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Report on Single Market Integration and Competitiveness in the EU and its Member States

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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Upgrading the Single Market: More Opportunities for People and Business

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The economic performance of the EU has improved in 2014 relative to the two previous years. While growth rates remain low and it will take time to reduce unemployment in some Member States, the EU is steadily recovering despite political and international economic uncertainties. The fall in oil prices is providing an additional boost to the EU economy which has presented record trade surplus figures in the first half of 2015.

There are encouraging signs suggesting that the EU has embarked on the path towards economic recovery. And yet, economic recovery does not necessarily ensure a better allocation of resources which would allow the EU to improve its productivity growth and higher competitiveness levels in the longer run. Unfortunately, the recent experiences of some EU Member States have shown that, even during periods of growth and capital inflows, resources can be misallocated, generating important unbalances that are costly to redress. In other cases, regulations in labour and product markets can block the reallocation of resources.[1]

Europe has accumulated a considerable productivity gap with the USA, especially as regards dynamic efficiency. According to the Conference Board,[2] EU labour productivity in 2014 was 70 % of the US level. Last year and contrary to previous years, the difference in productivity growth rates between the EU and the USA has not widened.

There is growing consensus on the existence of a slowdown in productivity growth affecting both advanced and emerging economies.[3] Differences in labour productivity and total factor productivity growth rates between Japan, the USA and the EU are getting narrower as a result of this slowdown. This opens a window of opportunity that could allow Europe to accelerate the catching up process in productivity if economic reforms are implemented.

The first big challenge to restore productivity and long term growth is to revitalize investment. A number of barriers have lowered the intensity of tangible and intangible capital accumulation in the EU. In 2014, Gross Fixed Capital Formation recovered by 2 percentage points of GDP, but this is still below the investment levels needed to cut down our productivity gap with respect to the USA. A subdued level of investment over several years has produced a significant accumulated lag in investment, especially in Information and Communication Technologies (ICT).

During the 2000-2014 period, EU investment in ICT and Intellectual Property products grew faster than any other form of investment, with annual rates of 3.5 % and 2.8 %, respectively. However, the process of digitisation of the EU economy started late and the accumulated levels in these types of investment are just one third of those in the US.[4]

This report also suggests that conditions are favourable to improve competitiveness if efforts are made to introduce reforms at both national and EU levels. Labour and total factor productivity growth could be increased in the EU if regulatory barriers to competitiveness and integration are removed thus allowing for improvements in the allocation of resources across firms and sectors in the Single Market.

The reallocation of resources will have to proceed along three axes. First, it will require moves of capital

(1) Cette G., Fernald J. and Mojon B., (2015) "The Pre-Global-Financial-Crisis Slowdown in Productivity", http://ec.europa.eu/economy_finance/events/2015/20151001_post_crisis_slump/documents/j._fernald.pdf

(2) The Conference Board Productivity Brief 2015, May, http://www.confeence-board.org

(3) There is an important and growing academic and political debate about long trends in productivity. While there is statistical evidence of a decline in productivity growth, this debate has raised relevant questions regarding the reliability of official statistics to measure investment and productivity growth, especially at a time when new technologies are being introduced. Actual growth and investment might be underestimated, at least in part, by traditional sectoral classifications and accounting methods (see for instance Fernald, J. "Productivity and Potential Output Before, During and after the Great Recession," NBER, working paper n. 20248, 2014). While acknowledging the importance of this debate and in the absence of more reliable new indicators of productivity growth, this report will rely on standard indicators of productivity.

(4) The impact of this digitisation gap can be measured by the contribution of ICT to GDP growth. Since 1990 the slow uptake of ICTs has limited EU growth by nearly 5 percentage points. Considering the ICT investment levels and the contribution to GDP growth, the EU would have to invest 335 billion Euros in order to close the accumulated gap with the US. That would be 5 times the total ICT investment level of the EU in 2013. The impact of this digitisation gap can be measured by the contribution of ICT to GDP growth.

and human resources from low to high productivity firms within sectors in the Member States. This had been a major source of productivity growth before the crisis but its contribution has diminished recently. Cross-sectoral reallocation of resources, on the other hand, had not been a major source of productivity growth in the past. New technological developments, changes in input prices (shale gas in particular) and the emergence of new business models suggest that cross-sectoral reallocation of human and capital resources may take increasing importance in the future as a source of productivity growth. Improvements in productivity are possible by more investment in new digital and clean technologies in current production activities by the reallocation of more human, capital and technological resources towards higher value added activities. Finally, a third source of productivity growth will come from the geographic reallocation of resources within the Single Market and from a better insertion of EU firms in international value chains. This would also allow to better exploit backward and forward linkages in global value chains, e.g. by strengthening the integration in key sectors such as business services and logistics.

New technologies and stronger integration in EU and global value chains will create new business opportunities but there are regulatory, structural and behavioural obstacles that may frustrate the realisation of these opportunities. Structural reforms are needed at EU and Member State levels to remove these obstacles.

The review of the situation of the Single Market shows that a considerable effort is necessary to introduce structural changes to remove the remaining barriers hampering the performance of the Single Market. However, this review also reveals the potential of the Single Market as a major source of microeconomic reforms in the EU to deliver growth and jobs.

Both trade in goods with the whole of the EU and intra-EU investment of the EU-15 – i.e. Member States that acceded to the EU before 2004 –, seem to have stalled for over a decade. The more recent Member States (EU-13) have displayed a very dynamic process of integration and reached higher integration indicators than the EU-15. Integration proceeds in the services sectors albeit at a relatively slow rate. According to UNCTAD, global exchanges in services grew by 4 % while intra-EU exchanges in services increased by only 2.5 % in 2013.[5] There are significant differences across sectors and there is considerable potential for more exchanges in business services, especially those provided by services professions or in the construction area.

The current assessment of the benefits of the Services Directive makes apparent the need to improve the implementation and subsequent enforcement of this Directive that is critical for the overall performance of the Single Market in the services sectors and for the EU economy as a whole.

The analysis of efficiency in the allocation of labour presented in Chapter 3 shows very significant differences across sectors. While high levels of efficiency prevail in manufacturing, the situation is very different in services and construction. Furthermore, deteriorations in allocative efficiency can be reported in the construction sector in particular. This is an indication of the importance of the introduction of reforms to turn around the productivity performance of the Union in the coming years as suggested in Chapter 2.

The regulatory environment has improved but again, the EU-15 present a slow-down in this improvement since 2005. It is precisely after that year that more significant improvements can be found in the regulatory environment of the EU-13.

A number of important improvements and good practices can be detected in public procurement markets. However, Member States are progressing at very different speeds in the implementation of e-procurement, the level of publication of public tenders remains relatively low and the level of professionalization of buyers remains low. Additional work is also pending on the introduction of procurement procedures that can create incentives for innovation and SME participation in procurement.

Structural, behavioural and regulatory barriers remain present in the Single Market. Some of them have particular adverse effects on new dynamic and exporting "start-ups". Others have a particularly negative impact on the construction sector, especially as regards the cross-border circulation of construction materials, which remains an open building site for the Single Market. Financing issues are critical for SMEs and the new measures for the diversification of

([5]) Data for 2014 are more positive with a 7,5 % increase but for EU-24 (excluding, Croatia, Spain, Italy and Finland).

financing sources alternative to bank credit will be critical to enable investments and innovation.

In summary, the Single Market presents both symptoms of stagnation in the EU-15 in goods markets but integration is still making progress in the EU-13. In services and construction sectors, significant potential remains to be exploited. Over twenty years of integration have contributed to improving the allocation of production and resources in manufacturing markets and the fruits of these changes have been visible in those markets for several years now. However, this seems to have been a stepwise improvement that will not deliver further new gains unless new barriers are removed. In services and construction, the potential is there, but the partial results obtained so far in the implementation of the Services Directive can be significantly increased if further barriers to exchanges in services and establishment are removed.

Therefore, significant static gains in the allocation of resources are possible but more durable and lasting gains could be achieved if dynamic efficiency was improved. A higher competitive tension both in goods and services markets, more active innovation and a more favourable potential for the emergence and growth of start-ups could boost total factor productivity.

Ensuring practical delivery of reforms

As indicated by the Single Market Strategy, economic reforms deliver benefits in terms of growth and jobs but the cost of reforms must be taken into account when choosing the path to reform in the Member States and at EU level. In the EU context, three elements can help us maximise the difference between benefits and costs.

- Complementarities. To minimise the regulatory fatigue, reforms at EU and Member State levels must be complementary. As Marinello et al (2015)[6] point out, the potential of the Single Market to deliver its expected positive impacts on productivity and growth faces several limitations related not only to the remaining barriers, but also to the lack of complementary policies and the lack of alignment of Member State policies with Single Market objectives. Only feasible, coordinated and relevant reforms with positive expected and actual impacts are likely to succeed in being implemented timely and successfully by Member States. Reforms at EU level must facilitate these changes by increasing the payoffs to reforms and minimising the joint cost of reforms.
- Learning from common experiences. The process of reforms in the EU is a common process where Member States can learn from the experiences of others. Recent Commission studies and reports have made clear the broad differences in the costs of implementing similar EU directives by different Member States. Member States can learn from each other's experience to minimise the social and economic costs of reforms.
- Coordination. The economic crisis has made apparent the close relationship and mutual dependence between financial, products and services markets. The relationship between labour, product and services markets is well known.[7] A closer integration of the existing instruments for economic policy coordination will surely improve the effectiveness and the efficiency of economic reform efforts in the EU.

([6]) Marinello, M.; Sapir, A.; Terzio, A. (2015). The long road towards the European Single Market. Bruegel W. P. 2015/01.

([7]) Blanchard, Olivier. 2004. "The Economic Future of Europe." Journal of Economic Perspectives, 18(4): 3-26.

The economic performance of the EU has improved in 2014 relative to the two previous years. Growth rates remain low and it will take time to reduce unemployment in some Member States, but the EU is steadily recovering despite political and international economic uncertainties. The low exchange rate of the euro and the fall in oil prices are providing an additional boost to the EU economy and particularly to the euro area that has presented record trade surplus figures in the first half of 2015.

Against this background, this report[8] presents both recent developments and pre-/post-crisis comparisons concerning the state of integration and competitiveness in the EU and its Member States. It also looks into some long-term trends because the crisis has brought into the open some major imbalances of the EU economy that were already present before 2008:

- Integration in capital markets was put to the test and the seemingly high level of integration in financial markets could not withstand the shock of the international financial crisis. This experience has revealed the importance of governance issues for the performance of the Single Market.
- Delays in the introduction of EU and national structural reforms in products, services and labour markets in some Member States have added to the cost of the crisis delaying the recovery. In general, countries that introduced structural reforms before the crisis have fared better than the rest. This shows the importance of structural reforms for the overall performance of the EU.
- Despite the asymmetric shock of the crisis, the Single Market could not smoothen and compensate sufficiently the impact of the crisis on countries with structural current account imbalances. In addition, intra EU integration in products seems to have stalled well before 2008, especially in the 15 Member States that integrated the Union before 2004. Remaining obstacles to integration in services and construction still hold back the potential of the Single Market. These are important developments which require further work into their causes and possible remedies.
- New studies of productivity at firm level call for important reallocations of resources within sectors, across sectors and across countries to boost productivity growth. The need for important improvements in the functioning of the Single Market in areas such as mutual recognition, public procurement and most importantly, in services is more evident now than before 2008. Technology developments will also trigger further resource reallocation. All this underlines the importance of flexibility and the elimination of barriers to resource mobility, giving a new dimension to the Single Market[9] and structural reforms.

The report presents an overview of the main issues that have been identified in the assessment of the competitiveness and integration performance of the EU and its Member States. The report consists of the following chapters: The first three deal with the key issues of (i) investment, (ii) competitiveness and innovation and (iii) the integration of EU firms in EU and international value chains. A fourth chapter looks into the financing of the real economy.

([8]) This report replaces the Report on European Industrial Performance of Member States – produced in the past in the context of Art. 173 TFEU - and the Single Market Integration Report – previously annexed to the Annual Growth Survey. It also incorporates information produced by the Commission in 2014-2015 in the context of monitoring EU competitiveness (including the EU Structural Change Report 2015) and financial market integration (European Financial Integration Report).

([9]) This report will not go in depth into many important Single Market issues because they are discussed in the Staff Working Document supporting the Single Market Strategy (SWD(2015) 202).

1 Investment obstacles and policy responses

1.1 Introduction

The financial crisis that hit the world economy at the end of the previous decade took a heavy toll on investment in Europe and other major economies like the US. This negative impact was more prominent in developed countries. The global average investment rate fell from its peak pre-crisis level of around 23.5 % in 2007, to less than 22 % in 2009 and 2010.[10] It has since regained some of the loss and is now around 22 %. However, unlike other big economies, the deviation from the global average investment rate in the EU continues to widen (see Figure 1.1).[11]

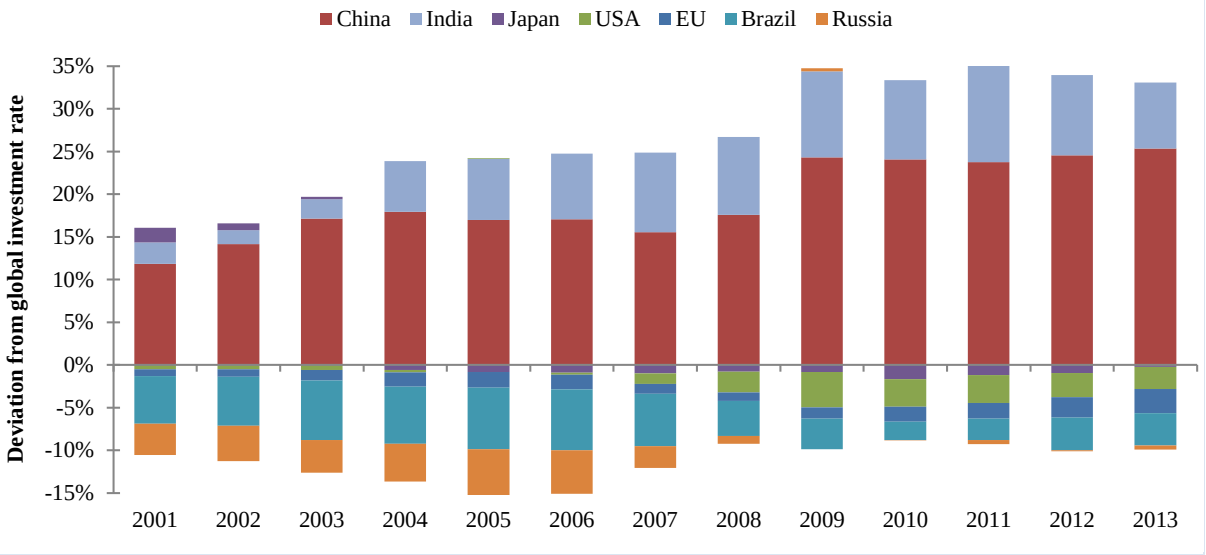
According to Commission calculations this deviation has resulted in an investment shortfall of EUR 230 – 370 billion[12] while the accumulated investment gap from 2009 to 2014 exceeds EUR 1.2 trillion. In order to reverse the trend, the EU has put in place the Investment Plan which aims to mobilise at least EUR 315 billion in the next three years by supporting investment in the real economy and creating an investment-friendly environment.

([10]) Investment rates are given as a percentage of GDP. Source: World Bank Data.

([11]) Total investment in the EU in the second quarter of 2014 was about 15 % below the 2007 figures. The decline in investment was even more significant in some MS: Italy (-25 %), Portugal (-36 %), Spain (-38 %), Ireland (-39 %), and Greece (-64 %). Source: European Commission, Communication on the Investment Plan, COM(2014) 903 final.

([12]) Annual Growth Survey 2015 COM(2014) 902 final.

Figure 1.1: Gross fixed capital formation as a percentage of GDP - Deviation from the global average investment rate



Source: World Bank Data

Comparison by country, sectors and assets

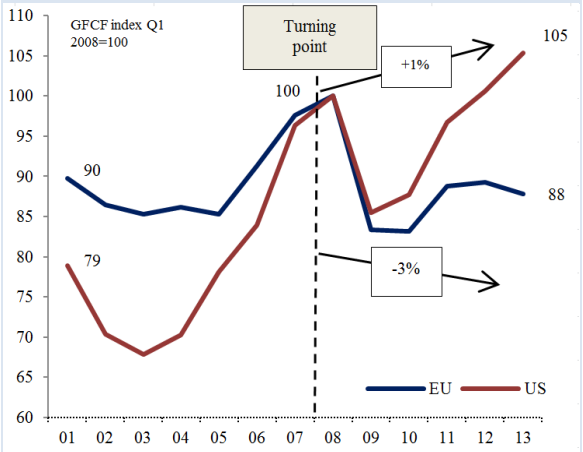
Almost all countries experienced a fall in investment from their peak levels, driven particularly by a fall in private investment.[13] This drop was more pronounced in the economies of the euro area periphery than in core economies and particularly in Greece and Cyprus where private investment in recent years has been as little as 11 % of GDP.

At sectoral level, investment in the EU manufacturing sector was particularly affected in 2008 and it has since then, and unlike what has happened in the US, not managed to regain its losses (see Figure 1.2). Particularly affected sectors include the energy

([13]) European Commission (2015), *EU Structural Change 2015* report.

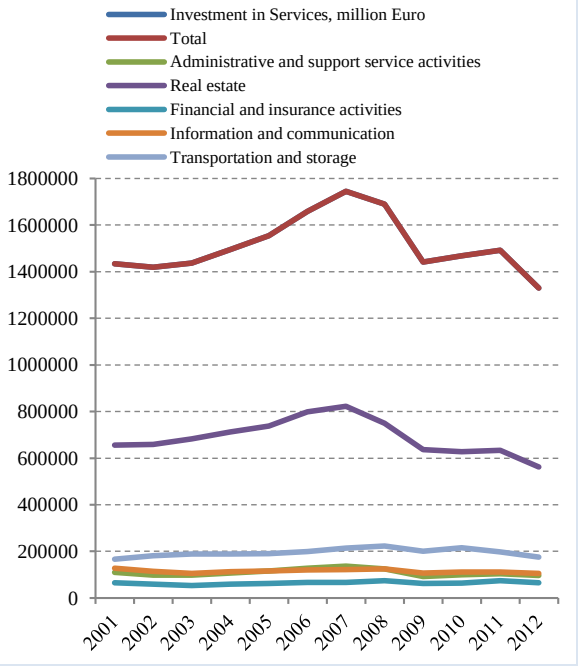
intensive industries.[14] On the other hand, computer and electronics, electrical equipment, motor vehicles and pharmaceuticals have proven to be more resilient to the negative effects of the crisis. In services, investment managed to rebound in most of the sectors to pre-crisis levels mainly due to the fact that services are less cyclical than manufacturing (see Figure 1.3).[15]

Figure 1.2: Evolution of gross fixed capital formation in manufacturing sectors, 2001-2013 (Index)



Source: European Investment Bank; U.S. Bureau of Economic Analysis; Eurostat; BCG Analysis

Figure 1.3: Evolution of gross fixed capital formation in services, 2001-2012 (total EU, million Euro)



Note: EU-27+ Norway. Data for Romania, Latvia and Malta missing due to unavailability of data.

Source: Eurostat

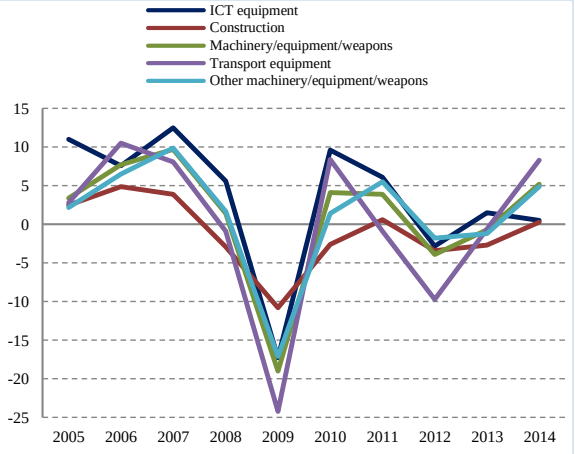
Figure 1.4 shows the growth rates of investment by asset before[16] and after the financial crisis of 2009. All assets experienced a profound drop due to the crisis but investment in ICT proved to be more resilient to the negative effects of the crisis relative to investment in other assets.

(14) Investment in Building Materials, Paper & Wood, Metals and Chemicals dropped during the period 2008-2011 respectively by 15 %, 9 %, 8 % and 3 %. Source: Eurostat.

(15) Investment ratios as a percentage of GVA in several service sectors increased as well. For instance in legal accounting activities and architectural and engineering activities investment ratios increased between 2007 and 2012 by more than 13%. Source: Eurostat.

(16) An important part of GFCF spending before the crisis was the (over) investment in construction/dwellings. It created bubbles (together with irresponsible behaviour of financial markets participants etc.) and was one of the causes of the crisis in some MS (SP, IE).

Figure 1.4: Investment in the total economy by asset type in the EU-28: Growth rates



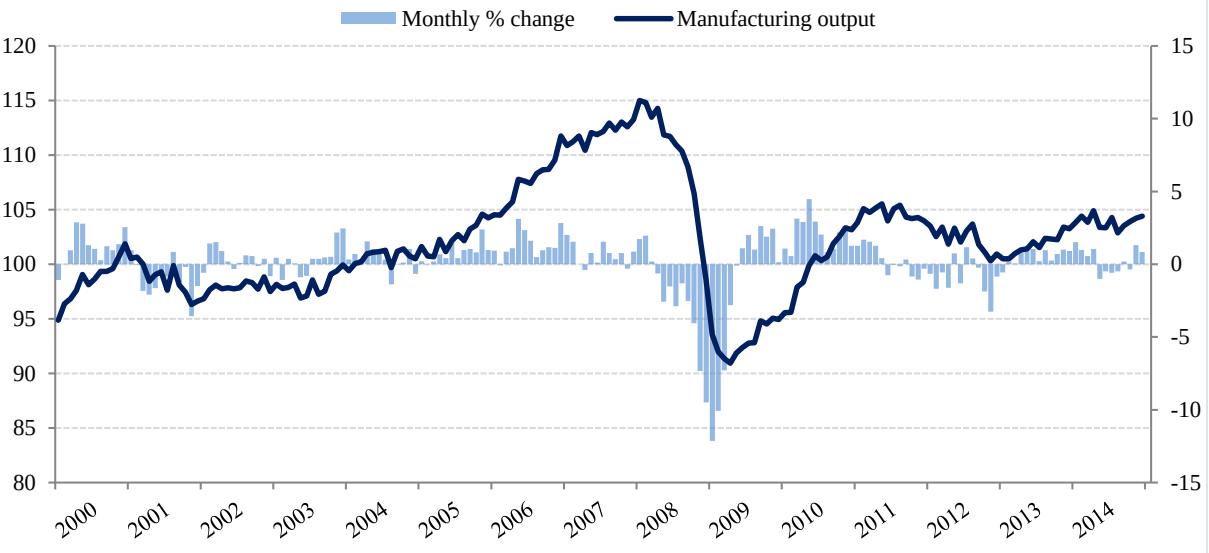
Source: Eurostat

Main impacts from low investment rates

The main result from this subdued investment in the EU is that the European economy is recovering much more slowly than its main competitors since the onset of the economic crisis of 2008. Other negative impacts are identified on employment and on the medium-term growth potential. According to European Commission estimates, the investment shortfall in Europe accounts for the largest proportion of the fall in GDP during the post crisis period. Unlike services, the impact of the 2008 crisis in manufacturing can still be felt in Europe, with production levels still nearly 10 percentage points below the peak achieved in the first quarter of 2008 (see Figure 1.5). This can be attributed, like in the case of investment ratios, to the fact that manufacturing is more cyclical than services. Moreover services are less tradable than manufacturing and therefore the impact of the world trade decrease following the crisis was more felt in the output of the manufacturing sector.[17]

([17]) For services, only statistics for the evolution of output in "Retail & Trade" are available but not presented here as they would not be representative of the whole sector.

Figure 1.5: Manufacturing output in the EU-28 (2000-2014)



Source: Eurostat

Adverse effects are also created on the EU international competitiveness, as companies in competitor countries like the US, who saw their productive investment rebound to pre-crisis levels, are gradually upgrading their equipment, something that does not happen in Europe. Finally, the decline in investment resulted in a slowdown in innovation too, not least because SMEs – as drivers of innovation and growth – face great financing challenges.

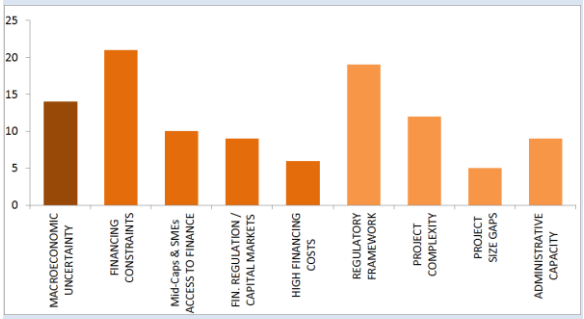
1.2 Barriers to investment

The scope of this chapter is to analyse the most important reasons for the low investment in the EU and identify the types of investment that are affected the most, by giving where possible some examples from Member States.[18] This analysis is not exhaustive and does not focus on the importance of input costs (like labour or energy costs) or infrastructure.[19] Drawing on the analysis of several surveys[20] and a collection of detailed evidence from Member States feedback,[21] it helps single out specific aspects in the barriers affecting a relevant number of Member States and sectors that negatively impact investment across the EU (see Figure 1.6). Empirical analysis[22] also corroborates the existence of the following barriers to investment:

1. Regulatory instability, regulatory unpredictability, overregulation or bad regulation
2. Financing constraints
3. Single Market barriers.

It is important to mention in this context that the Letter of Intent from President Juncker and First Vice-President Timmermans to the Presidents of the European Parliament and the Presidency of the Council accompanying the President's State of the Union speech 2015 indicated that the identification of key obstacles to investment at national level will be a priority of the 2016 European Semester.

Figure 1.6: Member States feedback on barriers to investment



Source: Final TF report on the Investment in the EU

1.2.1 Regulatory instability, regulatory unpredictability, overregulation or bad regulation

Several surveys point out that regulation in EU Member States is inefficient, impacting businesses and their investment decisions. For instance, the OECD ranks the EU average below the global average in regulatory efficiency and shows that the EU has lost significant positioning in the last 8 years (see Figure 1.7). The World Bank rankings 2015 on doing business report on how easy it is for a local entrepreneur to open and run a small to medium-sized business when complying with the relevant regulations. Results show that there are noticeable differences in the performance across Member States.[23] The magnitude of the problem for EU businesses is confirmed by the results of a flash Eurobarometer survey on European businesses and public administration.[24]

The uncertainty of the general regulatory framework from frequent or unforeseen changes of the EU or national legislation results in a higher risk for

([18]) Examples from Member States are given for illustrative purposes and are not representative.

([19]) The increase in energy costs may lead to the relocation of investment across sectors or countries and labour market inflexibilities can also have negative impacts on companies' investment decisions.

([20]) World Bank Doing Business, World Economic Forum Competitiveness Report, flash Eurobarometer Survey on European Businesses and Public Administration).

([21]) Special Task Force (Member States, Commission, EIB) on Investment in the EU. Final Task Force Report (Annex 3).

([22]) According to a study from IMF ([22]), financial constraints, high uncertainty and corporate sector leverage are additional impediments to investment particularly in stressed economies, namely Italy, Portugal and Spain. Source: IMF working paper. Investment in the euro area, why it has been so weak?

([23]) Three EU Member States are among the top 10 countries with the most business friendly climate; but more than half of the Member States are not in the top 30 and eight Member States are not even in the top 50. Source: World Bank Group (2015), Doing Business report.

([24]) According to this survey, for more than three quarters of European companies (77 %) the lack of predictability and stability of legislation in their country is an obstacle to their company's activity.

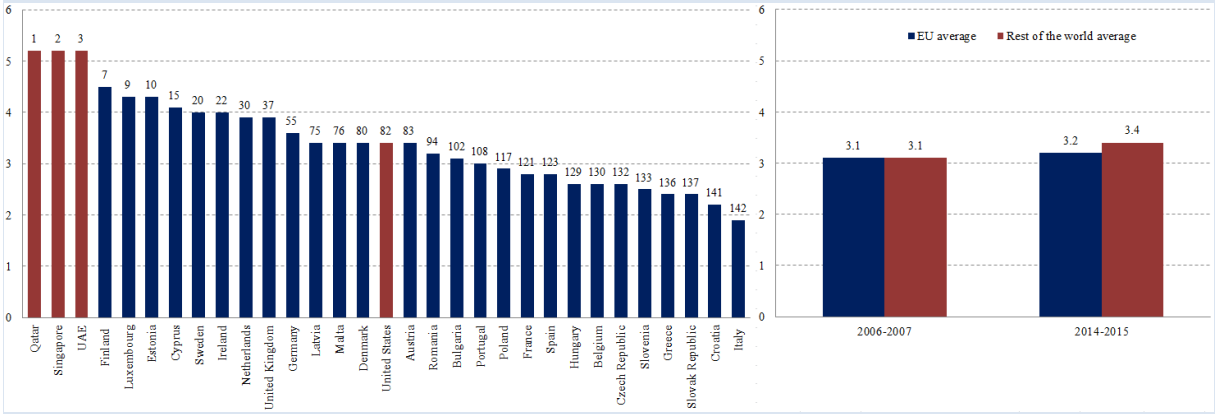
investors.[25] As a consequence, companies may defer investment decisions particularly in sectors with typically longer term pay back periods. The life cycle of a long term project typically spans beyond any government administration or individual regulatory settlement period. Investors are therefore not only analysing the project-specific risks, but are also giving substantial consideration to political risk and stability of the regulatory framework.

Some investment projects submitted by Member States for the EU investment plan have also highlighted the importance of regulatory predictability at EU level.[26]

([25]) According to Commission estimates, a 10 % reduction in administrative burdens can over time increase investments by 0.6 percentage points and GDP by 0.8 percentage points.

([26]) For instance Austria has submitted a PPP project (an environmental friendly Pump Storage Hydro Power Plant Pfaffenboden in Moll). According to the Austrian authorities, the investment climate in the European electricity market is poor and the volatile regulatory framework conditions increase the risk for this long term investment. Source: Special Task Force (Member States, Commission, EIB) on Investment in the EU. Final Task Force Report (Annex 2), December 2014.

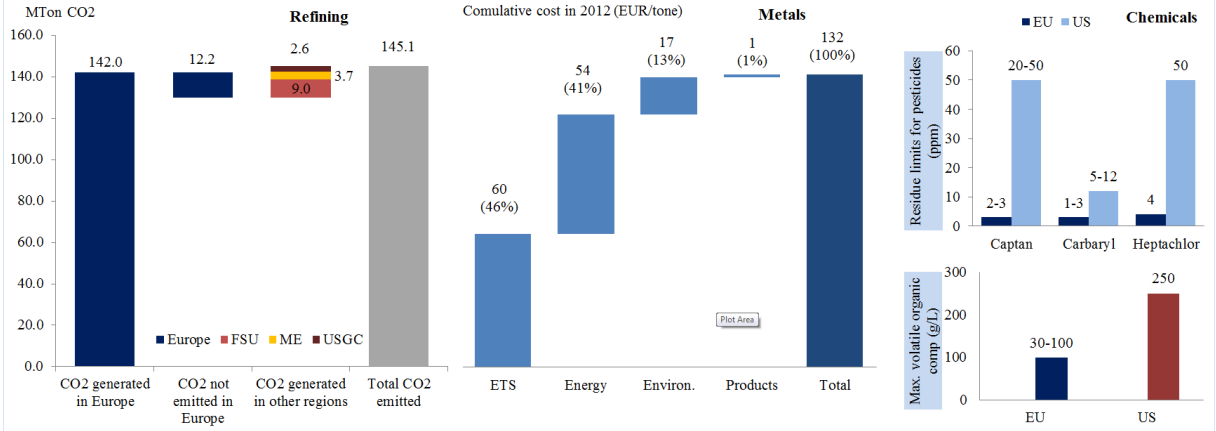
Figure 1.7: Regulatory efficiency: The EU is below the world wide average in regulatory efficiency and has lost significant positioning in the last 8 years



Note: * Value 1-7 in 2014-2015 (1=extremely burdensome; 7=not burdensome at all)
* In 2006-2007, 120 countries in the ranking, while in 2014-2015 144 countries in the ranking

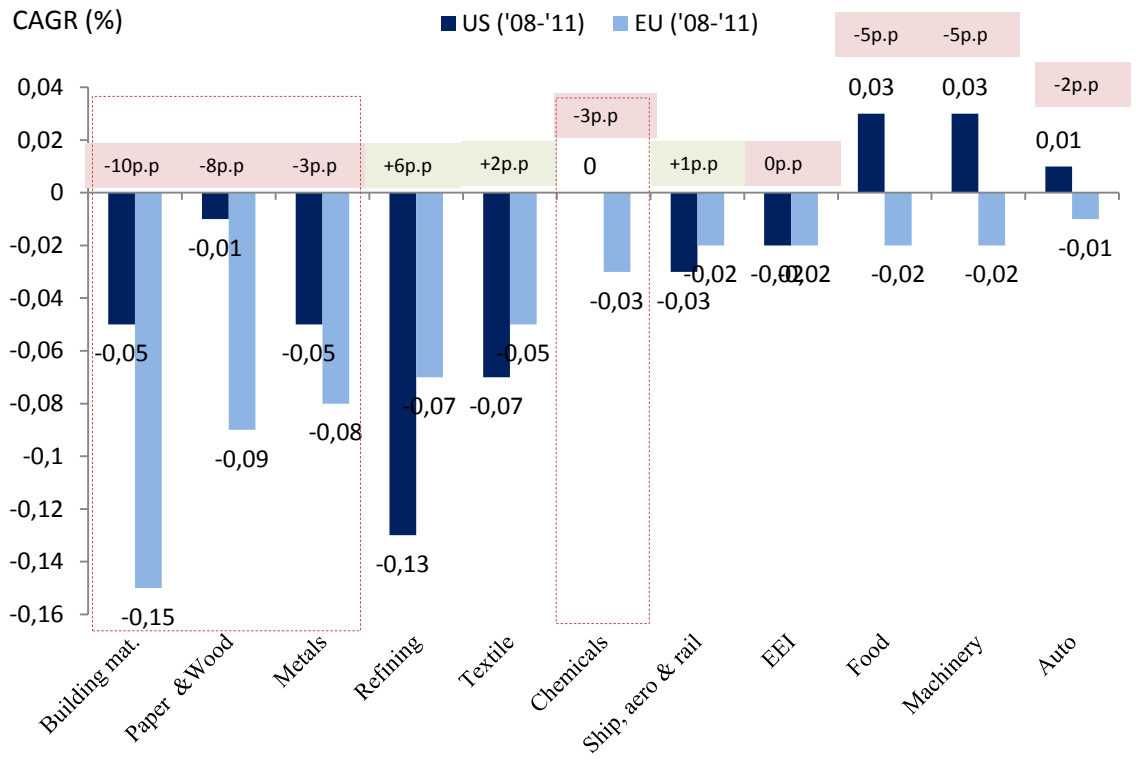
Source: OECD Global Competitiveness Report; BCG Analysis

Figure 1.8: Costs associated with EU legislation in three energy intensive industries – Refining, Metals and Chemicals



Source: Assessment of cumulative cost impact for the steel and aluminium industry; CEPS; Europia; 2014 Statistics; BCG analysis

Figure 1.9: Evolution of gross fixed capital formation by manufacturing value chain (2008-2011)



Source: Eurostat; U.S. Bureau of Economic Analysis; BCG analysis

Disproportionate regulatory burden at EU or at Member State level could increase the cost of doing business and thus have a negative impact on investment decisions or dislocate investment. The Fitness Check on the Refinery sector[27] shows that up to 25 % of the sector's margin decline can be attributed to the impact of 10 pieces of EU legislation. In metals, regulatory costs represented on average 8 % of total production costs over the entire period (2002-2012) but were in the area of 16 % to 39 % of profits.[28] In the chemical industry, some EU restrictions through REACH may contribute in making operating more costly in the EU than in competing locations.[29] Figure 1.8 depicts the costs associated with EU legislation in these industries while Figure 1.9 shows that some energy intensive industries like building materials, paper & wood, metals and chemicals, experienced a more pronounced drop in investment during the post 2009 crisis period than the same industries in the US. Of course this analysis is one side of the coin as it does not take into consideration the many benefits stemming up from EU legislation.

There are sectors like pharmaceuticals, where a harmonised and agile approval process to reduce the time to market and an efficient and predictable IPR framework are critical to attract innovative investments in the EU. In the pharmaceutical market conducting clinical trials entails considerable investment and growth in the EU. The Clinical Trials Directive is heavily criticised and also one of the possible reasons for part of the decrease in the number of applications for clinical trials in the EU[30]. In the market of veterinary medicinal products, the total annual administrative burden imposed on business by the veterinary medicines legislation was estimated to be around 13 % of the turnover of

(27) European Commission (2015), Regulatory Fitness Check for the petroleum refining sector, Staff Working Document, forthcoming.

(28) Earnings before interest, taxes, depreciation and amortisation (EBITDA). Source: CEPS and Economisti Associati (2013), *Assessment of cumulative cost impact for the steel and aluminium industry*.

(29) The European Chemical Industry Council.

(30) European Commission, Impact assessment report on the revision of the "Clinical Trials Directive" 2001/20/EC *Accompanying the document:* Proposal for a Regulation of the European Parliament and of the Council on clinical trials on medicinal products for human use, and repealing Directive 2001/20/EC {COM(2012) 369 final}, SWD(2012) 200 final.

veterinary medicines sector - twice of that estimated for the human sector. In addition, there is a concern expressed both by regulators and the pharmaceutical industry, that the current veterinary pharmaceutical legislation is not suited to innovation. A reason behind this is that the current data protection provisions do not take into account the difficulty found by the veterinary sector in recovering investments spent in the development of new veterinary medicines.[31]

Uncertainties around intellectual property rights (IPRs) affect investment in innovation. High costs and complexity of litigation have a dissuasive impact on SME's using and enforcing IPRs. This leads to SME's in the EU under using IPRs as a means to ensure that they earn sufficient returns on their investment in innovation. Regulatory uncertainties and fragmentation across Member States may inhibit the development and growth of the new business models like for instance in the area of collaborative economy. Grey zones in the liability of service providers, business authorisation and registration requirements deters market access for platforms and limits investment opportunities estimated at around USD 15 billion.[32] [33]

Regulatory fragmentation across the Single Market or disproportionate restrictions, hamper the opportunities to expand business at EU level especially for companies in the transport sector. In transport, logistic costs are very important and logistic restrictions can be as much as 10 % of total logistic costs. Unnecessary load and size limits, traffic restrictions, local restrictions in ports that hamper competition and administrative procedures that drive up costs, reduce freight attractiveness for firms. In road transport there are logistics related to regulatory differences or restrictions that impact on the growth opportunities of companies.[34] In rail transport, the lack of interoperability between systems (lack of full ERTMS deployment) holds back rail freight growth.

Excessive red tape impedes market entry but can also affect the prospects of companies', especially small businesses by limiting their possibilities to grow domestically and internationally or to export because transaction costs are increased by unnecessary administrative procedures. Particularly burdensome areas are related to time and cost to start a business and to acquire licenses.[35] In several EU countries like for instance in Slovenia, Spain and Italy, the time needed for an investor to obtain a building permit is particularly lengthy while costs are not negligible.[36]

It has to be noted that the effectiveness of justice systems and of public administrations is very important in order to reduce the above mentioned transaction costs for companies. The 2015 EU Justice Scoreboard shows that there are significant divergences in the effectiveness, i.e the quality, the independence and the efficiency of the justice systems in Member States, and some of them continue to face challenges relating to the functioning of their justice systems.[37] The effectiveness of the public administration is very important too. Despite the fact that many Member States are planning or even implementing ambitious reforms aiming at modernising public administrations and thus facilitating the general business environment, overall data shows that government effectiveness has not improved much across the EU over the past five years.[38] In addition, according to feedback received from Member States,[39] public administrations in general are suffering from insufficient administrative capacities to manage complex projects and lack of technical skills on evaluating, structuring and executing projects, especially PPPs or private-sector delivery models more generally.

(31) European Commission, Impact Assessment accompanying the document Proposal for a Regulation of the European Parliament and of the Council on veterinary medicinal products {COM(2014) 558 final}, SWD(2014) 274 final.

(32) European Commission, (2015), *A Single Market Strategy for Europe – Analysis and Evidence*, SWD(2015) 202 final.

(33) PwC (2014), *The sharing economy – sizing the revenue opportunity*.

(34) Maximum weights for 5-axle articulated vehicles differ across Member States: Some of them (for instance Italy, Netherlands) have set the limit at 44 tons, while others (like Poland and Germany) do not allow loads over 40 tons.

(35) World Bank Group (2015), *Doing Business 2015* Report.

(36) Slovenia ranks in the 90th place, Spain in the 105th place and Italy in the 116th place for the time needed to get a building permit. Source: 2015 World Bank Doing Business report. In Spain the case of environmental permits is very important since businesses organisation's claim that current delays amount to 30 months on average.

(37) European Commission (2015), *The 2015 EU Justice Scoreboard*, COM(2015) 116 final.

(38) According to the government effectiveness indicator of the World Bank which captures the perception of the quality of public service, its independence from the political process, the quality of policy formation and the implementation and credibility of the government commitment to policies, the ranking of fourteen Member States fell in 2014 compared to 2008.

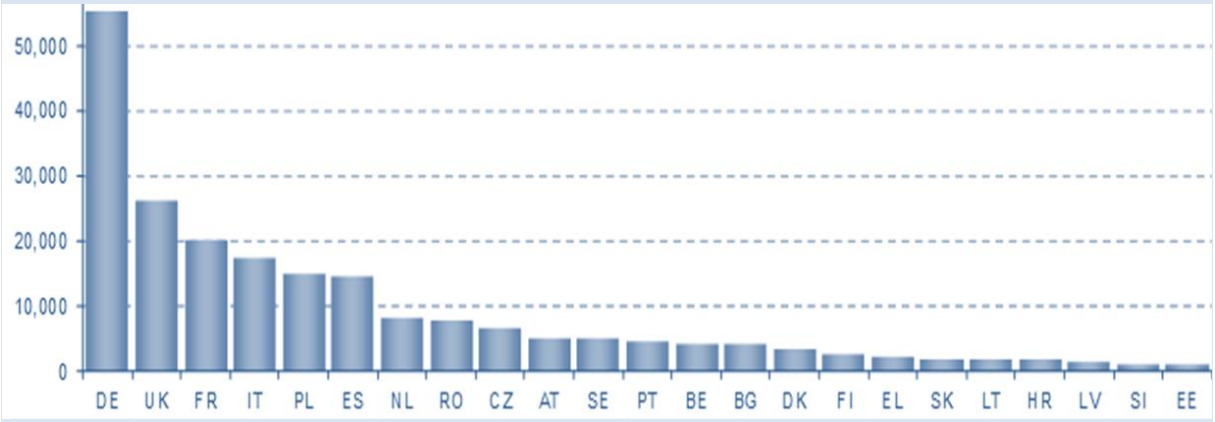
(39) Special Task Force (Member States, Commission, EIB) on Investment in the EU. Final Task Force Report (Annex 3), December 2014.

1.2.2 Financing constraints

Financial flows to non-financial corporations in the EU are increasing but remain subdued. Financing discrepancies among Member States have been exacerbated, i.e. while certain countries have historically low financing costs, others - especially in the euro area periphery - are still struggling with prohibitively high costs of long term financing, which is a major hurdle for achieving a well-functioning Single Market. Across firms' size, there are significant discrepancies too. SMEs, the backbone of the EU economy, continue to be disadvantaged compared to large firms in terms of interest rates and the overall cost of borrowing, as European banks have increasingly differentiated the lending rates between small and large loans, in particular in the distressed countries of the euro area.[40] This impacted particularly small and newly established businesses.

([40]) 2014 ECB SAFE data.

Figure 1.10: Number of non-financial companies (medium-sized companies with a potential to use stock markets as a source of funding, 2012)



Source: European Commission (Staff Working Document 2015/13); ECB; Eurostat and FISMA calculations.

One of the main issues in the EU financial market is that European corporations are in general too dependent on bank lending and equity markets remain underdeveloped in comparison to other big economies. SME's particularly cannot tap capital markets due to, among others, their size, scant credit information and regulatory and other barriers to SME listing. Only a small minority of them reported having used (or considered using) alternatives to bank loans financing instruments, such as equity (16 %) or debt securities (4 %). Moreover, there are significant differences between Member states regarding access to stock markets as a source of funding (Figure 1.10). Alternative financing mechanisms like venture capital, private equity and other non-bank channels play a very limited role especially for EU SMEs. Private funding for start-ups in the EU is very limited compared to that of their US peers (see Figure 1.11).

Information asymmetries between lenders and borrowers and lack of credit information for potential investors also hinder financing. Around 25 % of all companies and around 75 % of owner-managed companies do not have a credit score. This lack of credit information is due to many factors, including: lack of clear accounting guidelines to value intangible assets which affects most start-ups and innovative businesses in the EU; differences in national laws that hinder the collection of information and lack of positive data sharing (e.g. on payment records) in many Member States; fragmentation on the provision of financial information to investors more generally (ex. the financial statements prepared by companies vary greatly from one Member State to another); expensive provision of good quality independent research leading to lack of investment research and analysis on SMEs[41].

Given the stagnant public spending in ICT R&D, this gap in private funding limits growth opportunities for start-ups and affects investment in innovation too. Examples of how these financing constraints affect the growth of innovative companies can be found in some Member States[42]. For instance

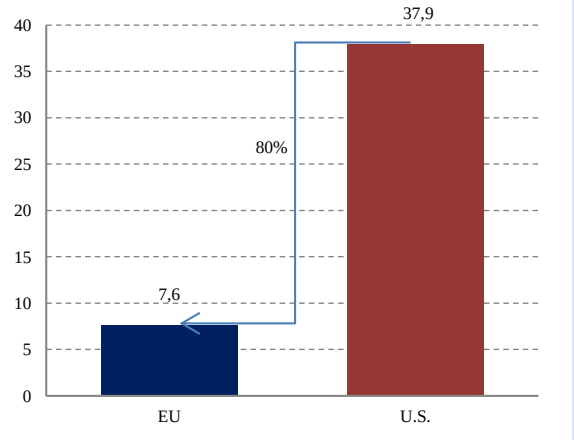
([41]) European Commission, *Initial reflections on the obstacles to the development of deep and integrated EU capital markets* Accompanying the document *Green Paper: Building a Capital Markets Union* {COM(2015) 63 final}, SWD(2015) 13; ECB; Eurostat and FISMA calculations.

([42]) Source: Special Task Force (Member States, Commission, EIB) on Investment in the EU. Final Task Force Report (Annex 3), December 2014.

in Cyprus, there is a grant scheme for Entrepreneurial Innovation-Developing Innovative products and Services for the international market, supporting 39 innovative companies. Three of them cannot expand further although they have secured international patents because in Cyprus there is no venture capital market and the banks do not give loans to innovative companies that have only intellectual property as collateral. Financing constraints also affect long term investment: more than 75 % of the Member States pointed out the financing constraints (both in terms of public and private sources of financing) as barriers to long term investment[43].

The uncertainty around IPRs mentioned before, acts as a burden to both bank lending and the flourishing of equity markets. The need to ensure that intellectual property assets are appropriately valorised so that innovative firms, in particular SMEs, can raise capital to enhance their economic performance is a key challenge for job creation and growth. According to a recent study undertaken for the European Observatory against IPR infringements by OHIM, intellectual property reliant industries account for 26 % of the EU's employment and 39 % of EU's GDP[44]

Figure 1.11: Private funding for start-ups in the EU and US



Source: EC Digital Agenda Scoreboard 2014; Dow Jones Venture Source; The New York Times; BCG analysis

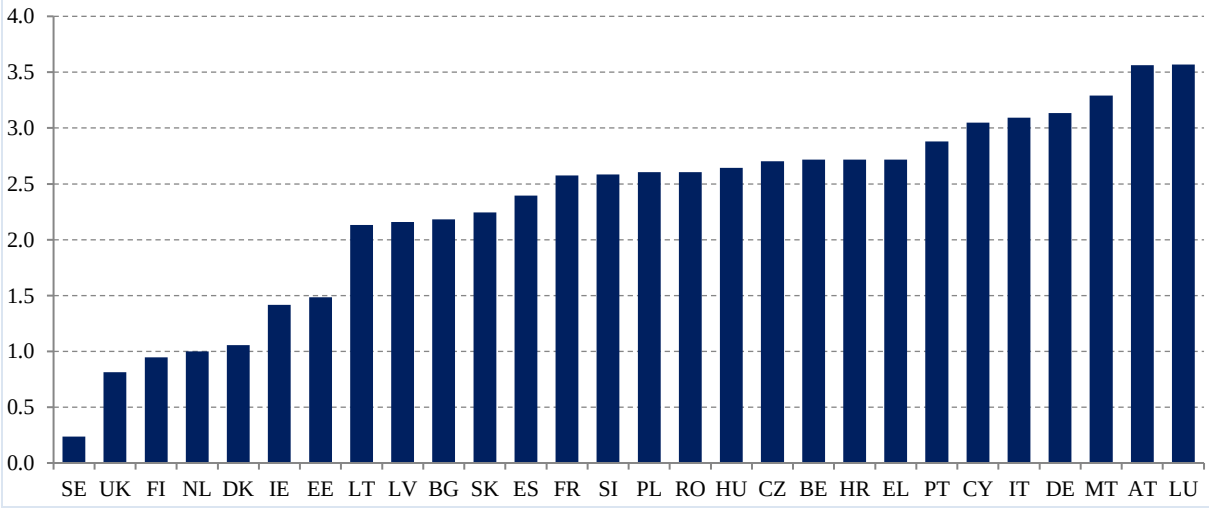
(43) idem.
(44) https://oami.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IPContributionStudy/executive_summary/executive%20summary-en.pdf.

1.2.3 Single Market barriers

High levels of trade restrictiveness in business services[45] can hamper the cross border expansion of firms or the development of new business models. Cross border services within the Single Market as a percentage of total services (6-20 % total) are far below those in the US (27-32 %). Across Member States differences are significant too. Figure 1.12 shows that in several EU countries service trade restrictiveness on business services is high. The flash Eurobarometer survey on European businesses and public administration shows that currently only 8 % of SMEs engage in cross-border activities. As also noted in the Commission Staff Working Document "*A Single Market Strategy for Europe – Analysis and Evidence*"[46] despite a considerable reduction in authorisation, registration and licencing requirements following the implementation of the Services Directive, there are still multiple restrictions in place:[47] These are linked inter alia to the obligation of service providers to obtain authorisations in the country where they provide services even if they have already obtained the same or similar authorisations in their country of establishment, the limited validity of authorisations (territorial and/or time restrictions), and the requirement to register with a chamber or professional association. For retail services, in addition to the large number of obligations for authorisations and permits, conditions are often associated to the size and location of the establishment. Moreover, certain operational requirements may have significant effects on the competitiveness of the retail sector or on cross-border trade and investment.

(45) Since 2008, the definition of "business services" used by Eurostat is based on NACE Rev2. It includes NACE Rev 2 codes: J62, N78, J582,J631, M731, M691, M692, M702, M712, M732, M7111, M7112.
(46) European Commission, (2015), *A Single Market Strategy for Europe – Analysis and Evidence*, SWD(2015) 202 final.
(47) According to the 2015 Commission assessment, authorisation requirements and procedures in civil engineering, accounting and architecture are in place for one or more of these professions in 24 out of 28 Member States.

Figure 1.12: Services Trade Restrictiveness for legal, accounting, engineering and architect services



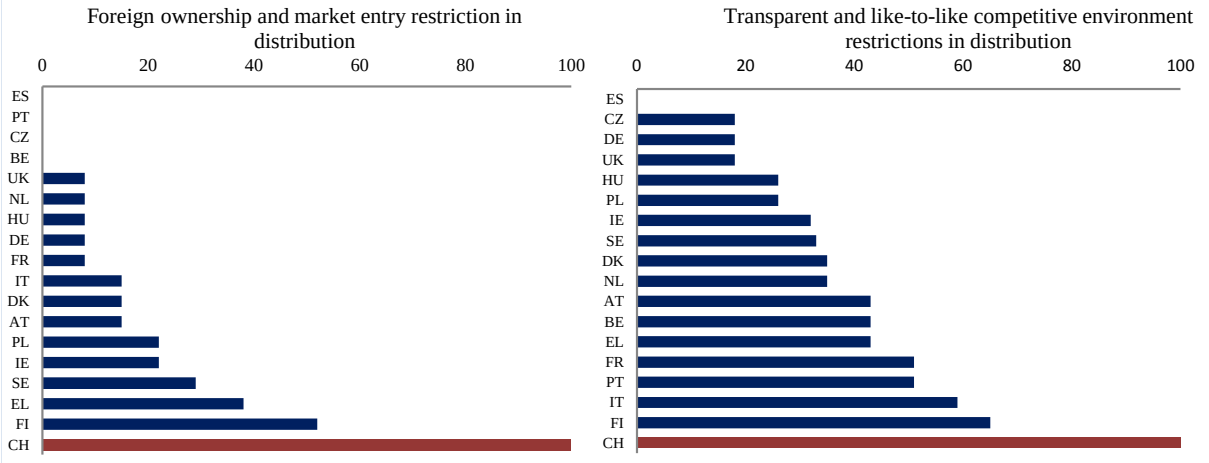
Note: The chart shows the overall restrictiveness per country as the sum of the trade restrictiveness indicators for the four professions mentioned, based on an assessment by the Commission services. For further detail, see: European Commission, (2015), Staff Working Document, *A Single Market Strategy for Europe – Analysis and Evidence*, SWD(2015) 202 final.

Source: European Commission, own assessment

Several Member States have restrictions that limit the possibility for a company to expand cross border and grow (see Figure 1.13). For instance in Greece, significant restrictions exist for investment in sectors like maritime and air transport[48]. In the maritime transport sector, the limitation on foreign equity participation is set to less than 50 % and cabotage is not permitted for non-EU registered vessels, with the exception of cruise ships. In air transport, the air transport investment regime restricts foreign equity participation to less than 50 % and effective control of the airline must be in EU hands. Retail establishment rules are particularly restrictive in Denmark and Finland, in particular for the opening of new large retail outlets. Operational restrictions are also present in Hungary, with the presence of a food safety inspection tax, restrictions prohibiting Sunday and night opening for large shops and a provision prohibiting selling groceries by companies operating with a loss in two consecutive years.

([48]) The OECD Services Trade Restrictiveness Indices (STRI) for maritime and air transport are the highest in the country. Source: OECD.

Figure 1.13: Market entry restrictions in several Member States



Note: Restrictiveness (Index China 100)

Source: OECD Service Trade Restrictiveness Index

Inefficiencies in public procurement across EU Member States can also limit cross-border expansion or growth in the domestic market or even the development of new business models.[49] Uncompetitive practices (for instance non transparent public procurement procedures and fragmentation of calls) are an obstacle to companies' involvement in public procurement.[50] These restrictions prevent smaller companies to grow as they are more vulnerable to uncompetitive practices such as obstacles to involvement with public procurement. A recent study[51] indicates that the increased publicity requirements induce more entry into public procurement while increasing the likelihood that the winner would come from outside the region of the public administration. However transparency of below threshold procurement varies greatly:[52] National thresholds for publication range from less than €10,000 in Portugal to €134,000 in Italy for goods and services, and there is similar diversity in works. Finally, there are also divergences as regards the length of review procedures and costs of litigation, which may further discourage cross border participation.[53]

Several barriers in the EU hamper the development of e-commerce though the establishment of new businesses or the expansion of existing ones or the development of new business models. For instance data localisation requirements force companies to store data on servers physically located inside a particular Member State not allowing them to keep processing facilities outside their territory. Processing of consumer data is extremely important for several industries and this situation limits their growth potential. Indeed it has been estimated that the negative impact of data localisation requirements on EU GDP is 0.4 %.[54] In the area of veterinary medicinal products some Member States introduced national controls on online sales of veterinary medicines (e.g.: United Kingdom, Germany, Ireland), and others have no controls or forbid it (Austria and Belgium). This fragmentation reduces the potential benefits that retailers of veterinary medicines (in particular SMEs and micro-enterprises) could have from operating on a larger, EU-wide market and from developing new services for consumers[55].

Investment in innovation can be hampered by a non-harmonised Single Market in several sectors. For instance, digitisation of the health sector is hampered by several regulatory inefficiencies and non-harmonised rules linked to security (e.g. varying rules on secondary use of data), access and update of data (e.g. lack of harmonisation on patients' consent as well as rights to erase and correct data and/or the lack of harmonisation of professionals having access to the data), barriers to cross-border transfer of data and the lack of a common strategy to coordinate deployment of e-prescriptions.

(49) Only a very low proportion of public contracts published at EU level, (1.6 % or 13.4 % if subsidiaries are taken into account) are awarded to companies coming from different Member States.

(50) European Commission, Flash Eurobarometer 417.

(51) Decio Coviello and Mario Mariniello (2014). *Publicity requirements in public procurement: Evidence from a regression discontinuity design*, Journal of Public Economics, 2014, vol. 109, issue C, pages 76-100.

(52) European Commission, (2015), *A Single Market Strategy for Europe – Analysis and Evidence*, SWD(2015) 202 final.

(53) European Commission (2015), *The 2015 EU Justice Scoreboard*, COM(2015) 116 final http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_2015_en.pdf.

(54) ECIPE estimates (2014) – estimates for only 6 countries in addition to the EU. See: European Commission (2015), *A digital Single Market Strategy for Europe – Analysis and Evidence*, SWD(2015) 202 final; ECIPE (2014), *'The costs of data localisation: friendly fire on economic recovery"*, and the European Commission workshop *''Facilitating cross border data flow in Europe - on data location restrictions*". BCG analysis.

(55) European Commission, Impact Assessment Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on veterinary medicinal products {COM(2014) 558 final, SWD(2014) 274 final.

1.3 Investment Plan

Implementing the President's political guidelines, presented to the European Parliament in July 2014, the Commission proposed an Investment Plan which aims to mobilise at least EUR 315 billion in the next three years by supporting investment in the real economy and creating an investment-friendly environment. It will help maximising the impact of public spending and unlocking private investments. Its main objectives are to reverse the drop in investment, boost competitiveness in strategic areas and strengthen the European dimension of EU knowledge, human capital and physical infrastructure, and the interconnections that are vital to the EU Single Market. This is addressed through three mutually supportive strands.

The first strand (or financing strand) is about mobilising finance for investment through the European Fund for Strategic Investments (EFSI). An EU guarantee of EUR 16 billion aims at directing through the multiplier effect more than EUR 315 billion to the real economy.[56] The fund will focus its financing on investments in infrastructure and innovation, as well as finance for small- and medium-sized Enterprises (SMEs). The second strand is all about making this finance reach the real economy. The EU investment project portal (EU IPP) will give the possibility to project sponsors to submit their projects to an open and transparent system thus addressing a major obstacle to investments - the lack of information - by informing investors about available existing and potential future projects. The European Investment Advisory Hub (EIAH) which will be Europe's gateway to investment support, draws together existing expertise in technical assistance, project design and implementation in Member States, the EIB and the European Commission to create a single contact point for project sponsors and investors who need such assistance in order to improve their project plans[57].

For the first two strands of the Investment Plan to be successful, improving the investment framework conditions in the European economies is crucial. As already mentioned, many obstacles for investment are linked inter alia to the regulatory framework but also to deficiencies in the product, services, and capital markets. The identification and removal of barriers to investment across EU Member States is the key objective of this strand. To improve the business environment and financing conditions, the Investment Plan will include progress towards a Digital Single Market, Energy Union and Capital Markets Union. The Digital Single Market will unlock on line opportunities by bringing down barriers. The Energy Union will create a fully integrated internal energy market by reducing technical and regulatory barriers. The Capital Markets Union (CMU) will create deeper and more integrated capital markets in the 28 Member States of the EU. The Capital Markets Union Action Plan launched in September 2015 is based on four key principles: creating more opportunities for investors; connecting financing to the real economy; fostering a stronger and more resilient financial system; deepening financial integration and increasing competition. The Action Plan foresees some key early actions.[58]

In addition, the Single Market Strategy targets at deepening of the Single Market by removing barriers to the free movement of goods and services and enhancing implementation of existing Single Market rules. The Better Regulation package adopted by the European Commission earlier this year sets the scene for better regulation in the coming years by having as main objectives the better assessment of impacts, more consultation with stakeholders and better evaluation.

Further to these initiatives, the Commission has started working on the identification of country and sector-specific barriers to investment that will be addressed in the context of the European Semester. Moreover, a set of investment barriers in chemicals, minerals and recycling, has been outlined as a result of consultations with potential investors. Specific obstacles concern for example difficulties with long-term electricity contracts, land-use planning and sometimes an inappropriate approach to the implementation of permitting, regulatory barriers for bio-nutrients, regulatory uncertainty for carbon capture and use, regulatory uncertainty for plastics recycling, or unfair competition on biomass markets or the functioning of waste markets. Work on identifying investment barriers in other industry sectors than the ones mentioned above is currently ongoing.

(56) The leverage effect of the EUR 21 billion capital (including an extra 5 billion from the EIB) of the EFSI is that each euro of capital generates EUR 15 worth of investment.

(57) Since September 2015, the European Investment Advisory Hub (EIAH) is operational. The Advisory Hub is a partnership between the Commission and the EIB and consists of three complementary components: 1) a single point of entry to a wide range of advisory and technical assistance programmes and initiatives for public and private beneficiaries, provided by high-level experts; 2) a cooperation platform to leverage, exchange and disseminate expertise among the EIAH partner institutions and beyond; and 3) an instrument to assess and address new needs by reinforcing or extending existing advisory services or creating new ones as demand arises.

(58) New rules on securitisation; new rules on Solvency II treatment of infrastructure projects; public consultation on venture capital; public consultation on covered bonds; assessment of cumulative impact of financial legislation.

1.4 Conclusions

The fact that European economies (unlike in the US) did not manage to rebound to their pre-crisis investments levels shows that there are some consistent barriers that continue to hinder investment in the EU. This chapter tried to analyse these barriers and to identify their impact on specific sectors or types of investment by giving some specific examples where possible from Member States. The taxonomy proposed includes three types of obstacles:

First, barriers linked to regulatory instability, unpredictability, overregulation or bad regulation which impact all types of investment decisions but mostly longer term ones. Investments with longer pay back periods like the ones in the energy sectors need in general not only political but also regulatory stability. It was also shown that regulatory inefficiencies generally increase running costs for businesses especially for SMEs. The third strand of the investment plan aims at improving the investment framework conditions. The Better Regulation package adopted earlier this year, aims at making regulation more lean, consistent and agile.

Second, obstacles linked to financing constraints. Although there are significant discrepancies among EU Member States, European firms are in general too dependent on bank lending and equity markets remain underdeveloped in comparison to other big economies like the US. This coupled with information asymmetries and other restrictions, limit investment opportunities, expansion potential and innovation of EU firms. In this case, investment in innovation is particularly hit as smaller and more innovative companies face significant challenges in accessing seed stage and early stage venture capital. The financing strand of the Investment Plan will mobilise finance for additional investment through the European Fund for Strategic Investments (EFSI) while the Capital Markets Union will explore ways of reducing fragmentation in financial markets, diversifying financing sources, strengthening cross border capital flows and improving access to finance for businesses, particularly SMEs.

Third, Single Market barriers, like differences in business services across Member States, public procurement inefficiencies, other restrictions like in the area of acquisition of land or real estate and several barriers in the area of e-commerce. These obstacles can limit cross border expansion opportunities, creation of new business models and investment in innovation. The Single Market Strategy to which this report is attached, aims at deepening the Single Market by removing unnecessary barriers to the free movement of goods and services and above mentioned restrictions in order to favour investment inter alia in innovation.

The Letter of Intent from President Juncker and First Vice-President Timmermans to the Presidents of the European Parliament and the Presidency of the Council accompanying the President's State of the Union speech 2015 indicated that the identification of key obstacles to investment at national level will be a priority of the 2016 European Semester.

2 The evolution of EU competitiveness and innovation

The economic recovery in Europe is gaining strength. While this is encouraging, we seem destined to return to weak growth rates. Economic expansion alone is not enough to guarantee lasting and sustainable growth. As the possibilities for accumulating capital and labour appear limited, the onus is on productivity to drive long-term growth. But the long-term trend of declining productivity growth has not been reversed yet.[59] The barriers that have hampered investment and lowered capital accumulation (see chapter 1) are also responsible for the slowdown of productivity growth. Revitalizing investment is needed to improve productivity.

The problem of low productivity remains therefore one of the greatest threats to improve competitiveness and raise living standards. The generalised productivity slowdown and the opportunities from a better allocation of resources and innovation offer a window of opportunity to the EU to improve global competitiveness. A strong commitment to productivity-enhancing structural reforms is needed. However, while common principles may apply, reforms should be country and sector specific.

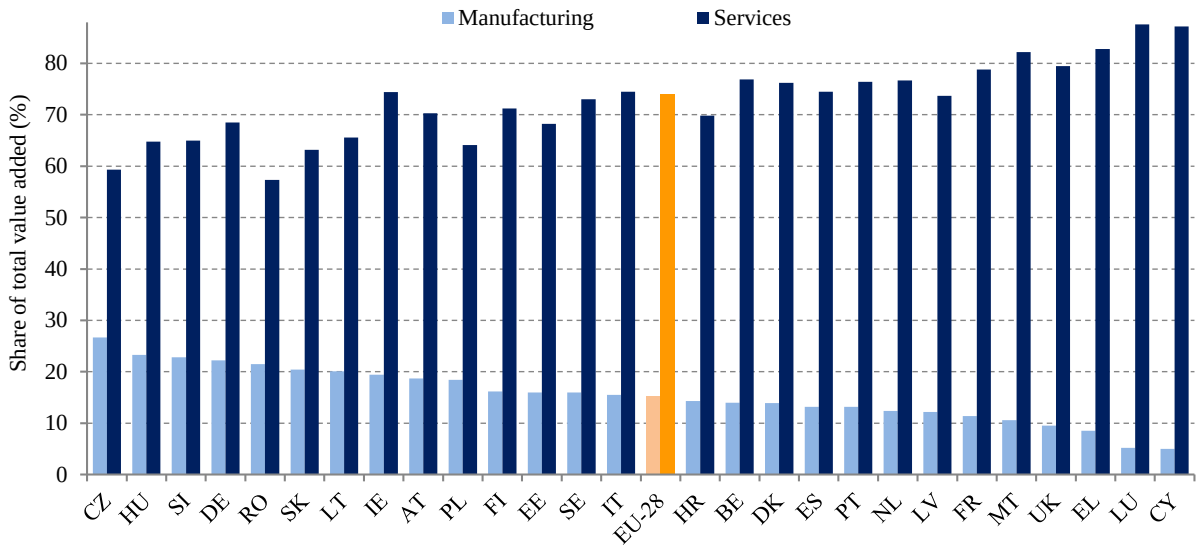
([59]) There is an ongoing debate on the measurement of productivity. Various economists have highlighted the limitations of the standard measures that may be biasing down productivity growth, such as: the incapacity for capturing quality improvements; time lags for capturing changes; and the existence of activities not captured by GDP. For instance, the United Kingdom has launched an independent review of economic statistics which is expected to address these issues among others. Adjusting for these measurement errors may indeed attenuate the decline in productivity growth. Yet, this report focuses on factors behind the productivity slowdown that are not related to measurement. On the debate on productivity measures, cf. Citi, *Global Economics View – poor productivity, poor data, and plenty of polarisation*, Citi Research, August 2015. On the UK independent review of economic statistics, cf. UK HM Treasury and Cabinet Office, *Review of economic statistics: call for evidence*, August 2015.

2.1 The evolution of sectoral performance

2.1.1 GDP composition

Economic development has been characterised by a gradual shift of activity and resources from agriculture to manufacturing, followed by a shift from manufacturing towards the service sector. The tertiary sector has gained in importance, both in terms of employment and output, and all EU economies are becoming increasingly services economies, in terms of both the share of value-added and the share of employment generated in services sectors. However, there are still relevant differences across Member States. As shown in Figure 2.1 below, the weight of manufacturing is overall higher in Central and Eastern European (CEE) Member States and several EU-15 Member States. As concerns services, all CEE Member States have a share of total value added below the EU average.

Figure 2.1: Relative contributions to total value added in the EU and Member States (2014)



Note: 2014 data for EU and all Member States but Luxembourg (2013) and Romania (2012. Data for Bulgaria not available.

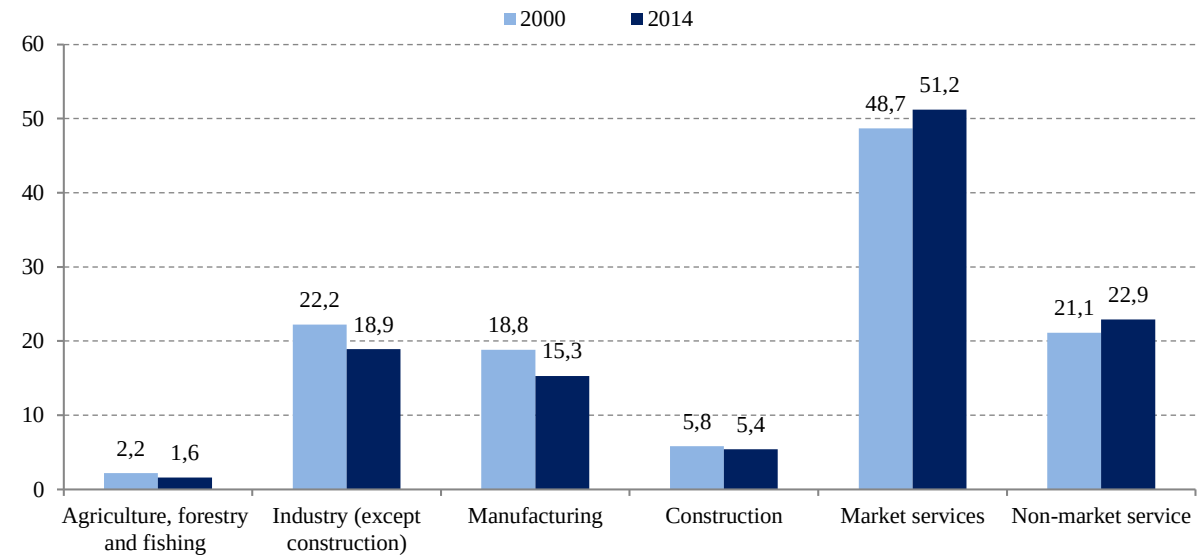
Source: Own calculations based on Eurostat data

There are several possible explanations for the increasing importance of services in the economy. First, income elasticity of demand for certain services (education, health, leisure related, and personal services, among others) is higher than for most manufactured goods. This high income elasticity together with increases in income in the EU-28 during the period studied resulted in a disproportional increase in the share of services in the economy. Second, the use and relative cost of services as intermediate inputs in manufacturing increased during this period. Third, productivity increased faster and prices increased more slowly in manufacturing than in services. Finally, manufacturing was more exposed to competition from low cost producers outside EU, which could lead to reduction in manufacturing production and reallocation of resources within the EU towards services, which were less exposed to such competition.

Figure 2.2 below shows that during the period 2000 to 2014 the shares of agriculture, industry and construction in GVA decreased, while the shares of services increased. These changes resulted in services (market and non-market)[60] accounting for 74 % of the GVA in 2014. During the same period, the share of manufacturing decreased from 18.8 % to 15.3 %.

([60]) Market services are those services produced for sale on the market at a price intended to cover production costs and to provide a profit for the producer (e.g. retail, financial intermediation). Non-market services are those services provided free of charge, or at a price that is not economically-significant i.e. does not reflect production costs (e.g. public health, education).

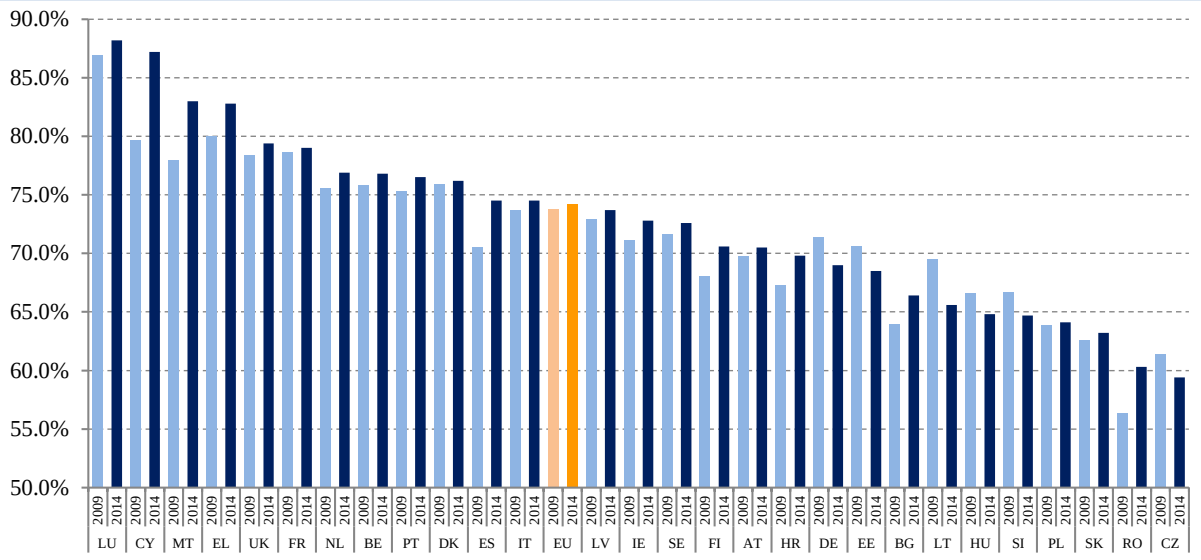
Figure 2.2: Shares in EU-28 GVA by sector (2000-2014)



Source: European Commission, *EU Structural Change 2015*, DG GROW.

The share of services in GVA has increased overall by 0.4 percentage points, with respect to 2009. Figure 2.3 below shows that the service sector accounts for more than 59 % in GVA in all Member States. In ten of them – Luxembourg, Cyprus, Malta, Greece, the United Kingdom, France, the Netherlands, Belgium, Portugal and Denmark – it even accounts for more than 75 % of GVA in 2014. Only six Member States – Germany, Estonia, Lithuania, Hungary, Slovenia, and the Czech Republic – have seen a reduction in the weight of the services sector. These are Member States were the relative importance of this sector was already below the EU average, while that of their manufacturing sector was well above the EU average.

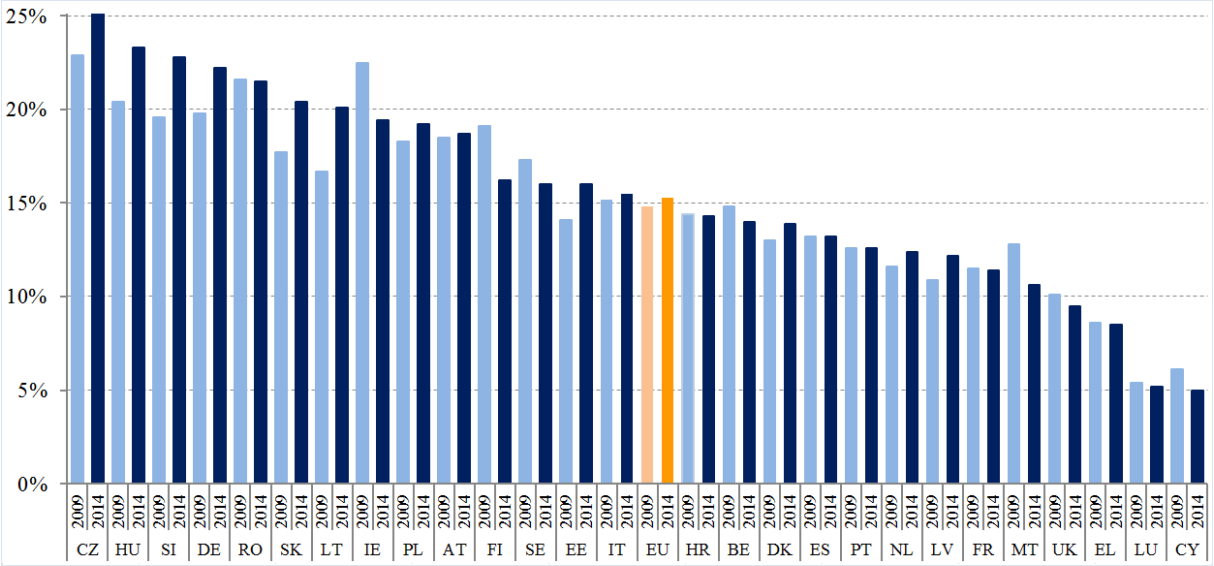
Figure 2.3: Services as a percentage of gross value added (2009 and 2014)



Source: Eurostat

The relative importance of manufacturing has increased overall by 0.5 percentage points, with respect to 2009. However, performances vary slightly among Member States and across time, as shown in Figure 2.4. It is interesting to note that, with the exception of Germany, the seven Member States with a larger manufacturing sector (as percentage of GVA) — the Czech Republic, Hungary, Slovenia, Germany, Romania, Slovakia and Lithuania — mostly catching-up economies that are likely to grow more than the EU average in years to come.

Figure 2.4: Manufacturing as a percentage of gross value added (2009 and 2014)



Source: Eurostat

After several difficult years at the start of the century, EU manufacturing output expanded rapidly from 2003 to 2008, when it peaked. It then fell by almost 20 % in 2008 and 2009 as the full force of the recession required manufacturers to close down, or at any rate downsize in order to survive. From its lowest point in 2009, manufacturing has recovered more than half the output lost in 2008–2009 but remains lower than pre-recession peak production in most Member States. On average across all Member States, the negative gap is around 9 %, but in crisis-stricken economies such as Cyprus, Greece and Spain, manufacturing output only represents 60–75 % of pre-recession levels. In fact, in fifteen Member States manufacturing output remains lower than before the recession, in nine it is higher, and in the remaining four (Austria, Germany, Hungary, Netherlands) it is very close to pre-recession levels.

In other parts of the world, manufacturing has recovered more quickly than in the EU. Despite initially rebounding quicker than in the United States, EU manufacturing has since fallen behind in recovering from the recession.[61] In many Asian economies, manufacturing output plunged deeper than in the EU or the United States, but recovered much faster.[62] A case in point is South Korean manufacturing, which returned to pre-recession levels of production in less than 18 months.[63] Even in Japan — initially hit harder by the crisis than any of the other three economies — the economy recovered almost at a par with South Korea for some time, until the devastating earthquake and tsunami of 2011 dealt a second blow to the economy.

From a sectoral perspective, most sectors experienced growth in 2014 (see Figure 2.5).[64] However, in spite of recent strong output increases in certain sectors, only three sectors have exceeded their pre-crisis production levels (pharmaceuticals, other transport equipment and food and beverages) while motor vehicles is nearly at the same level of production as before the crisis. At the other extreme of the performance spectrum, other non-metallic products, textiles, basic metals and chemicals saw their production levels fall and are still far from their peak production.

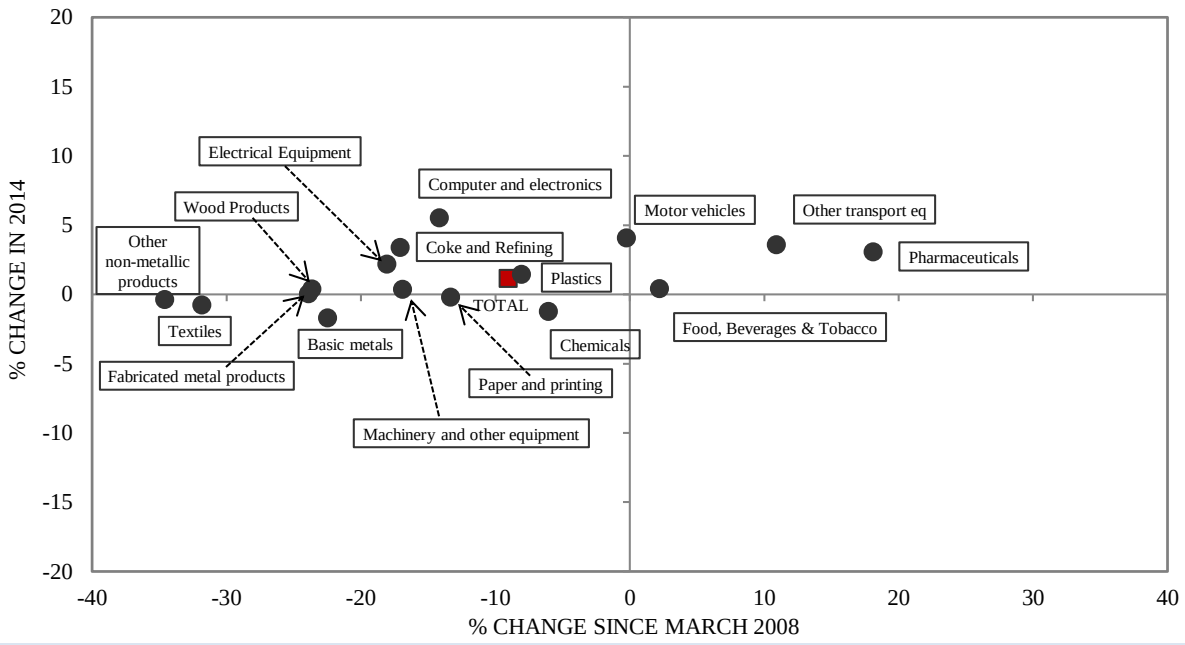
(61) US manufacturing output has grown consistently from its lowest point in 2009 — by 6.1 % in 2010, 3.4 % in 2011, 4.1 % in 2012, 2.6 % in 2013, and 3.6 % in 2014 — and now exceeds pre-crisis levels by a small margin.

(62) The corresponding average for Japanese manufacturing was more than 15 % below peak production, whereas South Korean manufacturing output was 20 % higher than its pre-crisis peak in 2008.

(63) Some of the main reasons for South Korea's rapid recovery from the crisis are explained in OECD (2011).

(64) The fastest growing sectors over twelve months were pharmaceutical products and preparations; coke and refined petroleum products; computer, electronic and optical products; motor vehicles, trailers, semi-trailers and other transport equipment. The greatest output losses over the same twelve months occurred in tobacco.

Figure 2.5: Sectoral performance of manufacturing output in the EU-28 (2014 and 2008-2014)



Source: Eurostat

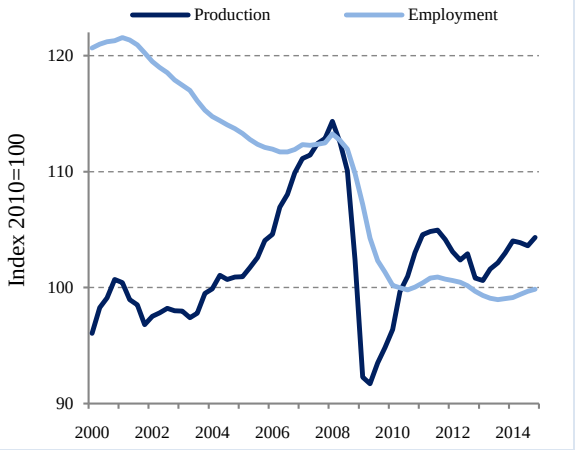
Given its importance in terms of upstream and downstream links to other sectors of the EU economy, as well as internationally in the global value chain, it is worth highlighting the motor vehicles, trailers and semitrailers sector and its remarkable recovery after the crisis. The initial impact was considerably more severe than in most other EU manufacturing sectors: from early 2008 to early 2009, output fell by more than 40 %, production plants were closed down or offshored, employees were laid off, and some manufacturers went out of business. However, the sector survived in a smaller, restructured and (presumably) more efficient form and rapidly expanded production. Two years after its lowest point in 2009, production had increased by 70 %, and since then it has edged within a few percent of its peak in early 2008. For 2014 as a whole, production reached an all-time high.

As concerns services, reliable data on output volumes are difficult to obtain except for retail trade, where trade volume grew rapidly and consistently until it peaked in 2008. After the crisis and throughout the recession it fell back but is now rising again. For all services apart from retail trade, only turnover data are available, showing a steady increase over time, although with no reliable way of distinguishing between the effects of price and volume changes.

2.1.2 Employment evolution

In EU manufacturing, both employment and production fell sharply during the longest and deepest recession in European post-war history but have since recovered somewhat and, in the case of manufacturing employment, returned to the same level as in 2010. Between 2013 and 2014 employment in manufacturing grew by 160 000 units. However, 1.7 million jobs still need to be recovered in the EU manufacturing sector with respect to 2009.

Figure 2.6: Production and employment in EU manufacturing (2000-2014)



Source: Eurostat

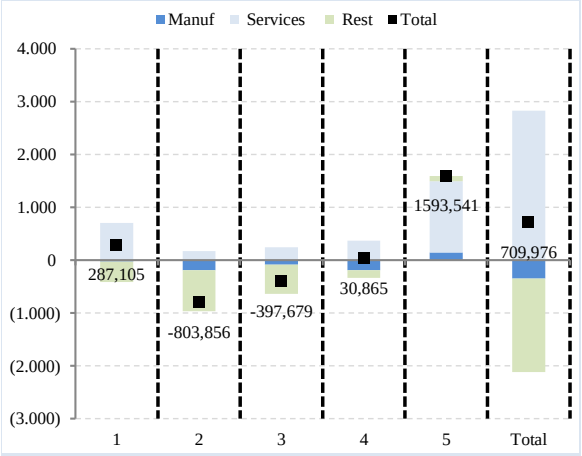
There is no contradiction between the long-term trends of falling manufacturing employment and cyclically growing output (see Figure 2.6), on the one hand, and the diminishing contribution of manufacturing to total value added on the other hand. Both are in fact driven by the higher productivity growth in manufacturing than in services. Being able to produce as much or more goods with less input (of labour, capital, energy, intermediate goods, raw material) means that output can increase even though employment goes down, while at the same time the relative prices of the goods are pushed down because of competition.[65] Therefore the value of the produced goods does not increase by as much as the volume and over time manufacturing tends to represent a smaller proportion of total value added.

Concerning services sectors, they now employ more people than ever before and are set to continue expanding their employment. Employment in services diminished in 2008 and 2009 as a result of the crisis but quickly recovered and is now higher than ever before.

2.1.3 The impact of changes in the economic structure of the EU on wages and the quality of jobs

The changes in the composition of GVA of the EU and its economic structure have impacts on the distribution of jobs across sectors and the absolute level of employment, but they also have an impact on the quality of those jobs and the distribution of wages. The new jobs created in manufacturing will not have the same characteristics as those destroyed during the crisis. Since 2011, net employment has been created mostly in the low and high-paid levels leading to a greater polarisation of employment (Figure 2.7).[66] This trend is repeated for manufacturing (Figure 2.8). However, high-tech industry has been capable of providing a wider range of mid and high paying jobs, corresponding to mid-paid technicians[67] and well-paid managerial administrative roles, while employment has been destroyed across all wage quintiles for low-tech industry. However, during 2014 the polarisation trend was somehow eased. While services continued creating jobs at the lower extreme of the wage distribution, manufacturing created jobs in the top three quintiles, contributing to a more even distribution of jobs along the pay scale.

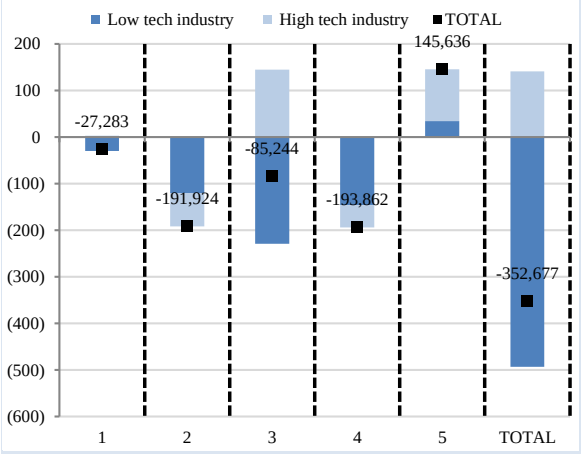
Figure 2.7: Change in employment (1000 jobs) by wage quintiles for EU-27 by sectors (2011-2014)



Note: Wage quintiles are numbered from 1 (= lowest wage levels) to 5 (=highest wage levels).

Source: Eurofound

Figure 2.8: Change in employment (1000 jobs) by wage quintiles for EU-27 by industry sectors (2011-2014)



Note: Wage quintiles are numbered from 1 (= lowest wage levels) to 5 (=highest wage levels).

Source: Eurofound

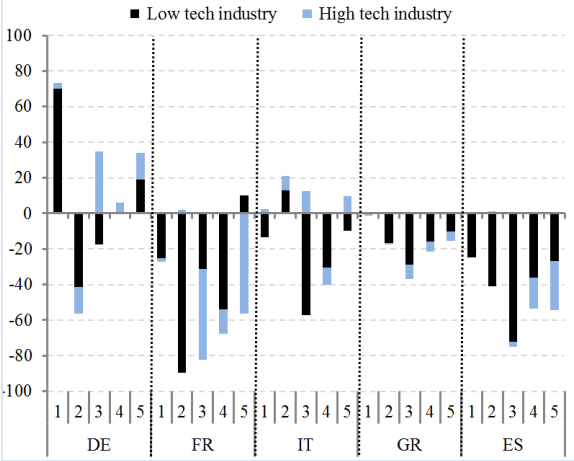
(65) A measure that could take into account both productivity and competitiveness is profitability. Cf. Amoroso, Sara & Moncada-Paterno-Castello, Pietro (2015), *Profits, R&D and the demand for labour*, JRC-IPTS Working Papers on Corporate R&D and Innovation (forthcoming); and Brännback, Malin, Alan L. Carsrud, and Niklas Kiviluoto (2014), *Understanding the Myth of High Growth Firms*, Springer, New York.

(66) Eurofound (2015). *Upgrading or polarisation? Long-term and global shifts in the employment structure*, European Jobs Monitor 2015.

(67) Jobs were allocated to quintiles in each country based on the job-wage ranking for that country. Mid-paid technicians correspond to quantile 3 and represent close to 20 % of employment in the relevant period. Cf. Eurofound, (2015).

The distribution of job creation across sectors and the quality of those jobs presents significant differences across Member States (Figures 2.9 and 2.10). Germany and France have experienced employment creation mainly in the lower quintiles of the wage distribution. While Germany has seen employment growth both in the manufacturing and services sector, France has only created net employment for the latter. On the other hand, employment losses continued across the board in the southern Member States, more so in Greece and Spain where no wage quintile has experienced net job gains during the period 2011-2014. Italy has only seen a significant growth of low-paid services jobs. Zooming into the creation of jobs in industry, high paid jobs are being created, or destroyed at a slower pace, in high-tech sectors.

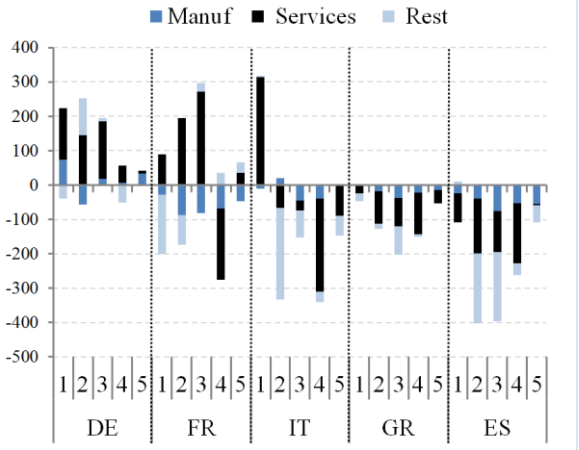
Figure 2.9: Change in employment (1000 jobs) by wage quintiles for selected Member States and industry sectors (2011-2014)



Note: Wage quintiles are numbered from 1 (= lowest wage levels) to 5 (=highest wage levels).

Source: Eurofound

Figure 2.10: Change in employment (1000 jobs) by wage quintiles for selected Member States and sectors (2011-2014)



Note: Wage quintiles are numbered from 1 (= lowest wage levels) to 5 (=highest wage levels).

Source: Eurofound

This polarisation of jobs can also be seen in terms of tenure. During the crisis, manufacturing job tenure increased showing that job destruction was centred in the late arrivals to the sector which should be the youngest and more qualified.[68]

([68]) RWI (2015). Labour market transitions in turbulent times. Research Project Report for Eurofound.