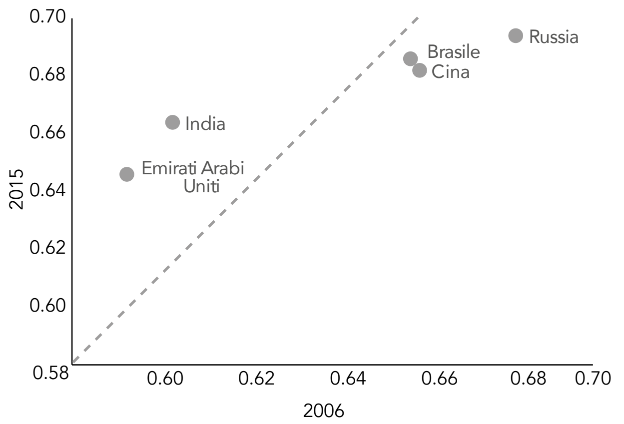
Fig 7.3.3 – The deomographic trend: % and absolute variations expressed in thousands (*) – Years 2015:2021



(*) Note: The figures on the right indicate the absolute variations
Source: Veneto Region Processing - Regional Statistics System and Prometeia on UN data

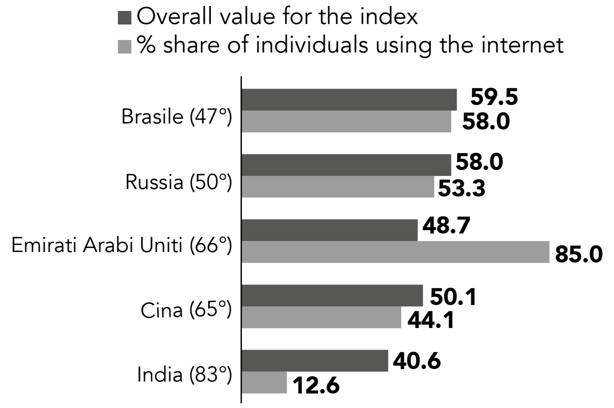
Another important element regards the level of interest shown by consumers in BB&B products. To this regard, in markets such as Russia, the UAE and China the tastes of the middle class are already particularly sensitive to the quality and beauty typical of BB&B products, whilst under this profile India still represents a market that needs to be discovered, but which is important for the growth prospects of the potential new consumers. Moreover, the current and prospective role of women could act as in important factor inorientating the choices of purchasing.
The Global Gender Gap Index highlights an improvement, between 2006 and 2015, in all of the

Fig. 7.3.4 - The Global Gender Gap Index (*) – Years 2006 and 2015 UAE



(*) The value 1 corresponds to the absence of gender gaps
Source: Veneto Region Processing - Regional Statistics System and Prometeia on World Economic Forum data.

Fig.7.3.5 – The B2C e-commerce index (*) – Year 2014



Source: Veneto Region Processing - Regional Statistics System and Prometeia on UNCTAD data

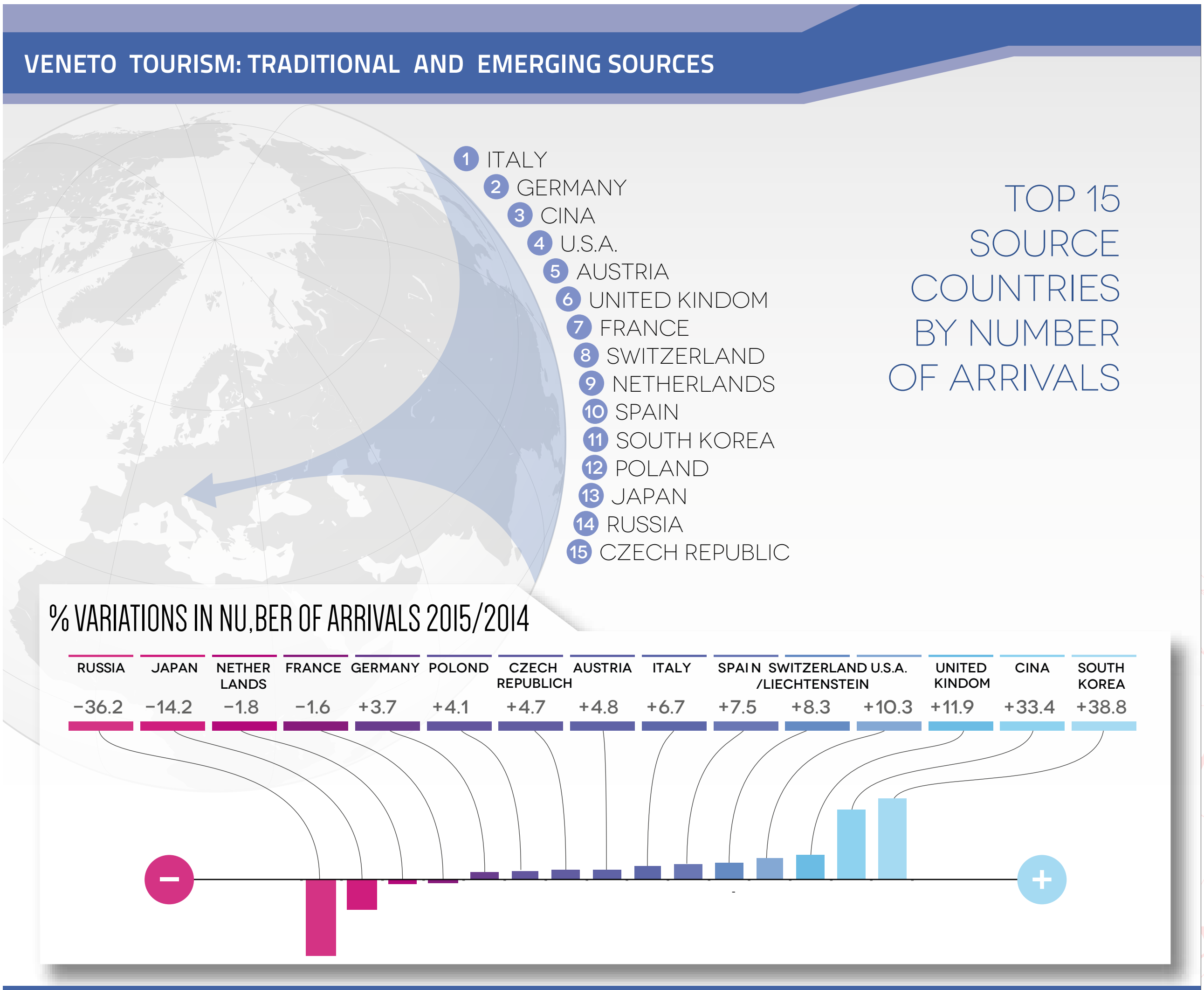
countries we are looking at, but the UAE and India continue to lag behind. In the latter a more reduced gender gap concerns mainly the more wealthy urban population, whilst for the rest there is a vast gap both in terms of pay and of access to education. However, India, as well as China, is characterized by prospects of a marked strengthening of the role of women in the consumption choices, due to urbanization processes and the rising of the levels of education. Even today, however, women in China play a very important role in the family as much as the purchase of cosmetics, fashion, food and home products is concerned[9],all sectors which BB&B products are part of. As for the spread of these latter, another important factor is the development of on line purchase channels. The UNCTAD B2C e-commerce index showed a better position for Russia and Brazil, and a much lower overall value for India. The growth potential which is most promising for the on-line sales channel, in fact, involves China and the UAE.

In short: in China and India there is space for public policies to support the spread of BB&B, which in both countries could benefit from a favourable social-demographic prospective situation (demographic growth, extension of the middle class, urbanisation, strengthening of the role of the women, spread of digital technology). In the UAE and in Russia these public policies will be restrictive and will not encourage BB&B demand. In these countries, the products of the Veneto businesses will continue to profit from the particularly high level of maturity of tastes of the consumers who already now recognise value to quality production, whilst there will be less focus on social characteristics such as, for example, the trend of the population, which, according to forecasts, in Russia will decline. Lastly, in Brazil the exit of the recession requires a restrictive stance on policy measures, but, like in Russia and the UAE, the level of satisfaction of the new consumers continues to represent a strength in terms of spread for BB&B. In the country, however, the social context appears to be favourable under multiple aspects (demography, role of women and the spread of digital technology).

[9] See The Economist Intelligence Unit (2014) On the rise and online Female consumers in Asia

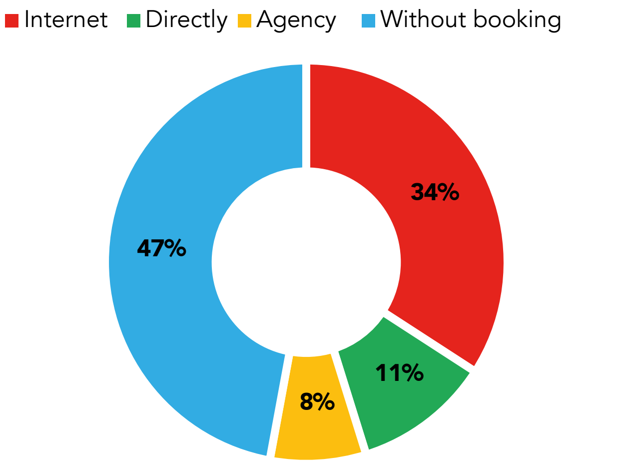
Cap.8 – Travel: from the web connection to the research of emotions in the real world

The creation and the management of a brand, even in the tourism sector, are becoming crucial. For accommodation establishments, a well laid out website represents not only a strength, but a necessary requirement for being present in the market and attracting a variety of possible clients from every corner of the world.
But an establishment which, once identified its own originality in the creation of a mix of emotions, is able to communicate it to the market in the most suitable way, will have even much more success, putting itself on the branding map. Making clear the mix of material and immaterial elements that everyone can offer represents a very good investment for the future. The strength for attracting clients isn't just the simple geographical position, but knowing how to direct the compass of the navigator towards the emotions that one wants to try.
Interesting results can be obtained from the usual statistics on tourist destinations – mountains, sea, lakes, cities of art, thermal baths – and from the analysis of data concerning the individuals that in these places have spent their holidays, in particular, focusing the attention on the votes expressed at the end of the experience.



Web connection is a must for economic activities, and even more so for accommodating establishments. Among the services offered to guests, Wi-Fi is the most sought after. Furthermore, a well laid out internet site that clearly shows the proposed offer and which allows you, in a few clicks, to see the availability of rooms, compare prices, and do a booking without having to call, represent a strength able to attract many different clients from every corner of the world. But an establishment which, once identified its own originality in the creation of a mix of emotions, is able to communicate it to the market in the most suitable way, will have even much more success, putting itself on the branding map. The strength for attracting clients isn't just the simple geographical position, but knowing how to direct the compass of the navigator towards the emotions that one wants to try.

Fig.8.1 – Percentage distribution of travels made by Italians by booking method – Year 2015



Source: Veneto Region Processing - Regional Statistics System on Istat data

The "Travel and holiday" survey allows us to notice certain aspects of the movements of Italians outside of their usual surroundings, for holidays or for work related reasons. This confirms to us that those who book a trip in Italy or abroad very rarely book directly using the telephone and even less use agencies: one trip out of three is booked using the internet.

But how and how much are the territories promoted by the websites? In this regard, interesting data were obtained from a research on the performance of tourist accounts in different regions on social media[1]: the activities of the regions on their official Facebook, Twitter, and Instagram pages from the 1st August to the 31st October 2015 were analysed. Nowadays, the overwhelming majority of regions have official pages across social network platforms with accounts of their own tourism agencies, even if the strategies and the results aren't very heterogeneous. 95% of the regions use Facebook (20 official pages), 90% Twitter (19 official profiles), but only 67% have an Instagram account (14 official profiles), a platform which is in a sharp growth but also of recent development.

In the months under exam the regional tourism agencies produced 28 thousand pieces of different content (photos, videos, posts, etc.). most of which was posted on Twitter (66%), 31% on Facebook and the remaining 3% on Instagram. Reactions to this content did however come for 84% on Facebook, 11% on Instagram and only 5% on Twitter.

The positioning of these regional pages on Facebook was evaluated by Blogmeter based on two parameters: the number of followers and the number of interactions of the users (likes, comments, shares) on the page. The Visit Tuscany page has the largest community (450,000 followers) and 500,000 interactions. In second and third place in terms of followers there is Visit Sicily and Alto Adige da Vivere. In terms of interactions, second place belongs to Visit Veneto (284,000), followed by Visit Trentino (273,000). On average, each piece of content (mostly photos) posted by the Regions on the own Facebook pages received 460 interactions. Veneto and Toscana are however distinguished from this, with an average of 2,300 and 1,600 for every post respectively .

Dominating Twitter in terms of followers are Marche (73,000), Emilia Romagna (39,000) and Puglia (21,000), whilst the top spot in terms of ability of interaction goes to Lazio, with 27,100 interactions be it likes, retweets or mentions, followed by Marche (20,300), and Emilia Romagna (12,700).

Even though it is less taken into account by regional tourism agencies, Instagram is giving more consistent results. Racking up the most number of Instagram followers was again Visit Tuscany, receiving 18,200 of them, followed a way back by Visit Veneto, We Are in Puglia and Marche Tourism, all three

[1] Blogmeter, Le performance degli account turistici delle regioni sui social media (The performance of the regions' tourist accounts on social media (October 2015).

of whom are next in line to achieve over 10,000 followers. In terms of interactions, which correspond to 'like and reply' on Instagram, Visit Tuscany recorded 106,300, followed by Visit Veneto (50,600) and Marche Tourism (30,000).

8.1 Veneto: one of the most dreamt about tourist destinations in the world

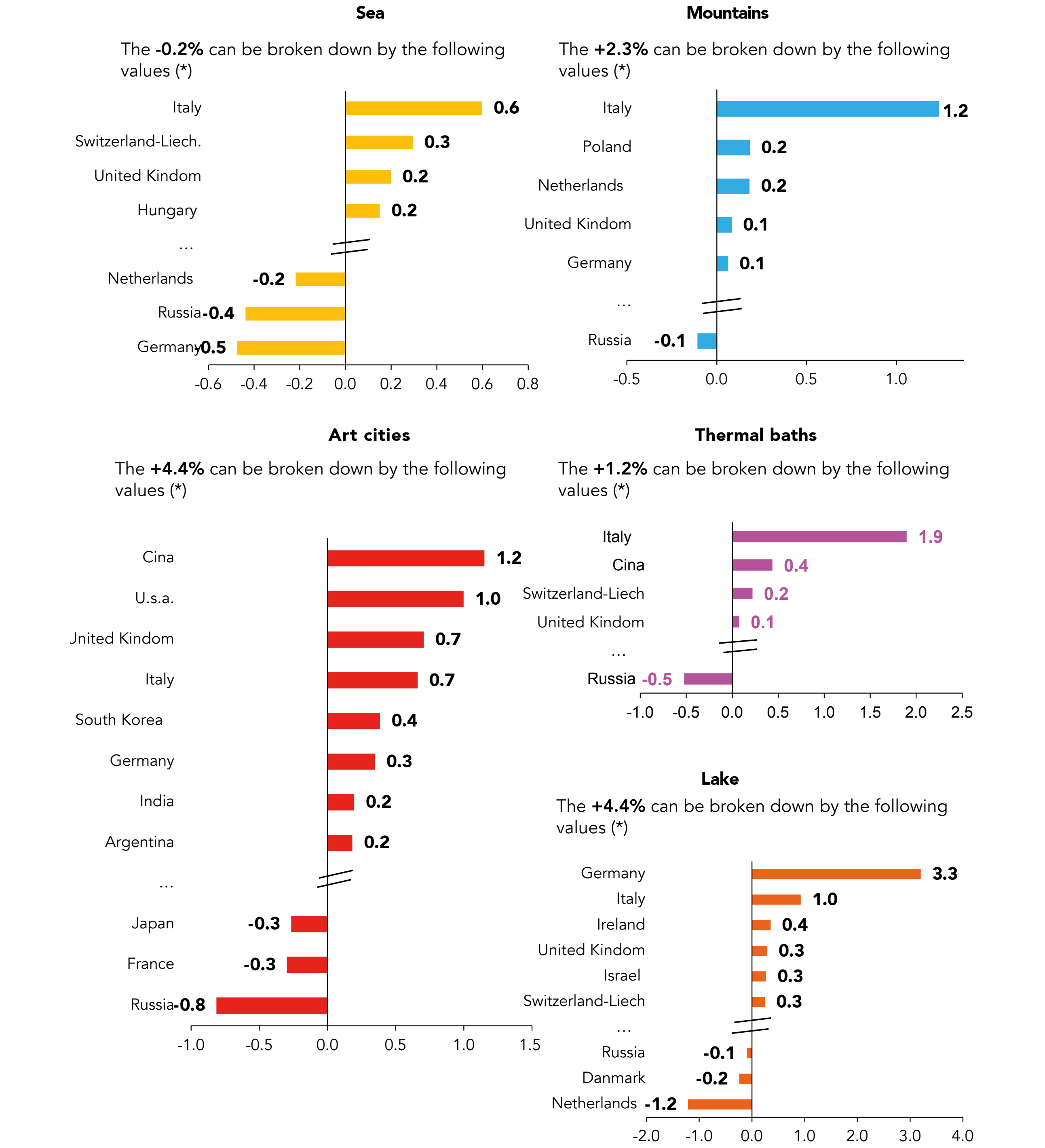
Our region's tourist offer is characterized by an incomparable variety, favoured by the natural conformation of the territory, that is enhanced by the entrepreneurial abilities of tourist operators, constantly aiming to
renovate it , in order to best respond to the needs of the clients.
The very good results obtained by Veneto tourism in 2015 reflected again a growing interest on the part of Italians (+6.7% arrivals and +2.4% of presences) and a growing foreign flow, compared to the previous year, of 5.8% in terms of arrivals and 2.2% in terms of presences. International tourism, whose growth slowed down at the beginning of the global economic crisis and then timidly increased again already in 2009, now gets a larger consensus of the most faithful clients: Germans (+2% of presences), Austrians (+1.3%), English (+10.6%), Swiss (+7.2%)

Tab. 8.1.1 - Ranking of the presences by country of origin of the tourists. Veneto – Year 2015 Presence (milions)

	Presence (milions)	% share of Veneto total	% variation 2015/14	% variation 2015/07
Italia	21.0	33.3	2.4	-16.0
Germania	14.6	23.0	2.0	24.0
Austria	3.5	5.6	1.3	8.1
Paesi Bassi	2.5	3.9	-5.9	3.9
Regno Unito	2.3	3.7	10.6	-6.2
Svizzera-Liecht.	1.8	2.9	7.2	37.1
Francia	1.8	2.9	-2.5	-1.0
U.s.a.	1.8	2.9	11.7	-3.6
Danimarca	1.2	1.8	-4.4	-3.0
Cina	1.0	1.6	28.8	221.0
Repubblica Ceca	1.0	1.6	4.1	32.6
Polonia	0.9	1.5	2.2	52.5
Belgio	0.7	1.1	0.3	14.9
Russia	0.7	1.1	-29.9	62.1
Spagna	0.6	1.0	3.4	-37.7
Ungheria	0.6	0.9	7.1	-17.3
Australia	0.4	0.7	-1.5	30.2
Brasile	0.4	0.6	0.2	83.3
Romania	0.4	0.6	14.1	3.2
…				
Total	**63.3**	**100.0**	**2.3**	**3.4**

Source: Veneto Region Processing - Regional Statistics System on Istat data– Veneto region and Americans (+11.7%). China continues the climb (+28.8%), arriving this year in 9th place for foreign states by number of presences and second in terms of arrivals. In the last ranking it came just after Germany in second place, gaining 5 places from 2011 to now, beating Austria, America, France, UK, and the Netherlands. In 2015, 830,000 Chinese visited Veneto: in 2007-2015 there was an overall growth equal to 269%, compared to an annual average growth of about 18%. The nights spent add up to one million, with a growth of 221% in 2007-2015 and an average annual increase of 16%. 94% of the Chinese who arrived in Veneto had an art city as a destination, whilst the establishments most used

Fig. 8.1.1 - The most important countries of origin for each tourist district. Contribution to the growth of the presences compared to the previous year. Veneto – Year 2015



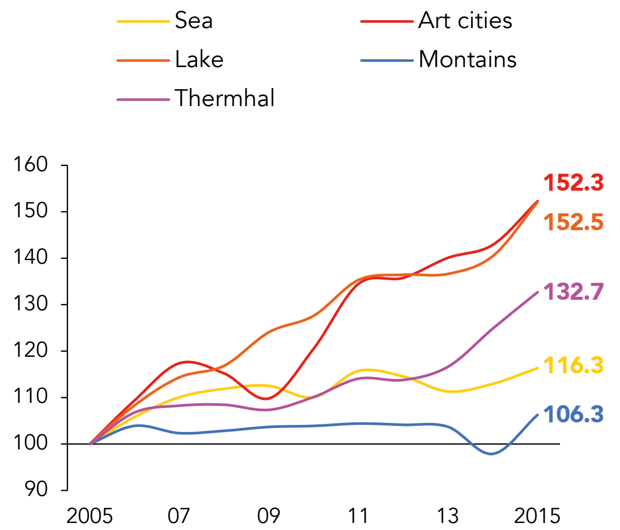
(*) Contribution to growth = (variation in presences 2015/14 from the country of origin) x (% share of presences 2014 from the country of origin)
Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto region

are hotels (95%). The average daily spend is one of the highest, estimated around 140 euro per head[2]. Another important market rich in opportunities is the Russian one: they seem to appreciate above all the art cities, where 65% of Russians arriving in Veneto are direct to and they prefer hotels (77%). The collapse of the oil price, the strong depreciation of the rouble, the growth of inflation and western sanctions have seriously affected the Russian economy over the course of the last year, condemning it into stagnation. The repercussion in the tourism sector was a -3.7% of presences in 2014 followed by -29.9 % in 2015, after years when the annual average rate was +16%. The reduction of Russian tourists affected each tourist sector, as is evident in the graphics which follow, that identify for each type of destination the markets that most contributed – in a positive or a negative sense – to the presence growth in 2015. The lost revenue linked to the Russian market is even more important for the tourist industry in an extended sense if we consider that their average daily spend is one of the highest whatever the motivation for travelling is.
Even though the contribution from the Russian market appears to be negative overall, the contribution of the Italians is positive everywhere and is a decisive result for the seaside resorts, as well as for the good year for the thermal and mountain sectors. The English also contributed to the growth of each tourist sector, meanwhile the Germans bought a positive contribution on lake, art cities and mountain getaways, but a negative one for sea and thermal baths.

Destinations

In 2015, the number of tourists grew with a consistent rhythm in all tourist Veneto sectors, and this is evident referring whether to the national or international flow. Thanks to these increases each sector topped its own historical record. Local seaside resorts reached around 4 million arrivals (+3%), thanks to a growing foreign clients accounting for 0.3%, but also a strong increase in domestic tourism (+7.8%). It was a record for the lake destinations too, thanks to a +8.5% increase of arrivals reaching almost 2 million and a half. The same can be said also for the mountain (+8.6% and almost 1 million tourists), thermal (+6.3% and 731,000 arrivals) and art cities that recorded a +6.6% increase. Thanks to 570,000 arrivals more than the previous year, in 2015, the cities hosted over 9 million tourists.

Fig. 8.1.2 – Index number (*) of tourist arrivals by district (base year = 2005). Veneto – Years 2005:2015



(*)Index number = (arrivals per year / arrivals on the base year) x 100
Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto region

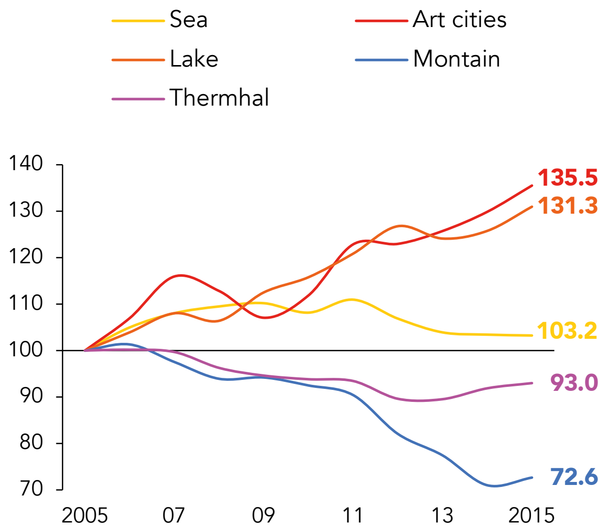
All of these records are not always true also for the number of overnig ht stays.
Art cities and the localities of Lake Garda recorded results never obtained before in terms of presences (19.7 million for the former and 11.7 million for the latter). Whereas, in the other cases, the strong decline in the length of the stay prevents them obtaining the results of the past: mountain holidays that in 1997 lasted on average 7.5 nights, now last 4.4 nights, stays at the thermal baths were 6.8 nights on average in 2001 and now are only 4.1. The record for the number of presences in seaside resorts dates back to 2011.

In art cities China was the leader among foreign visitors

There was a particular interest shown in our art cities: for years, they have been strong attractions, welcoming more than half of the tourists that arrived in Veneto (53.2%), which totalled 31.1% of the regional presences. The number of arrivals and presences over the years is always rising, apart from

[2] This includes the costs of the stay, restaurants and bar, purchases, transport in the visited country and other services, excluding the cost of the outbound and inbound flight. In this chapter, although not specified, we are considering spending data and the average votes of foreigners staying in accommodation establishments.

Fig. 8.1.3 – Index number (*) of the tourist presences by district (base year = 2005). Veneto – Years 2005:2015



(*)Index number = (presences per year / presences on the base year) x 100
Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto Region

light fluctuations recorded after the fall of the twin towers and the beginning of the global economic crisis.
Art cities getaways are characterised by the length of the stay, which is much shorter than for other types of destinations: the average number of nights spent is 2.1. In this sector, not only has the 'Italian' component diminished less than in the rest of Veneto, but in recent years it stabilised and in 2014 it gave a first sign of recovery, resulting in 4.9% growth of arrivals and 2.1% of presences in 2015. Art cities are however appreciated by a mainly international client base (almost 70% of arrivals and presences) that guarantee a growing demand also for the future. If, until 2014 foreign tourists were above all Americans, since 2015 the Chinese have taken top foreign market spot, exceeding 780,000 arrivals. Only considering the overnight stays, USA gain top spot again in the ranking, followed by historical European markets such as France and Germany. Another market which was raised up in the last few years, but which had a serious setback, is Russia: in 2013, it achieved 7th place in the ranking in terms of number of arrivals, but due to recent events, in 2015 it fell to 14th place.

Tab. 8.1.2 - Tourist arrivals and presences by provinces/metropolitan cities. Veneto – Year 2015

Absolute values in millions						
	Total		Italians		Foreigners	
	Arrivals	Presences	Arrivals	Presences	Arrivals	Presences
Belluno	0.9	3.9	0.6	2.8	0.3	1.0
Padova	1.7	5.1	0.9	2.7	0.8	2.3
Rovigo	0.3	1.5	0.2	0.7	0.1	0.8
Treviso	0.9	1.7	0.4	0.8	0.5	0.9
Venezia	8.7	34.2	2.1	9.4	6.5	24.8
Verona	4.2	15.2	1.5	3.4	2.7	11.7
Vicenza	0.7	1.8	0.4	1.1	0.3	0.7
Total	**17.3**	**63.3**	**6.0**	**21.0**	**11.2**	**42.2**
Percentage variations 2015/14						
	Total		Italians		Foreigners	
	Arrivals	Presences	Arrivals	Presences	Arrivals	Presences
Belluno	9.6	4.0	9.8	3.7	9.3	5.0
Padova	8.8	5.6	6.6	5.7	11.5	5.6
Rovigo	5.9	0.6	7.0	2.4	4.6	-1.0
Treviso	7.2	3.9	3.9	0.6	10.1	7.0
Venezia	4.0	0.4	4.9	0.1	3.7	0.5
Verona	8.8	5.0	9.0	6.7	8.7	4.5
Vicenza	5.7	2.8	6.5	-0.6	4.3	8.5
Total	**6.1**	**2.3**	**6.7**	**2.4**	**5.8**	**2.2**

Elaborazioni: Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat - Regione Veneto

There were very positive results also on a provincial level: in 2015, all of the provinces had an increase both of arrivals and presences. Interest in our destinations grew quickly and everywhere, be it from Italians or foreigners.

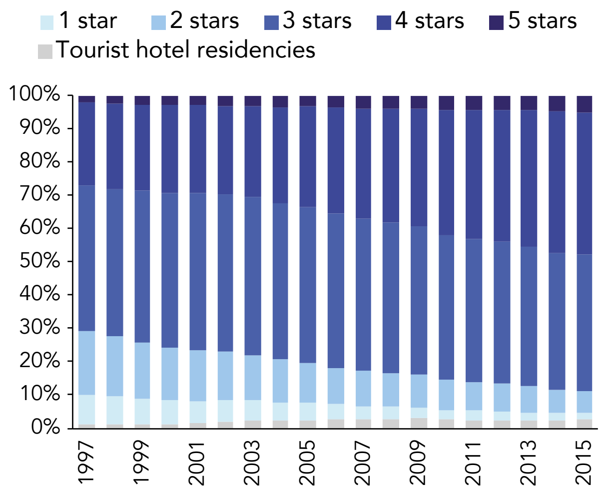
Accommodation establishments

Over the years it is clear the process of restoration of the establishments, all aiming to offer a service of ever-increasing quality and competitiveness to the clients.

Hotels: awareness of quality increases over time

In almost 20 years of our statistics on tourism, where there was an overall increase recorded for the hotel sector of 6 million presences, it seems evident the progressive and overwhelming attractiveness coming from the medium-high categories and vice versa the reduction of the space left by the market for the low categories.
Also in 2015, hotels recorded encouraging results for the higher categories of accommodation thanks to a luxury tourism which doesn't suffer any crisis (+15.6% of presences for 5 stars and +4.1% for 4 stars), and a loss for 1 or 2 star hotels (-0.5%). Among the guest accommodations there was a 6.7% growth for farm tourism, a 10.3% growth for B&B's and a stabilization of +1.6% for outdoor lodgings.

Fig.8.1.4 – Percentage distribution of presences in hotels by number of stars. Veneto – Years 1997:2015



Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto Region

Foreigners judging their experience as unforgettable

The choice of the place where people spend their holiday is ruled by emotions, already experienced in the past, or expected, searched for, desired. All tourism is a way to relive previous experiences or to have new ones. Feelings moving people are naturally personal, and not always clear, even for the same traveller.
Normally, the tourism statistics do analysis on the destinations – mountains, sea, lake, art cities, thermal baths – aggregated places with an offer which is somehow similar. Much more complex or even unexplored categories that could combine individuals, not the places, are not analysed.
Let's try, then, to go beyond and guess what foreigners that after having visited Veneto, demonstrated to be completely satisfied with the experience made, have in common. They will certainly be more encouraged to repeat the trip, but not only this: once they have returned home, they will be our

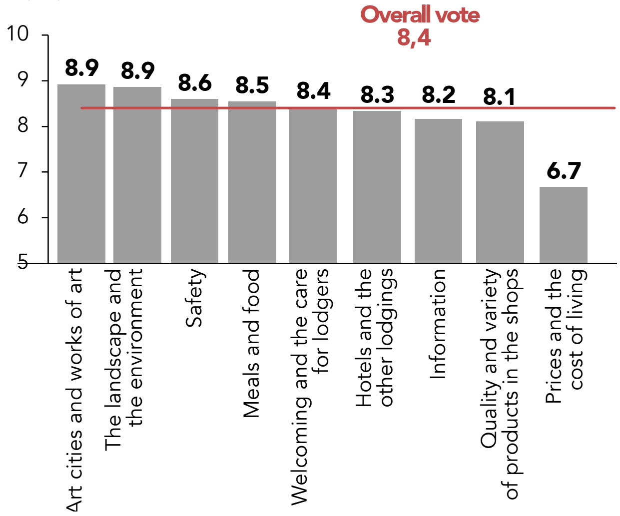
Tab, 8,1,3 - Arrivals and presences by type of accommodation, Veneto – Year 2015

	Arrivals		Presences	
Type of establishment	2015	% variation 2015/14	2015	% variation 2015/14
1-2 stars	911,134	-0,9	2,696,586	-0,5
3 stars and tourist hotel residencies	4,690,990	4,9	13,444,002	3,2
4 stars	5,742,440	7,4	13,208,594	4,1
5 stars	589,520	14,4	1,620,195	15,6
Farm stays	254,224	10,3	786,384	6,7
Camping and village holidays	2,540,724	5,4	17,695,466	1,8
B&B	299,590	18,8	688,960	10,3
Other stays	2,228,270	5,3	13,116,960	-1,4
Total	**17,256,892**	**6,1**	**63,257,147**	**2,3**

Elaborazioni: Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat - Regione Veneto

best promoters without knowing it.
The survey of the Bank of Italy on international tourism can help us. It includes interviews with foreign travellers arrived in Italy, whether for holiday, work, or other personal reasons. At the end of their travel, among other things, they are asked to rate their overall trip between 1 and 10, but also to vote on different aspects of their experience. The judgements which Veneto received were generally very high and among the most appreciated aspects there have been for years: the art offer, the environment, the safety, the food, whilst, at the tail end of the ranking came the prices. The judgements on the prices are not only the lowest, but they also split trave llers the most First of all it is interesting to evaluate if some aspects affected the overall vote more than others: it could be the praise in the comments of friends/acquaintances/parents, with an undeniable chain effect on the opinions of those who remained at home making up the potential client base.

Fig, 8.1.5 – Average votes of foreign tourists on the aspects of their holiday (*). Veneto – Year 2015



(*)Provisional data. Votes are expressed from a minimum of one (the worst) to a maximum of 10 (the best)
Source: Veneto Region Processing - Regional Statistics System on Bank of Italy data.

The following analysis uses the individual data taken from overnight foreign[3] guests in Veneto (in accommodation establishments but also at friends or parents' home) made available from the citied source across the vast survey span of 2007-2014. Generally, a high overall rating corresponds to high ratings for all of the aspects of a holiday. Therefore, when the experience was good, the satisfaction shown in the overall vote well represented the traveller's opinion on art, landscape, safety, meals, welcoming, lodging, information received and shop products[4].
At this point, we are going to leave behind the specific votes and concentrate on the judgement expressed on the travel as a whole. What were the main influences not only on the positive, but also the very good opinions? We would like to know which factors make for the best holiday experience. Among the most influential elements on the success of a visit, and which can be deduced from the information taken from the survey, there are characteristics of the interviewees, from their gender to their age, but also travelling with other people, the involvement of children, the budget available, having opted for an organized holiday or a holiday package. We ask us if and which of these elements explain the very good opinion on travelling. Since we expect different results for every reason of travel, and it is exactly this difference which interests us, we build different models of analysis[5].

Travelling together is more exciting

Differently to what we would expect, the economic factor wasn't always decisive for the satisfaction with the travel. It was so for those who spent a holiday in an art city which includes lots of additional costs in order to quench the cultural thirst. Costs are above the average also for wine and food holidays, as well as sporting, green, cruise and cultural events

[3] Foreigners who voted on all of the above categories.

[4] All those who expressed a very high overall rate had average votes for per each specific aspect between 8 and 10 (98.3%).

[5] An analysis of logistical regression was carried out for every reason of travel. The aim of this analysis was to discover the probability of success (Y, in our case, indicates a rating of between 9 and 10) based on a group of explanatory variables (Xi indicate the gender and the age of the interviewee, whether they have travelled with other people, or with children no older than 14, their average spend for that specific holiday type, whether it is a self-organised holiday or a holiday package). The relationship between each variable X and the variable Y is evaluated simultaneously taking into account the effects of all other independent variables within the model.

holidays. In all other types of holidays, the incurred cost came in second place, and other aspects, such as sharing the experience with good company, are decisive for the full satisfaction with the experience. The gender of the interviewee was never a determining factor. Therefore, males were no more likely than females to give a very good vote.
Mountain holidays were very rewarding for those who went there with company, or chose 'all inclusive' travels. These are organized holidays or holiday packages which include two or more services among transport, overnight stays, meals, or other services. This last format brought about positive results in terms of satisfaction also for lake holidays, and non-holiday travels, but for religious reasons, for healing, for shopping and for honeymoons.

The Capital of the European Winemaking Culture in 2016

Prosecco, white wine distinguishable by the finesse and freshness of its smells, conquered consumers from every corner of the world. Its production has old origins[6] and boomed in the second half of the 800's on the Treviso hills. Nowadays, Prosecco is produced exclusively in controlled designation of origin zones (DOC) comprising five Veneto provinces (Treviso, Vicenza, Padua and Belluno) and four in Friuli Venezia Giulia. The designation as DOC Prosecco and DOGC[7] Conegliano Valdobbiadene and Colli Ascolani, for the related historic zones, assured the EU and international protection of this high-quality wine, the symbol of Made in Italy. The Valdobbiadene and Conegliano hill areas, with their hamlets, abbeys and castles that rise up out of the middle of an over the centuries almost completely man-made mosaic modifying the morphology of the landscape through a 'heroic' transformation from brambles into productive vineyards, have been designated as a UNESCO World Heritage Site.
Furthermore, the Conegliano Valdobbiadene Prosecco Superiore DOCG area was designed[8] as the Capital of European Winemaking 2016, thanks to a project which "was best representing the continuation of an event which wants to be at the heart of Europe and the world by promoting culture, identity, landscapes and wineries". The whole year has seen a rich programme of events that have livened up the 15 territorial municipalities, distributed across the hill areas at the foot of the Treviso Prealps[9]. The idea is to start a journey to show the Italian wine cities, and increase the capacities of wine and food tourism.
Some production figures: in 2014 about 80 million bottles of Conegliano Valdobbiadene DOCG were produced, twice as much as 10 years before (+9.3% growth compared to last year); it didn't grow just in

[6] Prosecco was first cited in a written document dating back to 1754.

[7] Denominazione di Origine Controllata e Garantita (controlled and quality-guaranteed designation of origin)

[8] The announcement was given by Recevin, the EU network of 1,000 Cities of Wine, which joined together at the headquarters of the EU Parliament in Brussels.

[9] Conegliano, San Vendemiano, Colle Umberto, Vittorio Veneto, Tarzo, Cison di Valmarino, Follina, Miane, Valdobbiadene, Vidor, Farra di Soligo, Pieve di Soligo, San Pietro di Feletto, Refrontolo, Susegana.

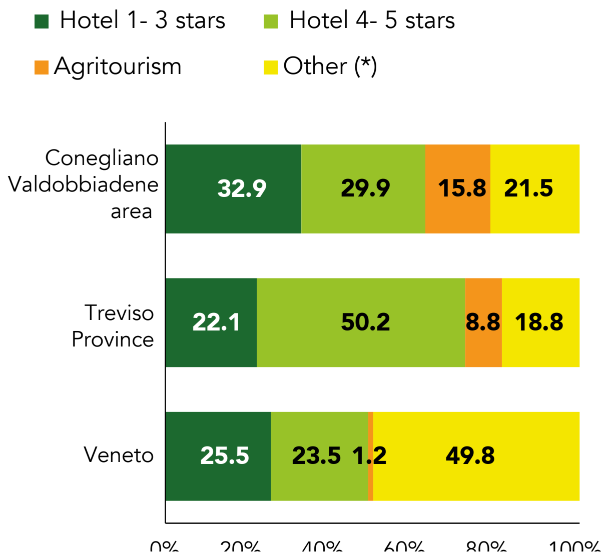
Tab. 8.1.4 - Accomodation offer. Conegliano Valdobbiadene area, province of Treviso, Veneto - Year 2014

	Total accomodation establishments	Hotels		Farms			
		n.	% of high category (*)	Accomodation establishments	%	Places to stay (*)	%
Conegliano Valdobbiadene area	306	37	24.3	60	6.5	3,355	8.0
Treviso Province	1,166	165	30.3	170	18.4	11,897	28.2
Veneto region	52,766	3,055	18.6	923	100.0	42,128	100.0

(*) 4 or 5 stars out of the total accomodation offer
(**) Places to stay in farms authorised for restaurant service, not necessarily for accomodation (accomodation establishments)
Source: Veneto Region Processing - Regional Statistics System on Istat data - Veneto region

terms of volume but also in terms of quality recognition (+11.5%); the interest in it is increasing both in the national and international markets.
However, how is the accommodation system in the area and how is the tourist demand characterized? The hospitality is of very high quality: a quarter of the lodgings in the Conegliano Valdobbiadene area are 4 or 5 star hotels, a higher percentage than the regional average and lower than the offer of the Marca characterised by even higher standards. In the area under exam farms are becoming more relevant, both in terms of supply and demand. As well as being in contact with nature, and a long way from the chaos of large urban centres, farms lure their guests with unique offers that reflect the territory, history and traditions; in farms aside from staying overnight in a very welcoming environment, you can taste typical products which reflect the local food and wine traditions. Overall farm offer in Veneto comprises 1,459 businesses offering, with various combinations, lodging, restaurant service, tasting. In terms of restaurant service and tasting, it was the province of Treviso which accounted for the highest number of farm activities which totalled up to around 11,900 places of stay. Out of these, over 3,000 were offered in the Conegliano Valdobbiadene area. In terms of accommodation, 60 farms in this area showed a strong attractiveness, adding up to 15.8% of the annual tourism presences, as opposed to 1.2%, the regional average.
In 2015, the accommodation establishments of the 15 municipalities in the Conegliano Valdobbiadene region hosted almost 130,000 tourists, an outright record, who generally only stayed on a short-term basis (2.1 nights on average). The growth in presences slowed down in conjunction with the start of the global economic crisis and now boasts 272,000 annual overnight stays.

Fig. 8.1.6 – Percentage distribution of tourist presences by type of accommodation establisgment. Conegliano Valdobbiadene area, province of Treviso, Year 2015



(*) Campings, guesthouse, hostels, holiday homes, mountain huts, B&Bs.
Source: Veneto Region Processing - Regional Statistics System on Istat data - Veneto region

The flow of tourists into the Prosecco area seems fairly well distributed throughout the year, similarly to what happens in the Marca territory. You can note, however, an increased flow in the season much waited for by good wine lovers: when Prosecco spring begins – 3 months in which the Treviso hil-

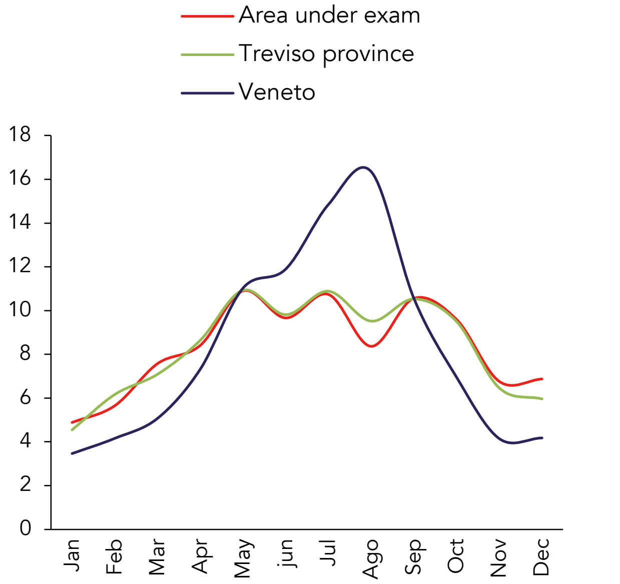
Tab. 8.1.5 - Arrivals and tourist presences. Conegliano Valdobbiadene. Treviso province. Veneto – Year 2015

	Arrivals			Arrivals			
	n.	% foreigners	% variation 2015/14	n.	% share	% variation 2015/14	Average stay (nights)
Conegliano Valdobbiadene	129.340	42.0	7.5	272.152	0.4	3.2	2.1
Trevsio province	865.364	54.8	7.2	1.701.976	2.7	3.9	2.0
Veneto region	17.256.892	65.0	6.1	63.257.147	100.0	2.3	3.7

Source: Veneto Region Processing - Regional Statistics System on Istat data - Veneto Region

Is host 17 wine shows traditionally known as Mostre … del Vino – with a following peak in May with "Open wineries" thanks to which it is possible to discover the secrets of wine making, up to autumn in conjunction with "Welcome wine harvest", during which wine lovers are involved in the harvest and the first phases in the grape process.

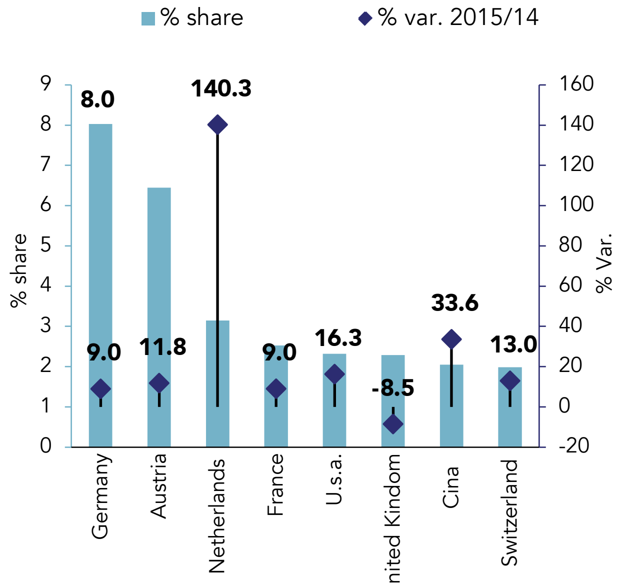
Fig. 8.1.7 – Percentage distribution of tourist arrivals per month. Conegliano Valdobbiadene and Veneto areas. Year 2015



Source: Veneto Region Processing - Regional Statistics System on Istat data - Veneto riRegion

If most of tourists visiting Veneto are foreign (65% of arrivals), in the Treviso province there is a substantial parity between foreigners and Italians, whilst the hosts of the accommodation establishments in the Conegliano Valdobbiadene area are mainly Italians (58%). It can be observed an analogy with the exports of DOCG sparkling wine, since 56.5% of the bottles are destined for the national market. Foreign countries where the most bottles of DOCG sparkling wine are distributed to, are, in order of importance, Germany (over 7 million in 2014), Switzerland (6.5), the UK (5.4) and the USA (2.6). Germany is also first in the ranking in terms of where foreign tourists come from, but in this case it is followed by Austria, the Netherlands and France, then come USA, UK, China and Switzerland. In the last year we have noted in particular, a strongly growing attractiveness for the Chinese and the Dutch.

Fig. 8.1.8 – Foreign tourist presences by country of origin. Conegliano-Valdobbiadene area. % share of the 2015 total and % variations 2015/14



Source: Veneto Region Processing - Regional Statistics System on Istat data - Veneto Region

8.2 Veneto travellers

Holidays represent not only a moment for relax and amusement necessary to find the own dimension away from the day-to-day tasks, but also a chance to experience new emotions, new cultures, different worlds to what one is used to, and thanks to a trace only indicated in the posts and which has to be filled in with content, an occasion to meet new people and to strengthen ties.

Italians that arrive in Veneto are mainly head straight to our cities of art (45.7%), whilst the local seaside towns have the highest total in terms of overnight stays (39.4%). What are the destinations of choice for residents of Veneto? In the most recent years the number of people who spent a holiday abroad or in Italy for 4 nights or more has gone down[10]: for Veneto people this decline between 2007 and 2013 was 7%, whereas it was 9% for Italy generally.

The Veneto situation is very similar to that of the other Northern regions, with about 52 travellers per 100 residents. For the remaining 48% of Veneto people, the reasons for not going on a trip of four or more days are numerous: primarily, for economical

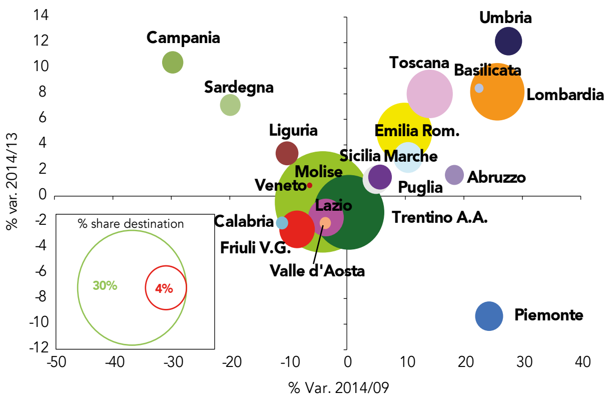
[10] Information taken from the Istat survey "Aspetti della vita quotidiana"

reasons, secondly, family reasons, then in this order: lack of routine, work or study reasons, health issues, age issues, or because they already live in a holiday destination.

Veneto people prefer trips in Italy

The most favoured destination for Veneto people is Italy, which is the destination for some 80% of travels, and the most favoured destinations on a national scale are our region's holiday resorts which in 2014 accounted for 30% of arrivals. The second destination for Veneto people was Trentino Alto Adige (16.3%). Veneto people seem to be interested in much visited regions, such as Lombardy (+8.2% in comparison to the previous year, and +25.7% compared to the previous 5 year period), Tuscany (+8% and +14.2% respectively), Emilia-Romagna (+5% and +9.8%), but among the most looked-after destinations there is Umbria (+12.1% and +27.6%), whilst Campania and Sardinia are only recently starting to recover the losses of Veneto tourists recorded in the previous years.

Fig. 8.2.1 – Italian regions visited by Veneto people. % 2014 share (bubble dimension), % variations of arrivals in 2014/09 and 2014/13

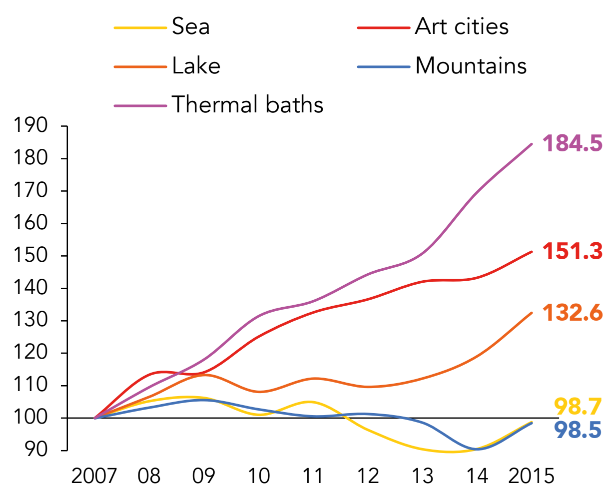


Source: Veneto Region Processing - Regional Statistics System on Istat data

The most recent available information for our region indicates that in 2015 Veneto tourists that stayed in Veneto exceeded 1.6 million, resulting in a strong growth compared to 2014 (+8.4% arrivals and +1.7% presences). The local market is of fundamental importance for Veneto tourism, since is represents 9.3% of arrivals and 12.2% of presences, percentages which are lower only compared to that of the Germans (14.4% and 23% respectively). Considering also the relevance of the phenomenon, it is also interesting to observe the movements of the residents on the territory.

Veneto people chose their region generally to spend a seaside holiday, the destination of choice for 46.3% of travellers. The second most favoured destination for a stay in paid-for accommodations is represented by art cities, which in 2011, even though only by little, overtook the mountains, resulting in a total of 22.8% of Veneto people in 2015. In order to appreciate the atmosphere and the unique summer and winter opportunities offered by the Dolomites, many Veneto people go on day-trips or use another house, or they are guests at their parents or friends' homes, phenomena which aren't completely quantifiable, but which are without doubt of considerable importance for the Veneto mountains. Over the years, thermal holidays have also seen an increase in interest from local people, given that between 2007 and 2015 the number of Veneto clients has alm ost dou bled. In 2015, all Ven eto mountain resorts recorded an increase of Veneto tourists.

Fig. 8.2.2 – Index number (*) of Veneto tourists by destination (base year = 2007). Veneto- Years 2007:2015

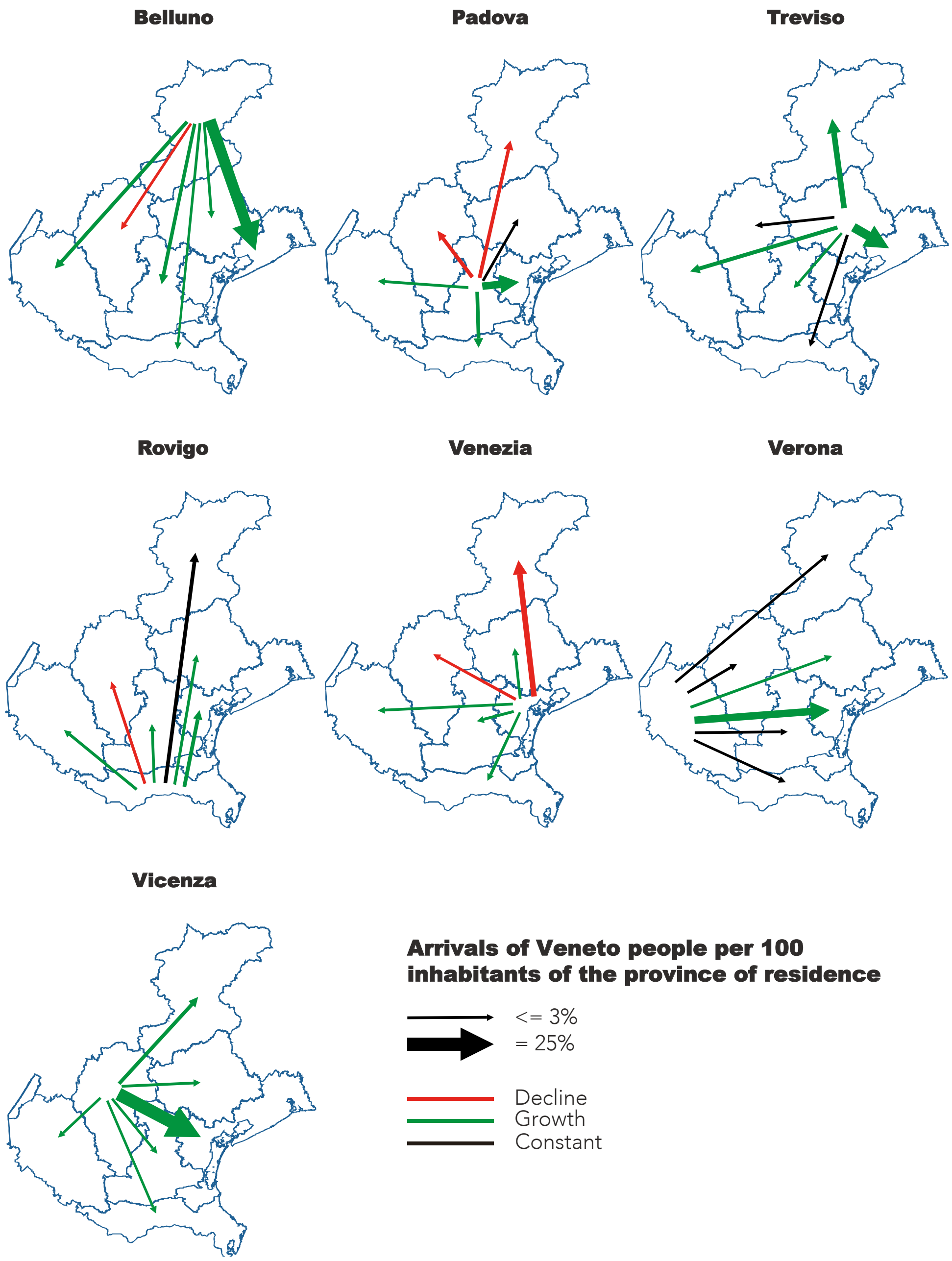


(*) Index = (annual arrivals/arrivals on the base year) x 100
Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto Region

This reduced stay at the holiday's destinations, which can also be noted for Veneto people in Veneto, highlights the general tendency to substitute long holiday periods with short trips which are repea-

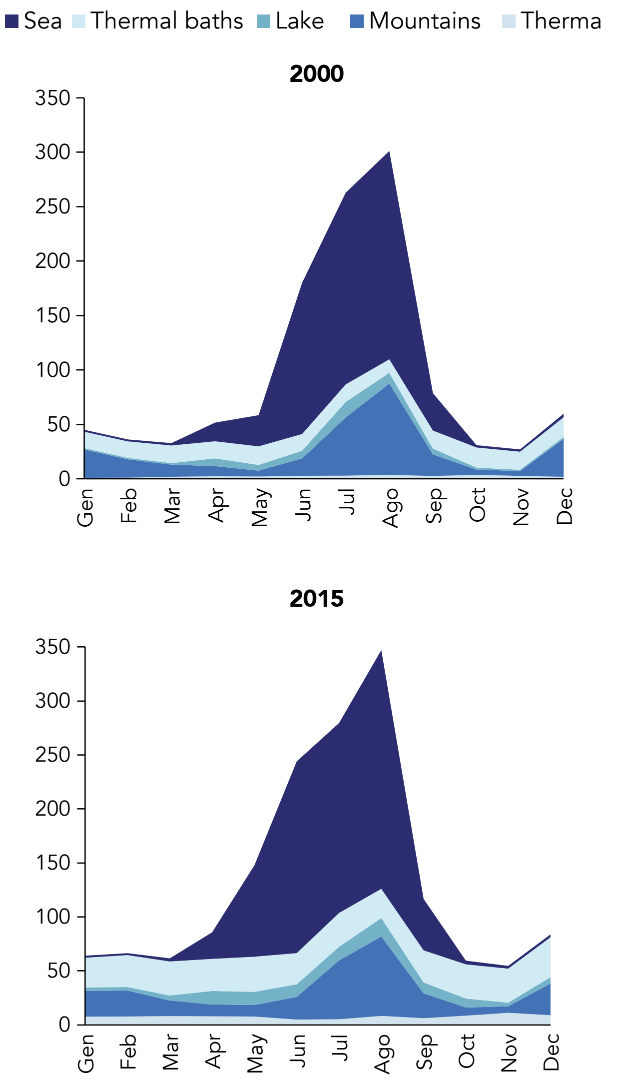
ted during the year and/or with weekends out of the city. The constant and considerable increase of arrivals (+38.3% in 2000) was accompanied by a gradual reduction in the stay at the holiday destinations, which almost resulted in a halving from 2000 to now (from 8.5 nights on average to 4.8).
Only in 19% of cases, the stay was within the own province of residence: holidays in the province, as to be expected, are less widespread (from a minimum of 2 people from Treviso per 100 residents to a maximum of 14 Venetians per 100). The largest share of travels concerns stays in provinces different to that of residence (81% of cases). The desire to know the other provinces within their own region is shared by all Veneto peoples and in 2015 there was a minimum of 17 people from Rovigo per 100 residents to a maximum of 35 people from Verona per 100. The exploration of their own region, especially enriched by the local specialty culinary, is a growing phenomenon, especially in the most recent period as is shown in the following graphic with the prevalence of green arrows.

Fig. 8.2.3- Veneto people who spend their holiday in other Veneto provinces by destination, per 100 inhabitants of the province of residence – Year 2015 and 2015/13 variation



Source : Veneto Region Processing - Regional Statistics System on Istat data – Veneto Region

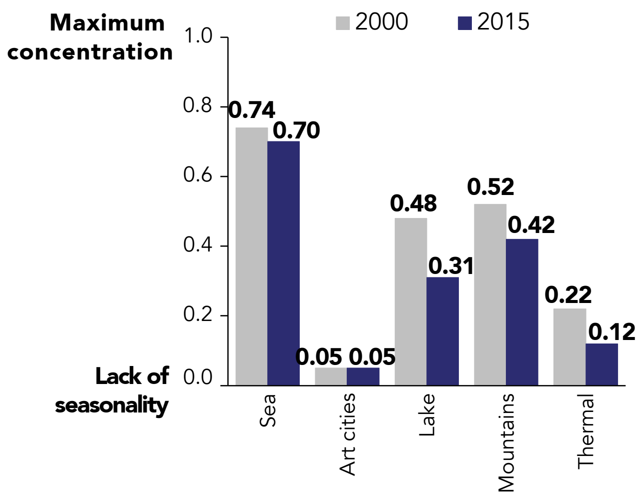
Fig. 8.2.4 - the Venetian Tourists arrivals by month, and the District (thousands). Veneto - Years 2000 and 2015



Source: Processing by Veneto Region - Regional Section Statistical System on Istat data - Veneto Region

Another noticeable trend in the most recent years concerns the choice of the period within which to take the holiday: obviously, high season always receives the widest consensus, but the option of travelling at other times of the year is becoming ever more appealing to tourists, in particular Veneto people. A seasonality whose boundaries are becoming less marked, points the finger towards saving money, which one needs to do more of in a period of economic crisis. In this regard, in order to compare the actual situation with that of 2000, the ratio of concentration of tourist arrivals throughout the months of the year was calculated (R). This indicates the distance of the distribution of monthly arrivals from the perfect equal distribution and takes values from 0, the minimum value which indicates lack of seasonality (no concentration of arrivals) to a maximum value of 1, the extreme peak is all visitors were to arrive in the same month (maximum grouping). The flow of Veneto tourists who spend their holiday within their own region is characterized by a strong seasonality, especially for the level of interest shown in the local seaside and mountains, but over 15 years there is an overall, albeit shallow growth. This is due to a lengthening of the sea season and to more equally distributed flows over the course of the year in the mountains, lakes and thermal baths.

Fig. 8.2.5 – Ratio of concentration R of Veneto tourist arrivals by destination (*). Veneto – Years 2000 and 2015



(*) R = absolute average difference / (2 x arithmetic average)
Source: Veneto Region Processing - Regional Statistics System on Istat data – Veneto Region

A measure of the inclination of Veneto tourists to travel abroad can be deduced from the Bank of Italy's survey on international tourism. There are some 2.4 million Veneto travellers who, in 2015, spent at least one night in accommodation establishments outside of the national borders. These same people can make various travels also for different reasons (holidays, work, health, etc.). If we transfer this estimate to the residential population, the Veneto people are more inclined to travel abroad compared to

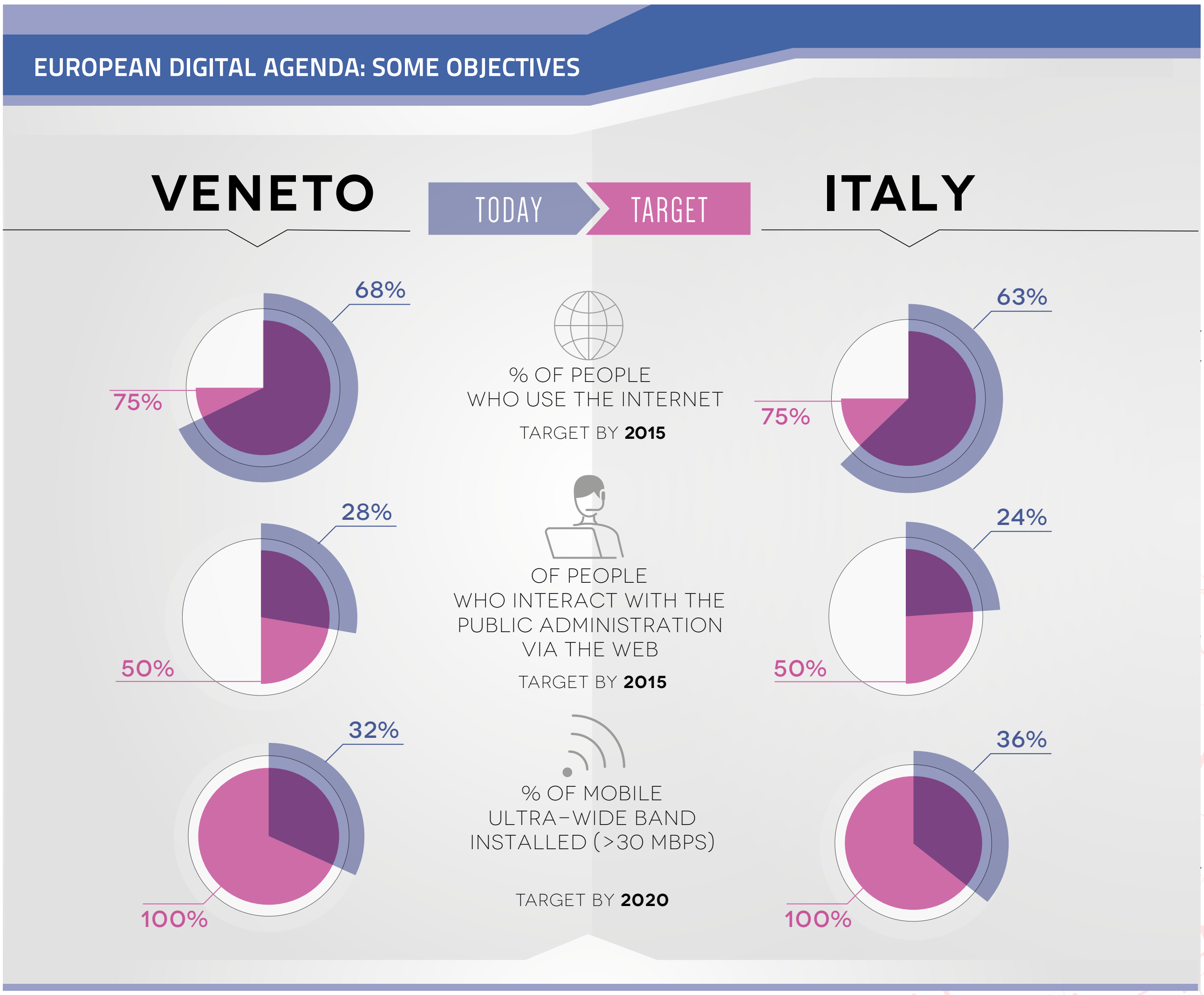
Italians: 49.4 out of 100 inhabitants, as opposed to the national figure of 36.3.
Beyond the national borders Veneto people spend, on average, around €736 per traveller, compared to the average €774 for Italians[11].
This lower spending is partly attributable to the length of the trips, which are 8.1 nights on average in the case of Veneto people, and 9.7 for Italians. The average daily spend of Veneto people abroad is €91, and over recent years this has stayed fairly constant. It seems that the most recent international events didn't prevent Veneto people to travel abroad: in 2015, a slightly rise was recorded in the number of travellers (0.7%) and a more steep increase in terms of nights spent (12.1%), which came from increases in the hotel sector (+6.8%), which was the most used, but also from a much more wide reaching use of holiday homes, which thanks to a 15.5% rise in the last year, accounted for 26.8% of Veneto overnight stays abroad.

[11] These figures relating to spending include food, overnight stay, purchases, services used and exclude only the round travel cost.

Cap.9 – Tuning to the digital network

The enhancement of new technologies represents a large opportunity for social and economic growth. In this regards, the European Digital Agenda sets a series of strategic objectives in order to favour investments in digital infrastructure, to improve the life quality of the people, to maintain competitiveness of businesses and to increase the efficiency level of the digital public services.

In a European overview, Italy is one of the countries with the lowest digital performance, with a certain lateness in terms of development of the network and a lack of digital literacy of citizens and the companies. Just like Italy, Veneto has not reached the European benchmark yet; however, the region does show higher performance than the national average and is accelerating to close up the remaining gap: over 398 million euros of public investments for the extension of the ultra-wide band in order to create a network infrastructure which is "future-proof".



national level, in 2015 two strategic plans were adopted in pursuit of the objectives of the Digital Agenda. The first "Strategy for digital growth 2014-2020" is committed to increase the digital knowledge of citizens and businesses, also using, as a lever, the interventions in the public sector. The second plan "Italian strategy for the ultra-wide band" concerns investments aimed at the modernisation of digital infrastructure as a stimulus for growth and development. The realization of these strategies is ever closer thanks to a synergy between central and local administrations, aiming to interact with citizens and businesses in terms of specific peculiarities, needs and shared objectives.
Aside from the opportunities offered by digital development, the potential connected risks need to be considered. In this sense, the European Council recently adopted a strategy on the governance of internet for the 2016 - 2019 period, to effectively safeguard and respect human rights in an online environment which is evolving rapidly. Priority is given to the promotion of the value of the Internet public service, as instrument for the participation in public life, up to the mass surveillance and forms of violence online: the importance should be stressed for users to create a balanced relationship with the internet, based on the freedom to connect but also to disconnect.

9.1 Towards a digital society

The European path

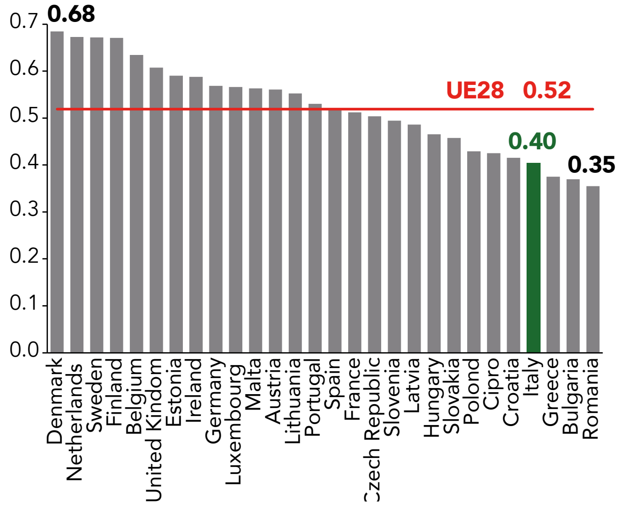
In order to evaluate the progress of European countries towards a digital economy and society, the European Commission calculates the Digital Economy and Society Index (DESI)[4], synthesizing in one value a series of different figures all relating to 5 different dimensions in the digital evolution of each country: from the "connectivity", as the spread and quality of digital infrastructure, through "human resources", that's to say the digital competence of the population, the activities undertaken online by the citizens (use of internet) and businesses (integration of the digital technology) to the "digital public services". According to the DESI, which takes values from 0 to

[4] The 2015 DESI was re-calculated by the European Commission to take into account the updates and corrections of the data that was used when the indicators were created. Therefore, the ranks and the positioning of the countries in the ranking could change from the ones in previous publications.

Europe improves its digital performance

1, where the higher is the score and the better is the country's digital performance, the EU continues its progressive digital development: in 2016, the EU28 was scored 0.52, a growth from the 0.50 in 20151 and from the 0.46 recorded two years ago. However, it is progressing at a slower rate than in the past.
This improvement is due to the advancement of the infrastructure, with an ever more diverse use of the network by people who are already "online" and with a certain level of competence, but especially to the more widespread use of the web by the businesses, which in recent years have been the driving sector for digital development.

Fig. 9.1.1 – Digital Economy and Society Index (DESI): synthetic indicator of digital performance of countries. EU28 – Year 2016 (*)

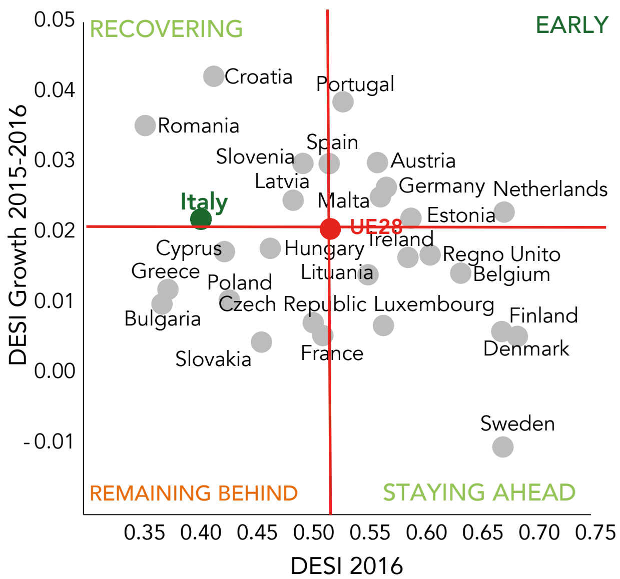


(*) The synthetic indicator DESI takes values between 0 and 1: the higher is the score and the better the digital performance of the country.
Source: Veneto Region Processing - Regional Statistics System on European Commission data

From an European comparison an even more uneven situation among the countries emerge, even if more contained with respect to the previous years. The North European countries are at the head of the ranking with the highest DESI values (0.68 for Denmark and 0.67 for the Netherlands, Sweden and Finland), whilst Mediterranean Europe and the Eastern countries remain in the backseat of their digital competitors.

Italy is still behind Italy finds itself among the last, with a ranking of 0.49, in 25th place in the table out of the 28 countries in the EU, ahead only of Bulgaria, Greece (0.37) and Romania (0.35).
Considering not only the reached level of digital development but also the speed with which each country is growing, the European Commission pinpoints 4 different situations. Among the countries with the best digital performance, it recognizes those "early", that is to say which continue to grow at a higher speed than the average, and which see how much their gap from the others is increasing, and those who "remain ahead" although they are progressing less.
Thus, in the lower part of the ranking, you can see the countries which are digitally late but are "recovering", which means they are growing at a faster rate than the average, but side by side with those which "remain behind", still demonst rating a low commit ment in digital develop ment.

Fig. 9.1.2 – Digital Economy and Society Index (DESI): synthetic indicator of digital performance of countries. EU28 – Year 2016 and 2012-2016 variation (*)



(*)The synthetic indicator DESI takes values between 0 and 1: the higher is the score and the better the digital performance of the country.The 2015 DESI was re-calculated by the European Commission to take into account the updates and corrections.
Source: Veneto Region Processing - Regional Statistics System on European Commission data

...but it is one of the countries recovering Italy is part of the group of countries which are recovering: even though its performance is still lower than that of the European Union as a whole, in the past year there has been a marked progression which slightly tops the EU28 average. But it still isn't enough, so that even though there has been an improvement in the DESI score, overall it slipped down a place in the ranking compared to last year. If we look at the single breakdown[5], it maintained the same position concerning the coverage of the infrastructure (27th place), and the use of network among businesses (20th), whilst it lost places in the "use of the internet", slipping into last place, since there is still a limited amount of people which proves to be able to fully take advantage of the opportunities offered by the services online, diversifying their activity in the web. Worsening, but only slightly, is the digital Public Administration, even though it remains the most advanced sector (17th place). The only advancement is in the "human resources", managing to bring a larger percentage of people to the network.

The performance of Italy is lower than that of the group of countries to which it belongs (countries under recovery), which overall has a DESI of 0.45 and an increase by 0.04 points as opposed to 2015, whilst Italy's increase was only of 0.2 points.

Veneto's digital profile

Also at the regional level the digital development of the country seems to be fragmented and non-consistent. The 2015 DESI calculated for every region, aiming to use, as much as possible, the same method used by the European Commission[6], as well as mapping out the digital presence of each region, provides a referral to measure the impacts of the regional Digital Agendas. It highlights, straight away, a net gap between the Centre-North, which generally have higher levels than the national average, and the South, which is still behind in terms of digitalization, even in spite of certain exceptions such as the high level of infrastructural coverage in Campania and Calabria.

[5] The synthetic indicator DESI and its breakdown can take values between 0 and 1: the higher is the score and the better the digital performance of the country.
[6] Tim – Telecom Italia. Italian Connessa. Agende digitali regionali 2015. December 2015.

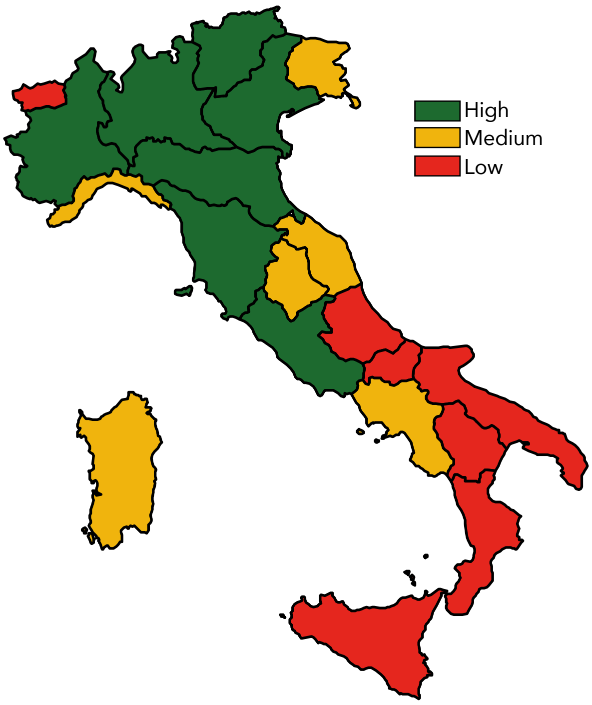
Veneto is one of the best performing regions

Emilia Romagna is the best-performing region, followed by Lombardy and Lazio; Veneto, in 6th place, belongs to the group of regions with the highest level of digital performance. Our region obtained good results in the digital integration of technology by businesses (4th in the regional ranking) and for the spread of digital services in the Public Administration (3rd place). It is further afield in terms of connectivity (10th), due to the still e development in high speed infrastructure, of digital competence (11th) and the diverse use of internet by the citizens (13th), also due to a still low level of digital literacy of the population.

...and are following the objectives of the European Digital

In spite of the good place in the regional ranking and the developments in the last year, Veneto must still achieve all of the objectives set in the European Digital Agenda for 2015 regarding digital inclusion of citizens, development of technology by businesses and the spread of digital public services. On the other hand, this is a situation which practically concerns all of the Italian regions and which is different to the rest of Europe, where the digital society according to the "European standards" already exists for many aspects.

Fig. 9.1.3 – Regional Digital Economy and Society Index (DESI) by group of digital performance. Italy – Year 2015



Source: Tim – Telecom Italia. Report: "Italia Connessa. Agende digitali regionali 2015"

Tab. 9.1.1 - Objectives of the European Digital Agenda : progress made. Veneto, Italy and EU28 – Years 2014 and 2015

	Italy				Group of countries "recovering"		UE28	
	2015		2016		2015	2016	2015	2016
	score	position	score	position	score		score	
DESI	**0.38**	**24°**	**0.40**	**25°**	**0.41**	**0.45**	**0.50**	**0.52**
Connectivity	0.40	27°	0.42	27°	0.48	0.51	0.57	0.59
Human resources	0.38	25°	0.42	24°	0.44	0.48	0.58	0.59
Use of the Internet	0.34	26°	0.33	28°	0.39	0.40	0.43	0.45
Integration of digital technology	0.29	20°	0.31	20°	0.27	0.31	0.33	0.36
Digital public services	0.53	16°	0.54	17°	0.45	0.50	0.54	0.55

(*)The synthetic indicator DESI and its breakdown can take values between 0 and 1: the higher is the score and the better the digital performance of the country.
The 2015 DESI was re-calculated by the European Commission to take into account the updates and corrections of the data that was used when the indicators were created.
Source: Veneto Region Processing - Regional Statistics System on European Commission data

Tab. 9.1.2 - Objectives of the European Digital Agenda : progress made. Veneto, Italy and EU28 – Years 2014 and 2015

Objectives to achieve	by	Veneto		Italy		UE28	
		2014	2015	2014	2015	2014	2015
Fast broadband							
Fast broadband broadband coverage of at least 30 Mbps for **100% of citizens**		16	33	21 (b)	36 (c)	62 (b)	68 (c)
Ultra-fast broadband subscription to services with a speed higher than 100 Mbps for at least **50% of domestic users**		n.d.	n.d.	0 (b)	0 (c)	5 (b)	9 (c)
Digital inclusion	**2015**						
Regular use of the Internet by at least **75% of the population**		61	68	59	63	75	76
Internet use by disadvantaged groups by at least **60% of the disadvantaged population (d)**		45 (b)	47 (c)	47	52	60	63
Digital divide reduction in the number of people who have never used internet to **15% of the population**		30	24	32	28	18	16
Single digital market	**2015**						
E-commerce for citizens online purchases for at least **50% of the population**		26	30	22	26	50	53
E-commerce for citizens abroad online purchases for at least **20% of the population**		10 (b)	13 (c)	10	12	18	20
E-commerce for businesses online purchases worth more than 1% of the total purchases for at least **33% of the SME's**		n.d.	20 (c)	20	20	22	23
E-commerce for businesses online sales worth more than 1% of the total sales for at least **33% of the SME's**		n.d.	5 (c)	5	7	15	17
Public services	**2015**						
E-government use of e-government by at least **50% of the population**		25	28	23	24	47	46
E-government filled-in forms online return of Public Administration forms for at least **25% of the population**		12	14	11	12	26	26

(a) For Italy and the EU the coverage was calculated based on families. For Veneto these are buildings reached by FTTN, FTTH, FTTB and FTTDP.
(b) Year 2013
(c) Year 2014
(d) People who find themselves in at least one of the following conditions: 55-74 years old, low level of education, unemployed, retired or inactive.
n.d. = not available
The figures in green are objectives already achieved
Source: Veneto Region Processing - Regional Statistics System on European Commission, Eurosta, Infratel and Istat data

As far as the development of digital infrastructure is concerned, attention is turned to the high-speed and ultra high-speed broadband. The European Digital Agenda has set two ambitious objectives for 2020: make sure that all European citizens have access to connections higher than 30 Megabites/second (Mbps), and that at least 50% of European families have a subscription to services with a connection speed higher than 100 Mbps.
In this regard, Veneto, as Italy in general, is very far behind compared to Europe. The national plan "Italian Strategy for "ultra-wide band" adopted by the government in March 2015, with a public investment in the coming years of around 6 billion euros, aims to close up the gap and to develop an ultra-wide band network infrastructure across the whole nation, reaching the objectives of the European Digital Agenda. Besides the public investments aimed to the "market bankrupt" areas, that is to say areas where the telecommunication operators haven't any interest in intervening, there are resources and development industrial plans by private operators for the extension of the high-speed broadband in the most attractive areas, where higher is the possible demand and thus the economic return. In the following paragraphs we will follow in more detail the objectives set by the EU and outline which has been the digital path of Veneto and what the prospects are for the future.

9.2 Chasing High Speed Veneto's digital infrastructure

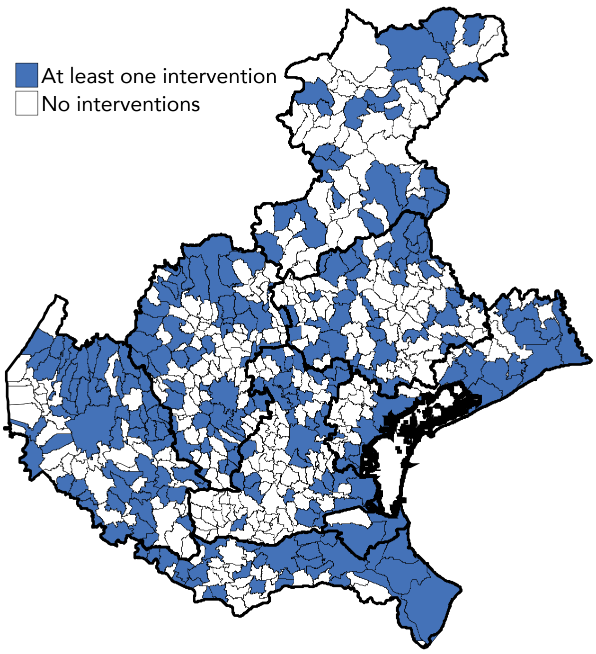
Veneto's digital infrastructure[4]

In the last 5 years the Veneto Region, has took active part in the digital infrastructure programme according to what set by the European Digital Agenda, by implementing the "Guidelines for Veneto[5] Digital Agenda", which aim to cancel the digital divide and enhance the connectivity services in line with the European and national objectives. In this path, programmes and plans concerning broadband (up to 20Mbps), public Wi-Fi and recently ultra-wide broadband (up to 30Mbps) came in succession, besides to the themes of digital culture spread among citizens and businesses, the development of digital services by the Public Administration and the support of the "digital transformation" for businesses.

The regional plans: from broadband...

At the end of 2011, within the Programme agreement for the Development of broadband across the region of Veneto5, the operational convention was approved between the Veneto Region and the Minister for Economic Development (MISE) in order to overcome to the regional digital divide guaranteeing all Veneto citizens and businesses a connectivity between 2 and 20 Mbps by 2014, and simultaneously to create the conditions for the realization of a new generation network (NGN), which will allow to connect with speeds higher than 20Mbps. By implementing in Veneto the policies defined in the National plan, the projects activated with the Veneto Plan for the spread of broadband, are of two different types. The first concerns the spread of the fibre optic network (backhaul infrastructure) of public property, available for the activation of the service by private telecommunication operators (type A); the second concerns the upgrade of infrastructure and instrumentation in the central access points through an incentive for private operators to activate the broadband connection service for end-users, businesses and consumers, in "market bankrupt" area.

Fig. 9.2.1 – Regional broadband development plan. Fibre optic infrastructure realization by municipality (type A) Veneto - Year 2015



Source: Veneto Region Processing - Regional Statistical System on Veneto Region data

[4] By the Veneto Region Processing Section.

[5] 5DGR No. 2414 of the 4 August 2009

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In December 2015 type A's implementation was concluded, which had seen the realization of 398 interventions of public fibre optic networks, for over 1,400 km of infrastructure across 250 Veneto municipalities, with a total investment of over 53 million euros.
Over 40% of the interventions took place in the province of Verona (23% of the interventions) and Vicenza (19%), less in Venice (8.5%). 43% of the Veneto municipalities were interested, with some differences among provinces: in Rovigo and Verona more than 55%, whilst Padua was 32%.
The invested resources were put into different financial areas, as the table below shows.

Tab. 9.2.1 – Investments for the realization of interventions for public fibre optic networks. Veneto – Year 2015

Finance source	Investment budget (in euros)
Veneto Region – Industrial districts	5,074,650
MISE – Industrial districts	5,074,650
Veneto Region – FAS	1,831,280
Veneto Region – FEASR	22,048,822
Veneto Region – FESR	9,449,148
MISE – Other areas than the industrial districts	10,000,000
Total	**53,478,550**

Source: Veneto Region Processing - Regional Statistics System on Veneto Region data

Type B was realised by the activation of the service for end-users, i.e. citizens or businesses, by the telecommunication tenderer (Telecom Italia) of the call organised in 2014 by the MISE, through the realization of interventions for the upgrading of infrastructure and instrumentation in the central access points. The plan investment was, in total, equal to 14 million euros, co-financed for around 14 million euros by Telecom Italia to activate the service in 703 areas/localities of the region, situated in 216 Veneto municipalities. Overall, the connectivity services were activated in all areas/localities by February 2016, according to the project plan.

Tab. 9.2.2 - Regional broadband development plan. The supply of the service for end-users by municipality (type B). Municipalities and localities affected by the interventions with incentives for the operators, by province. Veneto – Year 2015

	N. of municipalities	N. of localities
Belluno	22	75
Padua	26	55
Rovigo	21	85
Treviso	30	51
Venice	12	27
Verona	56	279
Vicenza	49	131
Total	**216**	**703**

Source: Veneto Region Processing - Regional Statistics System on Veneto Region data

...to the ultra-wide broadband

Following the National strategy for the development of ultra-wide broadband approved by the Prime Minister's Office in March 2015, in August of the last year the Interministerial Committee for the Economic Planning (CIPE) earmarked the first 2.2 billion euros for the implementation of the first phase of the National strategy in the white areas, that is to say those areas which are not covered by the service, being "market bankrupt". The objectives which the National strategy aims to are consistent with those of the European Digital Agenda, since they include the realization of a network infrastructure which "will look into the future", in terms of offering a connectivity service of at least 30 Mbps to all citizens and at least 100 Mbps for 85% of the population.
The State/Regions conference which took place in February 2016 approved the distribution of national primary resources, allocating 315,810,955 euros to Veneto. With the Programme agreement[7] approved in March 2016 between the MISE and the Veneto Region further 83 million euros were granted coming for the development of ultra-wide broadband in Veneto: 43 million from EAFRD fund for the rural areas and 40 million from ERDF fund for the industrial and productive areas.
Operationally, the intervention model defined in the Agreement includes, as outlined in the resolution by the CIPE, the installation of a public fibre optic, through Infratel Italia[8], which will then be leased by telecommunication operators to supply the service to end-users. The first phase of the National strategy, which will be implemented thanks to the Programme agreement, consists of the realization of interventions in the white areas which aren't covered by any operator, making sure that 100% of these areas are covered with at least 30 Mbps, and in the municipalities with more than 2,500 property units, a coverage of at least 100 Mbps in 70% of the surveyed units.
Overall, the allocation for this first phase was over 398 million euros which involves about 1.6 million Veneto citizens in order to support interventions in at least one white locality of the 576 municipalities in the region.
With the signature of the agreement, on the last 14th April, our region will be between the first to start with the works: the start of the works is expected for the end of 2016 and the interventions will be carried out gradually over the next three years.

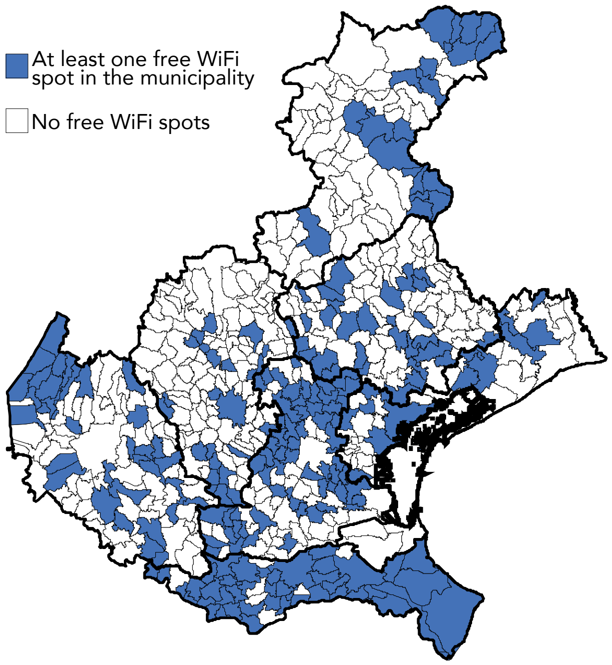
...onto public WiFi

In parallel to the to the nationally coordinated initiatives for the installation of fibre optic networks in the territory, the Veneto Region is committed to the implementation of interventions to guarantee free and public access to the internet. In more details, the 4.1.2 "Veneto Free WiFi" Action within the 2007-2013 ERDF Operational programme "Regional competiveness and employment" launched a public call for the granting of contributions to municipalities, consortia and municipality aggregations, for the realization, evolution, enhancement and management of public WiFi networks. The Action, approved in April 2014 and completed in December 2015, made 3.7 million euros available for the local Public Administration for

[7] DGR No. 2414 of the 4 August 2009
[8] DGR No 319 of the 24th March 2016

the realization of projects.
Overall, 225 Public Administrations participated in the public call, of which 132 were single municipalities and 11 aggregations of municipalities. 142 projects were financed in the main areas of public interest of the beneficiary municipalities, which made public access to WiFi available for a user base of over 2.5 million Veneto citizens.

Fig. 9.2.2 – Municipalities with free WiFi. Veneto – Year 2015



Source: Veneto Region Processing - Regional Statistics System on Veneto Region data

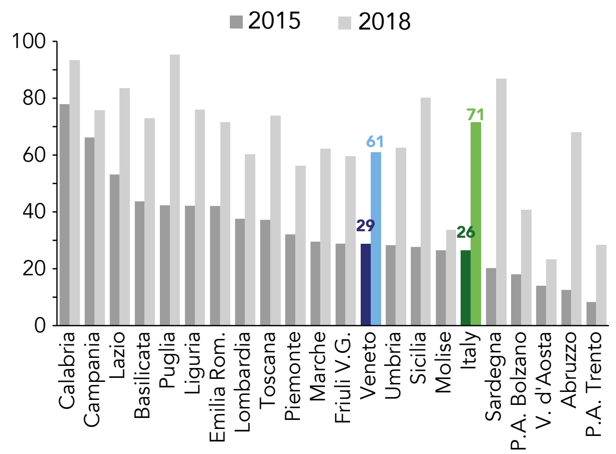
Connections for the future

Even though Italy is intensifying its efforts to recover, it is behind in terms of digital infrastructure: in 2014, Italian families covered by fast broadband (at least 30Mbps) were 36%, a value which is growing compared to the year before (21% in 2013), but which remains a long way from the EU average (68%). In particular, according to Infratel data, 26% of Italian property have FTTN architecture on average, that is to say services with a speed higher than 30Mbps and generally lower than 100 Mbps, and 10% have a FTTH, FTTB or FTTDP architecture, with a speed of at least 100 Mbps.
Southern regions show the highest level of FTTN coverage, such as Calabria and Campania with 78% and 66% of property possessing it respectively, whilst the network at 100 Mbps is most developed in Lombardy (25%) and Lazio (22%). In Veneto, the FTTN infrastructure serves 29% of the property, whilst the highest speed only 4%.
Even if the gap between the actual level of coverage and the European objectives remains in all regions, on the basis of the forecasts for 2018 thanks to the enforcement of private plans and public investments already implemented or still being implemented during 2015, one can see a significant improvement. In these forecasts, it must be highlighted that the effects of the coverage from the future public investments defined in the ultra-wide band Broadband plan and the resolution (CIPE) 65/2015 are excluded.

In 2018, 8 Veneto families out of 10 have access to ultra-wide broadband

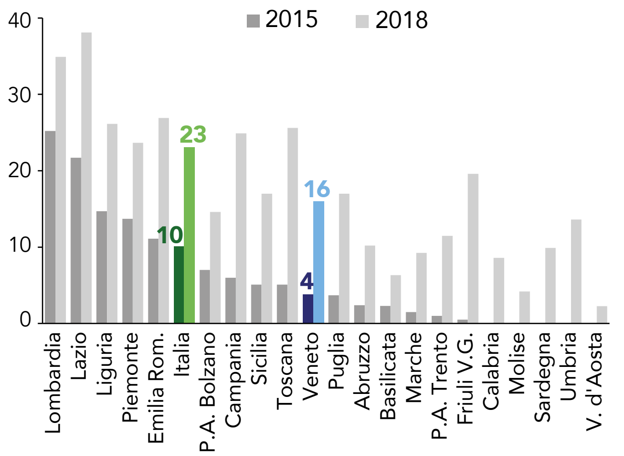
As shown in the last public consultation carried out in 2015 by Infratel to measure the availability of the connectivity offered by the telecommunication operators and their investment intentions, in 2018 the wide broadband (30Mbps) will cover, on

Fig. 9.2.3 – Percentage of property with FTTN architecture. Current situation and coverage expected for 2018 based on private and public plans which are implemented or still being implemented in 2015, by region (*)



(*) The FTTN architecture guarantees services with speeds higher than 30 Mbps and lower than 100 Mbps: the fibre ends at an intermediary hub of the access network on an existing physical carrier (copper) or close to a hub of access systems on radio carrier. Coverage data refers to the results of the previous public consultation by Infratel in 2015.
Source: Veneto Region Processing - Regional Statistics System Infratel and the Minister of Economic development data.

Fig. 9.2.4 - Percentage of property with FTTH, FTTB, or FTTDP architecture. Current situation and the coverage expected for 2018 based on private public plans which are implemented and being still implemented in 2015, by region (*)



(*) The FTTDP/FTTB/FTTH architecture guarantees services with speeds higher than 100 Mbps: the fibre ends close to an optic distribution point, placed at a distance lower than or equal to 50 metres from the property. Coverage data refers to the results of the previous public consultation by Infratel in 2015
Source: Veneto Region Processing - Regional Statistic System on Infratel and the Minister of Economic development data.

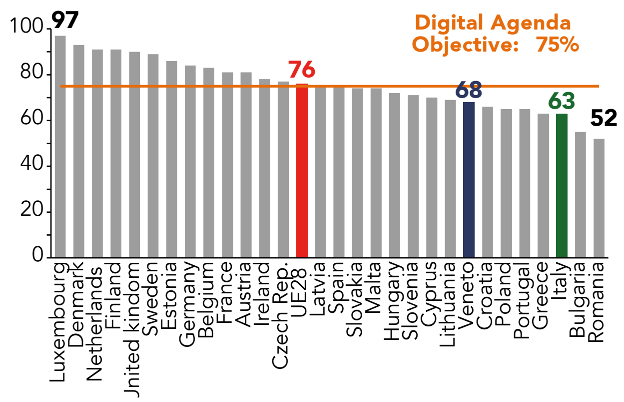
average, 71% of property in Italy, whilst the services for at least 100Mbps will cover 23% of them. For Veneto, the performance expected is slightly below the national average: 61% of the property will have FTTN architecture and 16% FTTH, FTTB and FTTDP. However, these results don't take into account the most recent investments which are described in the previous paragraph, which are being realized this year.

9.3 Inclusion means online too Citizens even more connected

Citizens even more connected

The opportunities provided by the network can give fast, efficient and cheaper answers to the different needs of the citizens, with a general upgrading in terms of quality of life. The process of digital literacy and the increase in digital competence can be seen, therefore, as a type of social inclusion.
To this end, the European Digital Agenda set some strategic objectives to be achieved by 2015: on one hand, reducing the number of people who never used the internet to 15%, on the other hand, making sure that at least 75% of people have access to the internet, with a particular focus on the more disadvantaged, such as unemployed, elderly people with a low level of education, and disabled people (target of 60%).
In Europe, many countries have already exceeded the objective of bringing the internet to at least 75% of the population on a regular basis, especially in North Europe, where the percentages show a trust in the network by almost everyone. Compared to an EU average of 76%, Italy is still behind in terms of digital literacy, since in 2015 the regular users were only 63% of the population of 16-74 year olds. It is true that also in the last year there was good progression (59% in 2014), but the data is still the third lowest. Digitally excluded people, that is to say people who never connected to the internet, account for 28% of the population, a figure which is improving compared to the previous year (32%) but which remains too high compared to the European average (16%) and the objective which should have been met by 2015. The lack of usage of the network services in Italy is due to the late implementation of the necessary infrastructure, but also to a cultural problem with the fundamental generation characteristics, as well as a geographical problem.

Fig. 9.3.1 – Percentage of people who use the internet regularly (at least once a week over the last 3 months). Veneto and EU28 – Year 2015



Source: Veneto Region Processing - Regional Statistic System on Eurostat data

With reference to the digital inclusion objectives of the citizens, Veneto is placed better than the national average, even though it isn't close to meeting

The identikit of the internet users: young people, males, students

the set targets of the EU. In 2015, the regular users of the internet were 68% of the population (2 and a half million), whilst those who had never been connected to the internet were 24%, values which have improved strongly over the last year (+7% and -6% respectively), which shows an encouraging positive trend. If this would maintain that intensity, it could meet the aforementioned objectives within two years.

Tab. 9.3.1 – Percentage of people aged 16-74 that regularly use the internet (at least once a week over the last 3 months) by some social-demographic characteristics. Veneto, Italy and EU28 – Year 2014

	Veneto	Italy	UE28
Total	**61**	**59**	**75**
Gender			
Male	65	64	77
Female	57	55	72
Age			
16-19 anni	90	89	96
20-24 anni	87	85	93
25-29 anni	83	81	92
30-34 anni	86	78	91
35-44 anni	72	71	85
45-54 anni	63	60	75
55-64 anni	42	43	59
65-74 anni	17	19	38
Occupational condition			
Employed	75	74	86
Searching for a job	61	62	69
Student	95	91	97
Housewife, retired or other	27	26	46

Source: Veneto Region Processing - Regional Statistic System on Istat and Eurostat data

Who are the Veneto internet users and what do they do online? Almost all of the very young people use the internet regularly, more or less the same as their European peers; as the age grows, the use of the web declines: among 45-54 year olds the percentage is a little over 60%, whilst in Europe it is 75%, and it drops to 42% among those who are 10 years older. Among the eldest then, only 17% are familiar with the internet (the EU28 average is 38%). Men use the internet more than women, and differences can be observed also if we consider the occupational condition: regular use of the internet is almost total for students, sufficiently high for those who are employed, whilst it is very low in the case of retired people and housewives, among whom only 27% connect to the internet regularly.

The deficit for those in the disadvantaged categories[9] is evident, for which the percentage of regular users dropped to 47%.

The type of services used is another reason for differences compared to other EU countries. Even if in Italy activity linked to communication and information shows high levels of diffusion, the use of the internet for transactions, such as online banking, is much less (43% of Italians as opposed to 57% of European citizens that have used the internet in the last 3 months).

If 4 out of 5 Veneto people communicate and keep up to date using the internet, with generational differences that aren't that marked, other activities fluctuate more depending on age. For example, 80% of young people under 30 years of age, as opposed to 42% of the over 55's, use social networks, i.e. virtual platforms where you can exchange and share ideas and opinions, make comments on facts, and meet people who are a long way away. Young people also use more other recreational functions of the web, such as downloading games, listening to the radio online, and watching films or videos via streaming. On the contrary, among 30 and 54 years old people, who are probably more busy with work and family, the internet is mainly used for the management of banking activities from home and to communicate with the Public Administration. Young people show also to have higher competencies: most of them are able to create websites or blogs, and also know how to use cloud computing services. This is already much more rare among 30 year olds. Finally, it is surprising that only 33% of young internet users state to use the web to find jobs.

[9] For disadvantaged category we mean people who belong at least to one of these conditions: 55-74 year old, people with a low level education (a first-level secondary school certificate as maximum), unemployed, retired or inactive (housewife or unable to work).

Tab. 9.3.2 - Percentage of people aged 16-74 that used the internet in the last 3 months by type of online activities and age group. Veneto – Year 2014

	16-29 anni	30-54 anni	55-74 anni	Total
To find out information, daily reading, magazines etc…	91.2	87.7	84.8	88.1
Sending/Receiving e-mails	85.5	84.1	77.6	83.3
Social activity (in social networks, blogs etc…)	80.0	65.1	42.3	64.8
Downloading software, games etc…	78.5	52.8	34.1	55.7
Listening to the radio online, watching tv, films, videos in streaming	72.1	47.0	22.1	48.8
Recreational activities (downloading e-books, holidays)	46.2	47.1	44.7	46.5
Online banking services	39.4	51.5	37.8	46.4
Online purchase and sale	39.3	36.9	21.5	34.9
Engaging with Public Administration	27.9	37.1	36.1	34.7
Uploading own material online (texts, photos, videos,…), creating websites or	50.5	31.8	n.s.	33.3
Using archiving services online to save or share files	40.1	28.7	19.4	29.8
Finding work	32.9	20.6	n.s.	21.2
n/a = not applicable				

Source: Veneto Region Processing - Regional Statistic System on Istat data

The digital market

The quick spread of the new technology is also profoundly changing the habits of consumption. Shopping online is becoming more and more common: entering and choosing producers from virtual markets and bazaars, succeeding in finding whichever type of product you need whilst in the comfort of your own home, whilst also benefiting from certain discount advantages compared to 'traditional' shopping. The web, with a high potential in terms of sharing of content, enables the participation and aggregation among users/buyers, who have, through the internet, not only the possibility to choose a vast selection of products, but also to compare prices and products, and also to discuss and exchange information and opinions on a certain product before buying it.

Italians are still reluctant and rather not trusting in e-commerce, even though the knowledge of its advantages has grown. In Veneto, 30% of people aged 16-74 order or shop online, which is slightly higher than the national average, but it is 20% less than the European average and away from the target of 50% set by the European Digital Agenda for 2015.

Citizens are shopping online more and more

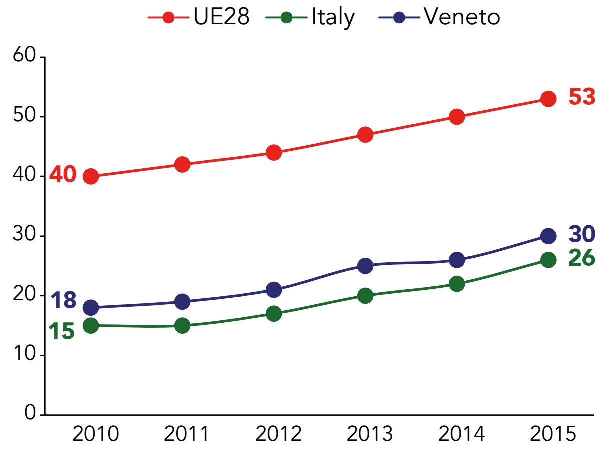
However, e-commerce is starting to spread also here, so much that since 2010 the percentage of online shoppers has increased by 12% (11% in Italy). Online shoppers are above all men (30% as opposed to 23% of women), young people (39% of people aged 30 or less), students or employed (39% and 35% respectively) and people who have a high level of education on average (58% of those who has a degree as opposed to 11% of those who only have a first-level secondary school certificate). Generally, on the internet people book a trip or a holiday, they buy books, newspapers, magazines, films, music, or tickets for shows or IT material such as hardware, software, video games or electronic furniture.

A large majority of those who buy goods or services online turn to national rather than foreign sellers, also due to technical reasons, since many cross border orders cannot be completed because non national credit cards are not accepted.

The realization of a digital single market, which Europe is aiming at, still shows all of the limits, requiring precise operations to remove legislative barriers, which prevent the European businesses to make cross- border exchanges, and in order to facilitate electronic payments outside of the national borders. The internet doesn't have borders, but this is not true for the online markets yet: the fragmentation is stifling the competitivity of the digital European economy; furthermore, it prevents consumers from benefitting from the advantages that a digital single market could offer, both in terms of price and choice.

With the view to create a digital single market,

Fig. 9.3.2 – Percentage of people aged 16-74 who have ordered good or services online for private use in the last 12 months. Veneto, Italy and EU28 – Year 2010:2015



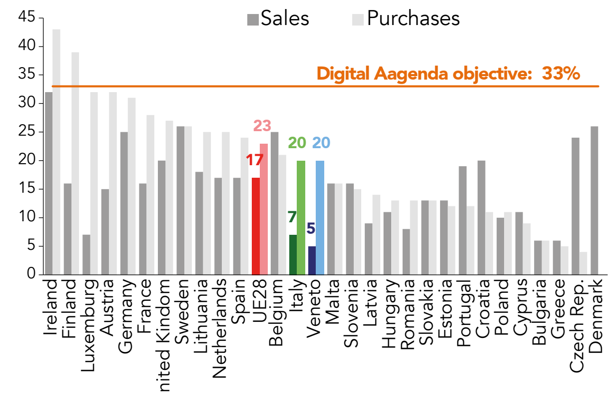
Source: Veneto Region Processing - Regional Statistic System on Istat data

cross-border e-commerce plays an important role within the Digital European Agenda, and Europe intends to increase this, putting the quota of the population which shop online abroad to 20%. This is becoming more and more common among European citizens (20% in 2015), whilst Italy is struggling to keep up: only 12% of the population participate in the cross-border e- commerce, one of the lowest percentages in Europe. For Veneto the last data available date back to 2014 and indicates participation by 13% of the population.

Encouraging e-commerce among businesses

Businesses too do not fully exploit the potential of the e-commerce yet, even if they are aware that this represents the main driver for development, a channel for export that enables businesses to embrace the opportunities emerging from the evolution of global demand.
The European Digital Agenda has set two objectives to meet on this regard: by 2015, 33% of businesses should have bought online for an amount of more than 1% of the total online purchases and they should have sold online for at least 1% of the total sales. Up to now, no country has reached the target for online sales and only a few have reached the objective for purchases.
Among the businesses that have 10 employees or more, 23% buy online and 17% sell online on average in Europe. For Italy, the percentages are less: 20% of businesses buy online for at least 1% of purchases, whilst only 7% sell online for at least 1% of sales. The positioning of Italy is even more critical if you consider that the data refer only to those businesses with at least 10 employees, and more oriented to the technological innovation, whilst microbusinesses are excluded, whose weight in the national economic and productive fabric is higher -than the European average.
Veneto businesses show similar results to the national ones, with 20% of businesses buying online for more than 1% of the total purchases and 5% selling online for more than 1% of the total sales.

Fig.9.3.3 – Percentage of businesses with at least 10 employees that sell/buy online for more than 1% of the total sales/purchases respectively. Veneto and EU28 countries – Year 2015 (*)



(*) The data for Veneto refer to 2014, whilst the data for the online purchases for Denmark is not available.
Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

9.4 Cloud computing services

For cloud computing we mean a set of technologies that that allow you, as a service offered by a provider, to save, file or elaborate data thanks to the use of hardware or software which is virtually distributed online. Data and programs don't have to necessarily be stored on the computer at home or at the office, but they can be "hosted" in an internet hot spot, which is called, in computing jargon, "in the cloud". More than just a new technology, it is a new approach to the use of technology which already exists. The most important innovation is the possibility of accessing resources directly from the internet, and using whichever type of document without needing a USB, hard disk or other digital hard drives. For businesses, relying on the cloud means a reduction in the complexity of IT management, innovating more rapidly whilst reaching significant economies of scale.

In an era in which sharing, efficiency, speed and safety are fixed points, the advantages are not few, both for common users and for businesses. Getting rid of USB sticks and mobile devices will save space, but above all will lead to the creation of digital archives which are accessible at any moment from any electronic device: from holiday photos to businesses documents to medical records, all downloadable straight on your smartphone!

In recent years, cloud computing has been making ground and becoming more important, both at the scientific-academic and the economic level, and the services offered are destined to increase. Furthermore, given the growing competition among the cloud service providers, you can compare costs, quality and reliability of the services, and thus chose the offer which is best suited to your needs.

The citizen, who usually uses cloud computing services such as digital photo albums to keep and share photos, can get the service free or at low-cost from a provider, whereas businesses, which need much more complex archives and elaborations, are willing to invest more in this type of service.

Citizens looking forward to "cloud computing"

The majority of citizens still regard "cloud computing" with a certain hesitation, preferring to keep their own documents on the computer or on an external hard drive.

On the European level the average is 22% of the population. The countries which most appreciate the potential of the cloud are Denmark, U.K., Sweden and Luxembourg, where over 35% of the citizens use this type of service, whilst the countries which use it the least are Eastern and Southern European countries.

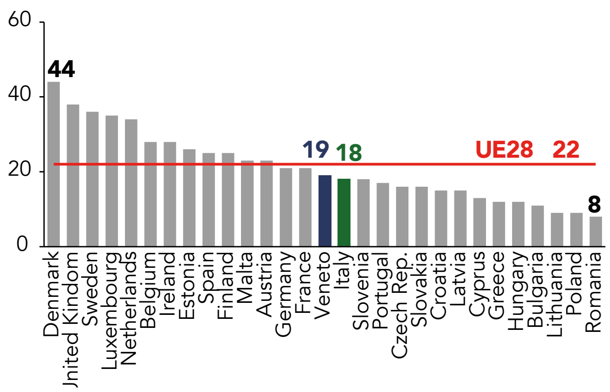
In Veneto 1 out of 5 people uses cloud

Italy and Veneto both find themselves under the European average, with 18% and 19% of the population which use a storage space online, respectively; more than a third of the population has still never heard of these services (35% in Veneto and 31% in Italy).

It is especially the frequency of the use of the web which differentiates the cloud computing users from the non-users: among those who have used the internet in the last 3 months, and therefore probably know not only cloud computing but also the potential of the service, the percentage of users rises to 30% in Italy as well as in Veneto. The age is also a determining factor in the confidence in "the cloud": 40% of Veneto internet users between 16 and 29 use it, whereas only 19% of the over 55's do so.

...especially for sharing photos, videos and music

Fig.9.4.1 - Percentage of people aged 16-74 who have used storage spaces online to save or share photos, videos, music, or other documents. Veneto and EU28 countries. Year 2014



Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

Generally, people chose the "cloud" to save and exchange especially photos, videos and music (16.3% of the Veneto population and 15.7% in Italy), less for work documents, such as presentation sheets and spreadsheets (9.3% in Veneto and 8.9% in Italy). Also in Europe, the percentage of those who chose cloud computing for a work-related use is much less, falling to 12%.

The Veneto users particularly appreciate the cloud for its ease in exchanging files with other people (52%) and the possibility of saving their own digital property in a safe space (50.7%). Other reasons leading to the "cloud computing" are the ease with which you can access files coming from different devices and/or places (31.1%) and the possibility to use storage space which is potentially infinite (27.9%). Among the problems that have arisen,

however, they claim above all the slowness in accessing the cloud and using the cloud (39.9%) and technical problems with the server (20.4%).
The cloud remains, however, a niche resource, used by a minority of people not only because it isn't still very well known, but also due to the conscious decision not to use it by those who know this online service. 63% of Veneto people voluntarily choose not to use the "cloud" because they prefer to save their files on a personal device (a USB stick, for example) or on their own e-mail address, and 35% because they are worried for the security of the service and/or for privacy reasons, 26% because they already find it easier to share files in other ways (e-mail, social media etc.) and 18% have doubts in the reliability of the service. Those who don't know how to use it, however, make up 21%.

An opportunity for businesses

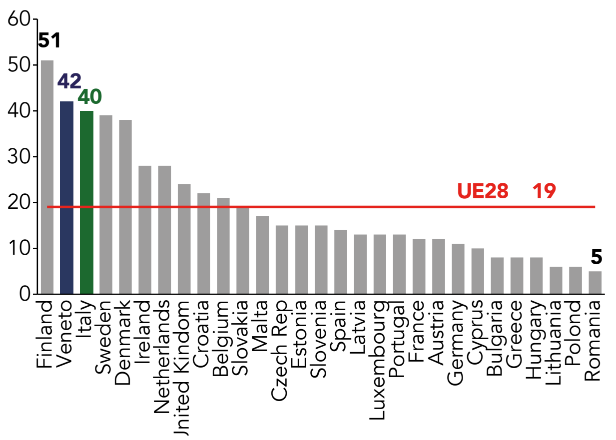
Compared to other European countries, the cloud isn't very spread amongst the citizens in Italy, but it is different in terms of businesses, that make use of these types of services more regularly, recognizing in them an opportunity to save and to improve the work methods.

Italian businesses have more belief in the

In 2014, the cloud computing services were purchased by 40% of Italian businesses with at least 10 employees, the highest percentage in Europe after Finland (51%), much higher than the average of 19% across the EU28 countries. In Veneto, the percentage was up at 42%; but the purchase of cloud computing was much less frequent for smaller businesses (13% in 2011), which do, however, have also much more problems connecting to the network.
The most purchased cloud services by Italian businesses were the mid-range services, which include at least an e-mail service, software for the office, file storing and a business database host: 23% of businesses in Italy and 24% in the North-East[10], percentages which are among the highest in Europe (with a 9% average in UE28). 16% of Italian businesses and 14% of North-Eastern businesses, in fact, opted for the use of high- range cloud services, which include financial and accounting software, customer relationship management (CRM) software and processing power to run the software. Compared to European businesses, among the single services the

[10] Data at the regional level isn't available.

Fig. 9.4.2 - Percentage of businesses that have bought cloud computing services. Veneto and EU28 countries – Year 2014 (*)



(*) Businesses, with exception to the finance sector, with at least 10 employees.
Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

Tab. 9.4.1 – Percentage of businesses with at least 10 employees which bought cloud computing services by type of service. North-East, Italy, and EU28 – Year 2014

	North-East	Italy	EU28
Businesses that bought cloud computing services	39	40	19
Services purchased			
Electronic post	34	35	12
Software for the office	15	17	6
File storing	12	13	10
Business database host	11	11	7
Financial and accountancy software	12	13	6
Customer relationship management software	5	6	4
Only low-level services	20	19	7
Processing power to run the software of the company	3	3	3
Only mid-range services	24	23	9
Only high-level services	14	16	9

Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

most used was electronic post, whose success is also favoured by recent regulations which impose its use (the certified electronic post, for example), but also the use of office software or financial and accounting applications.
Even though businesses know the advantages of investing in cloud services, such as reduction in costs, flexibility and speed of development of solutions, there remains the worry for certain factors that it will limit their use. Besides a lack of knowledge, there remains a certain apprehension for the violation of security and the positioning of data; also the uncertainty on the legal framework plays a fundamental role.

Tab. 9.4.2 – Factors limiting the use of cloud computing services in businesses with at least 10 employees (percentage values). North-East, Italy and EU28 – Year 2014

	North-East	Italy	EU28
Factors that worry those who have bought cloud computing services			
Lack of knowledge	21	21	6
Risks of violation of safety	20	20	7
Data/software access issues	13	13	5
Difficulties with transferring data (transferability)	18	17	5
Uncertainty on the positioning of data	16	15	6
Uncertainty on the legal framework	18	18	6
High purchase costs	16	17	6
Obstacles against the purchase of cloud computing services			
Lack of knowledge	31	31	33
Risk of violation of safety	24	24	29
Uncertainty on the positioning of data	21	21	26
Uncertainty on the legal framework	22	21	25
High purchase costs	21	22	24

Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

Also among the businesses that have bought cloud services there is a certain worry concerning the possible risks, more than in the rest of Europe, which indicates a lower level of knowledge of the characteristics of the technology on the part of Italian businesses.

9.5 Work in progress in digital P.A.

The digital channel to interact with the Public Administration

The digital fruition of public services represents an important sector of economic development and social inclusion. The e-government services can allow an improvement of services to citizens and businesses, favour the participation and promote an open and transparent administration. It could also reduce costs for the P.A. both at the local and central level, and at the same time enable the users to save time and money too.
The use of the digital by public services intends on one hand to put the user and their needs at the centre of attention, on the other hand to allow a further coordination among all of the public administrations. To this end, the Italian Government prepared the SPID project (Italian acronym for Public System for digital Identity), which aims at becoming the favoured method for accessing the net for P.A. services (and by the private businesses which want to adhere to), thus guaranteeing the possibility for citizens to interact with the various services in a quicker and more simple manner, enabling them to carry out different actions, such as booking health checks and controlling the social security situation, using their own computer, smartphone or tablet. SPID will certainly be a new login system that will allow citizens and businesses to access, with a single digital identity, all the online P.A. services and adherent businesses. Through SPID it will be possible to eliminate the numerous and different passwords and users necessary to use the online P.A. and business services.
SPID wants also to act as a lever for the development of online services, as a way of regaining the trust of citizens in digital P.A. services. It is a cultural and technological challenge, which is added to the other digital challenges announced in the last years by the legislator in the P.A. innovation sector. There will be 3 main advantages of the new system. First of all the simplification, because there will only be one login to access all services, and from a network point of view, P.A. and businesses will no longer

have to direct the authentication phase of the users. Then the safety, because it will be guaranteed the protection of data, there won't be any central databank that could track the profiling of users. Finally saving, because the expenses will disappear for the conservation of data.

The project started on the 15th March with the involvement of some digital identity providers, private subjects accredited by the Agency for Digital Italy, authorized to provide digital identities and manage the authentication of users[11]. From the 15th March 2016 up to June 2016, the activation of over 600 via SPID useable services will be enforced, in compliance with the regulations for the safeguard of personal information.

Venice is the first municipality that

Our region boasts an important fact: as of April 2016, the Venice municipality was the first local administration in Italy that formally adhered to SPID. The Venice digital services roadmap via SPID will start with online services which already exist, above all the school services. Then with services mainly dedicated to professionals and businesses, and then the free access to the city wifi network.

One national civil registry to modernize the country

Another national objective, aiming at saving time and costs for the P.A. as well as reaching a network system is the creation of the National Residents Population Register (ANPR), which should be in place by 2016, which will take the place of over 8,000 registers of the Italian municipalities, which will result in only one reference point for the P.A. and the public service providers. With the ANPR, there will be just one databank with the personal information of the residing population. From a network point of view, this will enable the exchange of information among municipalities, thus simplifying the administration processes. With ANPR, we will also be able to integrate other national archives into it too, such as the register of house numbers and urban roads, a tool which is necessary to complete the reform of cadastre, and records of patients, which will make it possible to improve the health service.

This will guarantee the improvement of the services to citizens which, thanks to a central register, will also be capable of requesting register certificates from any municipality.

The use of digital public services is still low

As well as setting up digital services on the part of the P.A., it is important that users, citizens and businesses are all educated in the use of digital instruments in order to have access to these new opportunities. To this end, among the European Digital Agenda targets the most important was that by 2015 50% of the population should have used digital services in the interaction with the P.A.. In Italy, even though there is a good level of availability of e-government services, only 24% of the population use the web to interact with the P.A., a value which is still a long way from the set target, whilst hast almost already achieved at the European average (46%).

The availability of online interactive services for the P.A. are under expansion even in Veneto, with some excellences acknowledged at the national level, such as the quality of the digital heath services and online payments, two of the key assets identified in the National Strategy Plan for Digital Growth 2014-2020, on which we should focus for the innovation of the country.

Veneto is the first region doing online payments to the P.A.

Veneto came in first place in Italy for the number of online payments made to the P.A. In the first three months of 2016 they more than 45 thousand online payments were recorded via the web portal MyPay, the regional hub for electronic payments which was developed by the Veneto Region, in collaboration with the Agency for Digital Italy and offered for free to all corporations that want to offer this opportunity to their citizens. Now, about 40 local corporations have adhered to it, as well as the Azienda Ulss 17 from Monselice-Este, one of the first public health services to avail itself of this innovation for the payment of health services.

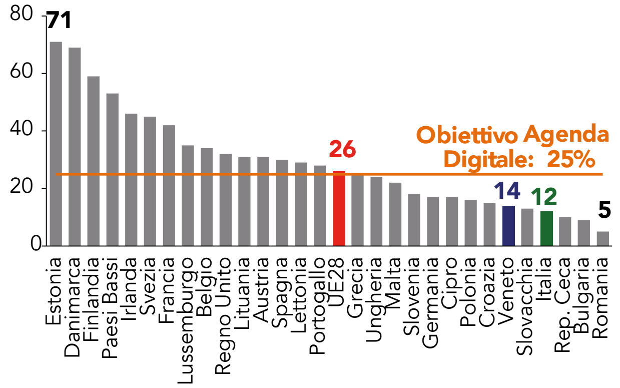
In spite of the important progressions that have been made, the percentage of the population that have used online public services was no higher than 28% in 2015.

Furthermore, always in terms of European targets, in 2015 the percentage of people able to fill out online P.A. modules . should have been equal to 25%, signalling a more active interaction between citizens and public services. Again, however, the objective was met in Europe with an average of 26%, but still

[11] Nowadays, there are 3 identity providers accredited: Infocert, Poste Italiane and Tim

not in Italy (12%), nor in Veneto (14%).

Fig. 9.5.1 – Percentage of people aged 16-74 years who in the last 12 months filled out online Public Administration modules. Veneto and EU28 countries. Year 2015



Source: Veneto Region Processing - Regional Statistic System on Eurostat and Istat data

Businesses have also started to interact more and more with the P.A. across new technologies, as declared in 2015 by 69.2% of Veneto businesses in total, a value which is in line with the national average. The activities carried out are different such as: work formalities and procedures, company revenue declarations, building formalities and procedures, online participation and management of the tenders and agreements with the P.A., using of the certified electronic post and the online billing with the P.A.

Healthcare at 0km[12]

Within the digitalization of the healthcare system and the development of the regional Electronic Health Records (FSEr), the Veneto Region is concentrating ever more its efforts towards a new vision called "Healthcare at 0km". On one hand, it is focusing on the complete digitalization of some services to the citizens, with the aim to make them 100% usable, always available, wherever you are; on the other hand, on closing the gap between health services and those who need a particular care due to their conditions. This new type of healthcare can be found in more familiar and common places, it speaks a concise and understandable language, it responds quickly to the needs of the users with the most simplicity possible. At the base of the project, there is still the belief that there is already a paradigm shift in place, where the data is travelling, not the people.

Starting from the articulation of the electronic records created in collaboration with Arsenàl.IT, which offers the opportunity to implement alternative health service access and supply solutions, different eHealth projects were started in collaboration with Health and hospital agencies. These solutions contribute to an increase in the effectiveness and the quality of services, as well a possible reduction in the required amount of economic resources necessary to fund them. There are essentially two guidelines: one thought to facilitate the work of health operators and one which can be directly used by the users, but both trying to close the gap between people and the regional health care system.

To better understand the opportunities provided by this new type of paradigm, we can look at some examples of initiatives activated in the region.

The usable services for the citizens

Firstly, the possibility of downloading the own medical reports online: what is needed is just a computer connected to the internet and the own access information to download the reports, whenever you need to, wherever you are. From 2012, with "Veneto escape" the reporting process is 100% digital and around 60% of the reports are downloaded online, without having to physically go into the hospital to get it and skipping the waiting line. According to estimates, this has induced a reduction in wait time by 61% and has saved €120 million per year for the patients in Veneto in terms of avoided journeys and time saved.

46,500,000 the digital prescriptions in Veneto

Another important part of this continually evolving path is digital prescriptions. In 2015, there were almost 46,500,000 digital prescriptions issued, equal to 88.3% of the pharmaceutical prescriptions and 74.4% of the specialist prescriptions. This is an important result, made possible by a network linking all the healthcare agencies and hospitals, the Region, all the pharmacies, the general practitioners and paediatricians (98%) and specialists (71%). Furthermore, thanks to the digital prescriptions the errors in terms of filling out prescriptions have been 100% eradicated. Since April 2015, the old red prescription has gradually disappeared, substituted

[12] By Arsenàl.IT – Veneto Research and Innovation centre for Digital Healthcare.

by a memo. In short, this is another step towards a 100% digital solution, which the users can appreciate particularly first hand, whether in the pharmacy or at the practitioner. With the revolution brought about by "ECO pharmacies", started at the beginning of March 2016 in 6 Ulls and 97 pharmacies, it won't be long before you can go into pharmacy with your own smartphone or health card to obtain your prescripted drugs.

Besides CUP: for an even faster booking

In the same context there is also the project "Besides CUP", already active for certain doctors in Belluno and in the stage of being introduced in other health care services. It will no longer be necessary to go to hospital or spend lots of time on the phone to book specialist visits. There will be general practioners doing it for the patients: when the doctors prescribe a visit or an exam, they can share with their patients the possible options of date and place, taking the appointment based on the medical case but also the availability of the patient too. Thanks to this method, an important change is recorded: patients are already in line for their appointment with a specialist within 15 minutes of receiving their prescription.
In other terms, this is a solid attempt to bring the health services closer to the real needs of citizens, looking for service quality and appropriateness thanks to the potential offered by the eHealth innovations introduced in the last few years in the region.

The advantages of teleconsultation

The service of neurosurgical teleconsultation is also significant, which allows the realization of consultation at distance between the doctor of a peripheral hospital and a main one. The system allows doctors to share radiological images and thus there is the possibility to discuss and weigh up, together, the health state of the person in question. Now, the network connects 7 main hospitals with 34 peripheral ones. Thanks to over 3,216 teleconsultations every year, the number of transferrals from one hospital to another has been reduced by 84%, with a consequent decrease in the stress of patients and their families, as well as saving time and reducing costs.

Young people and the elderly at the digital

The biggest critical issue in the innovation process being carried out seems to always be linked to the risk of generating a sort of exclusion from digital services, in particular regarding the more elderly citizens.

Tab. 9.5.1 – Electronic Health Records (FES) in Veneto – Year 2015

Reports downloaded online	60% of total reports
Saving:	61% reduction in time for reporting
	€56,390,000 in 3 years for the Veneto healthcare system
	€120,000,000/year for Veneto citizens
Digital prescriptions	46,461,726 in 2015
	88.3% of the pharmaceutical prescriptions 74.4% of the specialist prescriptions
	Saving: €3,244,901 /year for the healthcare system
	100% reduction in the number of filling out errors
Neurosurgical teleconsultations	3,216 every year
Saving:	84% reduction in the transferal times from one hospital to another
	€111 for every transferal avoided thanks to the service

Source: Arsenàl.IT

Young people can therefore play an important role in the evolution of digital healthcare, even if at the moment they do not feel to be involved in what is going on: 69% have never visited the website of the own healthcare agency and 53% don't know about online healthcare services. This emerged from an analysis carried out within the initiative called "@Two!Salute!", developed by Arsenàl.IT in collaboration with healthcare agencies, to make Veneto secondary school students aware of the potential of digital healthcare. Encouraging data concerns the fact that 85% of children who didn't know about online healthcare services would like to know how to use it for themselves or their families in the future. Finally, the initiative "Click on your health!" focuses on the Veneto municipalities in their role as digital

facilitators for their citizens, in particular for the elderly generations. In this sense, "Click on your health!" forecasts two synergic activities: the activation of assisted central public spaces to facilitate the use of the online health services for the citizens and an educational activity on the digital healthcare, dedicated to the representatives of the municipalities, associations and citizens. The aim was to train and inform about both the concept of digital healthcare and how this is dedicated in the region, both to the online services which are already active and on the ones which will be implemented in the future in the FSEr.
A research carried out within the initiative promoted by Azienda Ulss 10, experimenting the project, allowed us to record that 97.4% of interviewed citizens were favourable towards the intensification of the digitalization of health services. Among those who don't use the internet, 50% declared the intention to adapt and learn how to navigate and thus access the online services. The remaining 50% stated that they want to trust in somebody who knows how to use.
The empowerment of the citizen and the development of an attitude of better knowledge on how to actively manage their own health, are now considered to be indispensable for the smooth functioning of the modern healthcare systems. Bringing Veneto citizens closer to the online services available in their own municipalities is a fundamental step to prepare the population for the diffusion of the region electronic health records.

Innovation already in schools

The process of digitalization in the P.A. has introduced important innovations also in the school system: the signing up of students to be carried out online, the report card in electronic form, made available for families on the web or via e-mail, electronic registers of teachers and the classes and the sending of communications to students and their family in electronic form.
Just like the other countries in the EU, Italy, in the last few years, has started initiatives and projects to renovate the national school system and spread digital innovation across schools.

Increasing ICT in schools

The comparison with the previous school year 2013-14 shows a general increase in the available technical equipment for teaching. This is down to, on one hand, the impulse of the Minister of Education, University and Research (MIUR)[13], and, on the other, to the specific interventions both by local and territorial corporations and businesses, foundations, cultural associations or private citizens which contributed to the modernization of the information technology equipment.
One of the most used indicators at the international level to measure the diffusion of digital technology in schools is the ratio between students and technology. This indicator is calculated by measuring the number of students against the number of computers in the classrooms, and the mobile devices available for use to students in the classroom; the lower the value the better the situation, because it means that less students are associated to every one computer. According to a recent survey of the MIUR concerning the 2014/15 school year[14], in State schools in Veneto there is an average of 8.6 students on technology in class, which is an increase compared to the previous school year, and to a national average of 7.9.
Equipping schools with computers with fast and stable connections is necessary not only for a modern teaching style, but also to prevent depriving or marginalizing surroundings. E-learning, remote school and virtual classrooms are integration instruments in the cases where physical participation in class is complicated, such as for hospitalized students, or peripheral schools, or for the fruition on university lessons from home.
Looking at the services and digital equipment in state schools, the web site is available almost anywhere, as well as the use of the electronic class register and the teacher register are commonly used, whilst the school- family communication online service is active in 56.3% of institutes. There is still not much diffusion of the use of platforms for the sharing of teaching material and for the management of online LMS[15] lessons.
Even though many classrooms and labs are con-

[13] For example. some projects undertaken in 2012 and carried out with co-financing in the regions "LIM in classes", "Classes 2.0", "Schools 2.0", and "Digital school centres", all together with the "Wireless in schools" project in 2013.

[14] The Minister of Education, University and Research – Statistic service. Le dotazioni multimediali per la didattica nelle scuole A.s. 2014/15 (The multimedia equipment for teaching in schools 2014/15 school year), October 2015.

[15] LMS (Learning management system) is a platform aiming to manage the training activities and the sharing of content at a distance.

nected to the web (66% and 84.5% respectively, in Veneto), classic instruments still prevail. Teaching on interactive multimedia boards and on interactive projectors still affects a minority of classrooms and labs.

The digital justice

Italy has always showed a lot of critical issues for the excessive amount of time that proceedings take, especially for civil matters. According to the estimates carried out by the World Bank, the average length of a first instance proceedings is 1,200 days, a performance which is very far from that in the best countries (390 days in Switzerland, France and Germany), but still twice as long as the average (about 630 days).

This performance of the juridical system could be improved if more investments in information technology would be made. In this sense, Italy is looking to make up for the deficit, having doubled the investment into the digitalization of justice in the last year: the final allocation for 2015 was in fact almost €148,000,000, compared to 68.8 million in 2014, also thanks to the use of European funds for the first time.

The telematic civil proceedings

In recent years, there has been an acceleration towards the digital world and the telematic civil proceedings is to be considered in this regard: starting from the 30th June 2014 online filing is necessary for deeds relative to proceedings started before the ordinary courts after 30th June 2014, whilst from the 31st December 2014 this obligation is extended also to the cases brought before court before the 30th June 2014 (pending proceedings). Moreover, from 30th June 2015 the obligation is extended also to civil proceedings before the Appeal courts. Based on the most recent information available at the territorial level, in the last semester of 2014 the deeds filed online in the district of Venice rose to almost 136 thousand, 235% more compared to the previous semester (Italy +103%), an average of 22,600 deeds a month, and in the month of January alone, this figure further rose to 43,998.

Nowadays if you want to access the own civil proceedings dossier, you can do so 24 hours a day, without waiting lines, in real time. It is an important feat which reduces territorial distance and renders certain areas of the country less peripheral. The next step? To extend the telematic process also to the criminal area, next year.

Tab. 9.5.2 - Indicators for digital services in State schools. Veneto and Italy – A.s. 2014/15

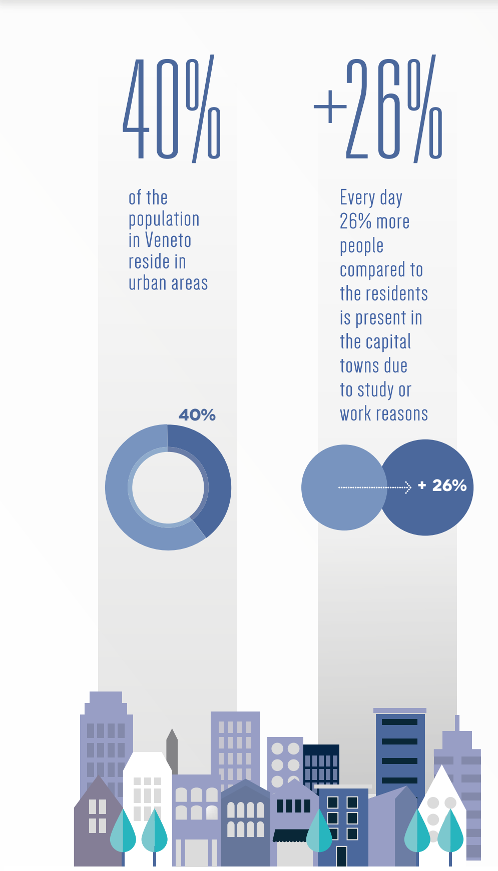
		Veneto	Italy
Digital services (out of 100 schools) Electronic class register 72.1 69.2	Registro elettronico di classe	72.1	69.2
	Electronic reacher register 80.0	73.6	73.6
	Website or online portal 99.5 99.3	99.5	99.3
	School-family online communication 56.3 58.3	56.3	58.3
	Central IWB multimedia content management 15.5	15.5	16.5
Students per computer in class 50.2 41.0 Students per computer in labs 10.8 11.6	Alunni per computer in classe	50.2	41.0
	Classrooms with multimedia equipment (out of 100	10.8	11.6
Equipped with IWB 37.1 41.9	Connessi in rete	66.0	70.0
	Equipped with interactive projector 6.2 6.1 Labs	37.1	41.9
	Equipped with IWB 28.7 43.6	6.2	6.1
Equipped with interactive projector 19.3 16.9	Connessi in rete	84.5	82.5
	Dotati di LIM	28.7	43.6
	Dotati di proiettore interattivo	19.3	16.9

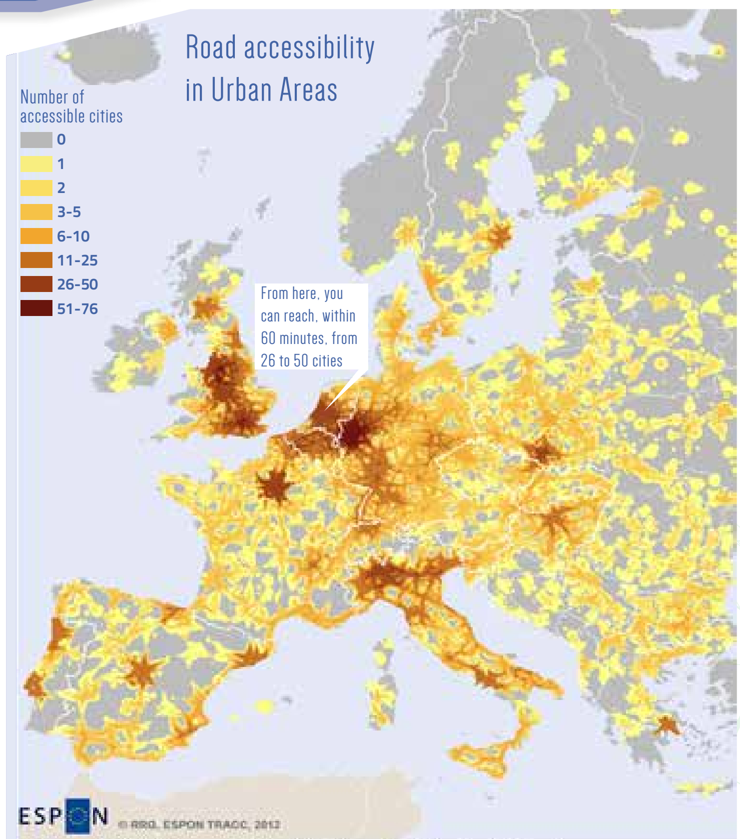
Source: Veneto Region Processing - Regional Statistic System on MIUR data

Cap.10 - Planning the cities of the future

The city takes an ever more strategic role in the European scenario, which focuses itself on the main challenges in the environmental, social and economic context, in terms of potential innovative solutions or risks in terms of sustainability. The urban development model hypothesizes a "city of the future" outside of the administrative borders and seen as a "functional" city at the service of their own territory, favouring a compact structure of establishments with a limited urban proliferation and capable of being the attractive centre for people who gravitate there both for work and study. Scaling down the provinces the metropolitan cities assume more weight; simultaneously, in Veneto there are 5 urban areas (Padua, Treviso, Venice, Verona and Vicenza) and other smaller centres, but with relevant urban functions, deployed across the main routes. The concentration of people in these urban areas could also intensify the risk of social marginalization and determine critical environmental issues which could be solved with with innovative solutions. Many cities are already taking part in Smart City projects and in the future, a smart land can be imagined in which opportunities extend to the all regional territory.

THE ROLE OF URBAN CENTRES





Number of cities with at least 50,000 inhabitants that you can reach in 60 minutes

10.1 The centrality of urban areas

Urban politics

The city takes an ever more strategic role in the European scenario, since here can be found the main challenges in the environmental, social and economic context, in terms of potential innovative solutions or risks in terms of sustainability. Cities can become the catalysts for economic transformation, social and cultural integration, and for achieving the inclusive, smart and sustainable development objectives that the Union laid out in its strategy Europe2020. Also for this, it is necessary to pay a greater attention to the impacts and to the potential that European politics have at the local and urban level, with the aim to achieve a better coherence of the operations.

In Europe 72% of the population live in cities

According to Eurostat, there are actually around 359 million people who live in cities, towns and urban suburbs, equal to 72% of the population of the EU. Even though the rate of urbanization of the population has felt a decline, the percentage of urban population continues to grow and it could possibly reach a figure higher than 80% by 2050. 67% of the European GDP is produced in metropolitan areas: the largest metropolitan regions and those where there is the capital of the country have reacted the best throughout the course of the economic crisis compared to the regions which are dimensionally smaller or are not metropolitan.

Small and medium sized cities constitute the backbone of the European territory, a close network with an important role in terms of development and territorial cohesion. Europe is characterized by more polycentric and less concentrated urban structures than the USA or China: for example, it has two large urban agglomerations, London and Paris, a considerable number of large city regions and a dense network of small and medium-sized cities and areas with very few urban centres[1].

IT Therefore, it seems urgent that cities are also involved in the predisposition and the application of urban EU politics. The European Commission is promoting the definition of a European Urban Agenda, as an integral part of the Europe 2020 strategy, for the construction of a development network among the cities and at the same time inviting Member States to endow a national urban agenda. It is an agreement made among European institutions, Member States and cities to relaunch the primary role of urban areas in the EU politics, favouring a socially inclusive and sustainable development. The urban agenda must contain a framework of common actions in order to improve the coordination between the various politics that impact the urban areas, from transport to services, from the ground usage to social and economic development. It will be aimed at a European, local and national synergy in the interventions on the cities, in order to avoid non-harmonized operations: this doesn't mean there will be new legislation, but an indication for a coordinated work effort.

The Urban agenda focuses on the city for the future

The urban politics, already present for years in Europe, is systematically summed up in the document "The urban dimension of EU politics – Key features of an EU agenda" from July 2014, and the official release of the Agenda will be on the 30th May 2016 through the Pact of Amsterdam. The European model for urban development hypothesizes a "city of the future", which should a place for advanced social development; a platform for democracy, cultural dialogue and diversity; a green area for ecological and environmental regeneration; the attractive centre and driving force for economic growth. Territorial urban development should mirror a sustainable development on the grounds of a balanced economic growth and a balanced territorial organization, prioritizing a compact settlement with a limited urban proliferation and aiming towards a high level of protection and environmental quality in the bordering areas to the city.

The Italian Urban agenda shown in the Economic Partnership Agreement for Italy, conforming to the European orientation, considers cities not as concluded territorial spaces, bound from an administration perspective, but as "functional cities" at the service of their own reference and territorial system for production and services. The national strategy was conceived to develop the services offered by the urban centres to the regional territories, and also with the intent to resolve some issues that are created at the same time as the growth of urban agglomerations. This strategy is based on two types of territories; metropolitan cities on one hand and medium-sized cities and regional urban centres, on the other.

1 European Commission, The urban dimension of EU politics – Key features of an EU urban agenda; Brussels 18.07.2014

With the PON Metro, there are more resources for the metropolitan cities

Whilst the provinces are having a downsizing in their functions, the metropolitan cities are playing an ever more active role thanks to national laws, as important demographic hubs and as the drivers for development and innovation. To this end in 2014 the National Operational Programme for Metropolitan cities was adopted (PON Metro)[2]: it is an instrument for national programming, co-financed using community funds, for interventions dedicated to the 14 metropolitan areas of Italy. For the seven year period 2014/202 EUR 892 million have been allocated, of which 588 was funded by the EU (446 from FESR and 142 from FSE) and the rest came from national co-financing. The interested areas covers the territories of the metropolitan cities, with interventions more focused on some portions of these territories and on the territory of the main municipality.
The PON supports the priorities of the national Urban Agenda and focuses on the three main challenges of a metropolitan territory: economic challenges, such as the digital agenda and communication networks; climate and environment challenges, such as sustainable mobility and energy efficiency; social challenges, such as the fight against housing exclusion, the integration of marginalised segments and social innovation. In the medium cities and major urban hubs the Regional Operation Programme EFRD 2014-2020 will be implemented[3]. These cities are densely populated urban areas and represent the major hubs of supply for essential and premium services for vast and significant areas, in first place the capitals of the regions and the provinces.

With POR-FESR, 77 million euros for Veneto's medium-sized cities

An axis of the Veneto ROP-ERFD focuses on Sustainable Urban development, with a financing of 77 million Euros for some strategic objectives. First of all the sustainable urban mobility, also encouraging the use of public transport systems that have a lesser environmental impact.

[2] The Minister for Economic Development – The department for the Development and European cohesion of the National Operative Programme for Metropolitan cities 2014-2020, 22 July 2014.
[3] Veneto region, Operative programme for the objective "Investments in favour of growth and employment" Veneto ROP-ERFD 2015.

The polycentric character of Veneto has represented a great strength for regional development for a long time, specifically economically, but today it has been found to be limited in terms of the consumption of ground, pollution and environmental issues, marginalization of certain areas and segments of the population. The extension of the disseminated city, with the following creation of urbanised continuum, made the transfer flows of people more complicated, creating problems in the organisation of the infrastructure and of transport. To this, we should also add a cultural backwardness, which preserves an obsolete idea of a city designed for cars, far away from the recent European and international tendencies where the sustainable city is built around a public transport network system. Other objectives of the Programme range from the promotion of social inclusion, intended to contain poverty and aiming at reducing the extreme marginalisation of homeless people, consolidating the competitiveness of small and medium-sized businesses and modernising the territorial productive systems, to the strengthening of the e- Government services through the digitalization of administrative procedures and the dissemination of digital services in the interaction among citizens, businesses and the Public Administration.

Restructuring the local institutions

The definition of the most appropriate forms of government for the territories with the largest urban concentration has been in debate, at the academic and political level, even as far back as the 50's in the previous century. With Law number 142 in 1990, the reformation of the system of the local autonomies, provided for the establishment of metropolitan cities that have been given, then, the status of constitutional bodies with the reform of the Constitution in 2001. 24 years after their first introduction in our legal system, and on the basis of the acknowledgment that in the metropolitan conurbations there coexists the best opportunities and the worst critical situations for the development of the whole country, and Law 56 in 2014 (the so-called Delrio law) redefined them in terms of numbers, and functions and to dictate the rules for their institution. Sacrificing the urbanistic assessments and in order to overcome the foreseeable contrasts related to the boundaries of the metropolitan aggregates, the law made it possible to coincide them with the boundaries of those of the pre-existing Provinces, leaving the possibility wide open for the adhesion of the municipalities belonging to neighboring provinces.

Re-sizing the provinces, the Metropolitan city is born

The same law 56 revised the organisation of the provinces either in terms of their bodies or in terms of their attributes. This one was followed by the Veneto regional law number 19 of 2015 aimed at re-organising the

administrative functions of the Provinces and metropolitan City. We are in presence of a global revision of the organisation of the local autonomies which is not yet completed. In fact, the new constitutional reform, definitely approved by the two Houses of Parliament which will be the subject of the confirming referendum in Autumn, provides for the abolition of the provinces. If the referendum passes, the new constitutional provision will require, at a national level, an adaptation of the Unified text for the local authorities (Legislative Decree n. 267/2000) and, at a regional level, a further rearrangement of the way in which the regional functions are carried out, also in consideration of the absen

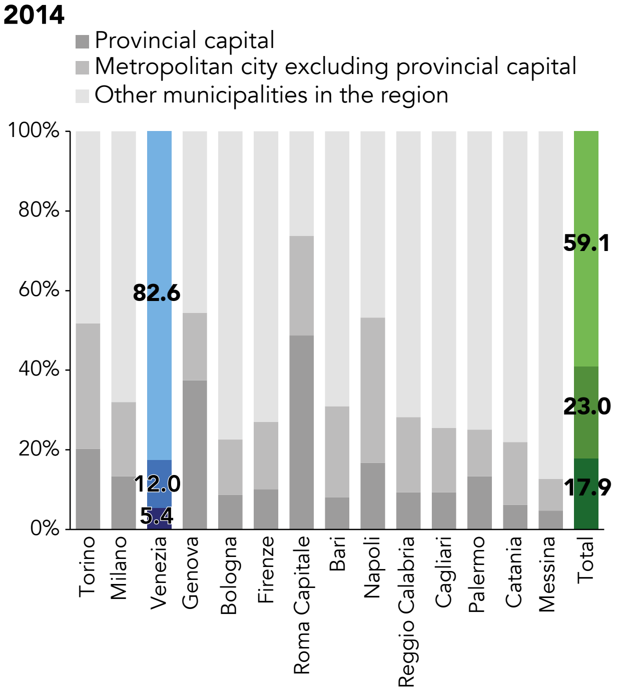
Tab 10.1.1 – The metropolitan cities in Italy – Year 2014

Region	Metropolitan city	Municipalities	Surface area (km2)	Population	Population density (pop./
Piemonte	Torino	315	6,827,0	2,291,719	335,7
Lombardia	Milano	134	1,575,7	3,196,825	2,028,9
Veneto	Venezia	44	2,472,9	858,198	347,0
Liguria	Genova	67	1,833,8	862,175	470,2
Emilia Romagna	Bologna	55	3,702,3	1,004,287	271,3
Toscana	Firenze	42	3,513,7	1,012,180	288,1
Lazio	Roma Capitale	121	5,363,3	4,342,046	809,6
Puglia	Bari	41	3,862,9	1,266,379	327,8
Campania	Napoli	92	1,178,9	3,118,149	2,644,9
Calabria	Reggio Calabria	97	3,210,4	557,993	173,8
Sardegna	Cagliari	16	1,114,0	423,340	380,0
Sicilia	Palermo	82	5,009,3	1,276,525	254,8
Sicilia	Catania	58	3,573,7	1,116,917	312,5
Sicilia	Messina	108	3,266,1	645,296	197,6
Total		**1,272**	**46,504,0**	**21,972,029**	**472,5**

Source: Processing by Regione Veneto - Sezione Sistema Statistico. Regionale on Istat data

ce of territorial institutions of vast areas operating at the sub-regional level in a homogenous method for the whole regional territory. Focusing the attention on the metropolitan dimension, it is clear that the 14 metropolitan cities, established by the Delrio law, have an important weight on the Italian society, with 36% of the population, 17% of the surface area and 41% of the added value.

Fig. 10.1.1 – Percentage distribution of the population in the metropolitan cities. Italy – Year 2014



Source: Processing by Regione Veneto - Sezione Sistema Statistico. Regionale on Istat data

Compared to the other territories, Veneto confirms a particularity which consists in the non-predominance of the provincial capital of the region and the metropolitan city of Venice in the regional sphere, where 17.4% of the regional population is concentrated.

The question of the eventual expansion of the boundaries, supported in particular by those who had elaborated the Pa.Tre.Ve concept – the metropolitan central area also consisting of Padua and Treviso –is highly controversial on the political level: this also includes the provision of the Statute of the metropolitan city of Venice which limits to its sole bordering municipalities the possibility of adhesion, introducing thus a limitation in order to preserve the territorial continuity of the new insti-

tution, with respect to Law 56 which contemplates the possibility of adhesion also for non- bordering municipalities, provided that they belong to neighbouring Provinces.
The first problem metropolitan cities have to face is that of filling the content of the planning deeds for which they are competent, from the metropolitan 3 year strategic plan, and to ensure the resources necessary for the urban upgrading operations to be carried out.
In parallel with the rearrangement of the local autonomies system, the recent years have witnessed a clear trend towards the reduction of the number of subjects which assume public functions at the local level and the increase of the dimensions of the reference territorial aggregations.
Facts which are moving in that direction are the launch of the aggregation process between the Chambers of Commerce, the decrease in the number of land reclamation authorities, the aggregation between the awarding bodies, and also the providers of the integrated water service, and, finally the transformation and reduction in the number of waste management facilities. Similar processes of aggregation are concerning the social-health sector and businesses which provide local public services in various sectors.

Less public authorities, but with a larger pool

10.2 Cities beyond administrative boundaries

Some definitions of a "city"

OECD, in accordance with the European Commission and Eurostat, developed in 2012 a harmonized definition for urban areas, called FUA (Functional Urban Areas), which go beyond the administrative

Tab. 10.1.2 - Aggregation process for public entities operating at the local level

Entity	Before the reform	After the reform	Notes
Chambers of Commerce, industry, crafts and agriculture	7	6	The decree of the Minister of economic development on 23.10.2014 implemented the incorporation of the CCIAA of Venice and that of Rovigo in the new CCIAA of Venice Rovigo Delta Lagunare
Land reclamation authorities	20	10	Based on the Regional Law N. 12/2009
Awarding bodies for the integrated water service: Municipalities before the reform, then the Optimal Territorial areas (AATO) and, at the moment, the Area Council for the regional Optimal Territorial areas (ATO) and the Area Consult for the interregional ATO	581	9	The reform of the organization of the integrated water service was taken under Law number 36/1994 "Galli Law", implemented at the regional level by Regional Law n. 5/1998, which identified the ATO's and established the relative AATO of reference then replaced, based on Regional Law n. 17/20012, by the Area councils/Area consultation
Integrated water service entities	328	16	Before the reform, 281 municipal entities were operating economically and 47 public businesses or managing consortia; there are now 16 managing companies which operate (14 of which are consortia in the consortia Viveracqua scarl)
Area boards for the integrated management of urban waste	24	11	Based on the Regional Law n.52/2012 and implementing measures

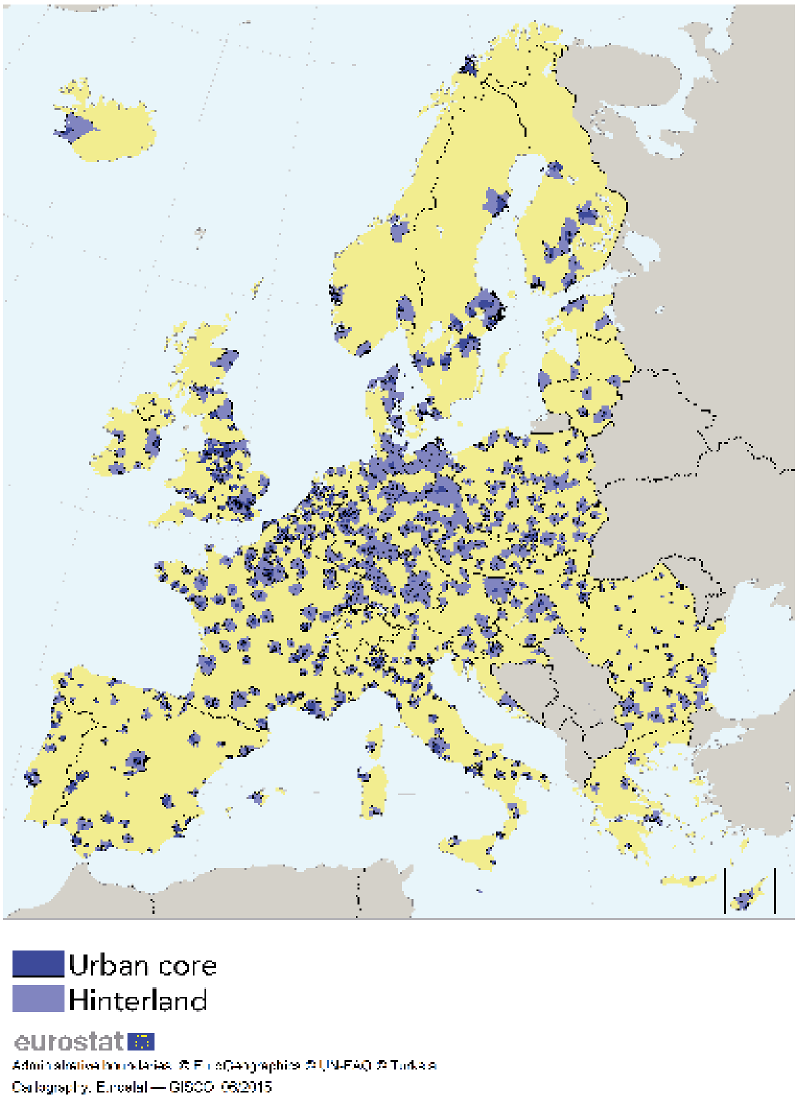
Source: Processing by regione Veneto – Sezione Sistema Statistico Regionale

boundaries. They are characterized by an urban core and by an hinterland, which the work place is strongly integrated with the core[4]. This definition is applied in 29 OECD countries and allows the identification of 1,179 urban areas of different dimensions.
The core comes to be defined through the aggregation of small portions of adjoining territory (1km2), with a density of at least 1,500 inhabitants per km squared.[5]The cores may be situated near to each other but not adjoining: although physically separated, they are included in a unique FUA if they are economically integrated, namely if at least 15% of the residents of one of the cores moves for work or any other reasons. In this case, we talk about polycentric functional areas.
Around the core, the hinterland municipalities are identified thanks to people commuting for work related reasons, where at least 15% of the residents work in the core. The extension of the hinterland gives an idea of the influence of the city on the surrounding territories.
The FUA's are further classified as: "small urban areas" with an overall population between 50 and 200 thousand inhabitants, "medium-sized urban areas" with a population between 200 and 500 thousand inhabitants, "metropolitan areas" with a population between 500 thousand and 1.5 million inhabitants and "large metropolitan areas" with a population superior to 1.5 million inhabitants.
The European map shows the diversity of the urban functional areas between the EU States. Also, the situation in Italy is especially heterogeneous and the distribution of the cities is not the same for all

[4] OECD, Definition of Functional Urban Areas (FUA) for the OECD metropolitan database; September 2013.

[5] For the European states, the data is taken from the Corine Land Cover Dataset, produced by the Joint Research Centre for the European Environmental Agency (EEA).

Fig. 10.2.1 - Functional Urban Areas (FUA) in Europe – Year 2012



Source: Directorate-General for Regional and Urban Policy the regions.

Italian FUA's are very different from the European ones

According to the OECD tables, Italy has four large metropolitan areas : Rome, Milan, Naples, Turin. Rome and Milan stands out because of their extortionate surface area and a population exceeding 4 million inhabitants, the core is vast and the hinterland is very diffused. Naples has an extended core along the coast, but a limited hinterland; on the contrary, Turin, Bologna and Florence demonstrate a smaller core but with a rather extended influence on the hinterland.
For Veneto, this definition of functional urban areas includes 5 provincial capitals, with their hinterland: Venice as a "metropolitan area", Verona, Padua and Vicenza as "medium sized urban areas" and Treviso as a "small urban area". For the 5 Veneto cities, the hinterland is made of most of the municipalities bordering with the provincial capital, even if it is not the case for all of them, and some of the neighbouring municipalities.
The FUA's in Veneto are of more modest dimensions and are grouped closely enough: in particular Venice, Padua and Treviso almost seem to create a continuum. Although the three cores are in some ways integrated, the intensity of their relationships is not enough to justify the creation of one polycentric urban area.
The situation is different for many central European cities: for example, the functional urban areas in Germany are numerous and uniformly distributed across the territory, with a concentrated core and an extended hinterland. The presence of concentrated urban centers is synonymous with intensive residential areas and therefore a less important dispersion of these areas, which is the case in many continental European zones. The situation is different for Veneto, where more diffused residential do not allow to create compact residential centers with a limited urban proliferation, which is what the European Commission is hoping for the characteristics of their cities of the future[6].
In order to describe the reality in Italy in a more detailed way, taking into consideration the peculiarity of our cities which are, for most of them, different from a lot of European cities, Istat provides a definition for urban areas different from the one provided by OECD, starting with the local systems (SL), which are groups of municipalities identified on the basis of their daily commutes in order to get to their workplace. The functional geography of the local systems, precisely because it is based on the flows and exchanges which characterise the places, gives also an idea of the organisation of the territories that is different from the one established on the basis of the administrative boundaries. It shows how the territory structures itself from the relationships between people and the economic and social subjects, offering an important understanding of the economic-social phenomena, but also for evaluating the environmental impact and quantifying these services.

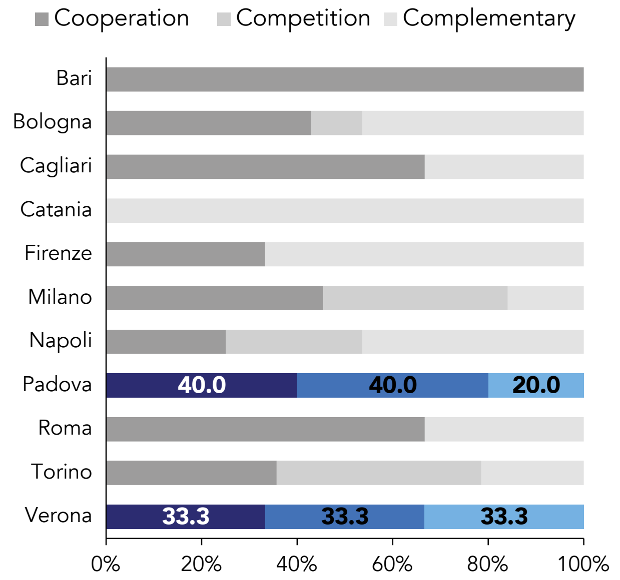
Venice, Verona and Padua; 3 big Urban Local systems

Within the SL tables based on the predominant economic specialization, Istat identifies 3 large urban local systems (Venice, Verona and Padua), namely where there is a concentrated citizen activity in non- manufacturing areas[7].
If the Venice local system has a monocentric structure, with one sole attracting centre, the local systems of Verona and Padua present a more complex structure, with more attracting centers which interact between each other. Indeed, the Verona and Padua territories stand out for the high percentage of workplaces in the small centers, thus next to the main centre there is a row of smaller centers which interconnect the territory. In the Padua system, 20% of the relations between the centers are "complementary", namely in a hierarchical way, wherein the intensity of the flows from the small centers towards the main one is significantly greater than that of the opposed orientation. However, most of the relations are established for "cooperation" or "competition" reasons. There is cooperation if the intensity of the flows between the centers is largely the same in both orientations, whilst the competition is present if the exchanges between centers are less or there is at least an inferior intensity compared to the arriving flows from other localities into each of them. In the case of "competition", the centers compete for their hinterland and they come to define a model of dynamic polycentricism, in Padua even more than in Verona.

[6] The European Commission, The urban dimension of the EU policies – Founding elements of the EU Urban agenda; Brussels 18.07.2014

[7] SL of Venice, Verona and Padua have a much larger catchment area compared to that defined by the OECD in the FUA. According to the Istat figures, Rovigo can also be added to these larger local urban systems.

Fig. 10.2.2 – Typology of relations between centers. Percentage composition – Year 2011



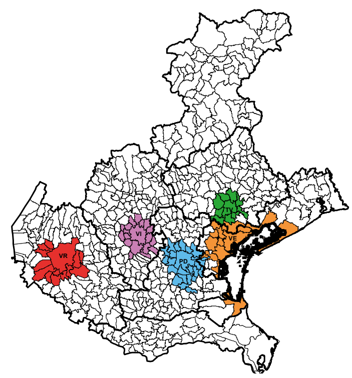
Source: Istat

The ROP-ERDF urban areas in Veneto

In accordance with the Partnership Agreement, the Urban areas in Veneto, where the ERDF investment is intended to go to, are defined based on objective criteria, namely the demographic criterion and the presence of typical urban functions addressed to citizens and the residing businesses in the vast territory areas, with reference to the typology of the premium services in some sectors (health, education, mobility and transport, logistics and infrastructure, research and economic programming…). In this particular case, the funds are intended to be allocated to the five urban areas of the central strip of the region (call for tender underway) and partly to a second typology of areas consisting of minor municipalities, but with relevant urban functions[8]. The five urban areas are identified using the FUA concept of OECD and taking into consideration the results of other documents from the regional programming[9].The FUA are cross- checked with the adopted table of municipalities of the document supporting the Rural Development Programme (EAFRD 2014-2020), which categorises municipalities based on their rural and urban nature[10].The document shows that the most urbanized areas are located in the provincial capitals of the central area of the region, in their urban strips and in the more industrialized areas which were developed along the main roads.

As a result, the 5 FUA territory of OECD is partly modified: we observe the insertion of the municipalities neighbouring the provincial capital not being present in the hinterland declared by the FUA, but resulting in a rural-urbanised situation, or urbanised according to the EAFRD, whilst the neighbouring or bordering municipalities inserted by the OECD have been eliminated, since they do not present urban characteristics, according to the regional documentation. The presence of these premium services is confirmed in the "National Strategy for the Internal Areas (SNAI)" document, which ranks the areas of the territory according to what extent they are located within the periphery. In Belluno and Rovigo, urban characteristics are not accepted, which are already excluded from the OECD definition.

Fig. 10.2.3 – Urban areas in Veneto according to the ROP-ERDF2014-2020



Source: Processing by Regione Veneto - Sezione Sistema Statistico. Regionale on Regione Veneto data

[8] The second typology is made up of minor municipalities, but with relevant urban functions, outlined according to the EAFRD criteria and as centers according to SNAI: Mirano, Montebelluna, Castelfranco Veneto, Camposampiero, Cittadella, Monselice, Este, Isola della Scala, Legnago, Schio, Thiene, Bassano del Grappa.

[9] The Veneto region, Operational programme in the framework of the objective "Investments in favour of the growth and employment" ROP Veneto ERDF; 2015

[10] EAFRD classifies municipalities in: urban centres (the 5 provincial capitals of the central area), rural areas and specialised intensive agricultural and rural areas, further divided into rural-urbanised municipalities (with a population density <400 inhabitants/km2) or urbanised municipalities (>=400 inhabitants/km2), intermediate rural areas and rural areas with development problems.

40% of the Veneto population live in an urban area

The 5 identified urban areas have a demographic dimension superior to 200,000 inhabitants and a population density much superior to the regional average (268,000 inhabitants per km2); covering 16% of the Veneto surface area and containing 40.3% of the regional population. The urban area of Venice is the most territorially expanded, exceeeding 1,200 squared kilometers, Paudua demonstrates instead a higher population density whether regarding the provincial capital or the hinterland. The urban area of Treviso is more limited, also because of the less attractive effect the provincial capital has on the hinterland, which limits itself to the neighbouring municipalities and not to the other bordering municipalities.
Since Venice is also concerned by the PON Metro, the actions of the ROP should be complementary and demarcated in order to avoid any overlapping of the operations.

Tab. 10.2.1- Population, surface area and density of the urban areas. Veneto – Year 2014

	Residential Population	Surface area (km2)	Density (Inhabitants per km2)
Padova	484,718	492,7	983,8
Treviso	206,807	266,2	776,9
Venezia	596,021	1,234,9	482,6
Verona	457,444	569,6	803,1
Vicenza	238,491	373,2	639,0
Total urban areas	**1,983,481**	**2,936,6**	**675,4**
% on Veneto	*40.3*	*16.0*	*-*

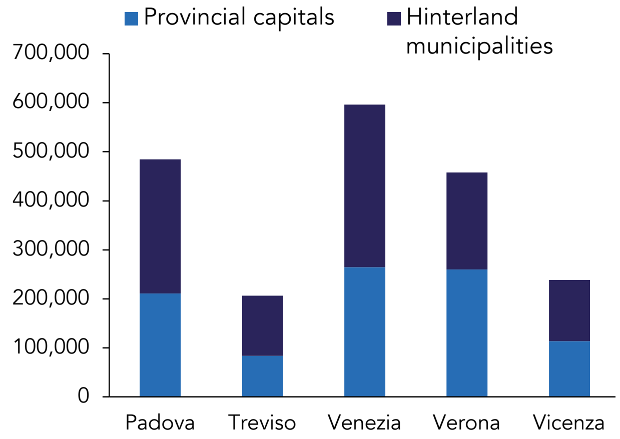
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

10.3 Characteristics of urban areas

The population who lives in the city

In the following, we will consider the five urban areas, outlining for them a profile in terms of characteristics of the residing population, the amount of people that use the city, eventual social risks and marginality, as well as the urban decay and land consumption, in these areas the ROP-ERDF will pay particular attention.
Almost half of the regional population resides in urban areas, and 19% in the 5 provincial capitals

Fig. 10.3.1 – Residing population in the urban areas. Veneto- Year 2014



Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

Given the attractiveness of the central cores due to the presence of activities and services, the population who gravitates around the provincial capitals is more numerous: to those who reside there, we sould add those who go into the city on a daily basis for work or study reasons, but also those who live (for a long or short periods) – regular commuters or temporarily dwelling residents – who use the city in a stable manner, with evident implications in terms of infrastructure and services, but also impacting the environment and safety. Thus, those who use the city more occasionally and for less time, such as tourists for example, should not be overlooked.
Thanks to the Persons&Places project (P&P)[11], Istat recently gave experimental estimates on the amount of population which uses the city, comprising, besides daily commuters, also regular commuters, who move for residence/work/study for more than a day, such as offsite university students. About 40% of more people, compared to the resi-

[11] The P&P information system falls within the broader ARCHIMEDE project (Integrated register of Economic and Demographic microdata) for Istat, which provides for the evaluation of territorial data, thanks to the integration of different administrative registers, at individual level. In this case, the integration is between the population register and different registers for the location of the person (study, work, university), such as the register office for university and non-university students, Asians-employment, exINPDAP, self-employed workers in Agriculture.

ding population, come into the 5 main provincial capitals; the pressure is particularly intense in the municipality of Padua (60%).

Tab. 10.3.1 – Pressure indicators for the population of the provincial capitals of urban areas. Veneto. Year 2012

	% Resident population and incoming commuters (a)	% Daily present population (b)
Padua	159.9	143.8
Treviso	148.4	127.0
Venice	131.3	121.1
Verona	132.4	118.6
Vicenza	137.9	120.2
Total urban areas	**140.4**	**125.9**

a) The resident population and incoming commuters represents the population which gravitates in the area of the municipality: residing population + dynamic residents arriving in the municipality (such as: daily and regular commuters)
b) The daily present population represents the individuals who are present in the municipality on a typical day: residing population – outgoing residents and incoming residents from other municipalities.
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

Every day 26% more people who study or work are present in the urban areas

It is also true that a part of the residents of the provincial capitals is not present during the day due to studying or working in other places which lowers the quota of people whom in a standard day (working weekday or daytime hours) are present in the core area: the daily present population is estimated at about 26% more than the residing population in the five provincial capitals considered (Padua 40%). For a deeper analysis on the daily movements for work and study reasons, refer to chapter 1.

Increasing of residents is more important in the hinterland

We now consider only the residing population, in the last 10 years, the urban population has grown by around 5%, a value in line with the regional average; what is worth analysing is the dynamics in these past 10 years within the urban areas. Whilst in the provincial capitals the population remained on average stable in terms of quantity, with the exception of Venice which has lost inhabitants, the municipalities of the hinterland have registered an average increase of residents superior to 9%.

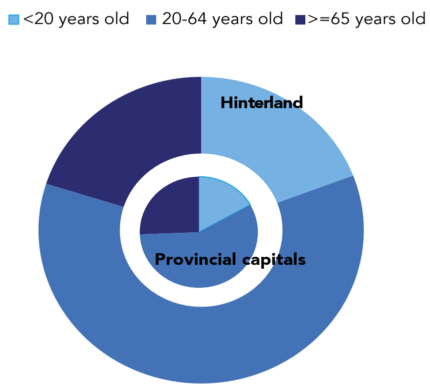
Tab. 10.3.2 – Variations in population in the urban areas. Veneto – Variations % 2014/04

	Provincial capital	Hinterland municipality	Total urban area
Padua	0,2	11,8	6,4
Treviso	1,9	8,9	6,0
Venice	-2,5	6,3	2,2
Verona	0,4	12,5	5,3
Vicenza	0,1	8,3	4,2
Veneto	**-0,4**	**9,4**	**4,6**

Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

The hinterlands appear therefore to be the most important attractive area, where families can find houses at a cost which is lower than the houses in urban centres, that are more recent and interconnected with the local transport systems. If it is true that for many of these families, the hinterland represents the opportunity for a better life, with more

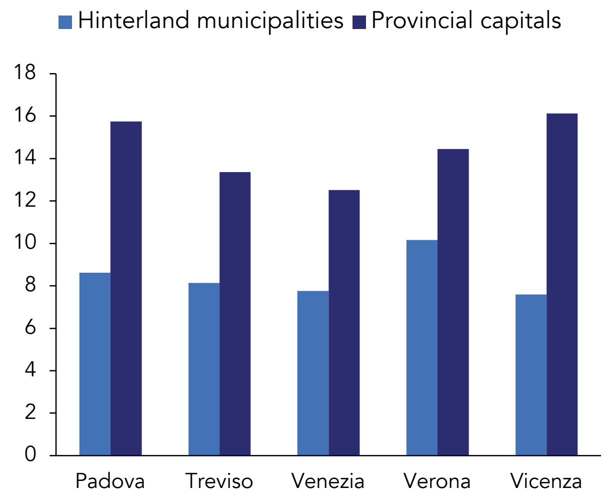
Fig. 10.3.2 – Population per age groups in the urban areas. Veneto – Year 2014



Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

space and more green land, there is also an effect due to the economic-financial crisis, which had severe implications in terms of unemployment and undermined revenues, but it also greatly limited the offer of mortgage loans from the banks.
Also for this reason, within the provincial capitals, the age composition of the residents is unbalanced in favor of the older generations (almost 26% are older than 64), who often have houses where they have resided for a long time, whilst the majority of the younger generation live in the hinterland: where 19.2% are 20 years old or younger, compared to 16.8% in the provincial capitals.
But the most striking thing is the dislocation of foreign residents, whom stablise themselves in the provincial capitals: because they can find places to rent, often outdated, places to share, in overpopulated or problematic areas due to which the old residents have vacated ; in this way, they can save on travel costs. If in the hinterland, the foreign population is, on average, about 8.5%, in the provincial capitals, it is greater than 14% (16.1% in Vicenza).

Fig. 10.3.3 – Incidence % of the foregin population in urban areas. Veneto. Year 2014



Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data

More elderly people in the provincial capitals

In the provincial capitals, the average dimension of the families is smaller because of the high presence of either young people who live on their own or elderly people living alone or as a couple without children. It is the case of the provincial capital of Padua which has a quota of 11.5% young people living alone, as opposed to a regional average of 2.3%, and elderly people living alone in the capitals are around 30% as opposed to the regional average of 20.9%. Young couples, especially those who have children, prefer on the contrary living away from the provincial capital: their presence here is extremely reduced, especially in the Treviso region. For these cores, the choice of fleeing the city is obviously linked to the cost of living, since these young people are subject to discontinuous carreers, have temporary contracts and rather low wages.

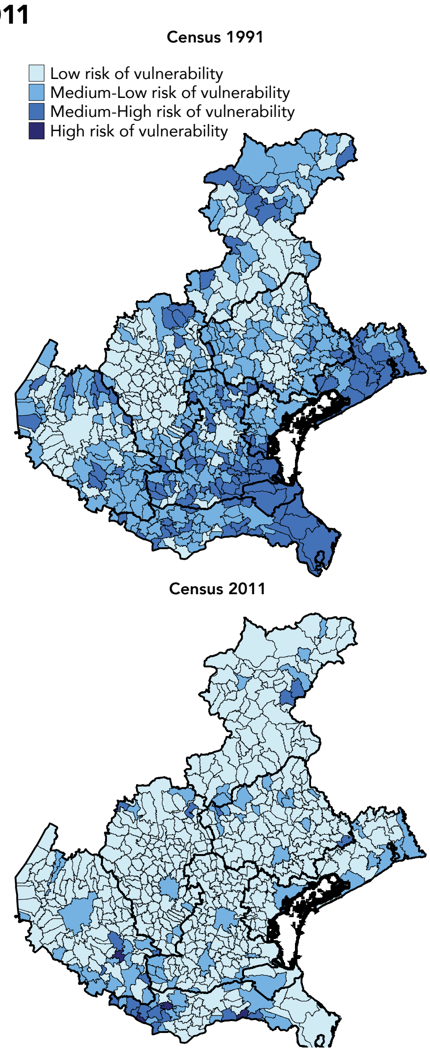
Social Vulnerability

The concentration of thousands of people in urban areas stimulates, on one hand, a modern organisation of urban space and of the services connected to it, but on the other hand it can intensify the risks of vulnerability forms and housing deprivation or social marginalization. These phenomena are caused by the attractiveness of the large cities for people looking for work, often immigrants with social and housing conditions sometimes precarious, or caused by the most recent disparities brought on by the economic crisis, which generated economic difficulties for families and the conditions for a housing deprivation.
The social and material vulnerability index is an indicator elaborated by Istat on the basis of different basic elements which describe the principal material and social dimensions of vulnerability, taking into consideration for example illiteracy, types of families more at risk like single parents, large families or the elderly, the economic and healthcare crises, overpopulation and young people not at school or not working.
The index is available to the community at various censuses and allows to understand the transformation on the territory, highlighting the most critical areas. Concerning the situation in Italy, in 1991 39% of the municipalities did not show particular problems concerning social inclusion, whilst around 41% showed a medium-high risk of vulnerability, especially in Polesine, in the Venice region and in mountainous areas. None of the areas were in the top of the tables in terms of criticalness[12].
After 20 years the image of Veneto has been completely transformed and almost all of the municipa-

[12] The municipal distribution of the index, ordered in a decreasing manner, was divided into four categories of vulnerability per quartile of the residing population.

lities are doing well (84%).
In the Veneto municipalities, there is a significant improvement over time of the conditions for potential vulnerability, even for the municipalities that were in a more difficult situation. However, the dynamic which draws the most attention concerns the provincial capitals: if in 20 years the index improves in the hinterland municipalities, the provincial capitals register a slight deterioration (from low risk of vulnerability to a medium-low risk). This indicates a situation wherein there is greater social vulnerability in the provincial capitals which should be the catalysts for the modern idea of a city.

Fig. 10.3.4 - Index of social and material vulnerability per municipality. Veneto – Years 1991 and 2011



Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data – Population and Inhabitants Census

For the provincial capitals, there is always the weight of elderly families, who are some of the most vulnerable economically speaking and in terms of welfare needs, as well as a certain housing deprivation.
In the past 20 years, both elderly families who are single and who have partners have increased, such as those with the presence of at least one person over the age of 80, that is to say families with higher potential for welfare deprivation.
Venice is the most elderly one, with 31% of the elderly living alone (25% in 1991) and 3.4% of families with a great potential for deprivation (2% in 1991). These situations, given the high risk of the presence of chronic illnesses and limits on the functioning of daily activities due to old age, highlight an implicit need for welfare and therefore a condition for potential social vulnerability.
Particular attention is also paid, to single-parent families, especially those with minor children, which although they represent a small share of families (0.7% on the overall regional level, but a little bit higher in the provincial capitals), they are also a category at risk, because a single parent has to provide for the whole family, either in terms of healthcare, for the house or economically speaking.

...and housing deprivation

Besides the social vulnerability situation, the expanding urban areas show worrying situations also in terms of housing deprivation. In recent years, the repercussion of the economic crisis and therefore the consequences in terms of labour and revenues generated situations of potential housing deprivation, showing clearly the waste between the economic availability of families and the share of revenue intended to be used for the housing.
Among the most serious forms of housing deprivation, there is the risk of losing a lodging due to an eviction: in 2014 in Veneto there was, on average, 1 eviction for every 415 residing families, whilst it was 1 every 611 in 2005. The situation was more critical in the Vicenza province with one eviction every 300 families, whilst it was less critical in Verona.
In the provincial capitals, housing deprivation is more present, so much so that they are referred to as being municipalities with high housing pressure (ATA's)[13].

[13] With the Regional Authority Decision number 525 on the 28 February 2003, the Veneto region adopted the list of municipalities with high housing pressure, definitively approved by the CIPE

Tab. 10.3.3 – Percentage incidence of some typologies of families with highest vulnerability levels in urban areas. Veneto – Years 1991 and 2011

	1991	2011	1991	2011	1991	2011	1991	2011
Padova								
Provincial capital	0,8	0,8	23,1	27,3	9,6	17,7	1,8	3,4
Hinterland (min – max)	(0,2-1,0)	(0,1-1,0)	(9,4-18,4)	(14,9-24,1)	(4,0-7,1)	(8,6-16,0)	(0,7-1,9)	(1,4-2,9)
Treviso								
Provincial capital	0,6	0,8	23,3	26,4	10,3	18,1	2,1	3,6
hinterland (min - max)	(0,3-0,9)	(0,4-0,9)	(16,5-18,6)	(19,4-23,4)	(4,9-7,6)	(9,3-15,5)	(1,0-2,1)	(1,3-3,0)
Venezia								
Provincial capital	0,7	0,8	24,8	30,5	10,6	19,8	2,0	3,4
hinterland (min - max)	(0,4-1,0)	(0,4-1,3)	(11,4-22,6)	(17,0-25,6)	(4,1-7,5)	(11,3-17,6)	(0,5 - 1,4)	(1,4-3,1)
Verona								
Provincial capital	0,9	0,9	26,3	29,3	9,9	17,8	1,9	3,5
hinterland (min - max)	(0,5-1,0)	(0,5-1,2)	(13,9-22,0)	(19,3-23,8)	(5,0-7,6)	(8,9-15,1)	(0,9 - 1,8)	(1,5-2,9)
Vicenza								
Provincial capital	0,9	0,9	25,5	28,3	9,3	16,7	1,7	3,3
hinterland (min - max)	(0,3-1,6)	(0,0-1,3)	(11,6-30,2)	(17,4-28,0)	(4,5-8,7)	(7,4-14,5)	(0,7-1,6)	(1,3-3,1)
Veneto	**0,7**	**0,7**	**20,9**	**24,4**	**7,9**	**13,7**	**1,6**	**2,8**

*(a) Young single-parent families (mother/father less than 35 years old) / total number of families with only one household * 100*
(b) % of the total of elderly people
*(c) Elderly couples who live alone / total number of families with only one household * 100*
(d) % families with at least two components, with all components being at least 65 years old and one being at least 80 years or older
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data – Population and Inhabitants Census

Tab. 10.3.4 – Eviction orders issued per province. Veneto – Years 2005 and 2014

	2005 (a)		2014	
	N.	1 eviction every number of families	N.	1 eviction every number of families
Padova	628	545	1,017	379
Treviso (b)	643	541	926	386
Venezia (c)	566	598	n.d.	n.d.
Verona	670	518	1,216	317
Vicenza	705	461	1,312	270
Veneto	**3,058**	**611**	**4,937**	**415**

(a) Data from 2005 are prior to small adjustments and corrections
(b) For Treviso, the data refer to the years 2009 and 2014
(c) Incomplete data for 2014
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Istat data and Italian Ministry of Interior

with resolution number 87 on the 13/11/2003. The municipalities were identified on the basis of housing deprivation indicators: residing population, incidence of non-EU citizens, evictions per family, number of applications to the Fund for renting support (FSA)

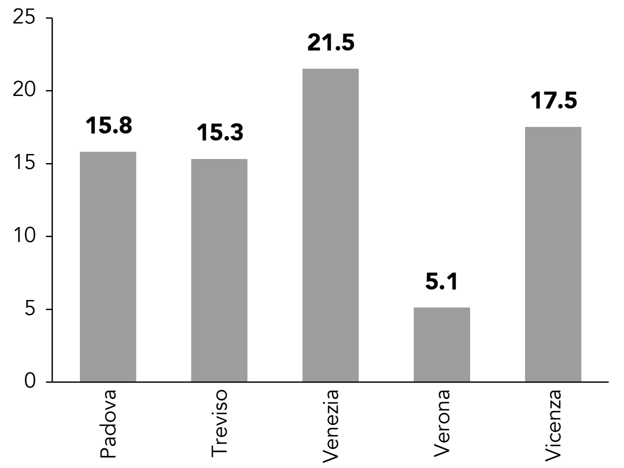
In Veneto there is a total of 29 ATA municipalities, some of which are part of the hinterland of the urban areas considered; more specifically, in the Venice hinterland there are 5 (Chioggia, Jesolo, Mira, Mogliano Veneto and Spinea), 3 in Verona (Bussolengo, San Giovanni Lupatoto, Villafranca di Verona), two in Padua (Abano terme and Selvazzano Dentro) and one in Treviso (Paese).
In these municipalities, there are specific aids for rental, such as eviction contribution for rental termination and the possibility to access the fund for innocent tenants who are in arrears with payments in the case where it becomes impossible for them to pay their rent due to the loss or reduction of the family earning capacity. An indicator about the housing needs of the most vulnerable proportions of the population is the number of applications submitted by the families in response to the competition notice issued by the municipalities in case of Residential Public Housing (e.r.p.) to be assigned. They are addressed to families which suffer evidently from housing and economic deprivation to possess the prerequisites to be able to move

into an e.r.p.[14]

The demand for Public Housing is increasing

The applications accepted, that is to say those who applied is 5.1 every 1,000 residing families in the city of Verona, up to 17.5 in Vicenza and 21.5 in Venice. However we must note that this figure for Venice is from 2010 because the municipality has not issued any tender since then. In recent years, the demand for public housing especially increased in Vicenza and Treviso.

Fig. 10.3.5 – Percentage demand for applied public housing per 1,000 families in urban areas. Veneto – Year 2014 (*)



(*) For Venice the data refers to 2010.
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Veneto Region and Istat data

The concrete answer in terms of actual provision of housings concerns an even smaller proportion of families: in the city of Padua for example, around 2 applications out of 100 only become accepted, for Vicenza it is 5 and in Verona it's 6. It is clearly important to keep the phenomena monitored, given the enlargement of the less-wealthy portion of the population due to varieties of housing deprivation, in particular in the urban areas[15].
The availability of public residential housing marginally satisfies to the housing needs of the population which find itself more in difficulty. There are

Half of the Ater houses are located in urban areas

39,319 Ater managed public lodgings[16], around 3 housing units per 100 residing families, of which 49.3% are located in the five urban areas (19,385 lodgings). Compared to the hinterland, the provincial capitals have the vast majority of public housings, guaranteeing a higher share of public housing for the families. For example in Padua and Treviso, there are around 5 housing units per 100 families in the provincial capitals and only 1 per 100 families in the respective hinterland. This goes to show however that compared to in the hinterland, the percentage of occupied lodgings is lower in the provincial capitals, allowing therefore a share of vacant lodgings, in some cases

Tab. 10.3.5 – Housing units managed by Ater in the urban areas. Veneto – Year 2013

	N° unità immobiliari	% unità immobiliari su famiglie	% unità immobiliari occupate
Padova			
capoluogo	5.274	5,3	90,8
hinterland	1.446	1,3	95,6
Treviso			
capoluogo	1.977	5,2	83,6
hinterland	540	1,1	91,5
Venezia			
capoluogo	3.475	2,7	87,3
hinterland	2.550	1,8	93,6
Verona			
capoluogo	1.803	1,5	81,5
hinterland	915	1,2	87,4
Vicenza			
capoluogo	1.161	2,2	95,3
hinterland	244	0,5	90,6
Totale aree urbane			
capoluogo	13.690	3,1	88,0
hinterland	5.695	1,3	92,8
Veneto	**39.319**	**3,3**	**88,8**

Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Veneto Region and Istat data

[14] This data was taken from the regional structure for the Housing Section
[15] Veneto region, Operationnal Programme in the framework of the objective "Investments in favor of growth and employment" ROP Veneto ERDF; 2015

[16] Data extracted from the Regional Observatory for Public Housing for the Veneto Region

even reaching 20% of lodgings, for lodgings, for different reasons coming from the non-provision due to maintenance works or even the non- availability because it is being sold or being demolished. In the sphere of social and housing inclusion, the concern is finally about the number of homeless people concentrated in the principal urban areas. The second survey on homeless people conducted by Istat, together with the Work and Social Policy Ministry, fio.PSD and Caritas Italiana, estimated that in 2014 homeless people located in the North-east were 9,149, with a high probability of underestimations. If we reproportion this data to the residing population[17], it is estimated that for Veneto some 3,800 people are homeless, equal to 7.6% of the national total.

How much was built

Due to its model of a diffused city, Veneto is characterised by a high level of soil consumption, highlighted by the fact that 12.9% of the regional territory is urbanised[18] compared to the national average of 6.7%.

Padua is the most urbanised urban area

It goes without saying that in urban areas, this percentage is higher. Padua is experiencing a strong urban growth, where the soil consumption reaches 80% of the surface area of the provincial capital, one of the highest percentages across all of Italy. Furthermore, the saturation of the provincial capital is accompanied by an intense urbanization even in the hinterland municipalities (31%), which is not equaled in the other Veneto cities. Treviso comes next with 48% of urbanized soil, growing rapidly over the last 10 years (+5 percentage points). In the urban areas of Verona and Vicenza, and even more so in Venice, the soil consumption remains lower, even if on the basis of supported values, both in the provincial capitals and the hinterland.
In the last ten years the number of constructions has increased, even more in the provincial capitals, perhaps going to build in less centralized zones which remained partly free, than in the hinterland. The increase of the buildings in the centre of Treviso, Vicenza and Padua particularly stands out, although there is already a large amount built there. The urban area of Venice, very much due to the peculiarity of the presence of the historic centre, has much more buildings in the hinterland rather than in the centre.

Tab. 10.3.6 – Percentage of urbanized surface area and the number of buildings in the urban area (*). Veneto – Year 2011

	% Urbanized surface area	Buildings	Var.% Buildings 2011/01
Padova			
Provincial capital	80,7	39.476	24,8
hinterland	30,6	55.834	13,5
Treviso			
Provincial capital	47,8	17.364	30,3
hinterland	29,4	26.926	16,6
Venezia			
Provincial capital	18,5	40.914	14,0
hinterland	16,3	72.717	19,8
Vicenza			
Provincial capital	36,4	18.145	26,2
hinterland	19,0	27.145	10,9
Verona			
Provincial capital	30,0	30.312	16,1
hinterland	19,6	34.945	10,3
Total urban area			
Provincial capital	31,7	146.211	20,5
hinterland	21,3	217.567	15,0
Veneto	**12,9**	**1.227.490**	**13,2**

(*)18By urbanized surface area we mean the surface area of the inhabited centers, the cores and the production locations.
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat – Population and Inhabitants Census

Compared to the hinterlands, in the provincial capitals the percentage of residential buildings is inferior (84% of the buildings in use vs 90%) and also those for productive use (2% vs 3%); 14% of the buildings are used for directional/tertiary or service purposes, or they are tourist buildings or accommodation facilities, a share which falls to 7.3% in the hinterland. The average age of the constructions is obviously more ancient in the provincial capitals: 16% of the residential buildings are historic buildings, that is to say that they were built before 1919, 9.4% were built immediately after WWII, and 43.2%

[17] Istat, caritas Italiana, fio.PSD and the Ministry for Work and Social Policy, Homeless people, Year 2014. December 2015.

[18] The expression urbanized surface area means the surface area of the inhabited centers, the cores and the production locations.

were built in the 60's and 70's. The building expansion in the municipalities of the hinterland took place from the start of the 60's up until the end of the 80's (around 60% of the buildings). 11% of buildings were built post 2001 (5% in the provincial capitals).

3% of buildings are not used in urban areas

About 3% of the buildings arer not used, which indicates a potential for these buildings that is not fully exploited, of which 58% are so because they are dilapidated, and the rest because they are under construction or because they are still not ready for productive or residential puposes. The phenomena concerns the provincial capitals but also the hinterlands : indeed, the quota of non-used buildings generally increases as we move away from the provincial capitals, concerning mainly in the municipalities outside of the urban area, not only for the presence of structures under construction, but also due to a greater number of buildings which are not being repaired or are in ruins (2.8% of buildings aren't in use in the 5 provincial capitals as opposed to 4.5% in the municipalities lying outside of the urban area). Padua and Treviso are once again the exceptions, wherein the percentage of non-used buildings is higher than in their hinterland.
A positive signal may be the reduction of the incidence of the non-used buildings compared to 10 years ago, not only for the completion of the construction works, but also for the restoration of buildings and the urban requalification works.

Less building deprivation in Veneto than in Italy

Overall, the 5 urban areas do not demonstrate obvious signs of building deprivation compared to the national average, given that the percentage of residential buildings which are in a very poor or mediocre state of conservation is inferior: for the provincial capitals, this percentage is equal to 12%, for the relative hinterlands it is 9.7% compared to the national value of 16.8%. This is an average, it is clear that within the internal part of the municipal territory, there may be areas more degraded in terms of buildings that require a greater attention and requalification works. The centre of Vicenza has a slightly worse index, whilst Treviso stands out for a better conservation state of its residential buildings, and also due to the fact the buildings were built more recently. The phenomena, albeit contained, concerns about 166 thousand people who live in buildings in poor conditions, of whom 90 thousand are residents in the provincial capitals, equal to 10.3% of the respective population.

Tab. 10.3.7 - Indicators of the state of buildings in urban areas. Veneto. Year 2011

	% of non-used buildings	% of buildings under construction	% of dilapidated buildings	% of residential buildings in a poor state of conservation
Padua				
Provincial capital	3.6	1.6	2.0	11.6
Hinterland	2.9	1.3	1.5	10.3
Treviso				
Provincial capital	3.7	1.4	2.2	6.5
Hinterland	2.8	1.3	1.5	11.7
Venice				
Provincial capital	1.7	0.8	0.9	13.1
Hinterland	2.9	1.2	1.7	7.5
Vicenza				
Provincial capital	2.8	1.0	1.8	14.2
Hinterland	2.9	1.4	1.6	11.4
Verona				
Provincial capital	2.5	1.0	1.5	12.8
Hinterland	3.3	1.0	2.3	10.2
Total urban area				
Provincial capital	2.8	1.2	1.6	12.0
Hinterland	2.9	1.2	1.7	9.7
Veneto	3.7	1.4	2.3	12.6

Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat – Population and Inhabitants Census

Fast connections

The cities act as catalysts for innovation and rese-

arch, technological and scientific know-how, also thanks to the concentration of universities, centers for research, start-up and business incubators. The city of the future needs investment in innovation for the development of public and private services, with the aim to improve the quality of life for those who live in and use the city.
The digital infrastructures represent the "roads" of the future, the new ways of communication, necessary for the development of services capable of responding the to renewed needs of the citizens and businesses: it is in this area that the efforts are being intensified in order to enhance the connectivity services, in particular broadband and ultra-wideband, in line with the European and national objectives from the Digital agenda.

Complete broadband coverage for almost all of the provincial capitals...

In Veneto, there is currently on average 29% of housing units which are covered by FTTN architecture, that is to say services with a speed greater than 30Mbps and usually inferior to 100Mbps. In the provincial capitals, the coverage is almost complete, except for Venice and Vicenza which are a little bit behind with percentages between 70% and 80%. In the hinterland, the coverage is lower than the one in the provincial capitals (on average, from 9% in Treviso to 24% in Vicenza), even though there are municipalities which are almost completely covered. For example Dolo, which has a 98% coverage of its buildings with FTTN infrastructure, exceeding by 30 percentage points the average coverage for Venice.

...and already working on the ultra-wideband

Almost all of the provincial capitals are more advanced, also in the infrastructuring of services with speeds greater than 100Mbps: if Veneto has currently anaverage of 4% of housing units which are covered by a FTTH, FTTB-FTTDP architecture, in Verona, this percentage equals to 25%, Padua 24% and Venice 15%. The municipalities of Vicenza and Treviso are still almost uncovered, even though according to the coverage previsions of the last consultation with Infratel, as a consequence of the private plans and the public investments already implemented or underway in 2015, a considerable acceleration is to be expected, and may guarantee, in some cases, a 60% coverage to ultrafast services. For example, Venice and Padua are in the top ten pilot cities selected by Enel for the experimentation of the laying down of optic fibre from house to house, to bring the ultra-wideband at a speed of 100Mbps. The project will involve a total of 224 municipalities across the country.
The following paragraphs give some material to analyse the digital development in terms of smart cities for the various provincial capitals.

Tab. 10.3.8 - Percentage of housing units covered by FTTN architecture in urban areas. Veneto – Year 2015 (*)

Provincial capital		Hinterland	
		media	(min - max)
Average	(min-max)	17,3	(0,0 - 98,0)
Treviso	97,1	8,7	(0,0 - 50,7)
Venezia	70,1	23,1	(0,0 - 98,0)
Verona	90,5	23,0	(0,0 - 98,0)
Vicenza	78,1	23,6	(0,0 - 98,0)
Veneto	**28,7**	-	-

(*) L'architettura FTTN garantisce servizi con velocità maggiore
(*) The FTTN architecture guarantees service speeds greater than 30 Mbps but less than 100 Mbps: the fibre terminates at an intermediate node of the access network on an existing physical carrier (copper), or at a node of access systems on a radio carrier.
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Infratel and Ministry of Economic Development data

Tab. 10.3.9 – Percentage of housing units fitted with FTTH, FTTB-FTTDP architecture in the capital communes of the urban areas. Veneto. Year 2015 and forecasts for 2018 based on private and public pland underway and or in planning in 2015 (*)

	2015	2016
Padua	23.6	59.4
Treviso	0.3	47.2
Venice	14.6	48.9
Verona	25.0	60.0
Vicenza	0.0	45.0
Veneto	**3.8**	**16.0**

(*) FTTDP/FTT/FTTH architecture guarantees services with a speed superior to 100Mbps: the fibre terminates at an optical distribution point at no more than 50 metres from the housing unit. The expected coverage data refers to the results obtained from the last public consultation carried out by Infratel in 2015
Source: Processing by Regione Veneto - Sezione Sistema Statistico Regionale on Infratel and Ministry of Economic Development data

10.4 The quality of the urban environment

The climate changes were at the hearth of the international debate in the framework of COP 21, the Conference of the Parties on climate change held on 30th November 2015 in Paris. At the end of the conference, the 196 participating countries agreed on a global pact called Paris Agreement aimed at limiting greenhouse gas emissions, with the purpose to contribute in mitigating the effects of climate change and, in particular, keeping global warming to below 2 °C above pre-industrial levels.
In particular the cities and the large urban agglomerates play a strategic role in reducing greenhouse gas emissions. From 2008 many European mayors had already joined the Covenant of Mayors (which has involved more than 3,100 Italian municipalities), with the aim to reduce CO2 emissions in their cities by 20% by 2020. To this, for each city a plan of action for sustainable energy has been drawn up.
At the same time many cities have also undertaken Smart City projects, focusing on programmes to increase the energy efficiency, to reduce emissions and fine particles and to promote sustainable mobility. It is worth emphasizing that the urbanisation model upon which a city was developed strongly impacts on the quality of the urban environment. The knowledge of the different types of urbanisation and of the types of settlements is the fundamental basis in order to be able to face the challenges related to sustainability and urban resilience: the urbanisation forms are one of the driving factors of environmental sustainability, because of their impact on the functional features of the city itself. For example a widespread and dispersed urbanisation leads to loss of landscapes and increase of land use, thus generating an increased energy need and encouraging private mobility systems, which would surely have a greater impact on the environment compared to collective mobility services. In the cities of Veneto some differences can be seen concerning the urbanisation model[19]. Padua is subject to an urbanisation which covers and surpasses the borders of its municipality, resulting in a saturated urban environment. This characteristic makes the city particularly exposed to the environmental risks caused by fragmentation which, in turn, increase energetic consumption and the use of private transport whilst hampering collective mobility. In the municipalities of Treviso, Verona and Vicenza a central nucleus may be observed, surrounded by several smaller centers, which have arisen over the time for social-economic reasons, and which tend to contribute to increase fragmentation. Finally, the specific morphology of Venice over time has led to the creation of several decentralised nodes of significant size such as Mestre and Marghera.
These remarks on the dispersion and fragmentation of the urban centers, together with the strong industrial development of the region and the typical climatic factors of the Po valley, help to better understand the environmental framework of the cities of Veneto.
The problems related to fine dust particles are always under debate – the Po valley is particularly concerned. However, beyond the actual emission sources, the climatic factor, which greatly impacts on the retention of these particles on the lower layers of the atmosphere, needs to be taken into account (See chapter 13 for a more in depth analysis on greenhouse gases and fine dust particles). Thus, it becomes vital to understand how the environmental issue is managed within the cities in order to cope with these critical situations. Unfortunately the environmental data available is for the most part limited to the municipalities enjoying status of provincial capital and to the metropolitan city of Venice. This is a limitation given the fragmented nature of the Venetian urban areas. It would thus be useful to analyze the urban areas in their actual extensions, which means including the municipality enjoying status of provincial capital and all of the neighbouring municipalities which are an integral part of the capital, or at least, are strongly linked to it for economic and demographic reasons. It is however possible to make some remarks on the environmental management of the cities, also by means of this analysis which only focuses on the municipalities enjoying status of provincial capital. (Please note that hereinafter the analyses will refer not just to the capitals of the urban areas defined in the Regional Operation Programme EFRD 2014-2020, but also to all the municipalities enjoying status of provincial capitals.) The presence existence and density of public green areas plays an important role in protecting the environment, in as far as they represent true and real natural absorbers for polluting substances, as well as for greenhouse gases. In Veneto the situation is quite heterogeneous, with some differences among the single provincial

[19] ISPRA, Quality of the urban environment – XI report, edition 2015

capitals, due to their specific location.

Venice and Belluno: the cities richest in green areas

The municipality of Venice stands out with "outsized" values compared to the other municipalities of Veneto: more than 270 million m2, equal to 65% of the territory, with more than 1,000 m2of green areas per inhabitant. The specific geographical configuration of Venice shall be taken into account, as well as the fact that nature protection areas are considered as green areas. In the case of Venice, the lagoon is considered as a protected area, from which we get a higher value.
Belluno follows, located close to the Dolomites and surrounded by mountains, with 22% of the municipal territory allocated to nature protection areas and urban green areas. The capitals of the central portion of Veneto present green areas impacting for less than 10%, with the exception of Treviso (12.6%).

Tab. 10.4.1 - Green area surface in the municipalities enjoying status of provincial capitals (*). Veneto – Year 2013

	m^2	% of the total surface area	m2/inhabitant
Belluno	32,450,666	22.0	901.6
Padova	8,220,786	8.8	39.2
Rovigo	1,411,279	1.3	27.1
Treviso	6,993,353	12.6	84.1
Venezia	270,510,566	65.0	1.022.6
Verona	17,451,097	8.8	67.1
Vicenza	3,803,651	4.7	33.5
Veneto (a)	**340,841,398**	**31.0**	**334.5**
Italy (a)	**3,755,012,406**	**18.2**	**206.0**

((a) For Italy and Veneto the figures represent respectively the sum of the surface areas and the impact of the green areas of the municipalities enjoying status of provincial capitals.
(*) Green areas include nature protection areas and urban green areas.
Source: Regione Veneto Processing - Sezione Sistema Statistico Regionale on Istat data

The production and management of urban waste also contribute in defining the quality of the environment of the cities. In Veneto the total waste production in 2014 was equal to 2,241 million tonnes with a 1% increase compared to the previous year.
The production of waste per capita is 455 kg per inhabitant a year, which is lower compared to the national average (488kg/inhabitant), even though Veneto is a highly industrialised region, characterised by a considerably high GDP and by a notable tourist presence throughout the whole year.

Less waste in Veneto compared to Italy as a whole...

The high density of inhabitants in the capitals means that the per capita values are higher than the regional figures: Venice, Padua and Vicenza produce 600kg of urban waste per inhabitant per year.
One of the strengths of the Veneto region is the waste sorting system.

...and over 65% of the waste collected separately!

In 2014, separately collected waste accounted for 65.3% of the total waste, exceeding the target of 65% expected for 2012 as per Legislative Decree N. 152/2006. In terms of cities, Belluno reported the highest percentage of separately collected waste with a quota of 74.4%, followed by Treviso with 69.3%. As far as the collection systems are concerned, in all of the capitals people must separate organic fractions

Tab. 10.4.2 - Urban waste production and separate collection in the capital communes. Veneto – Year 2014

	Production of Urban waste (kg/year)	Production of urban waste per capita (kg/inhabitant/year)	% separately collected waste
Belluno	14,139,887	394	74.4
Padua	128,577,224	609	47.2
Rovigo	31,228,041	601	54.5
Treviso	39,715,464	475	69.3
Venice	161,669,301	611	49.6
Verona	134,620,565	517	46.2
Vicenza	68,665,012	604	60.6
Veneto	**2,240,464,148**	**455**	**65.3**

Source: Regione Veneto Processing –Sistema Statistico Regionale Section on Arpav data

(wet and dry collection). The only exception remains Venice, where this separation is only active on the mainland, whilst the historical centre and on the principal island waste is not being collected se-

parately yet. In the field of waste sorting the municipality of Treviso has always been at the forefront: where door-to-door waste collection (for all waste types) is now widespread is across all the territory.
Water management is also relevant, from its withdrawal to feed-in, as well as from the supply to the final users to the treatment of wastewater. The situation in Italy is different from city to city, either as far as the exploitation of water resources is concerned or the quality of the networks (which translates into the level of dispersion). The data collected over the last 3 years have been showing how the per-capita water fed into the networks of Italian capitals has decreased, going from 415 liters per inhabitant a day in 2012 to 389 in 2014. As far as the dispersion of the networks is concerned, namely the percentage of water fed which isn't actually supplied (the dispersion is due to inefficiencies in the distribution networks), the national average value in capitals is increasing , thus revealing a critical situation and reaching 36.9% in 2014. In the cities of Veneto, the same applies for past 3-year trends. In all of the capitals in Veneto the average pro capita use of water was less than the national average, both in terms of fed and supplied water to the final user, and also in terms of dispersion with the only exceptions in this last aspect being Treviso and Venice, which show respective percentages of 41% and 38%.

Tab. 10.4.3 – Water management in the capital cities. Veneto. Year 2014 and variations. 2014/12

Commune	Water fed (litre/ inhab./ day)	Water supplied (litre/ inhab./ day)	Dispersions (%)	Water fed (var. %)	Water supplied (var. %)	Dispersions (Diff. %)
Belluno	293.6	229.0	22.0	-7.9	-9.1	1.0
Padua	273.9	223.5	18.4	-24.4	-7.1	-15.2
Rovigo	294.3	189.2	35.7	-8.4	-9.9	1.1
Treviso	342.8	202.4	41.1	-0.7	-10.1	6.2
Venice	503.0	312.2	38.0	-3.9	-7.5	2.4
Verona	387.7	259.1	33.2	-7.6	-12.1	3.4
Vicenza	265.2	214.5	19.1	-7.3	-8.7	1.2
Veneto (a)	2361.5	1629.7	31.0	-8.4	-9.2	0.6
Italy (a)	388.9	245.5	36.9	-6.3	-9.8	2.4

(a) For Italy and Veneto the figures include all the cities enjoying status of provincial capital
Source: Regione Veneto Processing –Sistema Statistico Regionale Section on Istat data

The issue of urban mobility is closely linked to the environment. It may be analysed taking into account either the pressure on the environment, which means by studying the qualitative/quantitative composition of the cities vehicle fleet, or the response, namely the management of sustainable mobility services by the municipalities trying to reduce their environmental impact.

Less cars driving on public roads per inhabitant…

As far as the number of circulating cars is concerned, in 2014 the cities of Veneto reflected entirely positive results, with the lowest average in Italy, which translated as 600 cars per 1,000 inhabitants. Turning to the details of the type of cars in terms of emission classes, in Italian cities for every 1,000 inhabitants circulate on average: 266 Euro 3 cars, 200 Euro 4 cars and 135 for Euro 5 or superior cars. . In the cities of Veneto, the situation is heterogeneous, even though by nature Euro 3 class cars are less present compared to the rest of Italian cities, while o Euro 4 and 5 class cars are more widespread.

…And greater use of ecological cars

The figures concerning electric and gas-powered cars circulating in the cities are interesting. They show how the use of these environmentally friendly cars is more widespread in Veneto than across the rest of Italy. Also for the 5 cities in the central part of Veneto, with a higher density of traffic, there are four electric cars per 1,000 circulating cars (the national average is 2.8) and the presence of gas-powered cars is 90 per 1,000, whilst in Italy the average is 77, peaking in Verona which has over 130.
Sustainable mobility services include the car/bike sharing, the management of the traffic light systems and also the presence of "zona 30"20 in the cities, cycling lanes and the adoption of urban mobility plans on the part of the municipal administration. At the moment, car sharing is not popular across Italian cities, with 5.5 vehicles available, on average, per 100,000 inhabitants in 2013; the offer is still not very high and the service is not widespread. In fact, there are only 1.4 subscribers per 100,000 inhabitants. In Veneto, the service is only active in Venice and Rovigo, more developed in the first with 18.3 vehicles per 100,000 inhabitants and an average of 14.5 subscribers per 1,000 inhabitants. Cities focus more on bike sharing: the service is available in 5 out of 7 cities and the number of available bikes is

Sempre più diffusi i servizi di infomobilità

greater that national average of 5.2 every 10,000 inhabitants: in Padua the figure is 12.7 and in Treviso and Verona around 10. The optimization of the mobility is also down to correct traffic control management in terms of reducing traffic congestion and promoting the ecological transport. For this reason, many municipalities have introduced an Urban Plan for Mobility (PUM), active in zones where the speed is limited to 30 km/h, trying to increase the attractiveness of walking and cycling, and building new cycling lanes. In 2013 in Veneto the PUM was adopted by, Vicenza, Venice and Padua, whilst Verona, Vicenza, Belluno and Venice all implemented the "zona 30".

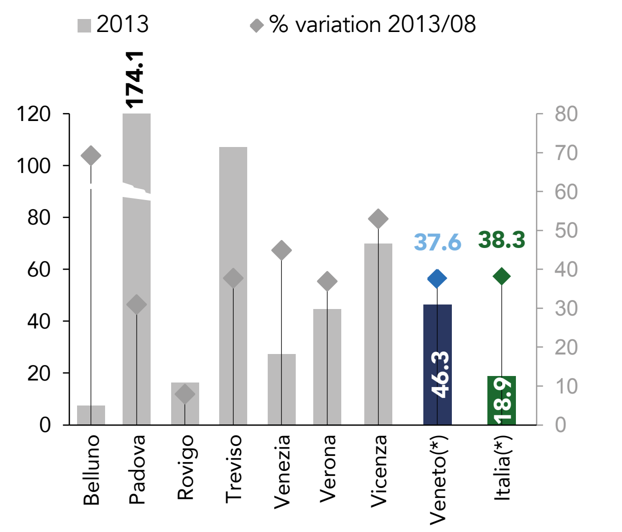
174 km per 100km2 of cycling lanes in Padua

Concerning cycling lanes, the situation in Padua is quite heterogeneous, with over 174 km of cycling lanes per 100km² of municipality surface area. The data for Vicenza, Verona and Treviso is also significant, which alongside Padua represent the medium-large cities of the Po valley, demonstrating the awareness of local administrations as far as sustainable mobility is concerned.
The municipality of Venice is a stand-alone case. The city is not located on the mainland and presents therefore a unique scenario: it is one large pedestrian zone, in which bicycles cannot circulate. Naturally, this lead to a strong decrease in the amount of cycling lanes, however this figure is not in the form of a negative.
This discussion on mobility includes infomobility services. For the cities, Istat has analysed the presence of certain services, 4 relative to private mobility and 5 to public mobility[20].
In the graphic, there is a coloured bar attributed to the city if the service is present: the best preforming cities are represented by a longer cumulative bar (Treviso, Venice and Vicenza)

Infomobility services are becoming ever more widespread

The data at detailed level show that road panels with changeable messages are largely in use, as well as electronic ranging rods at public transport stops and internet sites for information of routes and timetables.
There are also electronic payment systems for private parking, electronic payment systems for public

Fig. 10.4.1 – Cycling lanes in the capital cities (kilometres per 100km2 of municipality surface area). Veneto – Year 2013 and variations % 2013/08



(*) For Veneto and Italy the figures refer to all all the cities enjoying status of provincial capital.
Source: Regione Veneto Processing – Sistema Statistico Regionale Section on Istat data

transport tickets and internet sites selling tickets online.

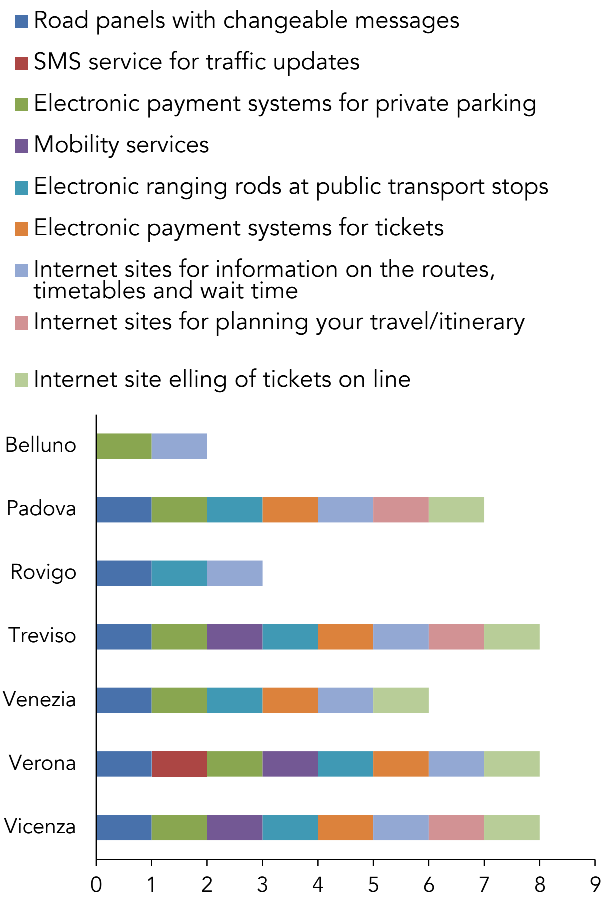
Almost all of the capital cities have adhered to the Covenant of Mayors

Energy saving is another key theme which is strongly interconnected with the environment.
Almost all of the capital cities of Veneto have adhered to the Covenant of Mayors that was approved by the Plan for Action for Sustainable Energy (PAES). Padua, Venice, Verona, Vicenza and Belluno have activated district heating systems, in all of the capital cities there are photovoltaic panels for the production of energy, located in municipal plants or on other r structures owned by the administration.
So far now we have observed the urban environment taking into account the environmental pressure (production of waste, use of water resources, vehicle fleet) and the responses (the management of green areas and waste water systems, infomobility services and energy saving). However, we still

[20] The "zona 30" is a form of urban intervention aimed at traffic control for the urban road system, where the speed limit is set to 30 kilometres an hour

need to analyse the actual state of the environment within the cities. Perhaps the most representative element of this is the quality of the air and the si

Fig. 10.4.2– Infomobility services present in the capital cities (*). Veneto – Year 2013 Road panels with changeable messages



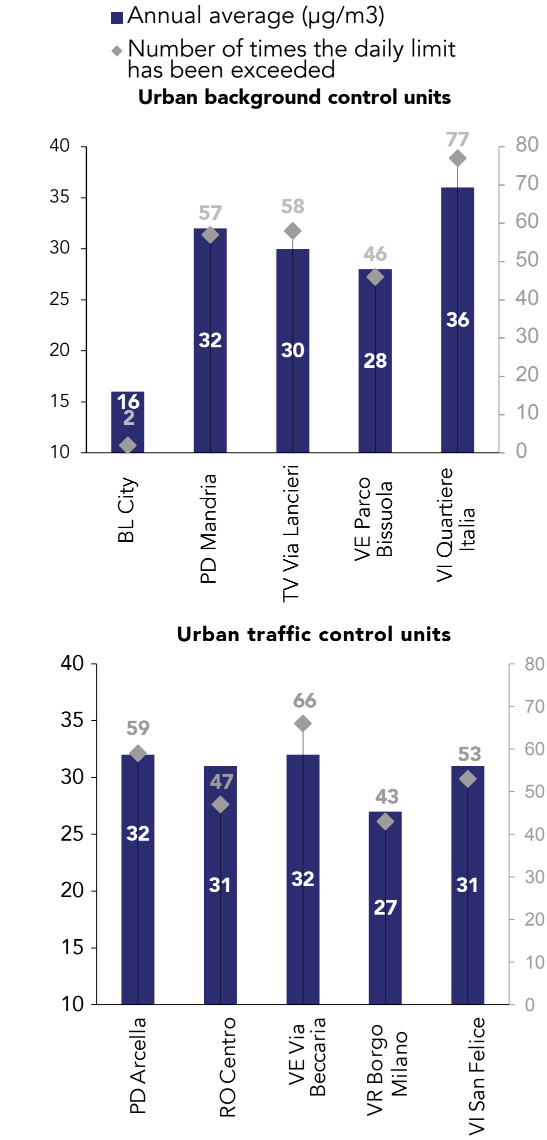
(*) A coloured bar is attributed to a city where the service is present.
Source: Regione Veneto Processing –Sistema Statistico Regionale Section on Istat data

tuation concerning fine particles (PM10). To this, the concentration of PM10 in the air within the capitals cities of Veneto using monitoring systems from Arpav located in the Urban background (BU) and urban traffic (TU) zones, which, that is to say, are the representative of the typical atmosphere in our cities, has been analysed. Now the concentration thresholds of PM10 are established under Legislative Decree number 155/2010 and are the limit annual value (calculated as an annual average for the concentration detected) which must not exceed 40 μg/m3 and the daily limit is 50 μg/m3, which cannot be exceeded more than 35 times a year.

PM10 pollution remains a challenge…

The situation in 2014 was quite critical concerning the number of times the daily limit was exceeded, given that in almost all of the control units – both in the urban background zones and in the urban traffic zones – the limit was exceeded more than35 times.

Fig. 10.4.3– Quality of the air: number of times the daily limit for the concentration of PM10 has been exceeded and the annual average. Veneto – Year 2014



Source: Regione Veneto Processing –Sistema Statistico Regionale Section on Arpav data

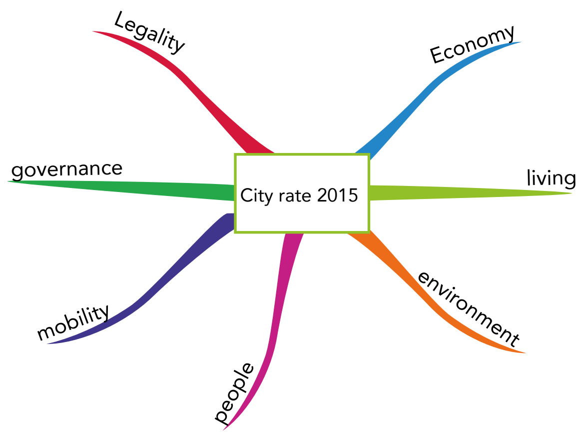
... But a slight improvement is in sight!

However, considering the trend in the last ten years, a progressive decreasing in the number of times the daily limit of 50 µg/m3 is exceeded may be observed, indicating an improvement of the general situation. As far as the other legal limit is concerned, (the annual average concentration equal to 40 µg/m3), the conditions seem to be positive, given that all of the control units concerned have recorded values below the limit.
In general, as already stated above, the air in the cities of Veneto presents critical issues related on the one hand, to pollution sources and on the other hand, to the climate of the Po Valley which does not favour the recirculation of the air and therefore the dispersion of fine particles.

10.5 Veneto as a smart land

In the field of urban development, policies covering the cities and the innovation they may produce are becoming more and more relevant. Based on this knowledge coming from studies carried out in the 90's of last century, the concept of smart city was created, covering many different meanings. At the beginning, it was used to qualify a digital city, and then it evolved into a concept covering social inclusion, environmental sustainability and quality of life aspects. Compared to the original classification of the dimensions for smart cities proposed by Rudolf Giffinger in 2007, linked to the neoclassical theory for urban and regional development, the following models have added new dimensions for smartness and have amplified the number of factors and indicators we use to assess these dimensions. There were proposals for sector indexes and comparison synthetic indexes, which were found to be learning indexes, namely indexes which change and expand in relation to the changed or new dimensions being analysed. Also at the European level, over the years ever more importance was given to the policies of smart cities, both in terms of endowments for digital infrastructure and in terms of actions for environmental sustainability. In the Italian experience, there is a dichotomy between the importance of smartness recognised in the research world and law provisions. For the latter, the aspect of smart cities or better "smart communities" was mentioned in Art. 19 and 20 of law 221, 2012, but this acknowledgment was not followed by any integrated operational programme, aimed at implementing the concept, which leads to believe that even the best ideas need suitable financial support.
In this context, it is useful to look the positioning of the cities of Veneto in the national panorama. To this end, several Istat studies and data (that, however, do not aim at providing any actual benchmark), are available, as well as two analyses already developed and updated years ago by Forum PA, in collaboration with the National Association for Italian Municipalities (ANCI), and Ernst&Young. The approach chosen by Forum PA identifies 7 dimensions for analysis, each one with the help of several indicators[21].

Fig. 10.5.1 - The 7 dimensions of analysis according to the Forum PA / ANCI



Source: Forum PA, ICity Rate report 2015

The approach adopted in 2016 by Ernst&Young was more effective than the one of the analysis based exclusively on these dimensions, used up until the latest edition. The 2016 analysis based on 4 layers (applications and services, service delivery platform, sensors and infrastructure) and on 2 analysis fields (smart citizens and livability of the city, and vision and strategy)[22].
Comparisons between classifications based on different methods entails some conceptual limitations. Nevertheless, it could be interesting to observe the national positioning of the 7 capital cities of Veneto in order to at least have an idea of the situation

[21] Forum PA, ICity Rate, the classification for smart Italian cities, 2015.

[22] Ernst&Young, Smart city index report 2016, 2016

in our region. The capitals of Veneto deliver good performances on average, particularly for the larger cities, generally consolidating or improving upon results achieved in the previous two reports.
The approaches adopted in the two analyses refer to the municipalities enjoying state of capital. This approach obviously presents limits: it does not consider the smartness of a larger or more urbanised territory, as is the case in Veneto. In fact, the administrative borders for the municipalities are strongly inappropriate for assessing the characteristics of the urban system, which shall be assessed on a much wider scale.

Tab. 10.5.1 – Positioning of the capital cites in the national rankings carried out by Forum PA and Ernst&Young (*). Veneto – Years 2015 and 2016

Municipality	ForumPA- 2015	Ernst&Young- 2016
Belluno	52	44
Padua	9	13
Rovigo	65	83
Treviso	33	39
Venice	5	15
Verona	15	18
Vicenza	30	30

(*) The ranking by Forum PA covers 106 italian capital cities, whilst Ernst&Young's covers 116
Source: Regione Veneto Processing –Sistema Statistico Regionale Section on ForumPA, Ernst&Young data

From smart cities to the smart land

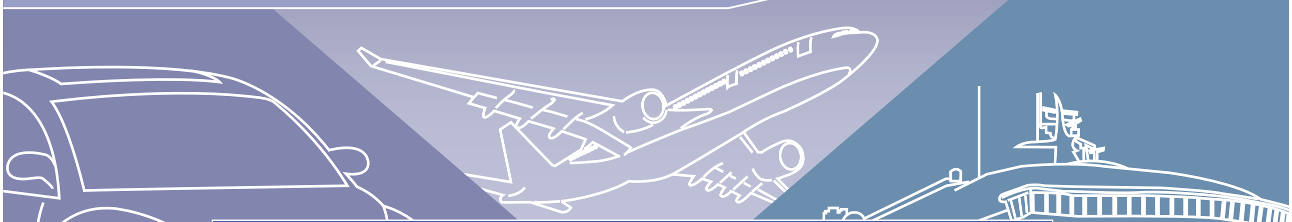
This consideration is even truer for our region, where the polycentricism not only has represented a factual situation, deriving from the past, but also a model of development. Based on production districts and having experienced urban sprawling, it has evolved into a network system for cities and businesses, as we know it today, rich in connections and understood as an extended "unconscious smart city". Thus comes the necessity to consider the entire regional territory in order to analyse it in terms of smart land, based on the fact that most "minor" centres have developed their own innovative and interesting experiences and best practices, and because the regional policies for smartness not only impacts on the capital cities but the whole territory.

To this end, various actions have been put in place over the course of the years, including the funding for drafting the Lighting Plans for the Lighting Pollution Control (PICIL), the plans for Sustainable Energy Action (PAES) and the drafting of the preliminary projects for the works they provided for; as well as the financing for the fablab; these aids were used by dozens of municipalities in Veneto and helped to successfully disseminate best practices across the whole region.

Cap.11 How will we travel in the future? Interconnected, for sure.

The concept of interconnectivity is perfectly embodied by the infrastructural network. Roads, motorways, railways, airports, ports were invented to connect people and stock. Veneto boasts 53.6 km of main roads per 100km2 of surface area, 3 for motorways, 6.8 for railways, a port with 3,400 ships and over 1 million 700,000 passengers, three airports which overall allow 16 million people to travel.
Today daily commuters, either for work or study reasons, are an important component of mobility, a phenomenon that in the last 20 years has evolved and has strongly changed. This indicator measures the input and output flows of the municipal territory – given by the percentage report of the residing population of all ages up to 64 years old – it was 61.8% in 1991, it increased to 67.5% in 2011.
In terms of private mobility – or the percentage of the residing population who travel daily for work or study reasons and use a private motor-vehicle (car or motorbike) compared to the residing population who travel daily for either work or study reasons, there is a net growth in the last 20 years. In 1991, the majority of municipalities showed a percentage of private mobility use of less than 60%, whilst in 2011 most municipalities showed a significant increase with figures in excess of 70%.
A high level of mobility within the regional territory corresponds to a significant persistence of the phenomena of road traffic accidents. Falling from over 53% from 2001 to 2014, the mortality for incidents remains high especially in certain areas that are particularly at risk.

LONG AND SHORT DISTANCE INTERCONNECTIVITY



INFRASTRUCTURAL NETWORKS

56.3 km of MAIN ROADS + 3km of MOTORWAY per 100km2

6.8 km of RAILWAY per 100km2

SEA AND AIR TRAVEL

	PASSENGERS	STOCK
PORT	1,755,355	25 MIL. TONNES
3 AIRPORTS	13,725,00	55,914 TONNES

INCREASE IN COMMUTERS FOR WORK OR STUDY

FROM 61.8% IN 1991 TO 67.5% IN 2011

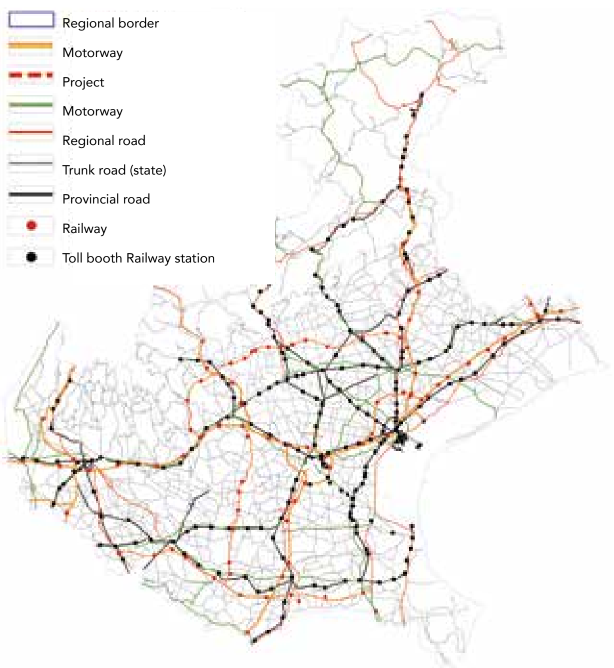
The debate on the mobility of the future – interconnected, digital, smart, and based on new traffic management systems – is only just starting up.
With time having moved on and ever more developed and innovative technology, mobility issues will start to adopt significantly new and diverse facets. Everybody's mobility has extremely changed in the recent years, with the creation of new services, the popularity of car sharing and car-pooling and the applications dedicated to them, the reduction in pollution with the introduction of hybrids and increasingly stringent regulations. The scenario evolves quickly because of an every growing use of the internet (in 2020 there will be an estimated 5 billion users of the web) and due to the growing availability of networked portable devices. In the coming years, driven by the new global trends it will change even more: the private and public transport sector, the sustainable mobility of smart cities, will be characterised in the near future by the integration of several of technologies. By 2020, we will have more than 80 billion networked devices and more than 1,200 satellites that will enable machine-to-machine communication (M2M), and will be used to equip public and private transport, e.g. cars. . In this contest services like car sharing and car- pooling, for example, will be the promoted within a network, thanks to the dissemination of new mobile applications able to calculate and process a bulky amount of data (big data) making it available in real time. We should be able to organise trips with colleagues, consult timetables, and buy tickets, find charging ports for electric vehicles or parking spaces available with one click. The future will bring many additional integrated solutions for mobility, also door to door, which will allow the interaction between the public and private transport systems. These solutions will also increase the availability and the size of alternative mobility services.
All the data sources show, we cannot do without our private means of transport, when travelling; at least, we try to use it in a smarter way!
The big digital revolution started when masses of people started connecting their computers to the network, using them first to surf the net for news, research and sharing information with other people. Computers therefore have started to talk, creating abundant and growing connections, thus forming an increasingly close network.
The value of this network was immediately clear, and it would have been greater if compared to the simple sum of single linked devices. Now the same revolution is ready to involve the automotive and mobility industries, since the strong influence of connectivity in the automotive field industry has transformed the cars, which are now very different from past ones. . The consequences to date are minimal, leaving us a glimpse of what could be in a few years' time.
Cars become "bits" which travel on a circuit, using their own sensors to monitor the context. In addition, they are instruments for the processing and improvement of the whole road system. The road network of the future will not be merely tarmac. The connections will run across tarmac, within a system that will engage the cars, the people, the road signals, the traffic lights, the institutions, the businesses, and a multitude of sensors and so on, searching for a benefit available for the individuals, the community and more globally the urban mobility system. Tomorrow's mobility will be more complex than today and yesterday's systems. Specifically thanks to this complexity, as soon as it will be managed by appropriate interaction systems, tomorrow's mobility will be profitable, smart and valuable.

11.1 The infrastructural network of Veneto

The theme of mobility has become more and more relevant over previous years, either for businesses or for citizens, due to the various elements it involves. In particular, speaking of mobility in Veneto doesn't mean only talking about the existing territorial interconnections, but analysing the consequences of the geographical-economic positioning of the regional territory, the level of road services, logistics, the cost of stock and personal mobility, the negative externalities of traffic, the specific settlement plans of the region. Travelers may cross the region via two fundamental axes: the Brenner I Corridor (from the North to the South) and the Corridor V Barcelona-Kiev (from the West to the East). Both of them provide for a strategic position in relation to the eastern European countries on one hand and with the southern coast of the Mediterranean on the other, exposing the Veneto territory to a volume of movement of people and goods, which, at the current stage, uses the same road system, which is used for short-trip intraregional mobility.
Another factor, as well as the geographical-economic position, which effects the movement of people and goods crossing Veneto is the peculiarity of the

settlement plan, which gives the name to the so-called "urban sprawl". It is typical for the central and oriental area of our region, which develops along the main motorway and railway : you live in a place called "A", take the children to school in B, work in C, do the shopping in D, and so on. This shape signifies, consequentially, a growth in demand for transport, especially private and by residing citizens.

Fig.11.1.1 – The transport infrastructural network of Veneto. Regional border



Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Regione Veneto data – Pianificazione Territoriale Strategica e Cartografia Section

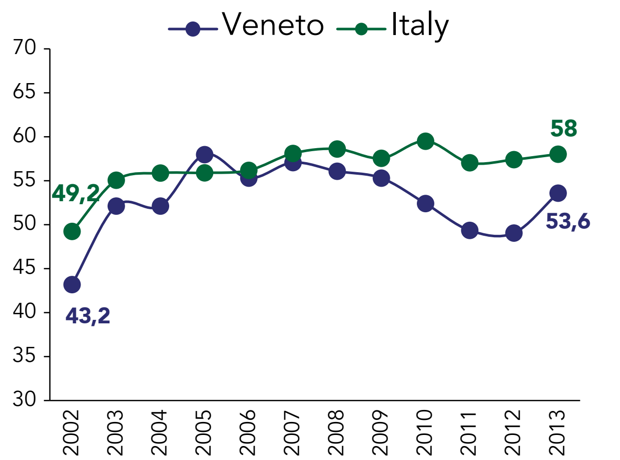
The road and railway network

The physical road infrastructure (provincial and regional roads of international interest) in Veneto – in terms of kilometres covered per 100km² of surface area – over the course of the last 10 years is lower than the national average: 53.6km compared to 58 in 2013[1]. However, the motorway infrastructure is greater: 3km compared to 2.2. In 2014, 3,903,220 vehicles were circulating on the Veneto road network (74% of these were cars) to which we add all transit traffic. In the same year 998,317 vehicles travelled on the motorways on average daily[2] (770,709 for passenger transport and 227,608 for goods transport), which is a slight growth of +1.3% compared to the previous year, but still a loss compared to the years 2009-2011 (around -3/4%).

[1] The most recent year available

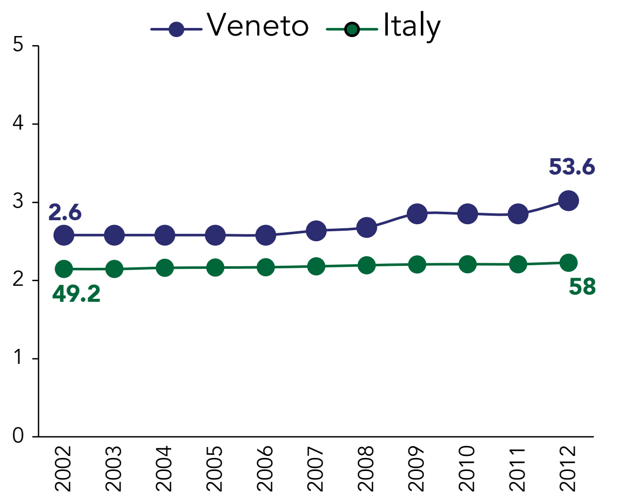
[2] For vehicles we intend all vehicles, which accessed the motorway, excluding the distance travelled.

Fig.11.1.2 – Endowment index for the road network(*). Veneto and Italy – Years 2002:2013 Vento Italy



(*) Provincial and regional highways of national interest on the region surface area (km per 100 km2)
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Infrastructure and Transport Ministry data

Fig. 11.1.3– Endowment index for the motorway network (*). Veneto and Italy – Years 2002:2013 Veneto Italy



(*) Motorway network of the regional surface area (km per 100 km2)
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Associazione Italiana società concessionarie autostrade e trafori (up until 2006), AnasAiscat (from 2007) and Istat data

Tab.11.1.1 - Endowment index (*) for the railway network. Veneto and Italy – Years 2004:2010

	2004	2005	2006	2007	2008	2009	2010
Veneto	6.6	6.6	6.7	6.7	6.7	6.7	6.8
of which electrified (%)	*62.1*	*62.0*	*62.9*	*62.9*	*62.9*	*62.9*	-
of which are twin-tracked (%)	*45.4*	*45.2*	*46.7*	*46.7*	*48.2*	-	-
Italy	6.5	6.5	6.7	6.6	6.7	6.6	6.7
of which electrified (%)	*63.4*	*64.1*	*64.8*	-	-	*65.2*	-
of which are twin-tracked (%)	*34.2*	*36.4*	*36.3*	*37.5*	*38.4*	-	-

(*) Railway network of Ferrovie dello Stato: concession and administrative management on court order on the regional surface area (km per 100 km2)
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data, Infrastructure and Transport Ministry and Trenitalia RFI data

Ports and Airports

The data concerning the railway network is absolutely in line with the national data, 6.8km per 100km2, 63% of which are electrified and 48% of which are twin-tracked.
The Veneto infrastructure also includes the port of Venice and the airport system Venice – Treviso – Verona, whose dynamics may be understood by observing their traffic of goods and people.
The port of Venice is certainly an important stopover within the Adriatic basin, acting as a European gateway for commercial flows from and to Asia. The global economic crisis also had an effect on its movements, particularly in terms of the number of incoming vessels, which has continued to decrease from 2008 to 2014, with a reversal of the trend in the last year. 2015 was characterised also as the second consecutive year of recovery of trade in goods (slightly more than 25 million tonnes) and, especially, a record year for container movements (560 thousand TEU's[3]).
The airports of Veneto have been playing an increasingly significant role in recent years, with some of them having been more active in the passenger sector and others in the cargo sector.
At the end of 2015, the Venice-Treviso airport system showed very positive traffic-related results: +3.8% in terms of passengers, +5% movement of aircrafts. Venice's airport registered 8,751,028 passengers, an increase of 3.3% compared to the previous year. Treviso's airport totalled 2,383,307 passengers, +6% from 2014. The two increases reported an overall number of 11,134,335 passengers, a 3.8% increase from the previous year. The movement of aircrafts (arriving and departing) was 100,348, an increase of 5%. The analysis of the data referring to single airports draws particular attention to the further strengthening of the international role of the Marco Polo airport, an intercontinental gate

[3] TEU, acronym for twenty-foot equivalent unit, it is the standard volume measure for ISO containers, corresponding to a total of 40m3.

Tab.11.1.2 - Venice port traffic – Years 2005:2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Arrived vessels	4,690	4,998	4,782	4,974	4,295	4,189	4,142	3,745	3,553	3,359	3,402
Of which cruise boats	*437*	*423*	*510*	*539*	*541*	*623*	*654*	*645*	*668*	*568*	*606*
Passengers	1,365,375	1,453,513	1,503,371	1,720,496	1,887,276	2,058,815	2,239,751	1,998,960		1,945,322	1,755,355
Of which cruise ship passengers	*815,153*	*885,664*	*1,003,529*	*1,215,598*	*1,420,490*	*1,599,054*	*1,777,073*	*1,739,501*	*1,841,477*	*1,750,698*	*1,601,042*
Movement of goods (tonnes)	29,099,041	30,936,931	30,214,699	30,247,587	25,191,473	26,389,758	26,301,207	25,349,248	24,350,327	21,765,590	25,104,217
Movement of containers (TEU's)	289,860	316,641	329,512	379,072	369,474	393,913	458,363	429,893	446,428	456,068	560,301

Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Autorità Portuale di Venezia data

for Italy alongside Rome and Milan.
The Verona airport surely benefits too from a geographically solid position in the Northeast, at the crossroads of corridor I with corridor V. It is located in one of the most competitive basins within Europe in terms of presence of businesses, becoming the perfect location for airlines' operations.
From Verona airport the motorways (A4 Milan – Venice and the A22 Verona – Brennero) may be accessed quickly and simply; additionally, it has a strong potential for growth either within the inbound or outbound markets. The Verona airport is less than an hour far from 6 UNESCO world heritage sites (Verona city, Vicenza city and Ville Palladiane, archeological sites of Valcamonica and the whole Santa Giulia site at Brescia, Mantova and Sabbioneta, the Dolomites). Furthermore, the beaches and the coasts of Lake Garda are reachable in an hour. In the last year movement of goods has increased whilst the passenger movement has decreased, +8% and -6.7% in 2015. Road transport, however, is absolutely the most used and concerns 97% of the transported goods.
There are projects and initiatives favouring alternative ways of transport, but much work is needed. An important operative programme, for example, is "Infrastructure and networks" for the 2014-2020 period, adopted last Summer by the European Commission, with a financial budget amounting to 1.84 billion euros, and providing for investments in three sectors: railway infrastructure, port infrastructure and smart transport systems. It is a programme, which will contribute in making the Italian transport system more sustainable and competitive. The forecasted investments comply with the priority of the European policies relative to the transport infrastructure and will contribute in improving the connections between sustainable transport from an environmental point of view, with less noise pollution and less carbon emissions, including internal waterways and maritime transport, ports, different connections and airport infrastructure.

Accessibility

In a world ever-more globalised and interconnected, the accessibility of a territory is surely a driver of economic growth, thus enabling better standards of life for residents. Periodically certain indicators are calculated, in order to track factors such as distance, international circulation networks, the quality of public and private transport; resulting in information on the different European regions, based on their intercontinental and interregional accessibility, the latter via the roads and railways[4].
The Veneto airport system works as an access point from abroad and enables further and easy connection of people and goods to the rest of the regional and national territory via the railway and road networks.
How far does the infrastructural network described here go in guaranteeing citizens and businesses connections to inter-urban and logistical nodes? A response can be found in the index of accessibility, which shows the travel times towards the inter-urban and logistic nodes, obtained by processing travel times, expressed in minutes, from the core centre of every municipality to the three nearest infrastructures, for each of the four considered categories (ports, airports, railway stations, toll booths)[5].

[4] Veneto Region – System for regional statistics, The regions of the alpine region – Chapter 2. The use of ground and accessibility (2004)

[5] For the processing of travel times a commercial road graph was used which took into account the real road speeds (for which also the morphology of the territory) in ideal conditions, that is to say without traffic. In Sardegna there are not motorways, thus there is no data for their toll booths. The indicator was obtained using the average travel times to reach the three existing infrastructures.

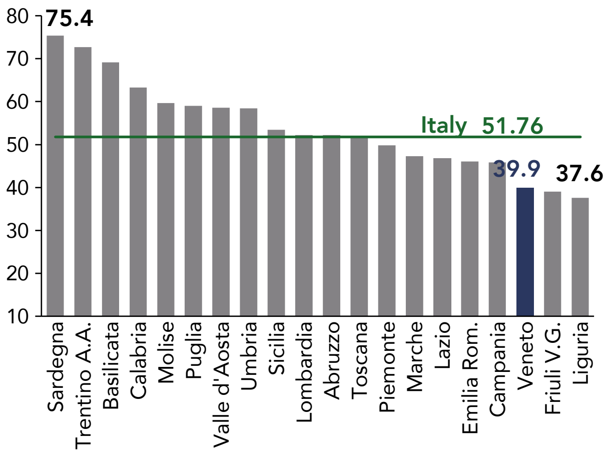
Tab.11.1.3 - Traffic in Airports – Years 2005 and 2009:2015

	Merci									Passeggeri								
	tonnellate								var%	Migliaia								var%
	2005	2009	2010	2011(*)	2012	2013	2014	2015	2015/14	2005	2009	2010	2011(*)	2012	2013	2014	2015	2015/14
Venezia - Marco Polo	22,723	32,533	37,612	41,886	40,887	45,662	44,426	50,961	14,7	5,825	6,718	6,869	8,585	8,188	8,404	8,475	8,751	3.3
Treviso - Antonio Canova	17,907	2,763	2,932	868	53	0	0,2	0,1	-30,0	1,300	1,778	2,152	1,076	2,334	2,175	2,248	2,383	6.0
Verona - Valerio Catullo	10,888	6,335	4,634	5,381	4,992	4,745	4,578	4,953	8,2	2,650	3,066	3,024	3,386	3,199	2,720	2,776	2,591	-6.7

Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Assaeroporti data

The average time for Italy is 51.8 minutes, variable from a minimum of 37.6 in Liguria to a maximum of 75 in Sardegna: Veneto, with an average time of 40 minutes, was the third best region in the country.

Fig. 11.1.4 – Index of accessibility towards the inter-urban and logistics nodes (*) per region – Year 2013



(*) In Sardegna there aren't motorways thus there is no data for their toll booths. The indicator was obtained using the average travel times to reach the three existing infrastructures
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

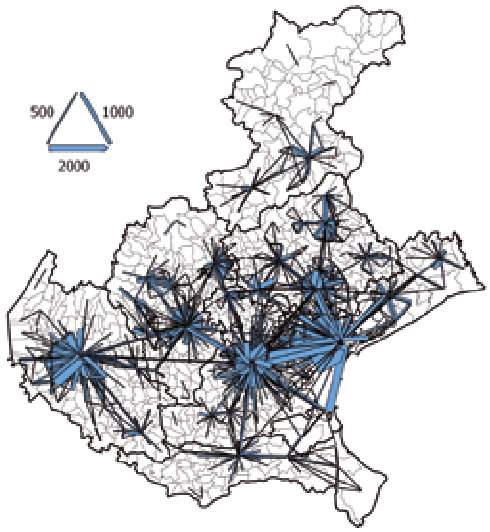
11.2 Commuting today

The links everyone establishes with the territory where they live, work or study can be well represented by the flows of commuters, that is to say the number of people out of the residing population who travel daily for work or study reasons.

The following graphical and numeric processing are aimed to provide information on the intercommunal mobility (from residence to work and/or study location) of the residing population.

Every day 2,603,830 people in Veneto have to travel from their homes to their place of work or study, in ten years the figure has grown by almost 300,000 (it was 2,319,188 in 2001). 70% of people travel for work reasons, and the remaining 30% for study reasons. Slightly more than a half of the travellers come from the same municipality of residence, and around 40% of them come from another municipality of the same province.

Fig. 11.2.1 –Cross-municipal relations with more than 100 commutes per day. Year 2011



Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

Tab. 11.2.1 - Commute intensity for study or work reasons per province. Veneto – 2011

	Study		Work		Total	
	2011	var % 2011/01	2011	var % 2011/01	2011	var % 2011/01
Verona	149.627	8.5	342.935	15.3	492.562	13.2
Vicenza	148.268	10.3	325.806	8.9	474.074	9.3
Belluno	28.463	-1.8	76.164	4.7	104.627	2.9
Treviso	149.451	14.6	326.510	12.6	475.961	13.2
Venezia	128.939	6.4	306.836	10.2	435.775	9.1
Padova	156.349	9.9	344.977	14.7	501.326	13.1
Rovigo	32.455	-6.9	87.050	3.7	119.505	0.6
Veneto	**793.552**	**10.2**	**1.810.278**	**13.2**	**2.603.830**	**12.3**

Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

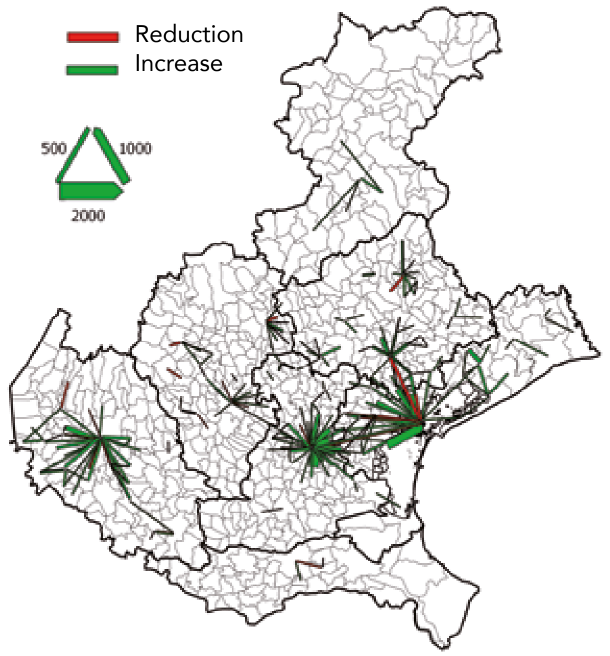
On the map below the cross-municipal relations are displayed with more than 100 daily travels, (the tip of the arrow indicates the direction). Venice and Padua reported a strong mutual interaction in both directions; both as the origin and destination of one and other: the number of commuters from Padua-Venice is overall equal to 2,494 a day, whilst from Venice-Padua the figure is 2,808. There are also the interactions between these cities and their surrounding municipalities to consider: there are 7,106 daily commuters from Mira (VE) to Venice and 6,000 from Albignasego (PD) to Padua. Verona and Belluno tends to interact with their surrounding municipalities, whilst Rovigo and Vicenza show the largest number of daily commuters towards the municipality of Padua (842 and 1,315 respectively. Treviso is pres ente d as an origi n city with a larg e num ber of movements either towards neighbouring communes such as Villorba (2,070 commuters), or towards other capital cities such as Venice (1,699 commuters). The trips to Treviso originate mainly from the surrounding municipalities.

The commutes of workers

1.8 million people travel every day for work reasons, an increase of 13.2% compared to the previous Census. For 45% of the cases the travel is within the same municipality. Verona is the municipality which mostly contributes to the phenomenon this – over 91,000 commuters – followed by Venice (90,437), Padua (72,852), Vicenza (39,930), Treviso (27,595) and Rovigo (18,916). Chioggia, Bassano del Grappa and San Donà di Piave are the only "non capital" cities to generate more than 15,000 commuters. 86% of the Venetian municipalities generate less than 5,000 commuters.
The cross-municipal commutes for work reasons are principally directed to the cities enjoying status of province capital. The journeys with the largest number of commuters are headed to Venice, Padua and Verona. The largest flows concern the journeys: Mira-Venice (6,141), Spinea-Venice (4,884), Albignasego- Padua (4,545), Martellago-Venice (3,494), Chioggia-Venice (2,997), San Giovanni Lupatoto-Verona (2,568), Villafranca Veronese-Verona (2,454).
The analysis of the commuter flow trend highlights which are the most attractive centres of the Veneto region, and it is not just a case of the capital cities. .
The occupational mobility, different from the student mobility, generates multi-directional commutes, with some points of larger aggregation, in a context where the available jobs are widely distributed across the region.
In the province of Venice, the commutes of employed people take place within the same municipality of residence or towards other municipalities of the same province, or towards the provinces of Padua and Treviso. Thus, there is a triangle of interaction generated between these three provinces.
A considerable amount of commuters continues to travel from the surrounding municipalities of the Venice province towards the municipality of Venice. An increase from 2001 to 2011 is reported.
The municipalities of the province of Treviso report a considerable flow of commutes towards the municipalities within the same province or Venice. The most noteworthy is the number of commutes from Mogliano Veneto (TV) to Venice: 3,407.
The municipality of Treviso, in particular, shows a reciprocal relationship with the Villorba neighbouring municipality (1,707 from Treviso and 1,642 heading to Treviso) and with Venice city (1,182 from Treviso and 760 towards Treviso).
The commutes of the people from the Treviso municipality to the province of Padua are limited, while more commutes originate from the municipality of Castelfranco Veneto.
In the province of Padua most of the commuters travel within the same province and towards other municipality of the provinces of Venice and Treviso.
The commutes originating from the municipalities around Padua are mainly headed to Padua. . The urban- residential expansion which has involved these municipality has certainly influenced the number of commuters who daily travel towards the capital city of the province for work reasons. The latest Census showed that this trend registers strong growth.
The interaction of Padua's municipalities with the municipalities of other provinces is also in growth, in particular Venice and Verona; a flow which is more intensive at the borders between provinces, e.g. Piove di Sacco, Trebaseleghe, Montagnana and Gazzo. The mobility of employed people residing in the Vicenza province mainly features commutes headed to another municipality within the same province or to neighbouring municipalities within the Pauda province.
The Vicenza area hosts numerous centres of interest for workers. Vicenza, Schio, Thiene and Bassano del Grappa are the ones showing a growing trend in this department. Commuting for work reasons from the municipalities of the province of Verona seems to revolve around trips, for the main part, within the same territory. This area do not seem to interact

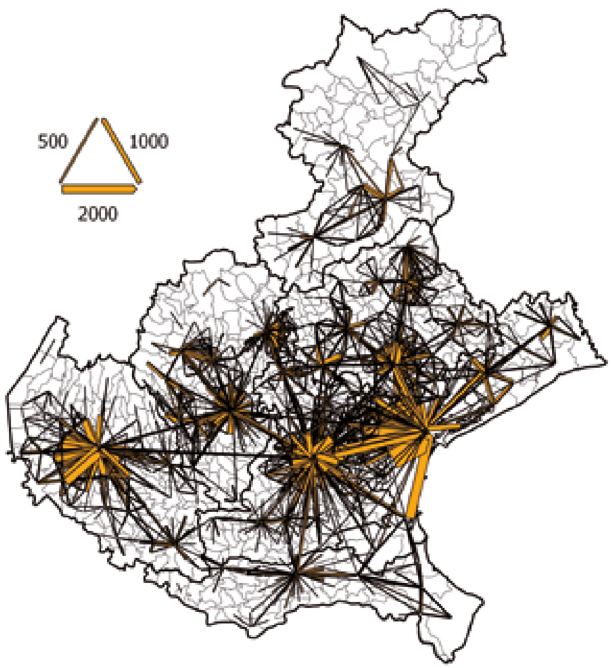
with the municipalities of other provinces.
The larger increases are noted in the commutes directed to Verona, Peschiera, Legnago, San Bonifacio and Villafranca. These municipalities have been showing growing attraction flows over the past 20 years. Furthermore, the municipalities of the Belluno province interact almost exclusively with other municipalities of the same province.
This generates a closed system where workers commuting daily to their workplace choose to remain inside the province of residence or where they habitually live.
In analysing the two most recent Censuses, we can see that there is also a tendency of an increase of cross- provincial commutes, side by side with a demographic increase, with some recessions expressed especially in the areas close to the northern border of the region.
The trend to remain inside the provincial territory is also typical for the municipalities of the Rovigo province, where the commuters mainly travel towards other municipalities of the same province and in fewer cases to the province of Padua and Venice. In

Fig. 11.2.3 – Commutes for work reasons. Variations 2011/2001



Source: Elaborazioni Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

Fig. 11.2.2 – Commutes for work reasons. Year 2011



Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

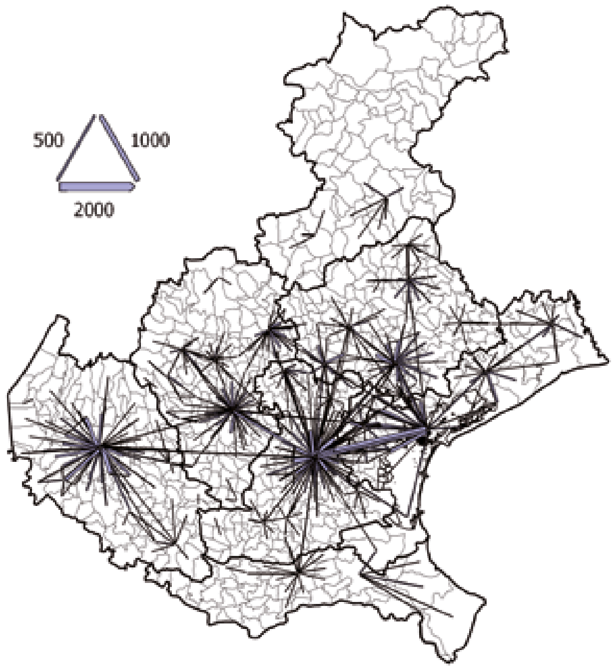
this area, there is not a specific trend in commutes, since both growth and decrease tendencies may be observed across the whole provincial territory, thus resulting in an unchanged overall quota of commuters.
The cross-municipal travels which largely increased compared to the scenario analysed in 2001 are especially in the Venice, Padua and Verona areas: journeys: Albignasego – Padua (+1,198), Mira – Venice (+1,195), Marcon – Venice (+1,133), Noventa Padovana – Padua (+714), Pescantina – Verona (+613).
Alongside the increase in the cross-municipal commuter flows a significant reduction of trips of employed people departing from Venice and headed to Padua (-414), Treviso (-381), Marcon (-321), and Spinea (-224) can be observed.

Commutes of students

Over 790,000 people travel across the regional territory for study reasons, 10% more compared to the last Census. In 69% of the cases the commute is within the same municipality. Also in this case Verona is the municipality which generates the largest number of travels (39,140), followed by Venice and Padua (over 30,000), Vicenza (around

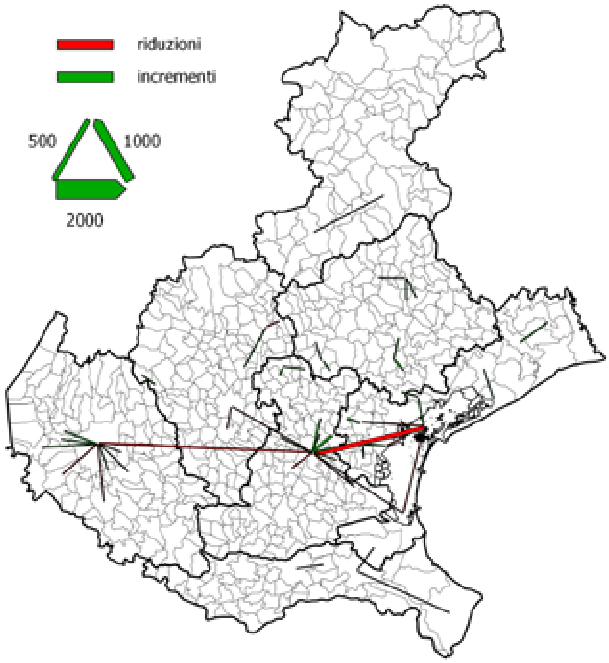
18,000) and Treviso (around 12,000). There are 15 Venetian municipalities which generate over 5,000 commutes daily.
The cross-municipal travels for study purposes are mainly headed to the capital cities of Padua, Verona and Treviso. More precisely, the following journeys involve the largest number of commuting students: Albignasego – Padua (1,515travels), Selvazzano Dentro – Padua (1,292), San Giovanni Lupatoto-Verona (1,290), and Vigonza – Padua (1,261), Negrar-Verona (1,060), Cadoneghe- Padua (1,049), and Paese-Treviso (1,045).
The relationship between Venice and Padua is interesting, the latter attracts 1,177 commuters every day coming from the capital for study reasons, whilst in 2011 only 708 commuters per day travelled daily from Padua to Venice for work reasons.
This information is particularly important if you consider that both Venice and Padua are university city and cultural nodes. In the last ten years Padua's attractiveness has been greater. This tendency is however strongly reduced if compared to year 2001.
Most of the students residing in the municipality of Venice use to travel daily to other communes within the same province of Venice or to Padua or Treviso.
The students of the municipalities of the province of Vicenza tend to prefer to travel to the municipalities of Vicenza, Schio, Thiene and Bassano del Grappa, in the same province; when travelling outside of the province they go mainly to Padua (for example from Vicenza 723 commuters and from Bassano del Grappa 233 commuters) and Venice (from Vicenza 235 commuters). In the Vicenza area, the journey with the largest number of daily commuters for study reasons is that between Cassola and Bassano del Grappa with 775.
Proceeding with the analysis of the students flows in Veneto we can observe that in the Treviso area the largest number of commuters is reported within the municipality or towards other municipalities within the same province, with the exception of an amount of commutes towards the provinces of Venice and Padua. In the Treviso province the largest number of commutes heads towards Treviso, Castelfranco Veneto, Conegliano, Montebelluna and Vittorio Veneto, with an increase in commuter flow compared to 2001.
The provinces of Verona, Belluno and Rovigo, whilst showing substantial differences both in geographical and demographical terms, present similar trends. The commuting of students in these areas is mainly within the province, aside from a few exceptions.
67 out of 69 municipalities of Verona involved in the commuter flow for study reasons interact with municipalities in the same province. The journey from Lonigo (VI) to Padua is an example of the few interactions with locations outside of the province.
Some of the largest attractive centres, aside from the capital of the province, are Villafranca Veronese and Legnago.
In the Belluno province, the interactions take place only within the same province. Students who travel daily chose to stay within their province of origin, in particular towards Belluno and Feltre. The location of the geographical area under analysis suggests that students who chose to travel to other provinces, especially those travelling due to specific university training reasons, relocate in order to live closer to their areas of interests. . These trends are very similar in the Rovigo region. Students prefer to commute within their municipality of towards other municipality within the same province: the most attractive centres appear to be Rovigo and Adria. One exception is the amount of travels towards Padua (238). Compared to 2001, the last census showed an increase in the flow of student commuters going from Chioggia and Padua to Rovigo, whilst the number of commuters going from Adria to the surrounding communes has decreased.

Fig. 11.2.4 – Commuters for study reasons. A



Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

Fig. 11.2.5 – Commuters for study reasons. Variations 2011/2001



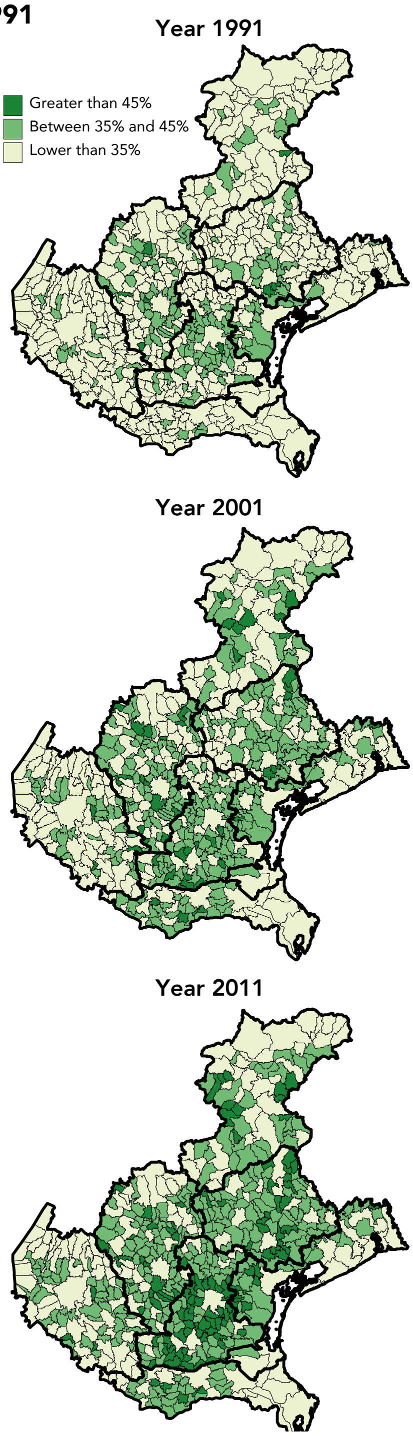
Source: Elaborazioni Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat

In the ten year period between 2001 and 2011 there has been a notable increase of the relationships among neighbouring communes and the closest capital city, for example, the journeys: Vigonza – Padua (+282), Casier-Treviso (+225), Noventa Padovana and Campodarsego – Padua (+367).

11.3 – Twenty years of commuting

But how has the population interacted with its territory up to the present day? What are the established relations and connections? Trying to understand this evolution and the mutation over the last 20 years could also be a useful tool in helping us think about tomorrow.
In this sense, the analysis of the trends of rates of cross-municipal mobility is a useful tool (the rate is calculated as the percentage ratio between the residing population who commute daily for work or study reasons outside of the municipality where they generally live and the residing population under 64 years of age). It provides a measure of the amount of daily commuting leaving the municipal territory.
Veneto went from 61.8% in 1991 to 67.5% in 2011; the analysis of the data at municipal level provides more information. In 1991, 71.4% of the municipalities had a cross-municipality mobility rate lower than 35%, and by 2011, this percentage had reduced to 29%. On the other hand, in 1991 only 1.4% of communes had an intercommunal mobility rate higher than 45%, whilst in 2011 this percentage has grown to 21%.
In 1991, cross-municipal commuting was not yet a widespread habit. The majority of travels are within the municipality where the travellers have their habitual residence aside from some exceptions. In 415 municipalities, the percentage of travels headed outside their territory is lower than o 35%, and only in 8 municipalities this percentage is greater than 45%. Only few municipalities report travels to outer areas (35-45%): 158 municipalities located near the cities of Vicenza, Padua, Treviso and Venice.
In 2001, there was a growth of cross-municipal movements with a significant increase of the areas characterised by a percentage of travels outside of the municipality between 35% and 45% (289 municipalities). At the same time, the number of centres characterised by a quota of cross-municipal travels greater than 45% grew (50 communes).
Following on from this there was a further decrease in the number of municipalities belonging to the lowest category in the cross-municipal mobility ranking, that is to say lower than 35% (242 municipalities); this number include the capital cities of the province, given the strong attractiveness they may exercise.
In 2011, this trend consolidated itself due to the increase of the municipalities characterized by a cross- municipal mobility greater than 45% (121 municipalities). The largest part shows an amount of travels outside the municipality between 35% and 45% (294muncipalities), whilst the number of municipalities with an amount of travels of outside of the territorial border lower than 35% appears greatly reduced (166 municipalities).
Unexpectedly, the province of Verona, which from 1991 to 2001 saw an increase in daily cross-municipal travels, in 2011 experienced a countertrend. The daily mobility of Verona's citizens is mainly within the same municipality: the residing municipality is, in the large majority of cases, is also the municipality where people work or study.
The cross-municipal mobility rate for employed people is given by the percentage ratio between the residing population who travels daily for work reasons outside the municipality where they have their

Fig. 11.3.1 – Rate of cross-municipal mobility (*) per municipality. Veneto. Years 1991-2001-2011
Year 1991



(*) Percentage ratio between the residing population who commute daily for study or work reasons outside the municipality where they have their habitual residence and the residing population up to 64 years of age.
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

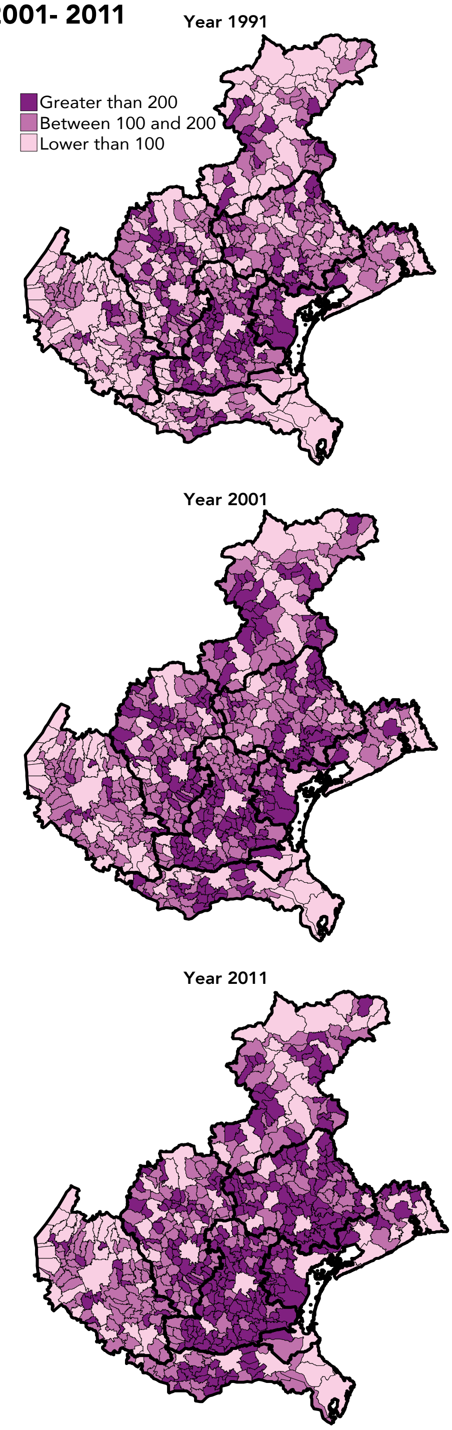
Cross-municipal mobility for work reasons

habitual residence and the residing population who travels daily for work reasons within the municipality where they have their habitual residence. .
This indicator provides a measure of the flows of daily commuters leaving the municipality of residence to get to their workplace. Values greater than 100 indicates that daily cross-municipal mobility for work reasons is widespread, and indirectly indicate that the territory has a lower capacity to meet its labour demand.
In the last 20 years under analysis a phenomena has been constantly growing: the municipalities showing a rate greater than 100. Occupational mobility tends to grow in terms of distances and travel times with contextual increases in cross-municipal and abroad travels.
In 1991, a third of the municipalities in Veneto reported values lower than 100, whilst the other two thirds reported values greater than 100 (of which 41% reported values between 100 and 200 and 26% reported values greater than 200).
Occupational mobility outside the commune where the travellers have their habitual residence appears to be increasing in 2001: only 18% of municipalities reported values lower than100. In particular, we observe a strong increase of municipalities reporting a rate greater than 200, which corresponds to a percentage of 38%.
The same trend was also reported in 2011, with 86% of municipalities experiencing a cross-municipal occupational mobility rate greater than 100: and 49.2% of municipalities experiencing a rate of over 200.

Cross-municipal mobility for study reasons

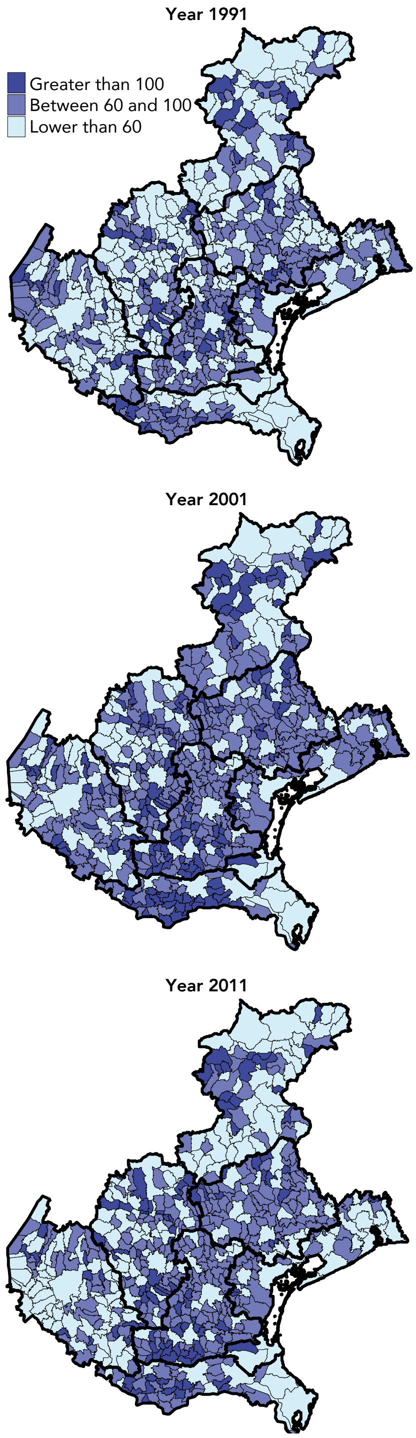
Similar to the occupational mobility rate, the student mobility rate is given by the percentage ratio between the residing population who travel daily for study reasons outside the municipality where they have their habitual residence and the residing population who travel the municipality where they have their habitual residence. The indicator measures the flows of daily commutes leaving the municipality where the travellers have their habitual residence in order to reach their study place. Values greater than 100 express a lower cross-municipal mobility for study reasons and express indirectly a lower inclination of the territory of interest towards the satisfaction of the internal need for learning and

Fig.11.3.2 – Cross-municipal occupational mobility rate (*) per municipality. Veneto – Years 1991-2001- 2011



(*) Percentage ratio between the residing population who commute daily for work reasons outside the municipality where they have their habitual residence and the residing population who commute daily for work reasons within the municipality where they have their habitual residence.
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

Fig. 11.3.3 –i Cross-municipal student mobility rate (*) per municipality . Veneto – Years 1991 – 2001- 2011



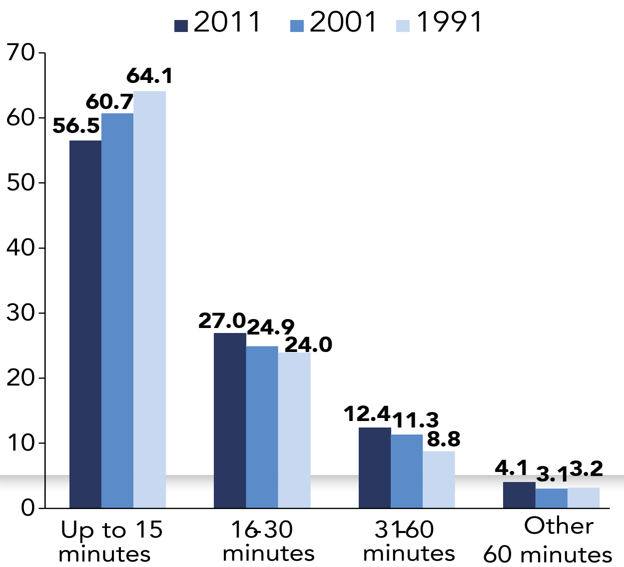
(*) The percentage ratio is between the residing population who commute daily for study reasons outside the municipality where they have their habitual residence and the residing population who commute daily for study reasons within the municipality where they have their habitual residence. Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

training.
In 1991, about 15% of municipalities reported a ratio value greater than 100, a percentage that grew to 24% in 2001. In 2001, however a countertendency phenomenon was reported: municipalities with which a value lower than 60 increased (181 municipalities, or 31.2%), whilst on the other hand the other segments under analysis seem to be decreasing. In particular municipalities with a value between 60 and 100 reduced to 285 (or 49.1%) whilst the municipalities with a value greater than 100 became 108 (or 18.6%).
Compared to the occupational mobility, the student mobility within the municipality of residence is much more limited.

Characteristics of the commutes

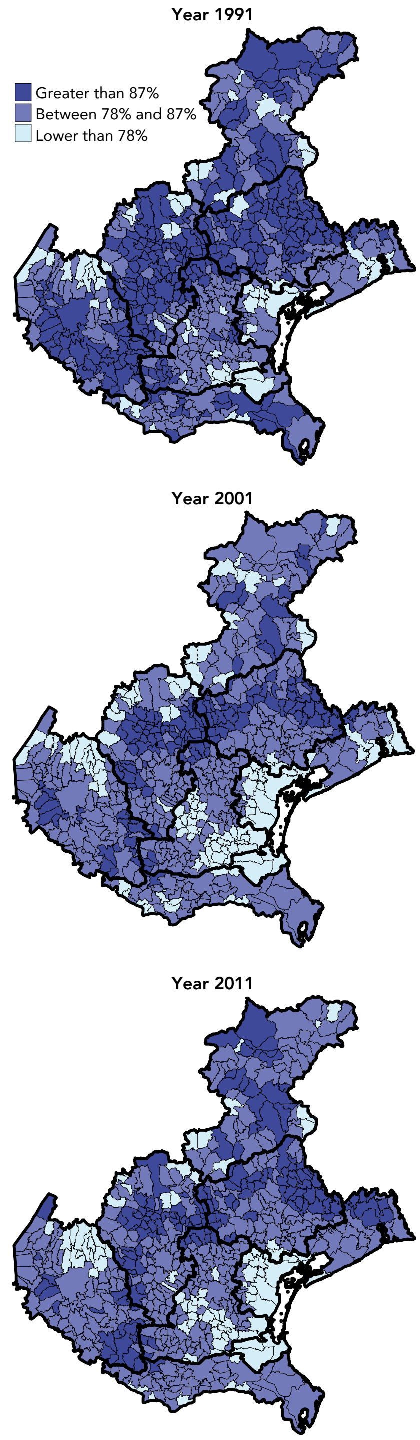
Between 2001 and 2011 the quota of "privileged commuters" who were able to get to their workplace or study place in less than a quarter of an hour fell (from 61.4% in 2001 to 56.5% in 2011) and the quota of those who have to travel for more than an hour grew (from 2.7% in 2001 to 4.1% in 2011). On average, those who study had to travel less to get to their study place, now 63.2% of them can get there in 15 minutes, whilst the figure for those who work drops of almost 10 points at 53.6%, and the figure grew to 30.6% for commutes up to half an hour.

Fig. 11.3.4 –**Duration of commutes for study of work reasons (% values). Veneto – Years 1991-2001-2011 2011 2001 1991**



Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

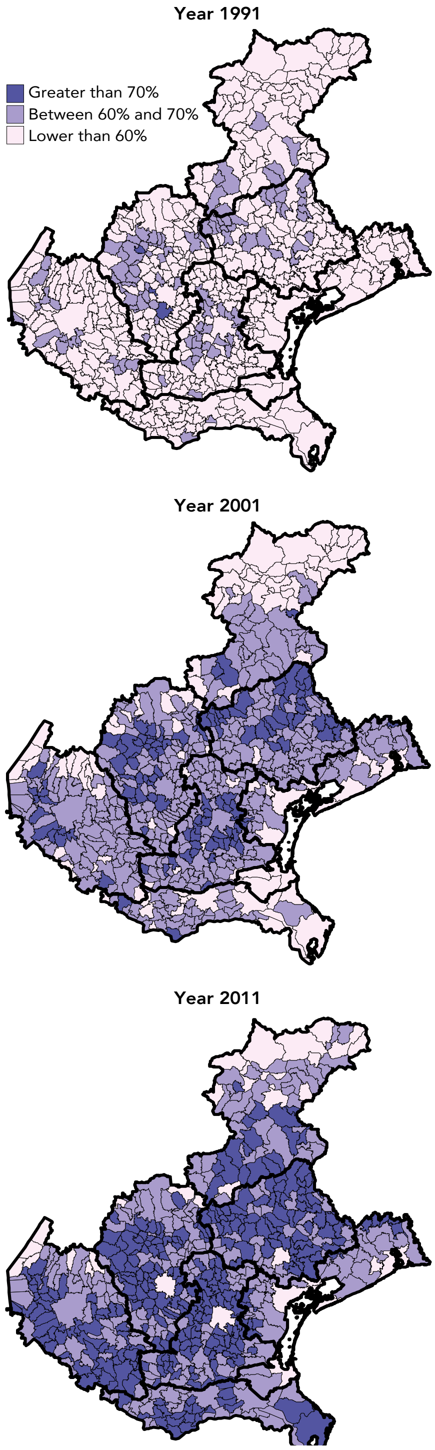
Fig.11.3.5 – Short mobility (*) per municipality. Veneto – Years 1991-2001-2011 Year 1991



(*) Percentage ratio between the residing population who commute daily for work or study reasons and need up to 30 minutes to their destination and the residing population who commute daily for work or study reasons.
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

To get to their work or study place nine people out of ten (89%) use a mean of transport with preferences largely similar to that reported in the previous census. The car remains the most widespread choice: 50% of residents drive it and 14% of residents are passengers. Only 14.2% use public (or private) collective transport: train, tram, metro, coach, 3% use two-wheeled motor vehicles (motorbike, moped or scooter) and another 7% bike.
Those who commute for work reasons prefer using private transport, either cars or motorised vehicles (78.3% of cases); anyway, they get to work preferably independently: 8.3% walk, 6.8% bike and only 5.4% use collective transport. However, those for commute for study reasons, although still preferring private transport (41.2%), use a larger variety of means: 34% use a collective method of transport, 17% walk and 7.4% bike.
Private mobility, or the percentage of the residing population who commute daily for work or study reasons and use a motorised private method (car or motor vehicle) compared to the residing population who commute daily for work or study reasons, has grown overall in the last 20 years. In 1991, the large majority of municipality reported a percentage of private mobility lower than 60% with some exceptions in the municipality of Padua, Vicenza, Bassano del Grappa and Conegliano, exceeding this amount. In 2001, the presence of municipalities with a private mobility rate lower than 60% dropped significantly, the majority of the municipalities under analysis reported a percentage of private mobility between 60% and 70%.
This trend is confirmed by the data reported in 2011 where there is an ever increasing use of private transport: in almost all of the municipalities it is greater than 60%. The number of municipalities with greater than 70% of daily commutes using private transport largely increased too.

Fig. 11.3.6 – Private mobility (*) per municipality. Veneto – Year 1991-2001-2011 Year 1991



(*) Percentage ratio between the residing population who commute daily for work or study reasons and use a private or motorised transport (car or motor vehicle) and the residing population who commute daily for work or study reasons.
Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

11.4 Road safety remains an open challenge

The statistics on road accidents, included in the statistics on mobility for the purposes of our analysis, are carried out by Istat - Central Directorate for social statistics and population census. This is due to the close connection with social themes, as well as with mobility and health. In this scenario, both the social- economic issues linked to the travels of people, and the health and prevention issues linked to safety are primary factors. However, these are not the only two aspects of interests in the framework of a detailed analysis. The cooperation agreement between FCA and Google, signed on May 2nd 2016, confirms that the research on vehicles equipped with driver assistance systems or self-driving vehicles is not limited to the scientific field, but is getting more and more focused on the industrial world. Most probably, the future of vehicle manufacturing will depend on this trend. The possible change, which could accompany the introduction of this technology, could spark a revolution in road mobility. The effects could be enormous including minimizing of road accidents linked to bad driving habits or carelessness. It is clear that the majority of road accidents lie much more on bad driving habits, than on the lack of infrastructure.

71.2% of accidents are due to bad driving

From the 2014 Istat data for Italy, it emerged that 71.2% of reported road accidents can be attributed either to alleged circumstances linked to road users and their driving habits, while 20.8% depend on simultaneous inconveniences whilst travelling, which may include the behavioural factor. Nowadays we do not know if such a complex system is sustainable, since it would need an upgrade of the infrastructure. However, this cannot be excluded, according to certain economic estimate of the social costs connected to the road accidents. The social costs of road accidents represent an estimate of the financial damage suffered by the community due to a road accident. The estimate aims at quantifying the various expenses borne by the community following the consequences caused by road accidents, e.g. the loss of production capability due to a death or an injury, non-pecuniary data related to the loss, direct health care costs, general costs for damages to things, administrative, judiciary and other costs. In Italy, the parameters are established by the Minister for Infrastructure and Transport.

The economic lever in this case, essential in scenarios that necessitate important investment, could be identified considering the public interest connected to the private interest. This can be seen from the fact that road accidents account for around a quarter violent deaths in Europe and the economic estimate of social costs connected to the phenomenon in Veneto, just in 2014, amounted to around 1.5 billion euros, whilst in Italia the figure surpassed 17.6 billion.

Law N. 41 of March 23rd 2016 aimed to modify the Italian criminal code making vehicular homicide a criminal offence together with road traffic injuries, both to be punished as a result of negligence. Hopefully, this could make a short-term impact on the situation and serve as a deterrent to prevent bad habits and to mitigate this phenomenon.

Road accidents: figures

In 2014, the phenomenon had a slower decrease. According to the data, in Italy a decline of accidents of 2.5% was reported (absolute value 177,031). The number of injured people in the same year was 251,147, showing a decrease of 2.7% from 2013, whilst deaths only fell by 0.6% for a total of 3,381. These decreases are lower than the decreases shown between 2013 and 2012, especially concerning deaths which have decreased of 10% in this period. These very low values in the decrease of de-

Tab.11.4.1 - Road accidents with personal injuries, deaths and injured people. Italy, Veneto and provinces – Year 2013:2014

	Incidents			Deaths			Injuries		
	2014	2013	% Var.	2014	2013	% Var.	2014	2013	% Var.
Belluno	490	474	3.4	21	15	40.0	734	676	8.6
Padova	3,038	2,888	5.2	51	60	-15.0	4,095	3,889	5.3
Rovigo	590	598	-1.3	18	13	38.5	843	841	0.2
Treviso	2,195	2,365	-7.2	53	48	10.4	3,155	3,463	-8.9
Venezia	2,389	2,322	2.9	59	51	15.7	3,503	3,222	8.7
Verona	3,026	2,857	5.9	73	59	23.7	4,108	3,851	6.7
Vicenza	2,230	2,290	-2.6	50	53	-5.7	3,074	3,039	1.2
Veneto	**13,958**	**13,794**	**1.2**	**325**	**299**	**8.7**	**19,512**	**18,981**	**2.8**
Italy	**177,031**	**181,660**	**-2.5**	**3.381**	**3.401**	**-0.6**	**251,147**	**258,093**	**-2.7**

Source: Regione Veneto Processing - Sistema Statistico Regionale Section on Istat data

aths may be observed also on the European level were a decrease of -0.5% for the EU28 was reported. Hopefully, this is a transitional situation, even if the data from the oldest and most populated countries of the Union, those who first introduced policies in order to minimize road death, indicate that there could be certain structure limits within the current road mobility model.
In fact countries such as France, the UK and Germany are in counter-trend with increases in road deaths in 2013 (3.5%, 2-1% and 0.8% respectively) whilst road deaths fell by 1.1% in Spain. The variation indicators of the reported data over 2013 for 2014 in Veneto report a counter-trend compared to Italian national data.

325 deaths due to accidents in Veneto in 2014

The absolute values indicate that in 2014 there were 13,958 accidents that caused 19,512 injuries and 325 deaths. Compared to the previous year the percentages indicate an increase of 1.2% of incidents, +2.8% injured people and +8.7% deaths. An increase in the number of deaths needs to be assessed taking into account the 20.5% decrease reported in 2013 compared to 2012, where deaths on the roads of Veneto dropped below 300 for the first time. We can expect, however that in Italy and thus also in Veneto that in the coming years this phenomenon would decrease, also due to the deterring factors which could be enforced by the recent law on "vehicle homicide". The analysis of the provincial data for Veneto shows percentage improvements - only for certain provinces and only for certain variables. It highlights a percentage reduction of incidents in 2014 compared to 2013 in the provinces of Treviso (-7.2%), in Vicenza (-2.6), and in Rovigo (-1.3%); percentage decreases of injuries only in Treviso (-8.9%); percentage decrease of deaths in Padua (-15.0%) and in Vicenza (-5.7%).
Concerning the implementation of the III and IV European Road Safety Action Programme, which aim at reducing the numbers of fatalities by half (for the decades 2001-2010 and 2011-2020 respectively), Veneto is ranked at the national average level.

A decrease of 53.1% of road deaths since 2001

The decrease of fatalities from 2001 to 2014 was 53.1% in Veneto compared to 52.4% for Italy as a whole. In the first four years of activation of the IV Programme the road accident victims were reduced by 17.9% in Veneto, a reduction almost identical to that of Italy's; 17.8%.
Deaths have fallen by 53.1% since 2001
There was a 53.1% decrease in number of deaths in Veneto from 2011 to 2014, as compared to 52.4% nationally. In the first four years of implementation of the 4th Road Safety Action Programme, victims of road traffic accidents decreased in number by 17.9%, almost exactly the same as the national figure of - 17.8%.
Analysing the rate of accidents in Vento based on the characteristics of the road on which the accident occurs, 2014 data shows that the majority of accidents occur in urban areas, with 9,881 accidents, which caused 152 deaths and 12,968 injuries, representing 70.8% of all accidents, with a mortality rate[6] of 1.5 deaths every 100 accidents. The highest mortality rate, however, is found outside of towns and cities, where, between highways and roads outside

[6] Rate of mortality = (number of deaths) / (number of accidents) x 100

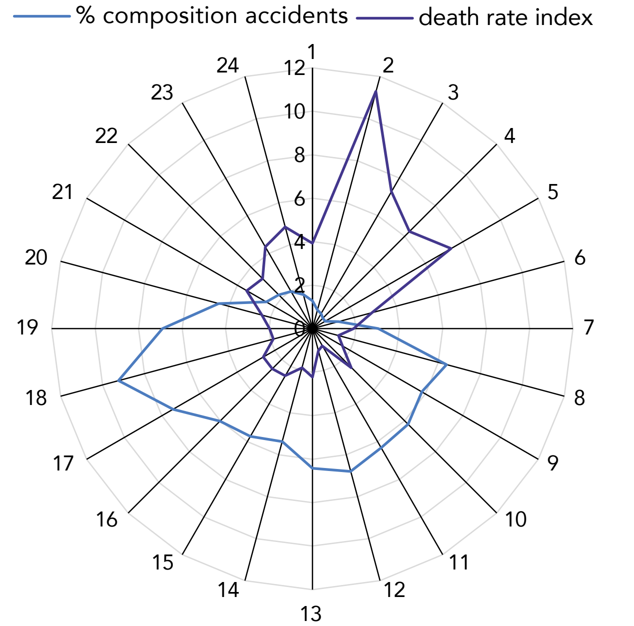
Tab.11.4.2 - Percentage composition of the accidents per location and characteristic of the road. Veneto and provinces – Year 2014

	Within residential area							Outside of residential area (*)						
	Crossroads	Roundabout	Junction	Straight	line Bend	Bend	Other(**)	Crossroads	Roundabout	Junction	Straight	line Bend	Bend	Other(**)
Belluno	19.8	5.4	12.8	48.2	11.3	2.3	100.0	15.1	2.2	9.8	39.1	30.7	3.1	100.0
Padova	15.0	7.8	20.9	47.0	7.4	1.8	100.0	9.9	3.1	22.3	47.9	14.7	2.0	100.0
Rovigo	16.8	4.9	26.0	43.1	9.0	0.3	100.0	10.4	4.1	16.2	47.3	21.6	0.5	100.0
Treviso	19.5	4.7	24.4	43.2	7.7	0.6	100.0	11.5	5.8	25.6	38.9	17.5	0.8	100.0
Venezia	19.0	5.5	22.6	44.0	7.4	1.6	100.0	9.1	4.7	19.3	51.6	12.0	3.3	100.0
Verona	9.3	4.5	36.6	41.5	7.2	0.9	100.0	9.7	6.8	19.3	40.2	22.2	1.8	100.0
Vicenza	15.0	9.4	24.9	41.7	8.1	0.8	100.0	8.8	4.4	21.0	42.9	21.2	1.7	100.0
Veneto	**15.2**	**6.4**	**25.8**	**43.7**	**7.7**	**1.2**	**100.0**	**10.3**	**4.8**	**20.4**	**44.4**	**18.3**	**1.9**	**100.0**

(*) Escluse autostrade
(**) Include passaggio a livello, dosso, pendenza e galleria
Fonte: Elaborazioni Regione Veneto - Sezione Sistema Statistico Regionale su dati Istat

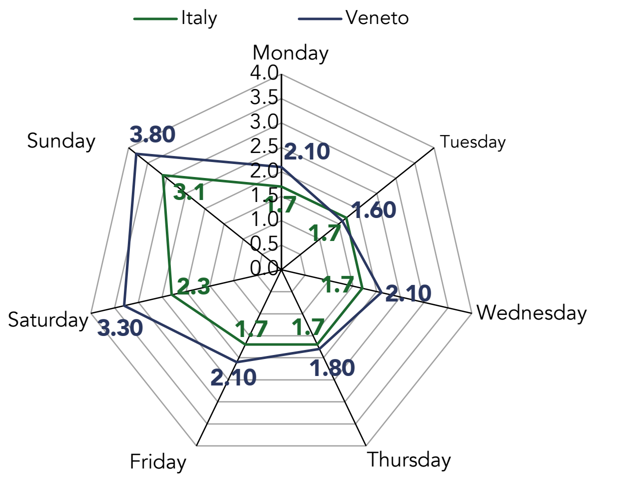
of built up areas, there were 4,079 deaths in 2014, with a mortality rate of 4.2.
The detailed characteristics of the road on which an accident takes place are interesting to observe from a territorial point of view. If we exclude accidents on highways, which, due to the different structure of the road, are made up of around 85% of accidents on straight sections and the remainder on bends, the situation on urban and extra-urban roads provides more interesting details. The majority of accidents occur on straight roads and road intersections for urban and non-urban contexts, with 43.7% and 44.1% and 25.8% and 20.4% respectively. The third most common accident is different for the two types of road. On urban roads, accidents are more common close to junctions, with 15.2% of the total, whilst, on extra-urban roads, the third most likely accident is on a bend, with 18.3% of all accidents. In addition, it is interesting to note how the province of Belluno, due to the mainly mountainous territory, most accidents occur on bends in the road, with big differences in relation to the other provinces, especially on rural roads. Indeed, 30.7% of accidents occurred on bends outside of the urban centre of the province, a good 8.5 percentage points above the value calculated for the province of Verona, in second place with 22.2% of accidents on bends in roads outside of urban areas. As far as the mortality rate is concerned, the greatest deviation from the mean in detailed characteristics of Veneto roads is found in accidents occurring on bends in urban roads, whose rate of 3 deaths every 100 accidents is double that of the 1.5 deaths of aggregated data, bringing the gravity of accidents occurring in these circumstances in line with the lowest indices of accidents recorded on rural roads.
The majority of road accidents with injuries in Veneto are distributed over the hours from 8 am to 7 pm. Indeed, 10,978 of a total of 13,958 occur during the daytime hours of business traffic and commuting to/from work or travel to/from school. The peak of 1,291 accidents (9.2% of the total) occurred at around 6 pm, during the evening rush hour. However, during this time range, the mortality rate index never exceeded 2.6 deaths for every 100 accidents, going above the rate of 2 per 100 accidents between 10 am and 3 pm and between 3 pm and 5 pm. During the evening and especially at night, despite there being a lower number of accidents, there is a high mortality rate with extremes of 10 deaths per 100 accidents at around 2 am, maintaining values of over 5 right up to 5 am.

Fig. 11.4.1 – Percentage composition of road accidents and mortality rate index (*) according to time of day. Veneto – Year 2014



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

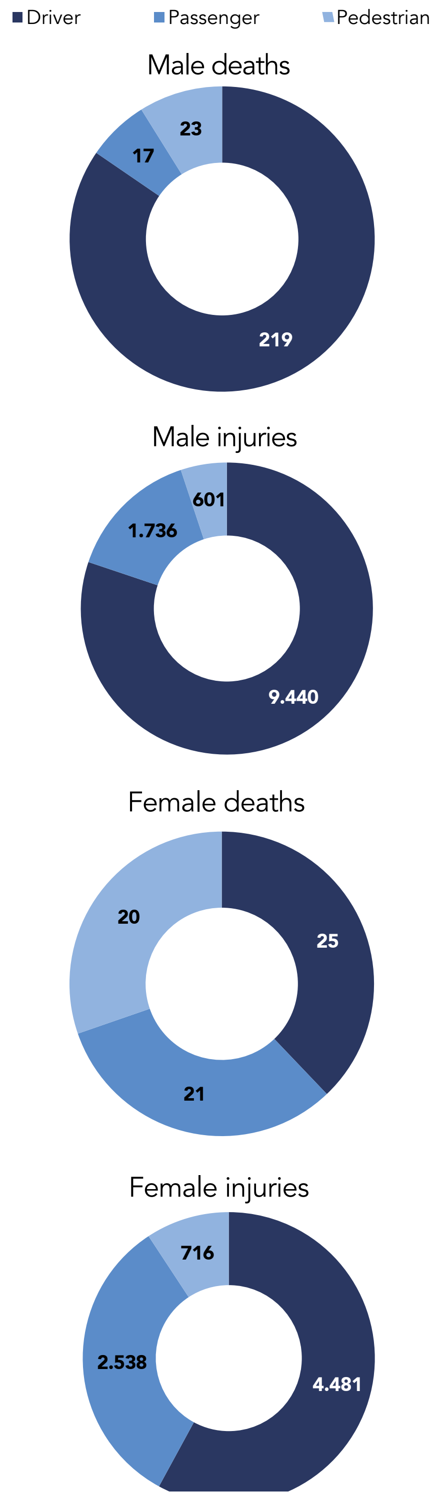
Fig. 11.4.2 – Mortality rate index (*) according to day of the week. Veneto and Italy – Year 2014



(*) Mortality rate index = number of deaths / number of accidents x 100
Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

The mortality rate index calculated on different days of the week highlights the fact that accidents on Veneto roads, in general more serious than those on a national level, show a clear divergence between

Fig. 11.4.3 – Deaths and injuries in road accidents according to category of user and gender. Veneto – Year 2014



Source: Veneto Region Data Processing, Regional Statistical System Section on ISTAT data

weekdays and Saturday and Sunday, on which 1 and 1.7 more people lost their lives than they did on a national level.

The most serious accidents, between moving vehicles, were caused by head-on and frontal-lateral collisions, with a mortality rate in Veneto in 2014 of 5.1 and 2.0 respectively. However, if we consider isolated vehicles, the worst outcomes were recorded for Veneto in 2014 for collision with a train (4.7), sudden braking (4.0), fall from a vehicle (3.7) and impact with an accidental obstacle (2.8). Particular attention must be devoted to vulnerable road users, especially pedestrians and motorcyclists. Indeed, the mortality rate index in Veneto for accidents involving these two user categories in 2014 was 3.5 and 4.3 respectively, over 1 death more, per 10 accidents, than the general regional index.

The gender data, per user category, highlights a clear preponderance of men, as compared to women, among drivers suffering injury or death. A total of 12,036 male drivers were harmed in accidents, including 259 deaths, whilst female drivers harmed numbered 7,801, with 66 deaths as a result of the accident. Over 84% of men who died were driving a vehicle, against fewer than 38% of women. The remainder of female deaths due to road accidents in Veneto was divided equally between pedestrians and vehicle passengers.

This data highlights a gender danger rate index[7] that is clearly higher among men than women, with a difference of 1.4 points. This index, in the identification of the number of deaths for every 100 people harmed in road accidents, has a general value of 1.6 in Veneto in 2014. However, when calculated according to gender, the danger rate index shows a value of 2.2 for men and 0.8 for women. If considered in terms of user category, excluding passengers for whom the index differential between men and women is insignificant – 1.0 and 0.8 respectively, the differences between genders of drivers and pedestrians are consistent: 2.3 and 0.6 for the former and 3.7 and 2.7 for the latter.

Road accident rate based on kilometric localisation on Veneto roads

Road accident rate based on kilometric localisation on Veneto roads

Using data of the kilometric localisation of road accidents for the period 2011-2014,

[7] Danger rate index = (number of deaths) / (number of deaths + number of injured) x 100

it was possible to draw up rankings of the main roads with the highest accident rate per kilometre in Veneto.
It was decided to use only stretches of road longer than 25 km and with a total of more than 100 localised accidents in the four years under consideration. According to number of accidents per kilometre, the rankings were topped by Strada Statale 13 "Pontebbana" (SS013), with 2.47 accidents per kilometre per year and, in second place, SS307 "del Santo", with 2.41 accidents per kilometre. In third place, SS516 "Piovese", with 2.39 accidental per kilometre per year. However, in terms of mortality rate index, the top three roads in Veneto for worst accident outcome were SS12 "dell'Abetone e del Brennero", SS247 "Riviera" and SS203 "Agordina", with 7.11, 6.49 and 6.29 deaths every 100 accidents respectively. It is to be noted that many of the roads that rate highly in terms of mortality rate index are indeed roads that cross mountainous territory, excluding SS247 "Riviera", SS1 "Alemagna", SS309 Romea and SS10 "Padana Inferiore".

Tab.11.4.3 - Stretch in kilometres, average annual number of accidents per kilometre and death rate index for stretches of main road longer than 25 km and with more than 100 recorded accidents. Years 2011:2014

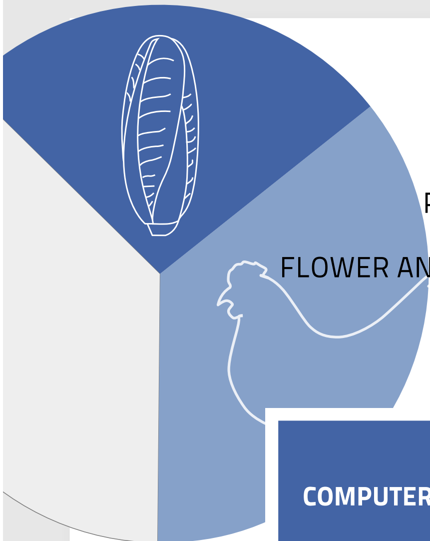
Road name	Length of stretch in km	Average annual accidents per km	Death rate index (*)
SS 013 - Pontebbana	63.3	2.47	2.08
SS 307 - del Santo	26.4	2.41	0.78
SS 516 - Piovese	26.5	2.39	1.98
SS 245 - Castellana	50.1	2.13	3.75
SS 515 - Noalese	39.1	1.86	2.75
SS 309 - Romea	70.9	1.85	4.18
SS 011 - Padana Superiore	154.0	1.65	3.15
SS 248 - Schiavonesca Marosticana	80.1	1.56	3.60
SS 053 - Postumia	116.6	1.49	2.73
SS 047 - della Valsugana	73.0	1.49	3.23
SS 249 - Gardesana Orientale	69.0	1.39	2.87
SS 016 - Adriatica	69.5	1.37	3.40
SS 348 - Feltrina	53.8	1.37	4.08
SS 014 - della Venezia Giulia	79.2	1.31	3.61
SS 010 - Padana Inferiore	66.8	1.10	4.10
SS 046 - del Pasubio	45.0	1.01	3.31
SS 050 - del Grappa e del Passo Rolle	61.1	1.00	4.90
SS 349 - di Val d'Assa e Pedemontana Costo	63.4	0.86	5.07
SS 247 - Riviera	46.4	0.83	6.49
SS 434 - Transpolesana	82.9	0.78	2.72
SS 246 - di Recoaro	42.6	0.77	0.76
SS 500 - di Lonigo	34.3	0.77	3.81
SS 499 - Rodigina	45.0	0.75	2.96
SS 203 - Agordina	60.8	0.72	6.29
SS 051 - di Alemagna	118.2	0.68	5.90
SS 012 - dell'Abetone e del Brennero	80.4	0.61	7.11
SS 251 - della Val di Zoldo e Val Cellina	154.9	0.21	2.34

(*) Death rate index = number of deaths / number of accidents x 100
Source: Veneto Region Data Processing, Regional Statistical System Section on ACI (Italian Automobile Society)-ISTAT data

Cap.12 – Veneto Agriculture: Roots Connected with the Future

Every day, the agricultural world has to deal with a wide variety of situations, such as climate change, population growth, protection of the land, nourishment, globalisation and urbanisation: all aspects of reality that have a great impact on agriculture, and for which farming plays a strategic role. Furthermore, with the arrival of the most recent reform of the European Union Common Agricultural Policy for the 5-year period 2015-2020, it also has to face an increase in competitive pressure on national agricultural production and farmers, compared with the past, will have to be able to direct their production choices using innovative methods, actively making dialogue with other links in the production chain, from processing to marketing, in which there will be increasing focus on the added value of agricultural products, and weaving bridges and connections beyond national borders so that the consumption of goods produced on national soil may be appreciated far from home, including taking advantage of the opportunities offered by information technologies and the Internet. Indeed, we live in an age in which computerisation is used across the board in all areas of daily life and agricultural companies can also benefit from this global phenomenon and, at the end of the day, it is precisely those businesses that equip themselves in this direction that achieve greater profitability and are geared towards greater multifunctionality: the agricultural business of the future will successfully manage its activity digitally, will undertake a lot of administrative and bureaucratic activities via the internet, will make itself known via a business website, through which it will also be able to sell its products and services.

COMPUTERISATION AND PROFITABILITY



PRODUCT SPECIALISATIONS WITH THE HIGHEST RATES OF COMPUTERISATION

POULTRY AND PIG FARMING: **36** OUT OF 100 BUSINESSES

FLOWER AND VEGETABLE CULTIVATION: **27** OUT OF 100 BUSINESSES

	AVERAGE AREA OF LAND	AVERAGE AGE OF OWNER/MANAGER	AVERAGE GENERATED REVENUE
COMPUTERISED BUSINESSES	29 HECTARES	49 YEARS	301,591 EURO
TOTAL BUSINESSES	7 HECTARES	61 YEARS	46,115 EURO

COMPUTERISED FARMING BUSINESSES HAVE SUPERIOR PROFITABILITY AND COMPETE ON THE GLOBAL MARKET

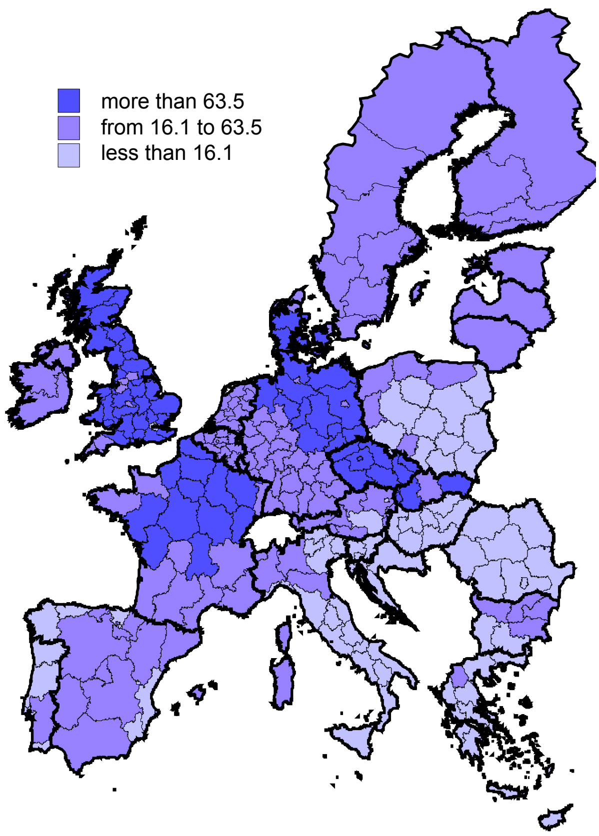
12.1 The Agricultural Network in Europe

Thanks to the arrival of the most recent reform of the European Union Common Agricultural Policy for the 5-year period 2015-2020, which involves increased focus on the needs of producers, the environment and food safety, and due to the progressive opening up of markets, agriculture has entered a phase of further change, as compared to previous programmes: the stage of market stability has ended and a new one has begun, in which agricultural businesses will have to interpret the demands of the market and adopt medium and long-term development projects, using all the instruments necessary to monitor and assess the financial results obtained in relation to the predictions made.
In view of this scenario in which competitive pressure on national agricultural production will most likely be on the increase, business owners, compared to in the past, will have to be able to direct their production choices using innovative methods, actively making dialogue with other links in the production chain, from processing to marketing, in which there will be increasing focus on the added value of agricultural products, and weaving bridges and connections beyond national borders so that the consumption of goods produced on national soil may be appreciated far from home, including taking advantage of the opportunities offered by information technologies and the Internet.
Agricultural businesses will also have to deal with climate change, population growth, protection of the land, nourishment, globalisation and urbanisation: all aspects of reality that have a great impact on farming, and for which agriculture plays a strategic role. Where, as we will see, European farming is still fragmented, insofar as it is structured as a world of numerous small businesses, of which over 60% own fewer than 5 hectares of cultivated land, and few enormous businesses, which represent just 3% of the total number and cultivate over half of the available land, with an average SAU (agricultural land area) of over 100 hectares, in the future, it will be precisely the ability to network, to become part of the network and use it to one's best advantage, that will establish who will survive among the majority of agricultural businesses.

11 million agricultural businesses in the EU-28

In 2013, there were almost 11 million agricultural businesses in Europe-28, for a cultivated land area of over 174 million hectares, occupying 40% of the total area of land, with over 130 million heads of livestock farmed[1] and almost 10 million workers employed full-time: the majority of farms were located in Romania, Poland and Italy, the majority of the agricultural land was located in Spain, France and the UK.

Fig. 12.1.1 – Average agricultural land area (hectares) per business. Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

The size of the agricultural businesses are directly proportionate to their Standard Output[2], the mea-

[1] Calculated in AU (Animal Unit, beef cow equivalent)

[2] Standard Output is the monetary value of production, which includes sales, re-use, self-consumption and changes to product stock, at farm-gate prices (to this general rule, prices are considered without transport and marketing costs; exceptions are made only for products for which sale is impossible without packaging, in which case the price considered is that of the packaged product)

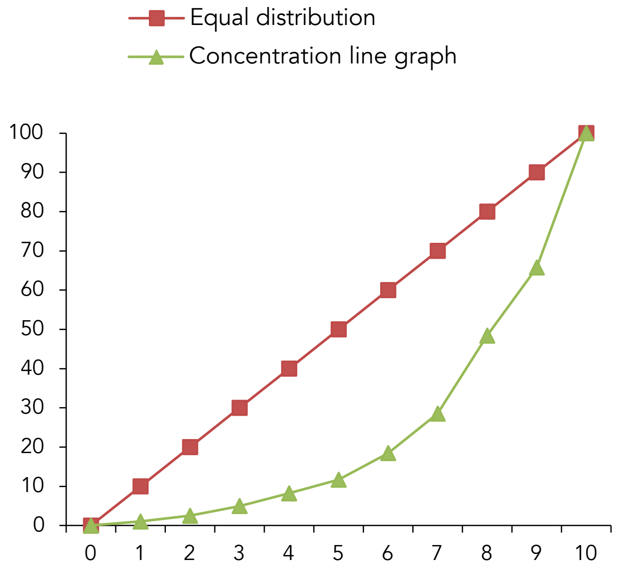
sure of the wealth produced by the farm: indeed, greater productivity is concentrated where the business size is above average, focused in Northern Europe, among Germany, The Netherlands, Denmark and the United Kingdom, whilst in Eastern and Southern Europe we find less profitable farms. A European farm produces on average over €30,000 of Standard Output per year, but 38.7% of businesses produce less than €2,000, whilst just 6.3% produces over €100,000, highlighting a clear disparity in profit distribution: indeed, the Gini Index, which measures income distribution and varies from 0 to 100, where 0 represents the perfectly equal distribution and 100 maximum inequality, gives a very

Tab. 12.1.1 - Agricultural Businesses and Agricultural Land Area (hectares) according to European country. Year 2013

Country	Agricultural business	Agricultural land area
Belgium	37,760	1,307,900
Bulgaria	254,410	4,650,940
Czech Republic	26,250	3,491,470
Denmark	38,830	2,619,340
Germany	285,030	16,699,580
Estonia	19,190	957,510
Ireland	139,600	4,959,450
Greece	709,500	4,856,780
Spain	965,000	23,300,220
France	472,210	27,739,430
Croatia	157,450	1,571,200
Italy	1,010,330	12,098,890
Cyprus	35,380	109,330
Latvia	81,800	1,877,720
Lithuania	171,800	2,861,250
Luxembourg	2,080	131,040
Hungary	491,330	4,656,520
Malta	9,360	10,880
The Netherlands	67,480	1,847,570
Austria	140,430	2,726,890
Poland	1,429,010	14,409,870
Portugal	264,420	3,641,590
Romania	3,629,660	13,055,850
Slovenia	72,380	485,760
Slovakia	23,570	1,901,610
Finland	54,400	2,282,400
Sweden	67,150	3,035,920
United Kingdom	185,190	17,326,990
Total EU-28	**10,841,000**	**174,613,900**

Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data high value of 0.47. This is to say that two farms taken randomly from among the European population have, on average, a revenue difference of 47% of the average income.

Fig. 12.1.2 – Line graph of Standard Output concentration. EU-28 – Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

In contrast, excluding the effect of size, revenue calculated per hectare of agricultural land area, the European average of which is €1,896, is concentrated where specialisations are more profitable and this occurs above all in The Netherlands and in Northern Italy, in which Veneto stands out with average revenue three and a half times the EU average at €6,700.

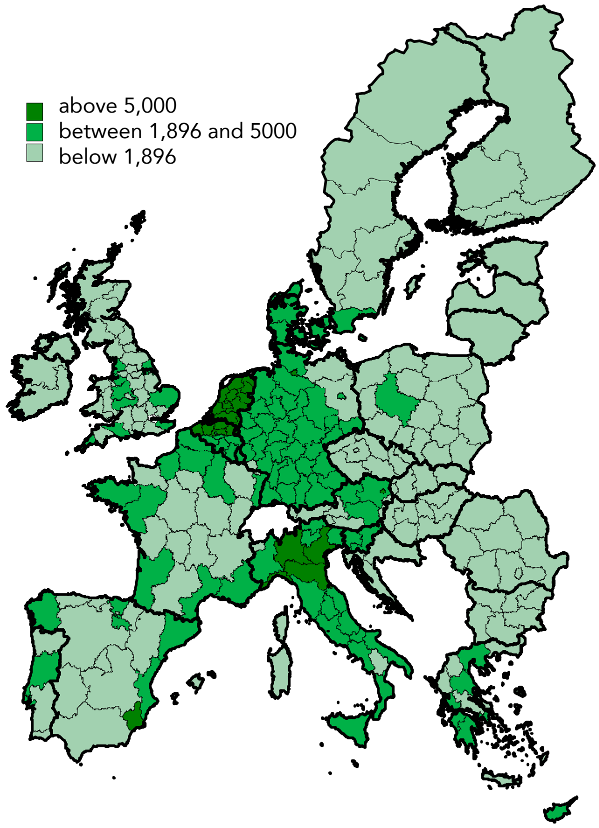
But what are the most profitable specialisations?

€6,700 the average revenue per hectare for Veneto agricultural businesses

First of all, let's take a look at how specialisations are distributed around the EU-28: arable, vineyards and orchards and herbivore livestock rearing are the top three agricultural specialisations and together make up for over 64% of the total. The remainder are devoted to pig or poultry farming, mixed crop and livestock farming and vegetable and flower cultivation.

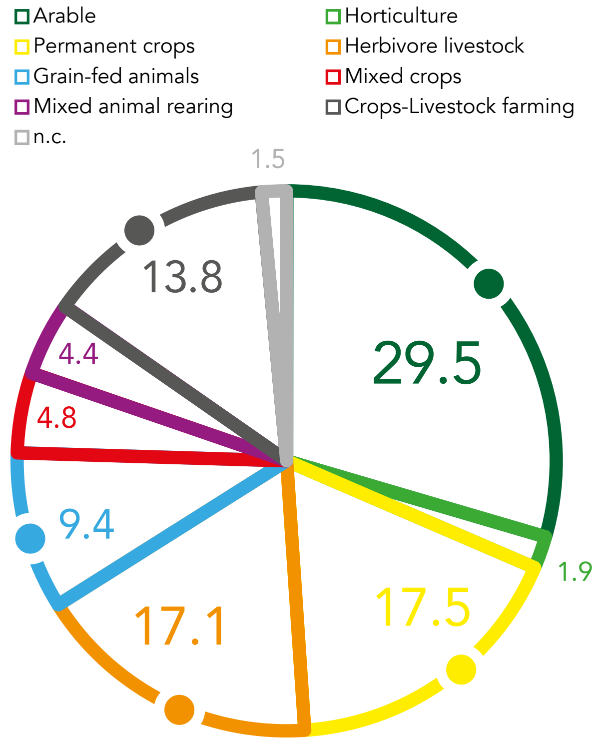
As far as achieved standard output is concerned, the gold medal on a European level goes to vegetable and flower cultivation, which, with €141 million per business, has the highest total, despite the category not being widely represented in Europe (just over 200,000 businesses are devoted to horticulture) and instead heavily concentrated in Spain and Italy. These are followed by grain-fed animal farms (poultry and pigs) with a standard output of €55,000: within this category, there is notable disparity between poultry farming, which achieves average revenue of €38,000, and pig farming, with an average annual turnover of almost €200,000. These are then followed by the other categories, such as herbivore livestock farming (cattle, sheep and goats), arable farming (cereals, industrial crops, etc.) and permanent crops (fruit trees).

Fig. 12.1.3 – Standard Output (euro) per hectare. Year 2013



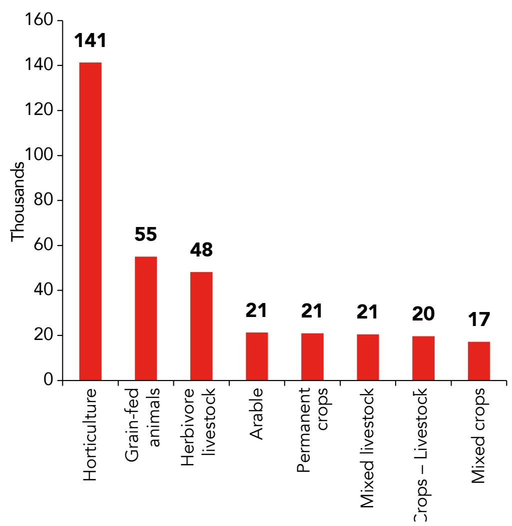
Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

Fig. 12.1.4 - % distribution of agricultural businesses according to specialisation. EU-28 – Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

Fig. 12.1.5 – Average standard gross revenue (thousands of euro) according to agricultural specialisation. EU-28 – Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on Eurostat data

12.2 Veneto Agriculture: between Confirmation and Innovation

Examining now in more detail our region's agriculture, we continue to use data from the sample survey of the structure and production of agricultural businesses updated as of 2013.

There was confirmation of the trend, now seen for several years both in Veneto and in Italy, of continuous reduction in the number of businesses and the substantial stability in the area of land devoted to farming. As compared to the 2010 Agriculture Census, Veneto farms have decreased in number by 6.9%, though to a lesser degree than the national reduction of 9.2%. However, the SAU (agricultural land area) in Veneto goes against this trend, remaining essentially the same as during the previous 3-year period (+0.2%), the only region in Italy in which this occurs, whilst on a national level, a decrease of 3.3% is recorded.

Further reduction in agricultural businesses and cultivated land in Italy

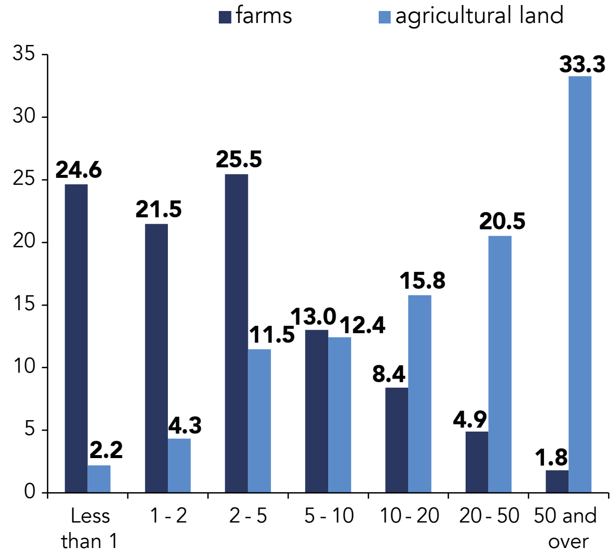
Further reduction in agricultural businesses and cultivated land in Italy

As a consequence of this, there is an increase in average agricultural land area per farm, which reaches 7.3 hectares in Veneto, whilst the national average is 8.4 hectares.

Southern Italian regions and the islands make up the largest numbers of farms and the largest areas of land devoted to farming: Puglia, Sicily, Calabria, and Campania are home to almost half of the Italian agricultural businesses, whilst Sicily, Puglia and Sardinia hold one third of agricultural land. These are also some of the regions that suffered the greatest losses of land and businesses: Campania lost 15.3% of its farms, Sardinia 14.6%, to which are added Molise (-17.1%) and Liguria (-18.5%). Molise is also the region with the highest negative variation in agricultural land area in Italy (-10.6%), followed by Umbria (-6.5%) and Tuscany (- 6.3%).

The business profile in Veneto is confirmed as almost identical to that of the last Census: the vast majority of farms (71.6%) have fewer than 5 hectares of agricultural land, yet they hold less than 18% of the agricultural land of the region. On the other hand, 6.7% of farms of over 20 hectares possess 53.8% of cultivated land. In addition, over the past 3 years, there has been an increase in the area of leased agricultural land and a fall in that of common land, with the majority of agricultural land (58.4%) under ownership.

Fig. 12.2.1 - % distribution of farms and agricultural land according to land category (hectares). Veneto – Year 2013



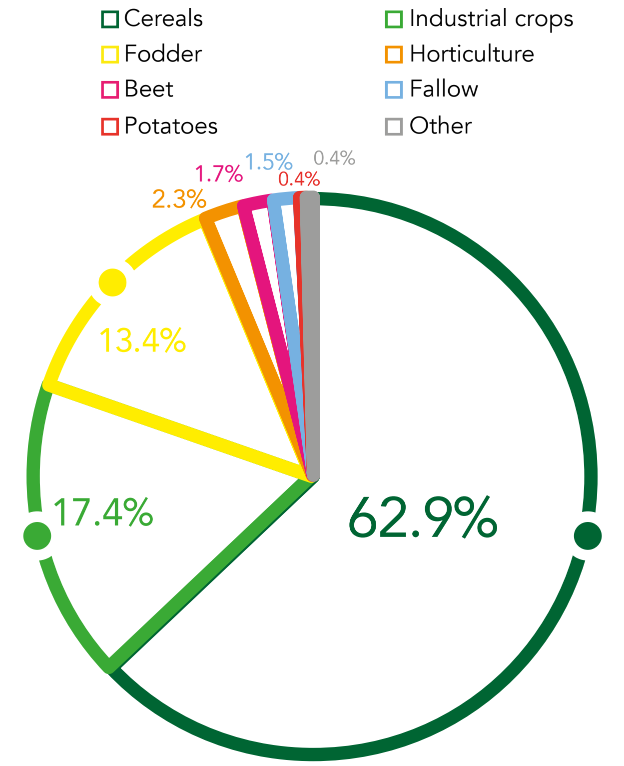
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

The amount of agricultural land devoted to organic farming has also increased (+15.2%), as well as the businesses that farm organically (+16.3%): today, the number of hectares devoted to organic farming reaches almost 12,000 for our region and there are more than 1,200 farms.

More land devoted to organic farming

Our specialisation is arable farming: a good 68% of land is devoted to this category and cereals are the biggest type of crop, with corn leading the way, thanks to over 214,000 hectares devoted to this crop, making up almost 40% of arable land. In terms of fruit farming, over 120,000 hectares are monopolised by vineyards, covering 3 parts of land in every 4, with an increase in over 13 percentage points as compared to 2010.
There was a further decrease in livestock farming, after the already significant decline between 2000 and 2010, with a recorded number of farms below 15,000, confirming cattle as the leading category, with 65.2% of the farms surveyed, followed by poultry farming (21.8%).
In Veneto, in the past three years, the number of farm labourers has stayed relatively stable and stands at
258.000 units (-0.2%), going against the national trend, which saw a decrease in line with the fall in number of businesses (-8.1%). Veneto farms confirm their typical family nature, insofar as 3 workers out of every 4 belong the family of the owner, despite the fact that this category of worker has decreased in number (- 6.9%) as compared to other types of labourer, which have increased significantly (+28.5%). The number of days worked by both types of labourer has increased, by 7.5% for family members and by 24.5% for others.

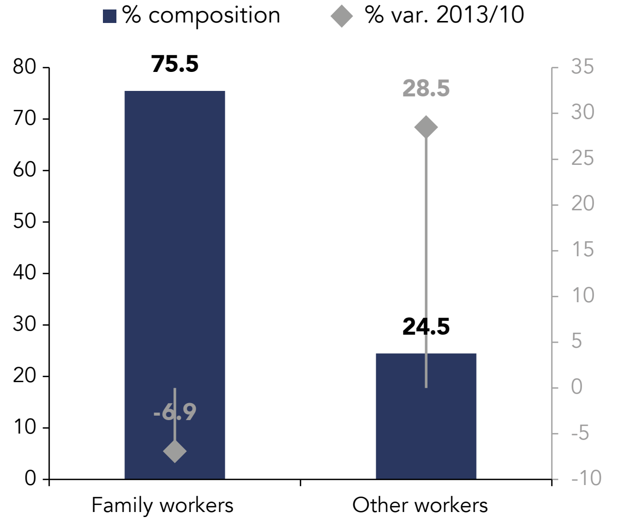
Fig. 12.2.2 - % distribution of crops. Veneto – Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Profitable non-agricultural activities are also increasing substantially: in three years, in our region, there has been a twofold increase in the number of farms that have decided to increase their revenue by providing additional services (65.2%), improving the overall national result of 48.4%. Third party processing remains one of the most popular traditional activities, followed by agri-tourism. There is a notable increase in the number of farms that process their own produce, both vegetable and animal, but the real boom, on both a regional and national level, is in the production of renewable energy: +602.8% in Italy and +373.8% in the North East.

Fig. 12.2.3 - % composition and % variation as compared to 2010 of people who work in agricultural businesses according to type of labour. Veneto – Year 2013



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

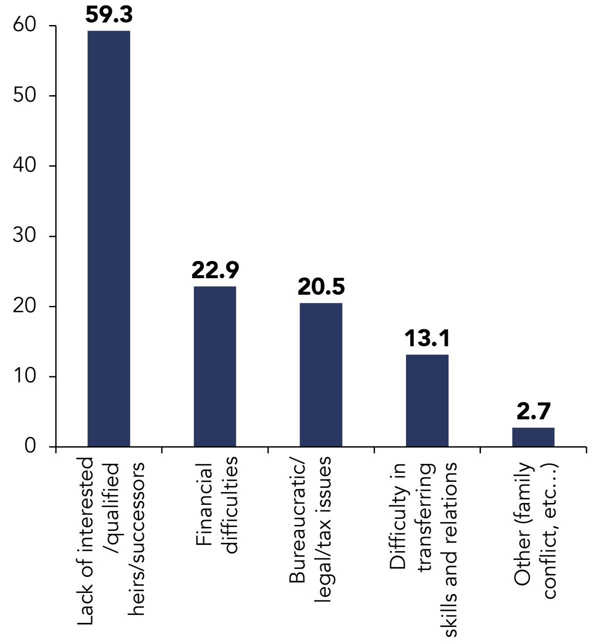
As already highlighted as part of the 6th Agriculture Census, Veneto displays an urgent demand for generational change in the top management of agricultural businesses, given that the average age of the leading figures in farming in 2010 was over 60 years and the proportion of young people under 40 was below 7%.

Almost half of heads of agricultural businesses in Veneto want to involve younger generations of their families in farm management

In 2013, for the first time, in the inter-census sample survey questionnaire, a section was included on generational change within the family of the head of the business and on the inclination to invest in the business. The aim was to understand in a more organic fashion from whom the farms and land had been taken over and whether it was foreseen to pass the farm management on to second generations in the future and any problems that may be an obstacle to doing so.

The vast majority (71.6%) of farms had been taken over by a direct family member or relative and thus ownership had stayed within the original family. 9.2% declared having taken over from third parties. For the remaining 14.8%, ownership had not been taken over from others; in which case, the business is presumably newly founded. Just under half of heads of agricultural businesses (45.6%) declared they wanted to involve their own family in passing on the business to younger generations in the future. Of those who declared the existence of factors inhibiting the handing down of the business, the majority (59.3%) declared the main reason to the lack of interested or qualified successors or heirs, followed by financial difficulties (22.9%) and thirdly problems relating to bureaucratic, legal or tax issues (20.5%).

Fig. 12.2.4 - % distribution of factors inhibiting the handing down of business ownership. Veneto – Year 2013



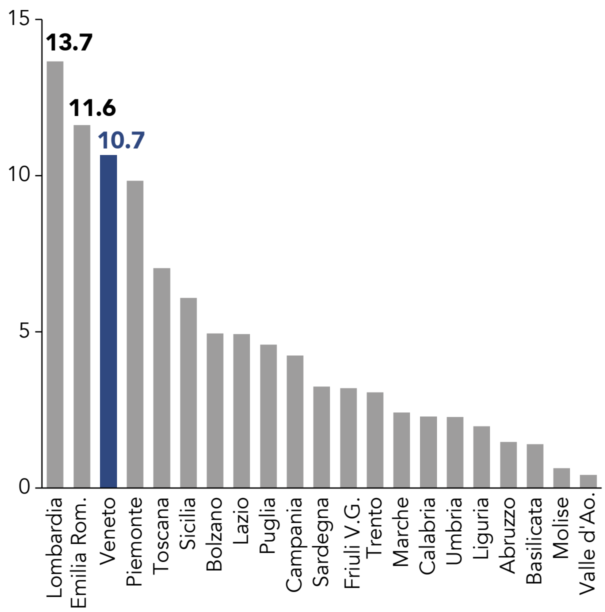
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Finally, examination was made of the inclination to invest in the near future: a good 60% declared to have no intention of making investments in the next 3 years, 17.2% expressed no definite opinion on the matter, 12.6% would only invest in view of public funding and only 6.5% believed themselves capable of investing even without subsidies.

Computerisation and Agriculture: where are we now?

We live in an age in which computerisation is of primary importance, across the board in all areas of daily life. Information, money, ideas all travel through the fibres and chips of our electronic devices at increasing speed and immediacy. Agricultural businesses can also benefit from this global phenomenon; at the end of the day, we will see that it is precisely those businesses that equip themselves in this direction that will achieve greater profitability and will be geared towards greater multifunctionality: the agricultural business of the future will successfully manage its activity digitally, will undertake a lot of administrative and bureaucratic activities via the internet, will make itself known via a business website, through which it will also be able to sell its products and services.

Fig. 12.2.5 - % distribution of computerised farms per region. Italy – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

There are almost 61,000 computerised agricultural businesses in Italy, 3.8% of the total number. As well as not yet having a particularly high rate of incidence, the phenomenon is concentrated very regionally, inasmuch as the top five regions in Italy are home to over half of computerised farms, of which 11% are in Veneto, in third place behind Lombardy (13.7%) and Emilia Romagna (11.6%).

Veneto in third place among Italian regions for number of computerised farms

In terms of our region, among computerised agricultural businesses, which represent 5.4% of all farms, it is possible to examine in further detail the main uses of IT equipment and their most significant features.

Three farms out of four use IT to manage business administration (accounting, wages), 37.8% use it to manage crop farming and 26.3% to manage livestock rearing. Among computerised farms, 20% use the internet as part of their activities and 43.1% of these have their own website; in addition, 11% use e- commerce for the sale of goods or services and 16% make purchases via the internet.

The head of computerised farms is younger than average, at 49 years against the overall average of 61; he/she manages a larger than average business, with an average of 29 hectares of agricultural land – four times the regional average, and produces annual revenue[3] six times the average, at over €300,000. This last aspect is definitely attributable to the fact that specialisations[4] with the highest revenue are also those which are most inclined towards computerisation: 32.6% of farms with grain-fed animals are computerised, and the same is true for 27.2% of horticultural businesses and 14.9% of mixed livestock farms, which produce on average revenues of €1.4 million, €359,000 and €784,000 respectively.

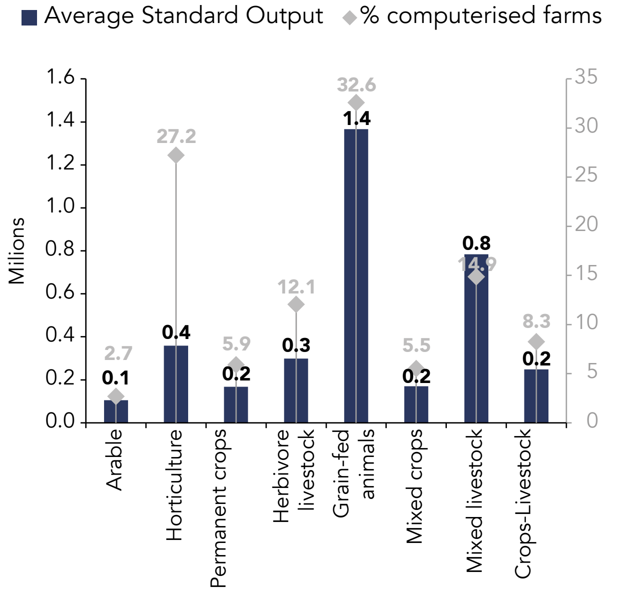
In order to identify the factors underlying the variability of agricultural business characteristics, multivariate statistical analysis[5] was undertaken on a series of variables selected according to the criteria of interest.

[3] Calculated by means of Standard Output, the monetary value of production, which includes sales, re-use, self- consumption and changes to product stock, at farm-gate prices (to this general rule, prices are considered without transport and marketing costs; exceptions are made only for products for which sale is impossible without packaging, in which case the price considered is that of the packaged product)

[4] Identified by means of the OTE (type of farming and economic size), which is determined using the percentage impact of standard production of the different production activities of the business, as compared to its total standard production.

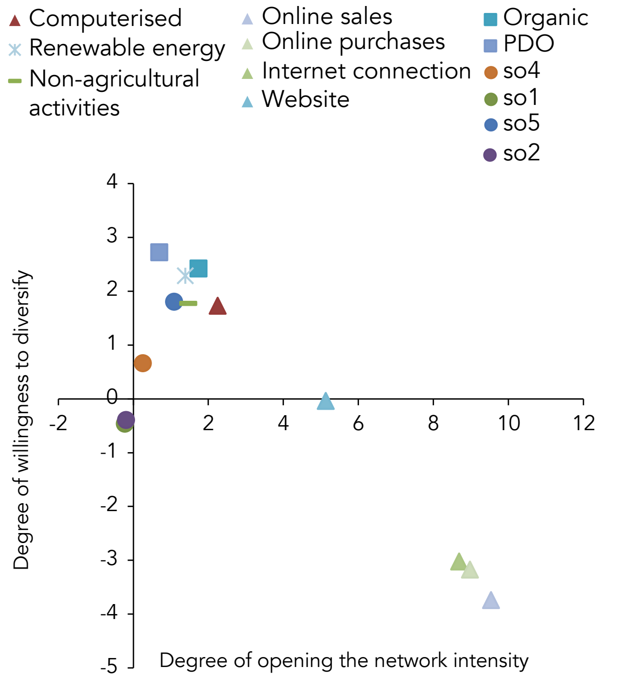
[5] Analysis of functions

Fig. 12.2.6 – Average Standard Output (millions of euro) of computerised farms and computerised farms as % of the total per specialisation. Veneto – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Fig. 12.2.7 – Distribution of categories of interest along the two factors. Veneto – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Two factors emerged and, thanks to the scores obtained by each category applied, it was possible to identify them semantically as "degree of openness towards the internet" and "degree of inclination towards diversification".

The categories that most influenced the first factor are, naturally, those related to possession of an internet connection and to the use made of it: the category that has the greatest influence is selling own products or services online, followed by making purchases via the internet and, finally, possessing a website. At the very top end of this range, we find the most advanced businesses in terms of IT: the pioneers that will shape the image of the agricultural business of the near future; this handful of farms is distinguished by a large average area of agricultural land (28.7 hectares), Standard Output per capita of over €280,000 and a head of business with an average age of 49 years. These farms tend to specialise in horticulture with non- agricultural activities in tourism or social services (agri-tourism, educational farm, social activities).

Computerised farms are younger, larger and more profitable

The categories that most influence the second factor are those corresponding to having been capable of diversifying agricultural activities, such as producing PDO or PGI products, converting to organic farming, possessing renewable energy plants and devoting themselves to different, profitable non-agricultural activities. The main features of these businesses are much higher than average revenue, standard output of over €100,000, a younger than regional average (54 years) head of business, an average of over 18 hectares of agricultural land, significant tendency towards computerisation but not towards internet connection. In this group of agricultural businesses, the tendency towards animal specialisation is very clear; indeed, we find those specialised in both grain-fed animals (poultry, pigs) and herbivore livestock (cattle, sheep, goats) and the most popular profitable non-agricultural activities are the provision of livestock rearing services and the processing of animal products.

On the other side of both factors, we find the ageold farms that form the hard core of Veneto agriculture; those that have no openness to the internet or inclination towards multifunctionality. These are mostly specialised in arable farming, with a head of business of over 65 years and with low or no academic qualification, with no diversification and with annual turnover of less than €8,000. This group is also the best represented, insofar as it hold over half of Veneto farms, but it is also destined to lose pace gradually to more innovative and dynamic businesses, with a tendency towards diversification, providing a vast range of services, including via internet.

Professional Communities in Agriculture

The primary sector is no long a "traditional" economic sector, generator of goods (agricultural, forestry, agri-food) and more recently services (tourism, culture, land protection, education, welfare, etc.). The primary sector today is a combination of economic, social and territorial relationships and, in certain aspects, "lifestyles" and takes on, today far more than yesterday, processes that are first-and-foremost to do with socio-economic connection, a fusion of languages and openness to innovation. All this is developed within the relations between business and public administration, between enterprises in the business networks, in the human capital growth processes, in consumer relations and in relationships with society as a whole. All these aspects belong to the paradigm of the digital network, and therefore it is clear that the instruments and places of digital sharing must involve the different agricultural operators and, in particular, those who operate in the agricultural knowledge system (experts, trainers, consultants, researchers, etc.). One example is a range of group experiences in "Professional Communities", i.e. groups of professionals, researchers, managers of public and private bodies interested in specific subject areas, who come together in a virtual place in order to be continuously informed, to discuss and develop their knowledge. Supported by the e-learning portal of the Veneto Region (elearning.regione.veneto.it), Veneto Agriculture founded over time six Communities on the following subjects: Cross-compliance, Safety in the Workplace, Rural Development (diversification, rural tourism), Innovation and Competitiveness, Bioenergy and Apiculture.
There are over 1,700 registered users. The majority are individuals who have participated in courses or seminars on these subjects. In fact, the Community is the natural outlet for an educational or formative pathway, offering the user the opportunity not only to continue to be informed on the subject matter, but, above all, to be able to stay in contact with other course participants and teachers. Furthermore, by bringing together individuals who have undertaken specific, common training, the community is made up of "equals", that is to say people who have a similar knowledge base and use the same language, avoiding the creation of spurious groupings. The Community is not a newsletter, but is a permanently open, multidirectional area of communication, i.e. able to keep the different operators connected. A Professional Community is not a website to be visited once in a while in search of something new, but is a place enriched by the experiences shared by each participant. Therefore, the central instrument in the community is the forum, a place of discussion and debate, with the possibility of posting documents of interest. It is a professional forum, not a generalist social network.
The six Communities have different degrees of participation. As is to be expected in these groups, alongside a smaller group of particularly active individuals, the majority is made up of more or less attentive "spectators", who follow but do not intervene in discussions. However, the periodic, 6-monthly monitoring records significant rates of participation of between 35% and 51% (percentage of those registered with the community who have logged in at least once in the previous six months), depending on the community examined, with numbers of posts varying between 10 and 100 on average, every six months.
The experience of the approved Professional Communities received support in measures 111 and 331 (knowledge transfer) of the Rural Development Programme 2007-2013 and has been registered by the European Commission among the best-practices of the system of knowledge transfer in agriculture (RDP Projects Database, 2012).

Social Farming

The agriculture sector is increasingly going beyond the function of producing food products, extending its activities to other, very different areas, which require complementary skills and expertise. There has been much discussion of the multifunctional agricultural business, first officially created in 2001, with the first law of regulation that opened up the way for numerous alternative activities, in any case related to crop- growing or livestock farming: from agri-tourism to direct selling, educational farms and environmental maintenance. Social farming finds its place within this context of multifunctionality, broadening yet further the role of the primary sector based on the demands of civil society and establi-

shing connections with other sectors in the region with a view towards mutual utility. For several years now, there has been a multiplicity of experiences that, although not ascribable to a single model, have the shared characteristic of integrating social/health care, educational, training, work placement and recreational initiatives as part of agricultural activities, targeting in particular the disadvantaged or those at risk of social exclusion.
Therefore, social farming represents a possible answer to the growing needs of the population in terms of the provision of social/health and social/occupational services, offering forms of social innovation often associated with experiences of economic and environmental innovation.
There are various types of social farming activities:
- work placement for people suffering temporary or permanent difficulties (psychological or physical handicap, psychiatric problems, addiction to alcohol or drugs, incarceration, etc.) on farms or with agricultural social cooperatives;
- training for individuals with poor employment prospects, with the objective of achieving work placement;
- provision of joint therapy activities, in collaboration with the social/health services, for people in temporary or permanent difficulty;
- provision of services for children (rural nursery, recreational activities, school camps, summer camps, etc.) and the elderly (recreational activities, social vegetable gardening, meal services, care, etc.).

These activities are designed and managed by different entities, by partnership agreements made on a local level that respond to specific requirements, combining available skills and expertise at much lower costs as compared to the standard social/health services provided by public services.
The first social farming experiences data back to the late 1970s, going on to multiply, especially in regions such as Sicily, Tuscany, Lombardy and Lazio. There is also a significant presence in Veneto: based on a survey published in 2014 by the INEA (National Institute of Agrarian Economy), our region is home to 21 social farming entities, divided among agricultural enterprises, associations, social farming cooperatives and prisons, out of a total of 396 dedicated establishments on a national level, which provide work for around 4,000 employees and produce a turnover of €200 million, according to Agricultural Ministry estimates.
On a European level, the most significant social farming experiences have been developed in The Netherlands and in Germany and have achieved important recognition with the issue of the own-initiative opinion 2013/C 44/07 "Social farming: green therapy and social and health policies" expressed by the European Economic and Social Committee.
Social farming was included for the first time in the 2007-2013 Rural Development Programmes of individual regions, mainly in relation to Axis 3 "Quality of life in rural areas and diversification of the rural economy." In Veneto, the measures implemented were 311, 321, 331 and 341. The first two, addressing agricultural businesses, involved 106 projects for a total allowed expenditure of around €13.2 million and payment of €5.7 million.
In 2013, Veneto also issued Regional Law No. 14 "Regulations on Social Farming", with the aim of acknowledging, promoting and regulating the areas of activity and operational methods.

Agroforestry

Agroforestry is the combination of agricultural systems involving the cultivation of tree and/or perennial shrub species, associated with arable land and/or pastures, in the same unit of land area. These systems are the most common form of land use in countries in tropical and equatorial regions and are still found in the Mediterranean basin, including Italy, above all in the more marginalised areas less suitable for farming. However, since the 1950s/60s, in countries with intensive farming, such in the EU, agricultural mechanisation and the tendency towards single-crop farming have led to a drastic reduction in agroforestry systems, which were once the norm (e.g. wooded arable farming, wooded pastures, etc.).
In more recent years, there has been a re-evaluation of agroforestry, in view of the fact that the association of trees and crops or livestock on the same land responds to both production and environmental demands.
Hundreds of studies demonstrate that agroforestry, by connecting two different systems, i.e. farming and forestry has numerous advantages:
• overall productivity is superior to that of total equivalent single-crop farming, in certain cases with an estimated increase of 40%;
• diversification of farming production;
• conciliation of food and biomass production;
• less need for input (fertilisers, pesticides, etc.);
• direct (by increasing crop species) and indirect (by increasing the flora and fauna who live in the system) increase in biodiversity;

• improved soil fertility;
• protection of the land from erosion and pollution;
• improved water quality;
• increase of around 2 tonnes/hectare a year in carbon stored in the system, protecting against global warming;
• provision of shade, which reduces global warming (both for crops and animals;
• improved landscape.

These features respond fully to all the objectives of global, European and national policies on sustainable rural development. Therefore, the development of agroforestry systems can contribute to recreating the correct balance between farming and environment, protecting our country's traditions and providing a possible reorganisation of the land, without damaging the income of the farmer. However, it is clear that systems must be developed that enable mechanisation and that are capable of satisfying all the needs of modern and sustainable farming, including in terms of revenue. Indeed, agroforestry does not replace common farming methods, but instead it adds to them and improves them with the aim of producing more and in the most sustainable manner.

On a national level, the RDPs approved by the regions include agroforestry measures (Art. 23, Reg. EU 1305/2013) that are implemented and funded in very different ways. In Veneto, the new RDP envisages a specific measure (Intervention 8.2.1) for the creation of wooded pasture systems and the plantation of wooded arable land, whilst there have been numerous actions underway for some time aimed at transferring knowledge about agroforestry and demonstrating its validity in modern farming systems. In particular, Veneto Agriculture is using its network of pilot demonstration farms to carry out a series of important experiments, often funded by the EU (e.g. LIFE projects).

It is deemed that, on a national level, the time has come to take on the concept of agroforestry in a determined fashion, as much in research and broadcasting of information, as in policies, in order to bring Italy up to speed with the rest of Europe and the world in a sector that will necessarily be called upon to provide a great contribution in terms of sustainable development.

12.3 Agri-food Imports and Exports

Veritable networks of entities are created around food, its production, distribution and consumption, which bring together among themselves the various leading players of the production chain and of consumers in a cohesive effort towards dealing with situations and problems that would be difficult to solve alone.

We are thinking about wine growers' associations, cooperatives, protection consortia, producer organisations, ethical purchasing groups: all phenomena that, in the field of agri-food, on the side of both supply and demand, are seeing significant diffusion and increasingly strong local rooting.

This becomes of fundamental importance in questions in which the strength of the individual is not enough, such as, for example, taking traditional local products beyond national borders, accompanied by the history, culture and work which make them so characteristic, in such a way as to ensure that the end consumer recognises the superiority of quality and is inclined to buy again. And it is not just promotion that channels the energy of the production chain, but also defending company brands, too often targeted by "Italian sounding", i.e. the use of geographical denominations, images and brands that are evocative of Italy in order to promote and market products that have nothing to do with Italy, capable of causing millions of euros of damage to our economy.

Veneto is the leading Italian region for exports in agri-food products

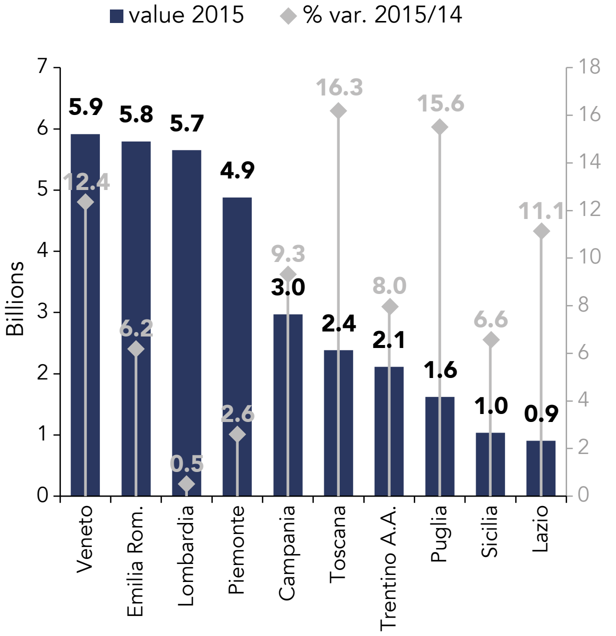
And perhaps it is in this capacity to connect up the different players of the system that is the strength of Veneto agri-food[6], whose products became the most exported in Italy for the first time, for a value of almost €6 billion, representing 16% of the national total.

The historical leading contenders, Emilia-Romagna and Lombardy, have had to settle for second and third places respectively. Together with Piedmont, these four regions represent three fifths of the national total, which, for 2015, was just under €37 billion, with significant growth as compared to the previous year, of 7.4 percentage points.

Veneto also imports food products, to the extent that the value is the second highest in Italy, with €6.4 billion, after Lombardy, which imports €9.9 billion of food products and ahead of Emilia-Roma

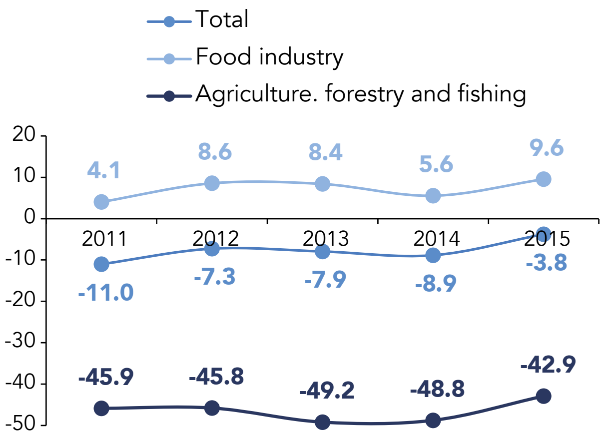
[6] Exports were considered of the two economic groups: "agriculture, forestry and fishing" and "food industry".

Fig. 12.3.1 – Value (billions of euro) of agri-food exports and % var. on the previous year for the top ten regions – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Fig. 12.3.2 – Normalised balance (*) of the commercial trade of agri-food products according to category. Veneto – Years 2011:2015



(*)The normalised balance is given by the percentage ration between the current balance and the sum of exports and imports. Its value varies between -100, in the case of a country being an importer only, and +100, in the case of a country being an exporter only.
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

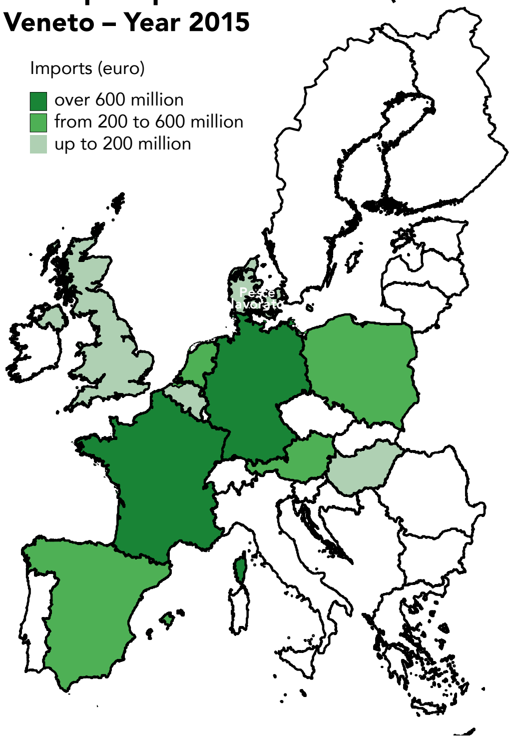
gna. The balance of trade[7] between exported and imported agri-food products is historically marked by a deficit for our region and also on a national level: that is to say that, usually, the value of imports exceeds that of exports, though this is true mainly for agricultural, forestry and fishing goods, whilst the balance for the food industry has been positive for many years.
Analysing in more depth the complex commercial network that ties Veneto to other countries around the world, it is clear that Germany is our biggest partner, in terms of both imports and exports, absorbing around a fifth of flows in both directions.

Imports

The top ten countries from which we import are all European, making up, with Germany, almost three quarters of all our imports: France, Spain, The Netherlands, Austria, Poland, Belgium, Hungary, Denmark and the United Kingdom.
From Germany, Austria and Belgium, Veneto imports mostly dairy products; from Poland, the United Kingdom and The Netherlands, meat-based products; from Spain and Denmark, processed fish; from Hungary, vegetables and cereals; and from France, live animals.
Focusing on the basis of our demand for food products from abroad, we observe that, for processed foods, it is meat-based products that have the highest value for our domestic demand, with over €1.1 billion, almost the same as the previous year (-0.8%), followed by dairy produce (€768 million), a sharp fall as compared to 2014 (-10.5%) and processed fish, which rises in value by almost 13 percentage points to reach €542 million.
Aside from baked products, however, all the food industry products also experienced considerable growth, often above 10%. In the past 5 years, the product that has increased the most in volume, by almost 200%, is the oils and fats category, reaching €300 million in imports in 2015; among all the food industry products, only imports in dairy produce suffered a fall, of -3.0%.
As far as concerns the purely agricultural products, the leading category is vegetables and cereals,

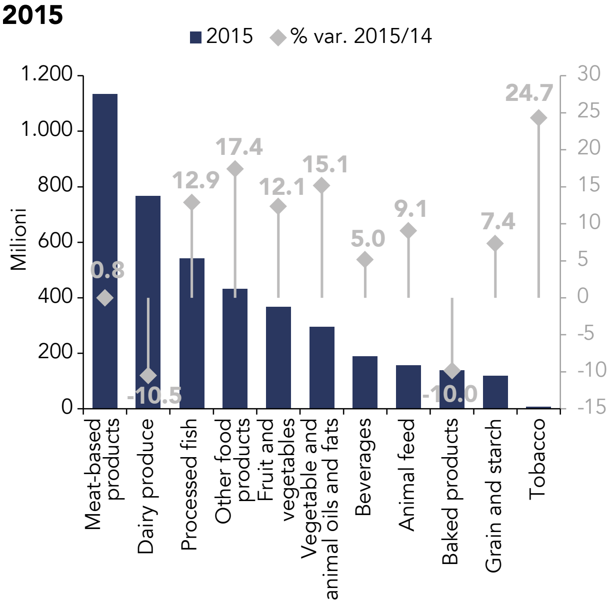
[7] The normalised balance is given by the percentage ration between the current balance and the sum of exports and imports. Its value varies between -100, in the case of a country being an importer only, and +100, in the case of a country being an exporter only; if the balance is equal, however, the normalised balance is 0.

Fig. 12.3.3 – Principal products imported from the top 10 partner countries (millions of euro). Veneto – Year 2015



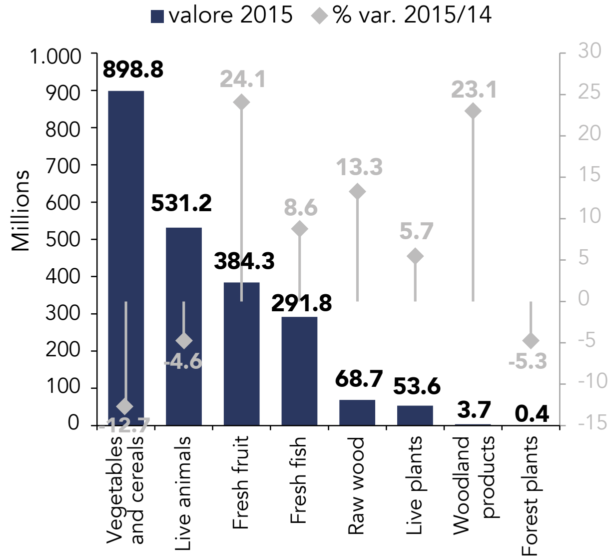
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Fig. 12.3.4 – Value of imports (millions of euro) of Food Industry products according to type and % var. on the previous year. Veneto – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Fig. 12.3.5 – Value of imports (millions of euro) of Agriculture, Forestry and Fishing products according to type and % var. on the previous year. Veneto – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

which, although with a decrease of 12.7% as compared to 2014, still reaches a value of almost €900 million, followed by live animals, which make up for almost half of imports (€531.2 million), again with a decrease (- 4.6%). Fresh fruit, however, grew by 24.1% to reach third place with a value of €384.3 million. All the other agricultural products also increase in value, with the sole exclusion of forest plants. In the past 5 years, fresh fruit imports have grown considerably, increasing by 40.7% in import value since 2011, whilst numerous products have seen decreased in values over the same 5 years: in addition to forest plants (- 29.3%), vegetables and cereals (-8.7%), woodland products (-6.8%) and raw wood (-6.6%).

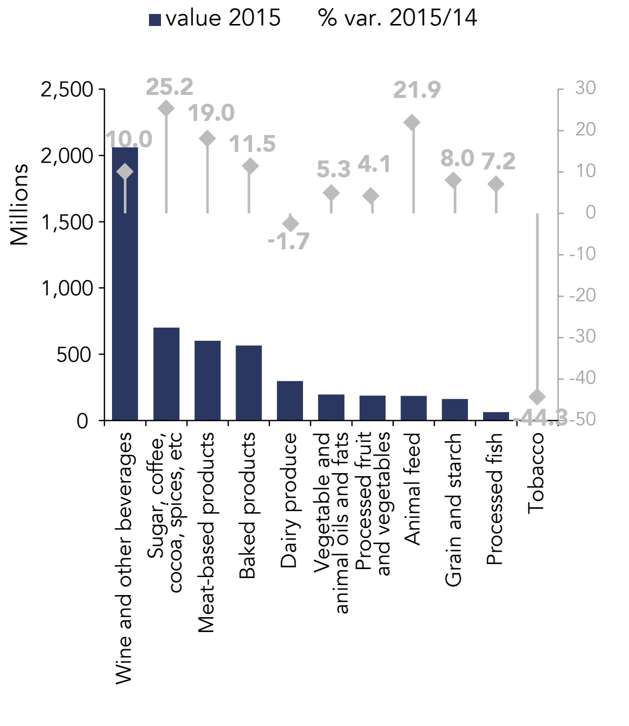
Exports

Among exported products, the category “Wine and other beverages”, which includes, naturally, wine, is the one that brings in the greatest revenue, with over €2 billion, almost 35% of the total agri-food produce exported from Veneto. Over the course of 2015, there was a considerable increase of 10%, as compared to 2014, and more generally, with regard to food industry products, this growth trend was confirmed for all exports, with the sole exclusion of dairy produce, which fell in any case by just -1.7%, and tobacco (-44.3%). In the past five years, the greatest increase has been in exports of oils and fats (+104.8%), which have reached a value of almost €200 million.

No slowdown in the growth in wine exports

On the agricultural front, our best sellers are vegetables and cereals, with €412 million, an increase of over 12 point over the course of the year, followed closely by fresh fruit (€372 million), in which exports have also grown significantly (+21.1%). In third place, we find fresh fish, down by over 5 percentage points over the past two years, reaching a value of €54.7 million. Woodland plants and vegetable products also showed a marked increase. Considering a broader time frame, we can observe significant growth in the values of raw wood, live plants and fruit.

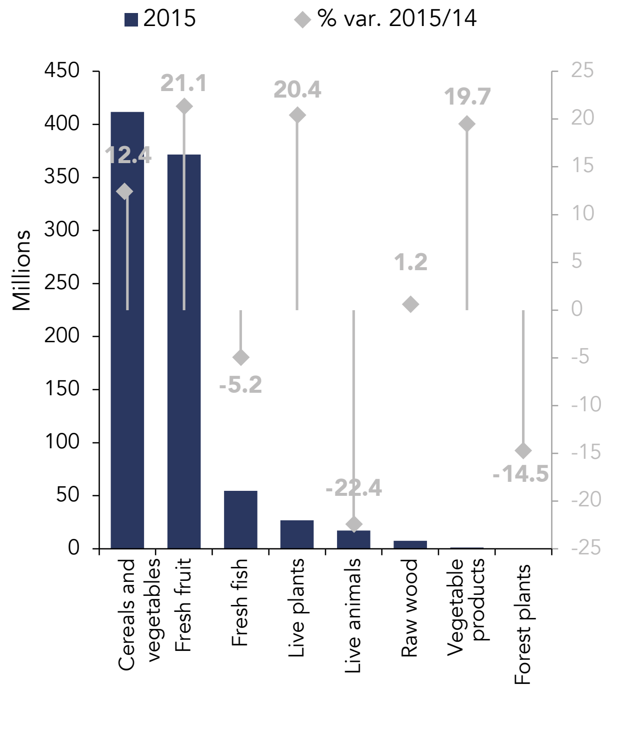
Fig. 12.3.6 – Value of exports (millions of euro) of Food Industry products according to type and % var. on the previous year. Veneto – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

The rankings of our biggest trade partners for exports are headed by Germany, the historical and outright leader with over €1.2 billion and, once again, there was an increase (+8.0%) in 2015 after general stability of 2014, followed by the United Kingdom, with €624 million and with strong growth of 23.1% between 2014 and 2015, and the United States in third place with €468 million, also with a significant increase (+20.9%). During 2015, among our leading partners, exports also grew with peaks of over 20% for Spain, Belgium, Poland and Romania. Further down the rankings, significant growth can be observed for Arab countries: Saudi Arabia (+91.7%), United Arab Emirates (+35.1%) and Tunisia (25.7%). Russia, on the other hand, suffered a dramatic fall between 2014 and 2015, bringing the reduction in purchasing from Veneto down by a further 42%, above all with regard to products subject to embargo.

Fig. 12.3.7 - Value of imports (millions of euro) of Agriculture, Forestry and Fishing products according to type and % var. on the previous year. Veneto – Year 2015

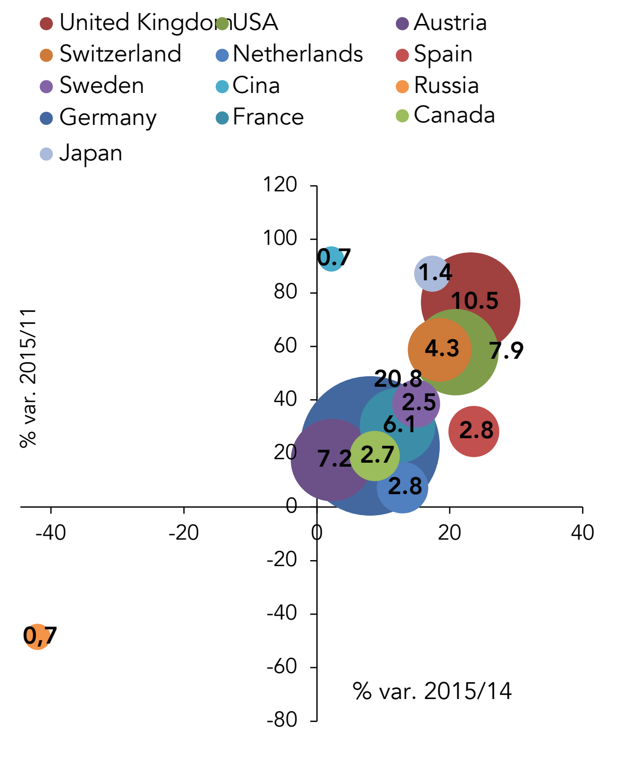


Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Aside from Russia, over the long term, all of our leading trade partners are taking great strides forward: in particular, China, Japan, United Kingdom, United States and Switzerland, with increases well above 50%. Among our top 10 partners, the

preferred products are fairly similar, insofar as, for 7 of these, the category "Wine and other beverages" far outclasses all the others. Only 3 countries (Austria, France and Spain) export the most in "Sugar, coffee, cocoa, and spices".
Thus it is wine, which represents 89% of the category "Wine and other beverages" that, for the umpteenth consecutive year, is confirmed as the overall bestseller, bringing in over €1.8 billion, an increase on the previous year of almost 10 percentage points, crowning Veneto once again the king of wines, followed distantly by Piedmont and by Tuscany, which achieved the best performance among Italian regions in terms of growth, with +18.5%.

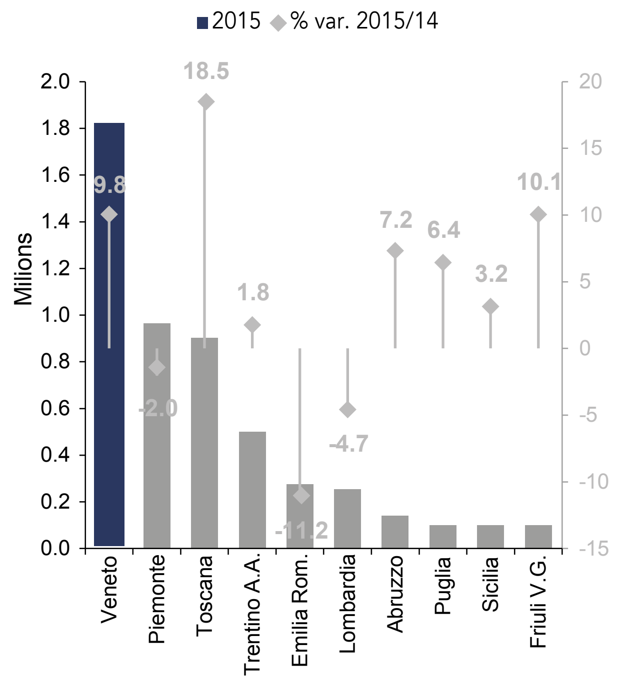
Fig. 12.3.8 - % share of agri-food exports according to leading partner country and % variation on the previous year and over the past 5 years. Veneto – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Growth was also excellent for Friuli (+10.1%), Abruzzo (+7.2%) and Puglia (+6.4%). However, the same cannot be said for Piedmont (-2%), Lombardy (-4.7%) and Emilia-Romagna (-11.2%).
With regard to our region, there is no surprise at yet another year of sensational, double-figure growth in exports in fizzy wines, which increased by 31.4% between 2014 and 2015, representing almost one third of the total value of wine exports. Unbottled wine exports fell again (-7.4%), whilst bottled wine exports increased (+3.2%), an even more determined indication of the direction taken by Veneto towards the export of quality wines.

Fig. 12.3.9 – Wine exports: value (billions of euro) and % var. on the previous year, according to region – Year 2015



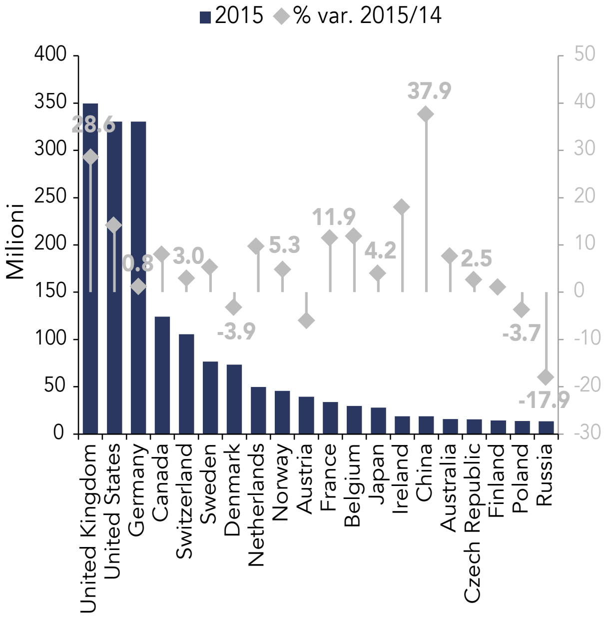
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Stellar success for fizzy wine

Germany loses the top spot of leading trade partner, slipping down to third place, behind the United Kingdom and the United States. Growth in exports to these two countries reached almost 30% for the UK and 14.2% for the US in 2015, whilst these top three countries count for over half of the value of our exports.
Amongst our top 20 partners, growth is also good for China (+37.9%), Ireland (+18%), Belgium (+12.4%) and France (+11.9%), whilst Russia, Austria and Denmark saw decreases of 17.9%, 6.3% and 3.9% respectively. The ambassador for the success of Italian fizzy wine abroad wears Veneto colours, insofar as 56.5% of national exports of this type of

wine come from our region, with incredible growth figures: between 2011 and 2015, exports grew by 160%, with an increase from one year to the next that never fell below 25%, surpassing €500 million for the first time in 2015.
Taking into consideration our leading partners, there was significant growth in almost all exports, with the exclusion of Austria, Denmark and Russia. For certain countries, fizzy wine forms a very large part of the total value of imports from Veneto, or Veneto fizzy wine makes up almost all of imports from Italy: this is particularly the case for the United Kingdom, which, in 2012, became our biggest buyer and not only imports more than 37% of all the fizzy wine that we export around the world, but also 3 out of 4 Italian bottles come from Veneto, without considering the fact that 60% of wine imported from our region belongs to this category of wine. The love story between Veneto fizzy wine and the British grows increasingly intense and exclusive.

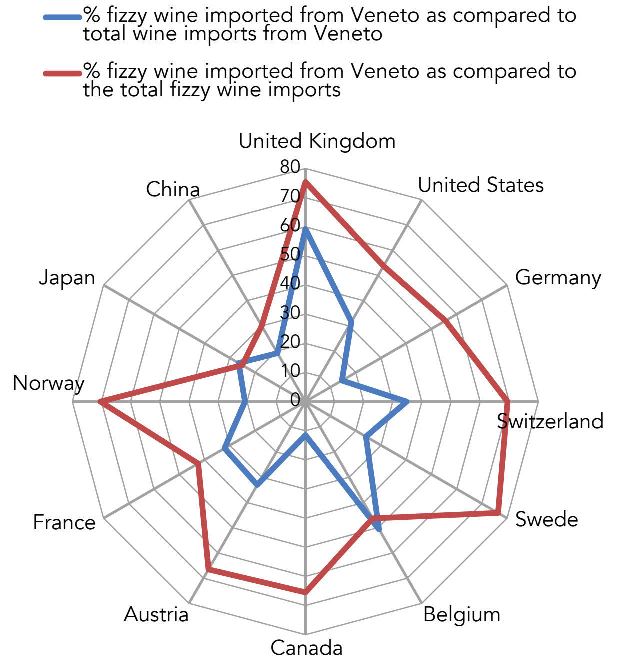
Fig. 12.3.10 – Rankings of the leading wine importers per value (millions of euro) and % var. on the previous year: Veneto – Year 2015



Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Remaining in the UK, there was also a 60% increase in imports of this type of wine between 2014 and 2015, a five-fold increase on the value of 5 years ago. The success doesn't stop there, given that the US, in second place, reported a 32% increase (+158.3% between 2011 and 2015) and increases of over 20% are also recorded for China, Japan, Canada and Sweden, Belgium and France.

Fig. 12.3.11 - % fizzy wine imported from Veneto as compared to the total wine imports from Veneto and to the total imports of fizzy wine from Italy, according to country – Year 2015



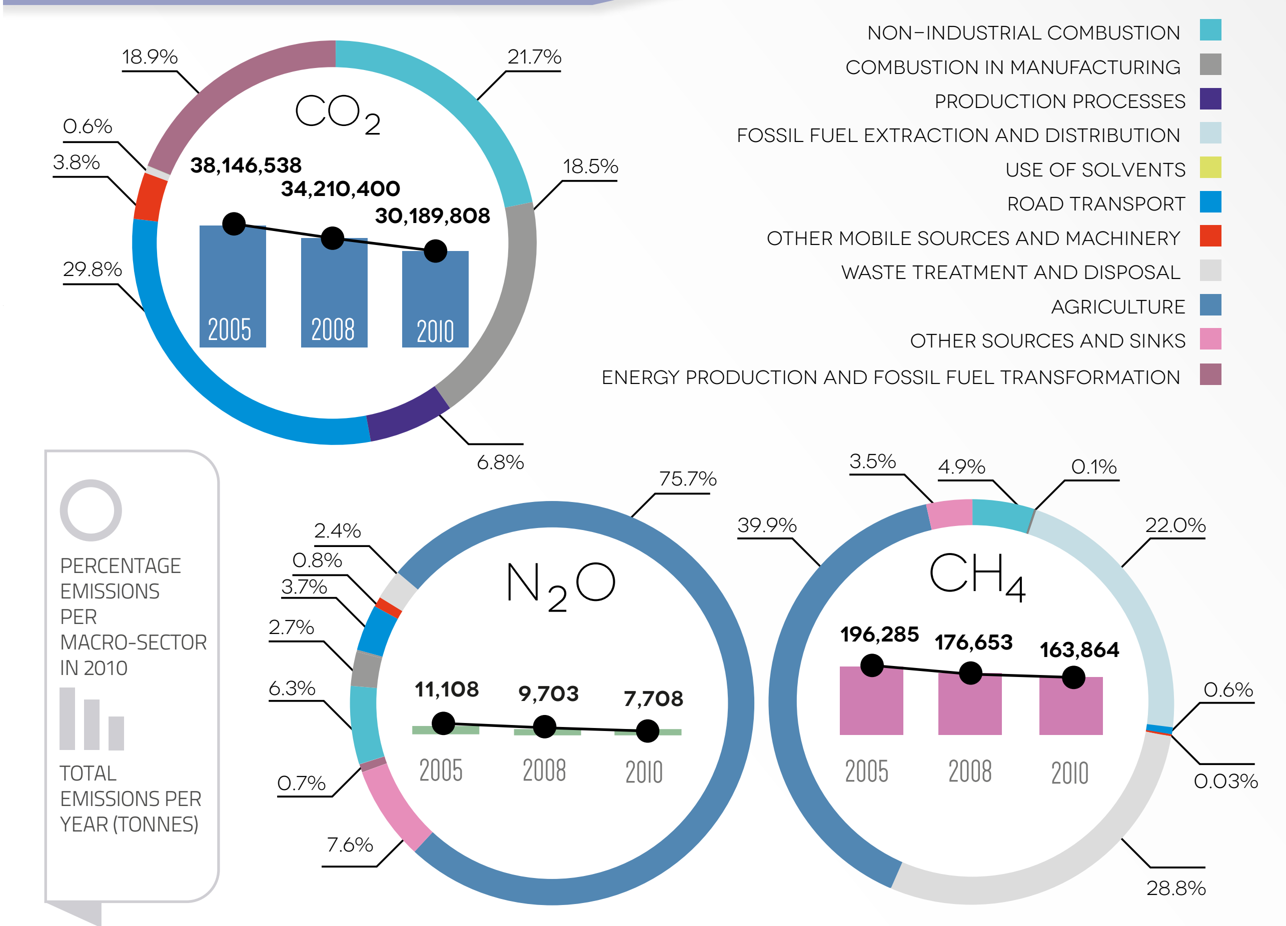
Source: Veneto Region Data Processing, Regional Statistical System Section on ISAT data

Therefore, the most interesting global markets remain the United States, United Kingdom and China, insofar as global consumption of wine has been fixed at around 240 million hectolitres for many years and it is precisely these countries, not featuring among the biggest producers, and thus, looking ahead, needing to increase imports, that set the pace of an increasing trend: among these, we find the United States, which are indeed the biggest consumer of wine in the world, with over 30 million hectolitres drunk in 2015, with growth predictions of 1%; China, which has an estimated consumption for 2015 of 16 million hectolitres, and increase of 3.2%; the United Kingdom, which, with 12.9 million hectolitres during 2015, grew by 2.4%.

Cap.13 - Air in Veneto: from Quality Assessment to Emissions Control

In this chapter, we focus on the so-called greenhouse gases and on suspended particulate matter. Greenhouse gases are present in the atmosphere and have the characteristic of being able to withhold the earth's outgoing infrared radiation in significant quantities, contributing to maintaining a certain temperature, reducing heat dispersion that would otherwise make the air a lot colder. These gases originate in part naturally and in part as a side effect of human activity.
With regard to suspended particulate matter, however, these are composed of solid and liquid atmospheric particles suspended in the air, of different sizes, chemical compositions and origins. Some of these particles are emitted directly as they are from different natural and human sources and are defined as "primary particles", whilst others are derived from a series of chemical and physical reactions that occur in the atmosphere and are called "secondary particles".
The situation concerning the emission of greenhouse gases and particulates in Veneto in the period 2005-2010 improved slightly, although the air pollution situation remains difficult. As well as emissions pure and simple, this situation is also affected by the climate of the area in which the region is located, characterised by poor air exchange and, therefore, air stagnation.

GREENHOUSE GAS EMISSIONS



refore, the prevention and reduction of emissions is important even where recorded concentrations are low, insofar as the pollutants produced in such areas may be contaminating other areas far away.
The pollution of a certain area may also be caused by another important factor: air stagnation, which, especially on valley floors, such as in the Po Valley in Italy, leads to the accumulation of pollutants caused by strong thermal inversions in the winter months, in particular during periods of high pressure and low rainfall. It is clear, therefore, that meteorological conditions assume an important role in the study of air pollution.
On a local level, the problem concerns urban pollution, caused by heating in buildings, road traffic and industrial and energy plants. Indeed, towns and cities are the places in which we find the highest concentrations of sources of environmental imbalance, which directly affects the health of residents.
In this chapter, we focus on the so-called greenhouse gases and on suspended particulate matter (SPM). Greenhouse gases are present in the atmosphere, transparent to solar radiation entering the Earth's atmosphere, but capable of withholding significant quantities of outgoing infrared radiation. Thus, greenhouse gases contribute to maintaining a certain temperature on Earth, reducing heat dispersion, which otherwise would make it much colder, by creating, in fact, a greenhouse effect. These gases originate in part naturally and in part as a side effect of human activity. With regard to suspended particulate matter, however, these are composed of solid and liquid atmospheric particles suspended in the air, of different sizes, chemical compositions and origins. Some of these particles are emitted directly as they are from different natural and human sources and are defined as "primary particles", whilst others are derived from a series of chemical and physical reactions that occur in the atmosphere and are called "secondary particles".

13.1 Greenhouse Gases

In this sub-chapter, we focus on greenhouse gases, which, as mentioned earlier, are mostly naturally present in the atmosphere and, to a lesser degree, are created by human activity.
The impact of a gas on the greenhouse effect is derived from multiple factors: its radiative forcing, its concentration and the time it spends in the atmosphere.

IThe Global Warming Potential of a greenhouse gas

In particular, the Global Warming Potential (GWP) represents the combined effect of the time spent in the atmosphere of each gas and the relative specific effectiveness in absorbing infrared radiation emitted by the Earth. Therefore, GWP is a measure of how much a greenhouse gas contributes to global warming in relation to CO_2. GWPs are calculated by the Intergovernmental Panel on Climate Change (IPCC) and are used as conversion factors for calculating the emissions of all the greenhouse gases in CO_2 equivalents. The most important greenhouse gases present in the atmosphere are water vapour (H^2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH^4) and sulphur hexafluoride (SF^6). As well as these, there are others that originate exclusively from human activity and which form part of the halocarbon category, i.e. containing chlorine or fluorine and whose emissions are regulated by Montreal Protocol, an international treaty signed on 16 September 1987, entering into force on 1 January 1989 and reviewed subsequently on the occasion of the Conference of the Parties in London in 1990, in Copenhagen in 1992, in Vienna in 1995, again in Montreal in 1997 and in Beijing in 1999. These gases are produced in much lower quantities than CO_2, CH4 and N_2O and have much lower atmospheric concentrations; however, they can have much longer lifetimes and much higher radiative forcing, between 3,000 and 13,000 times that of CO_2.
Considering all of the above, it is clear how the GWP of a gas, together with its atmospheric concentration, determines its contribution to the greenhouse effect. Therefore, it can be understood how the various gases that make up the atmosphere don't all contribute to creating the greenhouse effect in the same way: for example, molecules such as nitrogen (N_2) or oxygen (O_2), despite forming 98% of our atmosphere, are not capable of absorbing much radiation. The gases responsible for the greenhouse effect are those equipped with an asymmetric molecular structure, such as methane (CH^4), ozone (O_2), water vapour (H_2O), nitrous oxide (N_2O) and fluorinated gases.
An aside must be made for carbon dioxide (CO^2), which, despite not having a high GWP, is however present in the atmosphere in much higher concen-

trations that other gases that perhaps have significantly higher GWPs and, for this reason, it is considered one of the main causes of the greenhouse effect. It interacts with the atmosphere through both natural absorption and emission processes and processes determined by human activity. In reality, the latter are much more limited in quantity than natural processes but, all the same, prove sufficient to alter the balance of the whole system. As a result of this alteration, CO_2 tends to accumulate in the atmosphere, due to the fact that the absorption processes by the oceans are unable to compensate fully for the inflow of carbon (C). The main causes of emissions due to human activity are the use of energy from fossil fuels, i.e. petroleum, carbon and natural gas, which tend to increase the concentrations of CO_2, as well as deforestation and the changes in use of agricultural land, which, at the same time, tends to reduce the planet's absorption capacity.

Methane (CH_4) is produced by the anaerobic decomposition of organic material and is currently deemed responsible for around 8% of the greenhouse effect. Its heat retention capacity is over 20 times that of carbon dioxide. Its average atmospheric concentration is increasing at an estimated rate of between 1.1% and 1.4%. The main sources of methane are marshlands, paddy fields, the fermentation of organic fertiliser, biomass combustion, the production and distribution of natural gas, carbon extraction and termites. In terms of the most recent trends, there has been an increase in emissions of methane from landfills and from the energy sector and, at the same time, a reduction in emissions from the agricultural sector.

Finally, nitrous oxide (N_2O) has a fairly low atmospheric concentration of around 1,000 times less than CO_2, however it is over 300 times more powerful in retaining heat. Despite being present in limited quantities, there has been an increase in nitrous oxide over the past few decades, going from 275 parts per billion (ppb) in the pre-industrial period to 312 ppb at the end of the last century. The majority of nitrous oxide in the atmosphere is derived from microbiological processes. In land and water, the leading sources of N_2O emissions are nitrification and denitrification.

In Italy, as far as reducing greenhouse gas emissions is concerned, the implementing provisions of the EC Directive relating to the EU Emissions Trading System are in force: Law No. 316 of 30/12/2004 (implementation of Directive 2003/87/CE) and Legislative Decree No. 30/2013 (implementation of Directive 2009/29/CE).

In light of that revealed up to now, it emerges that control over greenhouse gases is particularly important in order to render air quality restoration policies coherent with policies on tackling climate change. This sub-chapter focuses on the greenhouse gas emissions estimates in Veneto according to productive sector. It focuses on three greenhouse gases in particular: CO_2, CH_4 and N_2O.

INEMAR, the regional atmospheric emissions inventory

Emissions estimates for the main greenhouse gases (CH_4, CO_2, N_2O) in reference to the Veneto region are extrapolated by the regional atmospheric emissions inventory, hereinafter "INEMAR Veneto", managed by the Regional Agency for Environmental Prevention and Protection in Veneto (ARPA Veneto), commissioned by the Regional Administration.

The inventory is one of the cognitive support tools for the management of air quality on a regional level, insofar as it gathers together in a single database atmospheric emissions estimates in a defined spatial/temporal unit, grouped together according to activity (e.g. transport, livestock farming, manufacturing), territorial unit (e.g. region, province, municipality) and temporal unit (year, month, hour, etc.), fuel used (petrol, diesel, methane, etc.), pollutant (NOx, CO, etc.) and type of emission (point source, diffuse, etc.).

In Veneto, the IT tool used to fill the regional atmospheric emissions inventory is the INEMAR database (INventario EMissioni ARia; Atmospheric Emissions Inventory). Indeed, the Regional Administration signed an inter-regional agreement for the use and development of the INEMAR database, shared with other Italian regions, in particular those belonging to the BPA (Po-Adriatic Basin), an area of northern Italian territory in which there are frequent occurrences of severe atmospheric pollution, with particular focus on the atmospheric concentrations of fine particulate matter (PM104, PM2.5) in the winter and of ozone (O_3) in the summer.

INEMAR Veneto was initially developed as part of a series of cooperation agreements on the subject of atmospheric pollution, which, starting in 2005, involved the BPA regions, including Veneto. Subsequently, Legislative Decree 155/2010, the decree implementing EC Directive 2008/50/CE, made it compulsory for all Italian regions to draft an atmospheric emissions inventory to be updated periodically every three years and also at the time of the provincial scaling of the national atmospheric emissions inventory managed by the ISPRA, Higher Institute for Environmental Protection and Research, i.e. every five years.

INEMAR, the regional atmospheric emissions inventory

Emissions estimates in the regional inventory are classified according to SNAP97 Activity and the estimates are made in reference to the CORINAIR guidelines, with additional regional studies and surveys, and periodically updated in relation to the available edition of the Emission Inventory Guidebook EMEP/EEA. As well as macro-pollutants of interest in terms of atmospheric pollution problems (TSP, PM_{10}, $PM_{2.5}$, NOx, SO2, CO, VOC, NH3), INEMAR Veneto also includes emissions estimates of the three greenhouse gases: CH_4, CO, CO_2, N_2O for the main SNAP97 activities. In particular, in the latest edition of INEMAR Veneto, which provides an evaluation of the emissions produced in 2010 in the Veneto region, divides the estimates into 210 activities.

The results of greenhouse gas emissions monitoring in Veneto

30 million tonnes of CO2, 164,000 of methane and 7,700 of nitrous oxide were emitted by Veneto in 2010

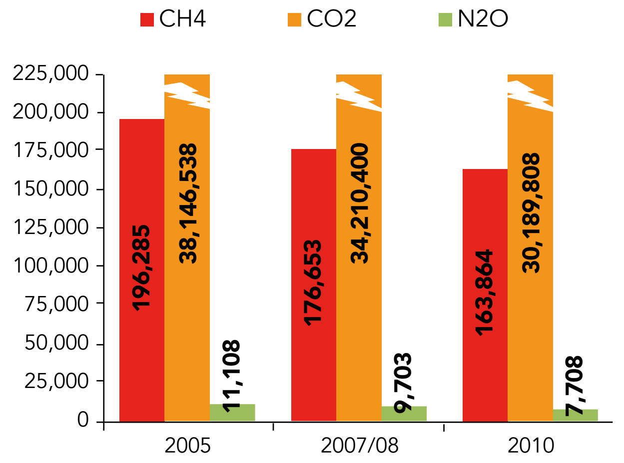
Moving on to the analysis of data gathered in the INEMAR inventory in the three data collection periods, 2005, 2007/08 and 2010, we can see how CO_2 emissions are far greater than those in the other greenhouse gases examined, with over 30 million tonnes in Veneto in 2010, against 164,000 tonnes of methane and 7,700 tonnes of nitrous oxide.
Observing the trend in the greenhouse gases examined over the course of the three years of data

Tab. 13.1.1 - List of SNAP97 activities whose emissions were estimated in the 2010 edition of INEMAR Veneto (*)

Code	Macro-sector	no. of Sectors	no. of Activities
01	Combustion in energy and transformation industries	4	9
02	Non-industrial combustion plants	3	8
03	Combustion in manufacturing industry	2	18
04	Production processes	6	34
05	Extraction & distribution of fossil fuels and geothermal energy	2	3
06	Solvent and other product use	4	24
07	Road transport	5	14
08	Other mobile sources and machinery	9	14
09	Waste treatment and disposal	4	14
10	Agriculture	7	50
11	Other sources and sinks	7	22
Total		**53**	**210**

(*) *Classification according to SNAP97 activity (Selected Nomenclature for Air Pollution) envisaged by the CORINAIR Project (COordination Information AIR) promoted by the European Union an developed by the European Environmental Agency with the objective of gathering data and information on pollutant emissions in EU countries.*

Fig. 13.1.1 – Emissions of CH_4, CO_2, N_2O in Veneto (tonnes/year) – Years 2005, 2007/8 and 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2005, 2007/8 and 2010.

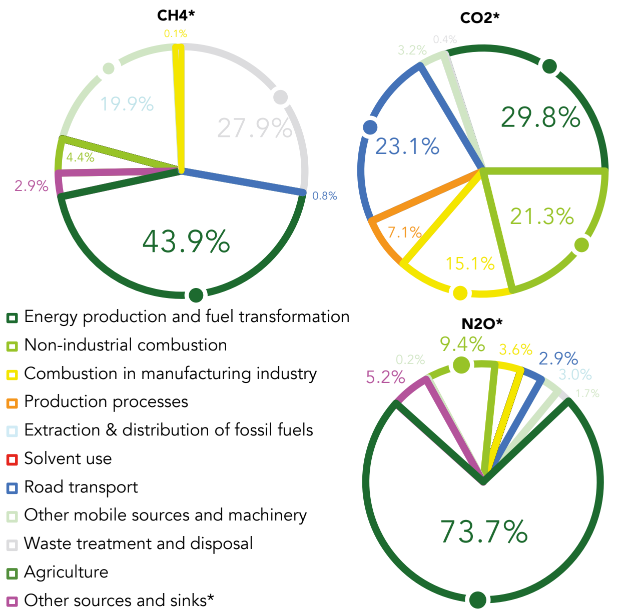
Tab 13.1.2 – Emissions of CH_4, CO_2, N_2O in Veneto (% variations) – Years 2007/8 – 2005, 2010-2007/08

	2007-08/05	2010/2007-08	2010/2005
CH4	-10.0	-7.2	-16.5
CO2	-10.3	-11.8	-20.9
N2O	-12.6	-20.6	-30.6

Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2005, 2007/8 and 2010.

collection, we can see a progressive and encouraging fall in emissions. In particular, methane reduced by 10% from 2005 to 2007/08 and by a further 7.2% from 2007/08 to 2010, with an overall variation from 2005 to 2010 of 16.5%.
Carbon dioxide followed a similar trend to methane in the first two years of data collection, with a reduction of 10.3% from 2005 to 2007/08; however, it then fell more sharply in 2010, by almost 12%, creating a decrease of almost 21% over the entire survey period.
Finally, nitrous oxide also decreased gradually over the years, but with more significant variations as compared to the other two greenhouse gases, with -12.6% and -20.6% from 2005 to 2007/08 and 2007/08 to 2010 respectively. Thanks to this second decrease, the overall reduction in N2O emissions was 30.6% between 2005 and 2010.
From the analysis of the macro-sectors that contribute to greenhouse gas emissions, we can see how the distributions are different for each of the three gases under consideration: for methane, the sector with the highest emissions is agriculture, with values fluctuating from 43.9% to 39.9% in 2005 and 2010 respectively. For nitrous oxide, distribution of emissions remains essentially stable over time, with agriculture the leading sector with percentages always above 73%.

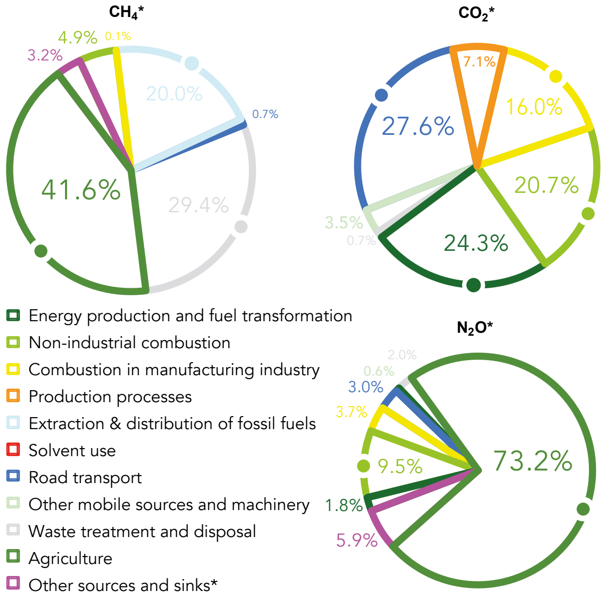
Fig.13.1.2 – Emissions of CH_4, CO_2, N_2O according to SNAP97 macro-sector in Veneto (% values) – Year 2005



(*) The macro-sectors missing in the figure do not present emissions relative to pollution
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2007/08

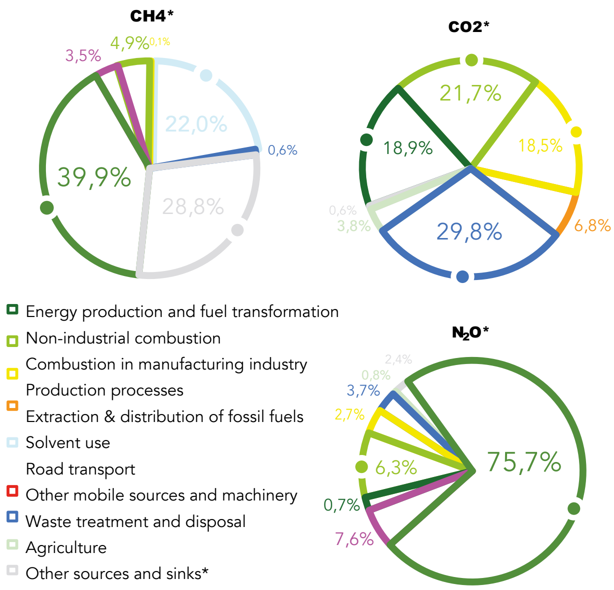
Carbon dioxide is worth a separate mention: in 2005, the leading macro-sector in terms of emissions was the energy production sector, which, however, recorded a significant decrease in the period under examination (indeed, gross production of electricity in Veneto fell by 36.5% between 2005 and 2010). At the same time as the drop in CO_2 emissions in the energy sector, there was a recorded slight increase within the transport sector, and the sum of these two events led to the transport sector overtaking the energy sector, reaching 29.8% of overall CO_2 emissions, as compared to 23.1% in 2005.

Fig. 13.1.3 – Emissions of CH_4, CO_2, N_2O according to SNAP97 macro-sector in Veneto (% values) – Year 2007/08



(*) The macro-sectors missing in the figure do not present emissions relative to pollution
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2007/08

Fig. 13.1.4 – Emissions of CH_4, CO_2, N_2O according to SNAP97 macro-sector in Veneto (% values) – Year 2010



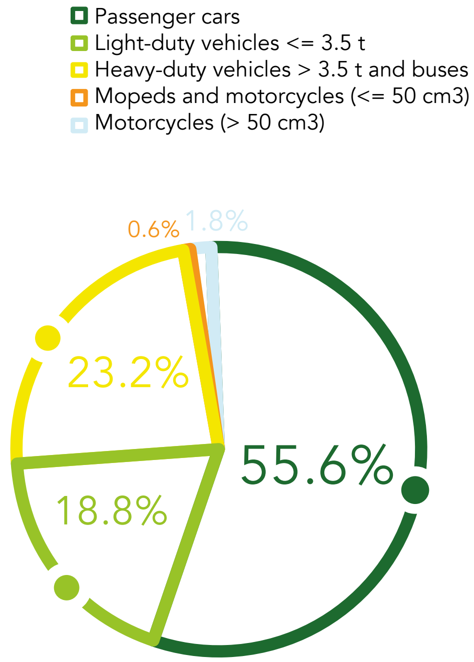
(*) The macro-sectors missing in the figure do not present emissions relative to pollution
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2007/08

Focusing our attention on 2010, it is interesting to analyse the distribution of emissions contributions in relation to the SNAP97 sectors within the macro-sectors identified as being mainly responsible for the greenhouse gas emissions estimates in the Veneto regional inventory.

Transport is the sector with the highest CO_2 emissions…

As far as carbon dioxide is concerned, the macro-sector with the highest emissions was the road transport sector: within this sector, passenger cars are the worst culprits with 56% of emissions, followed by heavy-duty vehicles with 23% and light-duty vehicles with almost 19%.

Fig. 13.1.5 – Road transport macro-sector: CO_2 emissions per sector (thousands of tonnes/year). Veneto – Year 2010

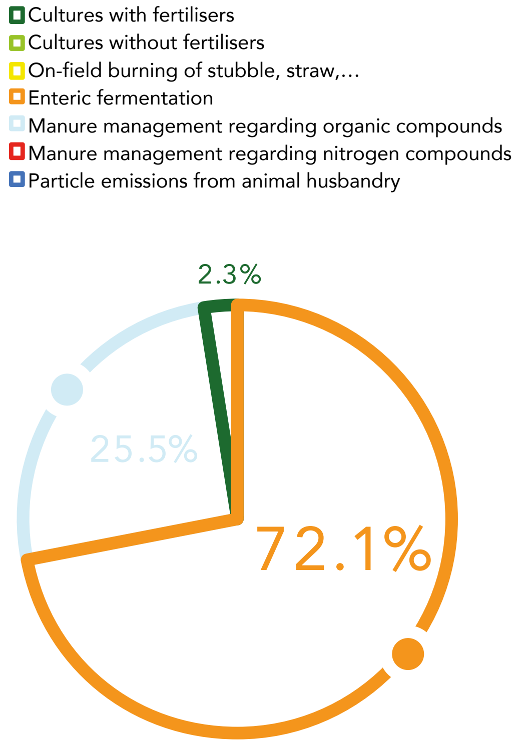


Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

This data is certainly affected more by the high number of passenger cars in circulation than by the pollution caused by individual vehicles, which, thanks to recent technology, have increasingly low average levels of pollution. In this sense, the strategy identified for limiting CO_2 emissions involves, as well as further improvement to engine efficiency, a reduction in traffic thanks to the enhancement of public services, the practice of car-sharing and

car-pooling and the increased use of eco-friendly transport, such as bicycles, in urban centres and whenever possible.
It is to be reminded that the emissions estimates found in INEMAR Veneto for the road transport macro- sector are from ISPRA.

Fig. 13.1.6 – Agriculture macro-sector: CH_4 emissions according to sector* (tonnes/year). Veneto – Year 2010

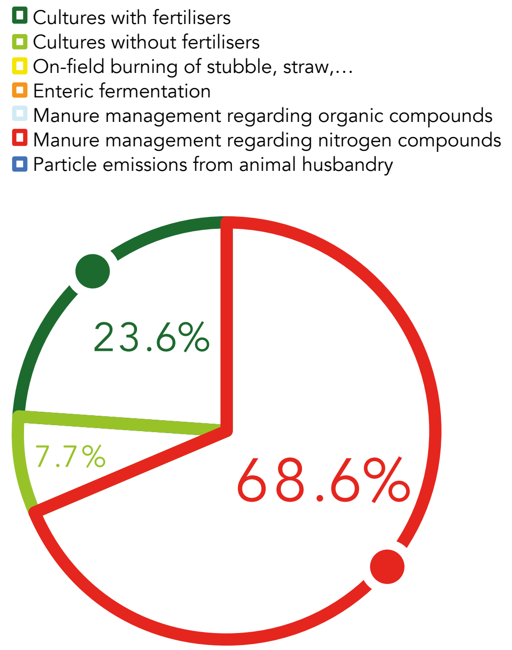


(*) The sectors "cultures without fertilisers", "on-field burning of stubble, straw", "manure management regarding nitrogen compounds and "particle emissions from animal husbandry" present either zero or insignificant levels of CH4 emissions into the atmosphere
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

> ***...and agriculture is the sector with the highest methane and nitrous oxide emissions***

With regard to methane, the macro-sector with the highest overall emissions is agriculture. Within this sector, there are two sub-sectors that, together, produce over 97% of the total methane produced by agriculture: enteric fermentation, with over 72%, and manure management regarding organic compounds, with 25.5%. Agriculture is also the sector with the highest nitrous oxide emissions, although, in contrast to methane, the sub-sector that produces the most nitrous oxide is manure management regarding nitrogen compounds, with almost 70% of overall agricultural emissions, followed by cultures with fertilisers, at around 24%.

Fig. 13.1.7 – Agriculture macro-sector: NO_2 emissions according to sector* (tonnes/year). Veneto – Year 2010



(*) The sectors "on-field burning of stubble, straw", "enteric fermentation", "manure management regarding organic compounds and "particle emissions from animal husbandry" present either zero or insignificant levels of NO_2 emissions into the atmosphere
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

Further to individual analysis of carbon dioxide, methane and nitrous oxide, the three gases can be considered as a group, creating cumulative emissions data using appropriate standardisation coefficients in order to create a single unit of measurement and thus be able to combine the emissions of the three gases in one sum total. These coefficients are conversion factors used to measure the capacity of a certain gas to absorb thermal radiation

over a certain time relative to the absorption by an equal quantity of CO_2 (carbon dioxide is taken as reference, therefore assigned a coefficient of 1). These coefficients are called Global Warming Potential (GWP). As is shown below, methane has a GWP of 21 times that of carbon dioxide, whilst that of nitrous oxide is 310 times that of CO_2.
Based on these GWPs, the capacities of the three greenhouse gases are recalculated and added together to obtain an overview of greenhouse gas emissions in Veneto during the three years of the survey. It is to be pointed out that, despite the high potential of methane and the yet higher potential of nitrous oxide, carbon dioxide is present in such high quantities as to compensate for its lower GWP and result in higher emissions than both of the other two gases.

Overall CO_2 equivalent emissions are decreasing

Overall CO_2 equivalent emissions are decreasing
The trend in overall emissions is gradually falling, thus demonstrating encouraging developments. In addition, as is the case with CO_2, the sector with the strongest impact changed over the three years: in 2005, it was the energy production sector, with over 12.2 million tonnes of emissions a year, whilst, in 2007/08 and in 2010, following a contraction in the energy sector, road transport became the biggest culprit, with 10.2 and 9.8 million tonnes a year respectively.
Focusing on road transport, the macro-sector with the highest CO_2 equivalent emissions in 2010, we find confirmation of that which is also highlighted in the case of carbon dioxide, i.e. the highest emissions are created by passenger cars, which, alone, produce almost 5.5 million tonnes of CO_2 equivalent a year, almost 56% of the whole macro-sector. The second highest greenhouse gas emissions are produced by heavy-duty vehicles (above 3.5 tonnes and buses), which, with 2.3 million tonnes, emit 23.2% of all CO_2 equivalent produced by road transport. In third place, we find light-duty vehicles (under 3.5 tonnes), which produce 18.7% of all road transport emissions.
Going into further detail within the road transport sector, we find three macro types of road on which most traffic is concentrated: highways, rural roads and urban roads. From the data, it emerges that the greatest emissions are produced on rural roads, with almost 41%, followed by urban roads and highways, which have almost equal shares of 29.6% and 29.4%. The high emissions on rural roads may be explained by the significant quantity of traffic and the higher average number of km/car travelled by each vehicle.

Tab. 13.1.3 – The Global Warming Potential (GWP*) of CH_4, CO_2 and N_2O: conversion factors in CO2 equivalent

Name	Symbol	GWP
Methane	CH_4	21
Carbon dioxide	CO_2	1
Nitrous oxide	N_2O	310

** Global Warming Potential (GWP) is defined by the Intergovernmental Panel on Climate Change (IPCC) as an indicator that measures the capacity of absorption of thermal radiation by a greenhouse gas over a certain period of time (e.g. 100 years, GWP100) relative to the absorption by an equal quantity of CO_2 (taken as reference and thus assigned a GWP of 1). GWPs are used as conversion factors to calculate the emissions of all greenhouse gases in CO_2 equivalents.*

Source: Intergovernmental Panel on Climate Change (IPCC)

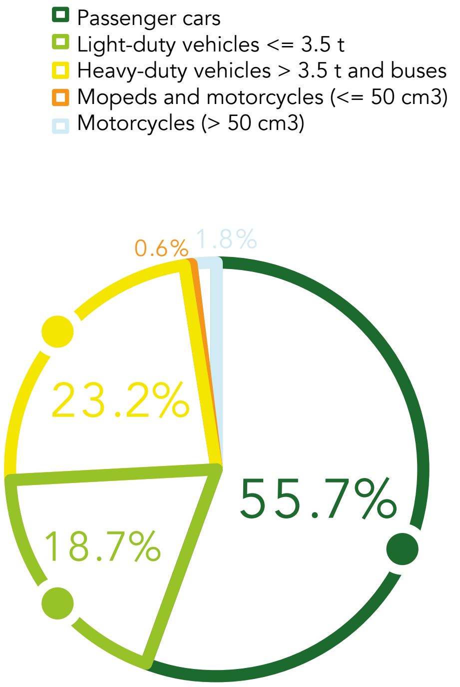
Indeed, each car, although in a higher gear than that typically used on urban roads, and thus operating at a more efficient engine regime, with lower emissions per km, travels much greater average distances per individual journey as compared to the typical journey in an urban context, compensating for and indeed surpassing the average total emissions per journey on urban roads.
In conclusion, this analysis demonstrates that the situation concerning the emission of greenhouse gases and particulates in Veneto in the period 2005-2010 improved, although the air pollution situation remains difficult. As well as emissions pure and simple, this situation is also affected by the climate of the area in which the region is located, characterised by poor air exchange and, therefore, air stagnation, which is often prolonged over quite long periods during the year.
Three greenhouse gases were analysed – carbon dioxide, methane and nitrous oxide – characterised by different emissions sources. Whilst methane and nitrous oxide display much higher GWPs, the very high quantities of carbon dioxide make it the leading culprit in terms of the greenhouse effect. In fact, by converting the three gases above into CO_2 equivalent and adding together their emissions,

Tab. 13.1.4 - Overall emissions of CO_2 equivalent (tonnes/year*) – Years 2005, 2007/08 and 2010

Macro-sector code	Macro-sector description	2005	2007/08	2010
1	Energy production and fuel transformation	12,241,937	8,948,030	6,166,540
2	Non-industrial combustion	9,222,918	8,045,838	7,371,097
3	Combustion in manufacturing	6,339,612	5,983,911	6,096,642
4	Production processes	2,898,527	2,599,635	2,223,937
5	Extraction & distribution of fossil fuels	820,344	743,194	758,072
6	Solvent use	0	0	0
7	Road transport	9,615,307	10,183,993	9,801,259
8	Other mobile sources and machinery	1,414,634	1,306,958	1,241,774
9	Waste treatment and disposal	1,367,124	1,416,722	1,241,071
10	Agriculture	4,348,712	3,760,012	3,182,717
11	Other sources and sinks	-2,557,223	-2,060,383	-2,062,642
	Total	**45,711,892**	**40,927,911**	**36,020,468**

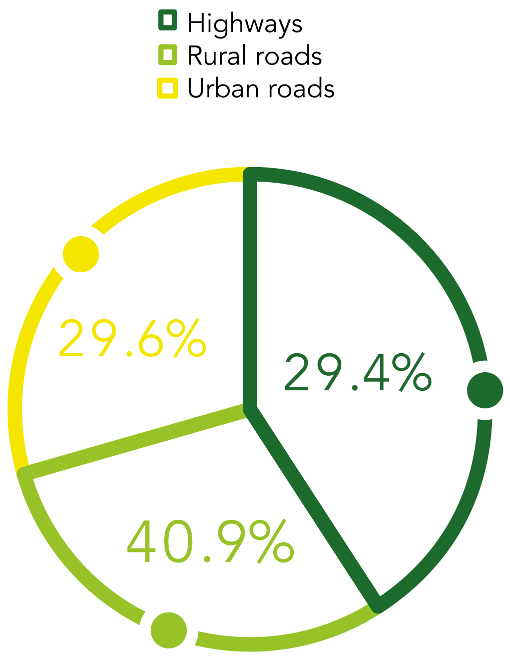
**Methane (CH_4) and nitrous oxide (N_2O) were converted into CO_2 equivalent using their respective conversion factors (GWP) and then added together as CO_2 equivalent*
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2005, 2007/08 and 2010.

Fig.13.1.8 – Road Transport macro-sector: emissions of CO_2 equivalent according to sector (tonnes/year). Veneto – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

Fig. 13.1.9 – Passenger car sector: emissions of CO_2 equivalent according to activity* (tonnes/year). Veneto – Year 2010



(*) In this case, activity is understood to mean type of road on which the passenger car traffic travels
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

the resulting Global Warming Potential displays the CO_2 characteristics in terms of SNAP macro-sector distribution.
Within this context, the critical nature of road transport is confirmed, with the need for particular attention on passenger cars, which, despite presenting lower emissions factors than light-duty and heavy-duty commercial vehicles, represent the majority of traffic in circulation and produce almost 56% of regional CO2 equivalent.

13.2 Particulates

Among the SPM mentioned at the start of this chapter, there are certain particularly fine types of particulate matter, with a diameter of less than 10 µm (micrometres), called PM_{10}, or inhalable particulate, insofar as it is able to penetrate the respiratory system. In addition to PM_{10} particles, there is also a certain sub-group with diameter under 2.5 µm, called $PM_{2.5}$. As well as penetrating the respiratory system, these are also able to infiltrate the lower respiratory tract, thus resulting even more dangerous than PM_{10} particles. The main sources of PM_{10} and $PM_{2.5}$ are the different types of combustion, including those relating to energy production, transport and industrial processes, as well as the combustion of agricultural residues. In urban centres, the two main sources of pollution by fine particulates are domestic heating systems and traffic. Fine particulates PM_{10} and $PM_{2.5}$ are currently the most problematic form of atmospheric pollution, insofar as the values recorded in large parts of Europe are well above the limits established by the European Union. Italy, together with Poland, Slovakia, Turkey and the Balkans are among the European countries with the most complex situations, having exceeded the PM_{10} and $PM_{2.5}$ limits most often. In particular, the Po Valley is one of the most extensive areas displaying a particularly critical environmental situation. The regulatory reference on air quality in Italy is Legislative Decree 155 of 13 August 2010, implementing Art.10, Annex B of Law No. 88 of 7 July 2009, which delegates the government to implement EC Directive 2008/50/CE relating to "environmental air quality and for cleaner air in Europe" and which replaces the provisions of Directive 2004/107/CE. The objective of Legislative Decree 155/2010 is that of allowing the regions and autonomous provinces to assess and manage air quality. The decree also includes limit values for the protection of human health and vegetation for each atmospheric pollutant, including PM10 and Pm2.5. For the former, there are two indicators: average concentration over 24 hours, which must not exceed 50 µg/m3 more than 35 times in any calendar year; and the annual average, which must not exceed 40 µg/m3. For $PM_{2.5}$, there is just one indicator, the annual average, which, starting from 1 January 2015, must not exceed 25 µg/m^3. Legislative Decree 155/2010 was amended by Legislative Decree 250/2012, which set a tolerance margin to be applied, every year, to the annual limit for $PM_{2.5}$ (25 µg/m^3). In view of the above, it is clear that control over fine particulate matter is of great importance for the purposes of correct planning aimed at reducing atmospheric pollution. Controls are undertaken using two types of observation: air quality analysis, by measuring the concentration of individual pollutants found in the air; and monitoring the emissions of pollutants. In this sub-chapter, we concentrate on the second aspect, in particular on PM_{10} and $PM_{2.5}$ emissions in Veneto according to pollutant source and production sector. As is the case with greenhouse gases, we use the data included in the INEMAR Veneto inventory. In the most recent edition of INEMAR Veneto, containing 2010 data, technical corrections were made of previous editions, including updating the Emission Factors (EF) of the creation of emissions by woody biomass in small domestic heating devices. Domestic heating, together with point-sources (industrial plants and energy production) and road traffic are the biggest sources of emissions both in terms of quantity and for their impact on air quality. Data contained in INEMAR comes from two separate types of measurement: direct measurements taken from emissions of a source of pollution and "activity" measurements, through which estimates can be made of the emissions of a certain "activity" by using "emission factors".

The Results of Monitoring Fine Particulate Matter Emissions

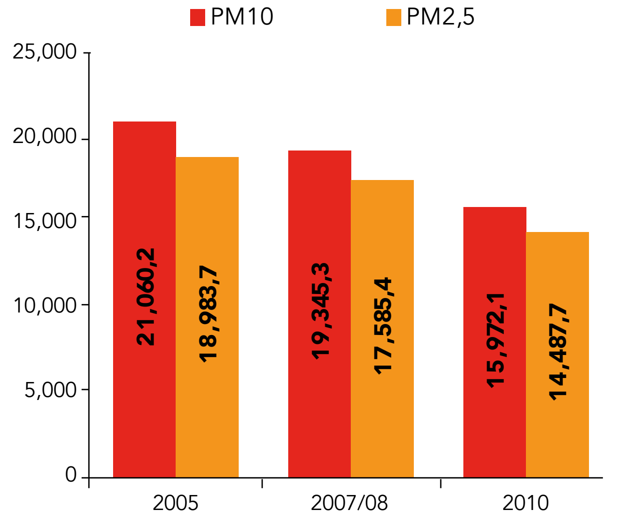
Moving on to the analysis of data gathered in the INEMAR inventory, it must be pointed out that, given the amendment of the Emission Factors (EF) in the latest edition,, 2010 estimates can no longer be directly compared to those of previous editions. ARPA Veneto thus recodified the data on a reginal level according to the new EFs, including for 2005 and 2007/08, making it possible to analyse data trends on a regional scale.

In the survey periods of 2005, 2007/08 and 2010, we can see a progressive fall in both PM_{10} and $PM_{2.5}$ emissions.

Notwithstanding the persisting situation of frequent critical issues, particularly within urban centres, there have been overall reductions in emissions of PM_{10} and $PM_{2.5}$ of 24.2% and 23.7% respectively, from 2005 to 2010. This data is certainly positive, insofar as it demonstrates and improvement in the production processes responsible for pollution, however, it must also be pondered, given the significant influence of the "financial crisis" factor. The effects of this were already felt in 2010, with a contraction in the economic activities themselves and, consequently, a relative reduction in the emission of pollutants.

From 2005 to 2010, PM10 and Pm2.5 emissions fell by24.2% and 23.7%

Fig. 13.2.1 – PM_{10} and $PM_{2.5}$ emissions in Veneto (tonnes/year) – Years 2005, 2007/08 and 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2005, 2007/08 and 2010

Analysing the different fine particulate emissions sources, we can see how, in all three of the survey periods (2005, 2007/08 and 2010), the macro-sector with the highest environmental impact is always non-industrial combustion, which includes the domestic sector and therefore residential heating: this macro-sector produced 65.4% of PM_{10} and 69.8% of $PM_{2.5}$ in 2010.

The other two macro-sectors, in decreasing order of PM_{10} and $PM_{2.5}$ emissions, are road transport and other mobile sources and machinery.

The domestic sector produces 65.4% of PM_{10} and 69.8% of $PM_{2.5}$

Agriculture is in fourth place, in which we note a clear distinction between the two types of fine particulate matter, insofar as PM_{10} emissions vary from 3.8% in 2005 to 4.1% in 2010, whilst $PM_{2.5}$ emissions are decidedly lower: 2% and 2.2% in 2005 and 2010 respectively.

Tab. 13.2.1 – PM10 and PM2.5 emissions in Veneto - % variations 2007-08/2005, 2010/2007-08, 2010/2005

	2007-08/05	2010/2007-08	2010/2005
PM_{10}	-8.1	-17.4	-24.2
$PM_{2,5}$	-7.4	-17.6	-23.7

Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2005, 2007/08 and 2010

PM_{10} and $PM_{2,5}$ emissions in Veneto (tonnes/year) - % variations 2007-08/2005, 2010/2005, 2010/2007-08

	2005	2007/08	2010
PM_{10}	21,060.2	19,345.3	15,972.1
$PM_{2,5}$	18,983.7	17,585.4	14,487.7

Source: ARPA VENETO – VENETO REGION (May 2015). INEMAR VENETO 2010 – Regional Inventory of Atmospheric Emissions in the Veneto Region, 2010 edition – final data. ARPA Veneto – Regional Air Observatory, Veneto Region, Environment Department, Environmental Protection Section, Atmospheric Protection Sector.

Looking in more detail at the macro-sector of non-industrial combustion, the sector with the most critical situation in terms of fine particulate matter emissions, it is made up of three sub-sectors: plants in agriculture, forestry and aquaculture, commercial and institutional plants and residential plants. Residential plants produce almost all the fine particulate matter of the macro-sector, with 10,430 tonnes of PM_{10} and 10,106 tonnes of $PM_{2.5}$ per year (t/y) out of a total of 1,443 and 10,119 t/y respectively.

Fig. 13.2.2 - PM_{10} and $PM_{2.5}$ emissions according to macro-sector (% values). Veneto – Year 2005 (*)

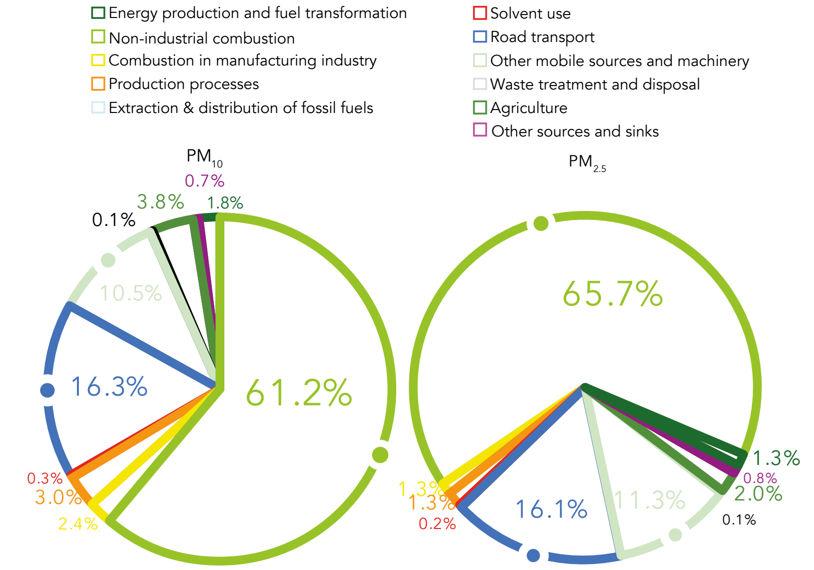


Fig. 13.2.3 - PM_{10} and $PM_{2.5}$ emissions according to macro-sector (% values). Veneto – Year 2007/08 (*)

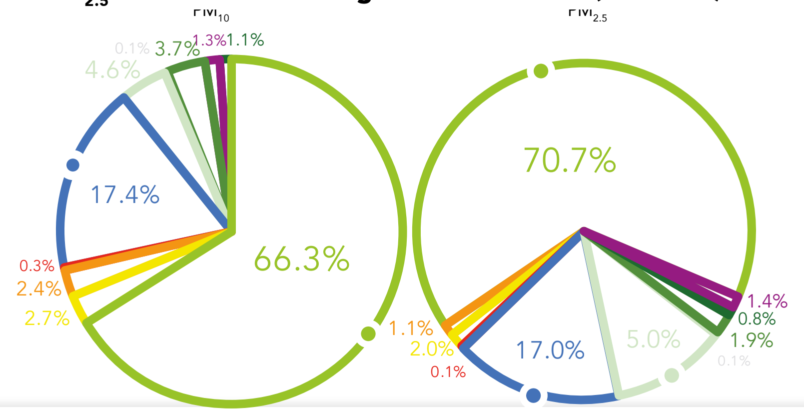
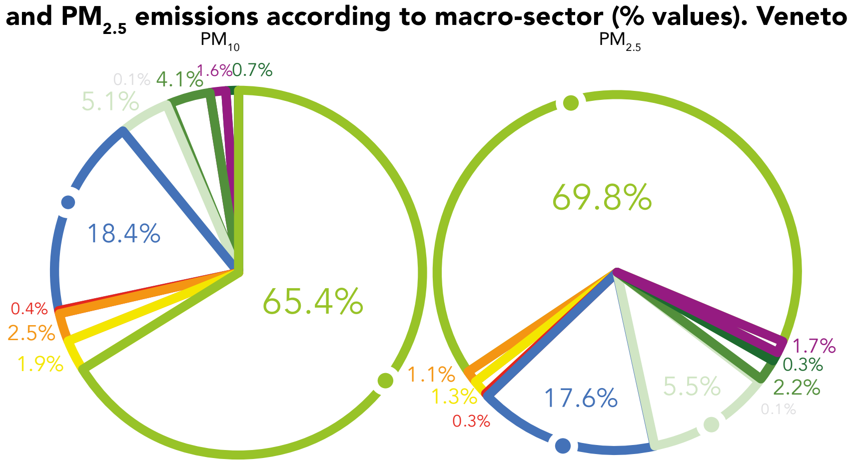


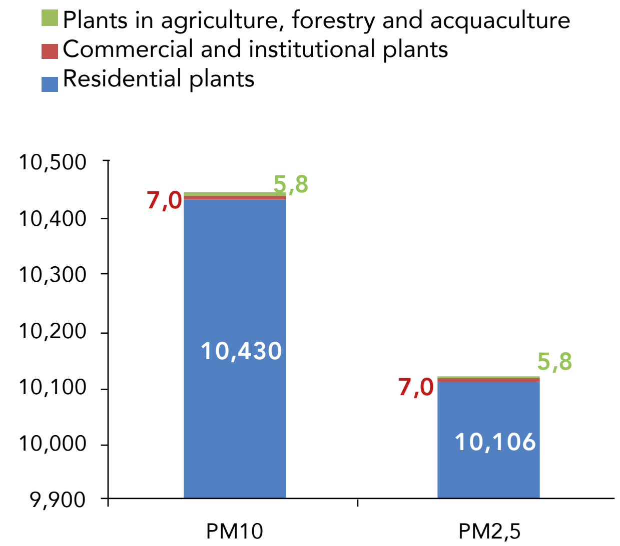
Fig. 13.2.4 –PM_{10} and $PM_{2.5}$ emissions according to macro-sector (% values). Veneto – Year 2010 (*)



(*) The macro-sector Extraction and distribution of fossil fuels has zero $PM_{2.5}$ and PM10 emissions

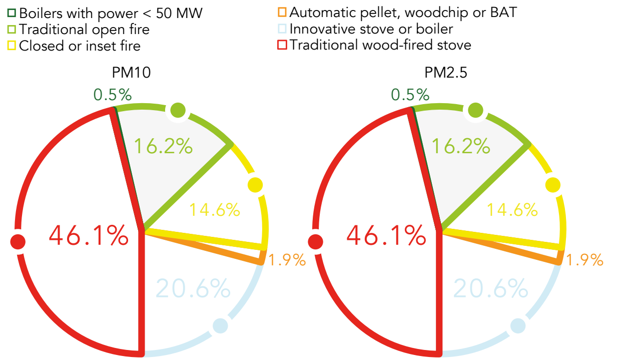
Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

Fig. 13.2.5 – Macro-sector of non-industrial combustion: PM_{10} and $PM_{2.5}$ emissions according to sector (tonnes/year). Veneto – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

Fig. 13.2.6 – Residential plants sector: PM_{10} and $PM_{2.5}$ emissions according to sector (tonnes/year). Veneto – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

Going into more detail within the residential plants sector, we find individual activities for the different types of heating. First and foremost, we can see that PM_{10} and $PM_{2.5}$ are almost identical in terms of emissions distribution per activity (as far as the second decimal place). The worst emissions are produced by traditional wood-fired stoves, with 46% of the overall PM_{10} and $PM_{2.5}$ of the residential heating sector. The second highest emissions are produced by more innovative stoves or boilers, with over 20.6% of the total, whilst traditional open fires are found in third place with 16.2%.
In addition to the figures demonstrating final emissions, it is also worth mentioning the emission factors of each type of heating, in order to understand better the degree of danger they pose to the environment, beyond the actual individual emissions.
It is clear that open fires have the highest potential emissions, with 860 grams of PM_{10} per gigajoule of energy produced (g/Gj), more than twice that of innovative stoves or boilers or closed fires (380 g/Gj).
Pellet-fired stoves have noticeably low emissions, with 76 g/Gj.
As far as PM_{10} and $PM_{2.5}$ emissions are concerned on a provincial level, we can see almost identical distribution for both pollutants: Treviso has the highest share of emissions, with around 22% of overall emissions for the region in 2010, followed by Vicenza, with almost 20%. In third place is Padua, with over 15% of the regional total, followed by Verona and Venice, with 14.9% and 14% of PM_{10} emissions and 14.1% and 13.9% of $PM_{2.5}$ emissions, respectively. Belluno is in sixth place, which, despite having a much lower population than the other five provinces, produces over 10% of the regional emissions in fine particulate matter.
This phenomenon can be explained by considering that, as seen earlier, the sector with the greatest environmental impact in terms of fine particulate matter is that of residential heating, and Belluno, due to its geographical position at the foot of the

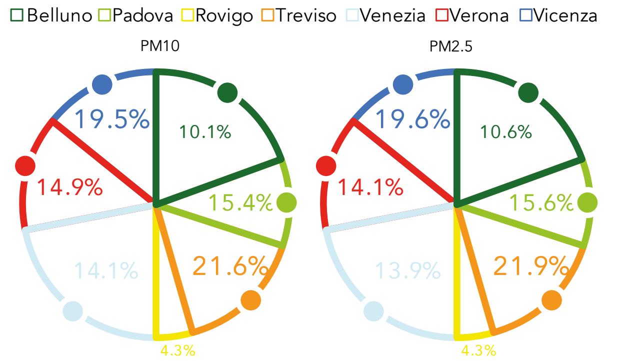
Tab. 13.2.2 – INEMAR emission factors according to SNAP activity for the domestic combustion of wood (grams per gigajoule – g/Gj) – Year 2010

	PM_{10} (g/Gj)
Open fire	860
Traditional stove	480
Closed fire	380
Innovative stove or boiler (modern stove, majolica stove and innovative boiler)	380
Caldaia con potenza termica < 50 MW	380
Automatic pellet/woodchip-fired stove	76

Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

mountains, is the province with the worst climatic conditions in terms of the severity of winter: indeed, this province has the highest consumption per capita for heating and also the highest concentration of open fires, which, as we have seen, have the most elevated emission factor (860 g/Gj).

Fig. 13.2.7 - PM_{10} and $PM_{2.5}$ emissions according to province (tonnes/year) – Year 2010



Source: Veneto Region Data Processing, Regional Statistical System Section on final data of INEMAR Veneto 2010

The abovementioned consideration alters, in part, the traditional perspective of PM_{10} and $PM_{2.5}$ analysis: usually, analysis is undertaken of the concentrations detected in the atmosphere. From this type of observation, it emerges that the worst situations are found in the plain areas, due to the greater air stagnation, as well as due to increased emissions in absolute terms because of the greater concentrations in population, industrial plants and traffic. However, from the analysis above, we can see that even areas of apparently inferior pollution must be tightly monitored. Indeed, despite being characterised by lower emissions and located in more favourable areas in terms of air exchange, they hide certain critical elements that may not be very noticeable but that risk, if overlooked, harming the local air quality and damaging the surrounding environment through the transportation of atmospheric pollution by winds.
A final important consideration that emerges from the data on emissions is that, in contrast to customary beliefs, road transport is not the main source of emissions of fine particulate matter, coming in second place after non-industrial combustion, which is characterised mainly by domestic heating plants and, alone, produces over 65% of PM_{10} and almost 70% of $PM_{2.5}$ in terms of regional emissions.

Tab. 13.2.2 - Fattori di emissione INEMAR per le attività SNAP della combustione domestica di legna (grammi per gigajoule - g/Gj) - Anno 2010

	PM_{10} (g/Gj)
Caminetto aperto	860
Stufa tradizionale	480
Caminetto chiuso	380
Stufa o caldaia innovativa (stufa moderna, stufa maiolica e caldaia innovativa)	380
Caldaia con potenza termica < 50 MW	380
Stufa automatica pellet/cippato	76

Fonte: Elaborazioni Regione Veneto - Sezione Sistema Statistico Regionale su dati INEMAR Veneto 2010