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Economic Challenges of Lagging Regions I:

Fiscal and Macroeconomic Environment

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Abstract

The report analyses the fiscal and macroeconomic environment in the lagging regions and the relevant Member States of the EU, as a sound and sustainable macroeconomic framework is a necessary, but by itself not a sufficient precondition for investment and growth in the regions. It starts with identifying relevant indicators to highlight the macroeconomic environment in the lagging regions, assessing the performance of the regions across these indicators, and establishing a framework which sets out the potential causes of these imbalances. This sets the scene for further analysis of the transmission mechanisms which cause the regional discrepancies in these Member States between the lagging and the non-lagging regions, as well as exploring the differences between the low growth and low income lagging regions. The report concludes with a summary of these findings and how they could be used as a basis for policy recommendations which might improve the economic performance of the lagging regions.

Keywords: macroeconomic development, regional economic development, EU, lagging regions, regional policy, economic challenges

JEL classification: E32, E60, H60, O11, O18, O40, R11

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1. Project overview

This report is the first part of a bigger study on the 'Economic challenges of lagging regions' commissioned by the European Commission's Directorate-General for Regional and Urban Policy. The study was a joint undertaking of three institutions, i.e. Applica sprl., Cambridge Econometrics and the Vienna Institute for International Economic Studies (wiiw).

The focus of the study is the economic challenges of lagging regions in the EU-28. In this respect, regions – in general – are defined according to the NUTS 2 level of regions[1]. As far as lagging regions are concerned, there are two specific types:

› Low growth regions, i.e. those NUTS 2 regions that did not converge to the EU average GDP per head at PPS between the years 2000 and 2013. This group covers almost all the less developed and transition regions in Greece, Italy, Spain and Portugal.

› Low income regions, i.e. those NUTS 2 regions with a GDP per head in PPS below 50% of the EU average in 2013. This group covers several less developed regions of Bulgaria, Hungary, Poland and Romania.[2]

The main challenge regarding the low growth regions is to find policies and strategies to overcome the low growth path they have been locked in for more than a decade. The main challenge of the low income regions is the long-term sustainability of the respectable growth path they have been following in the past and the need to prevent them from entering the development trajectory of the low growth regions. Overall therefore, the major challenge of the lagging regions is to increase and/or stabilise their economic performance in order to enable them to re-enter and stay on a convergence path to the more prosperous regions in the EU.

At the same time, the economic performance of the regions is, from the study's point of view, dependent on three factors, namely:

a) the fiscal and macroeconomic conditions under which the regions and the respective countries operate;
b) the structural imbalances they are subject to;
c) the amount and structure of investment going to the regions to increase their productive capacity.

It is the aim of the study to analyse these three points and their relation to the economic performance of the lagging regions. The results and conclusions of the study are intended to assist the EU Commission in developing strategies to overcome the economic problems and challenges in the lagging regions of the EU.

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1 Defined according to the 2013 NUTS classification.

2 According to this definition there are 46 NUTS 2 lagging regions in the EU (see Annex II).

For this, the study is structured in four Parts:

(I) An analysis of the fiscal and macroeconomic environment for each of the eight Member States containing lagging regions

(II) An analysis of the main structural reforms carried out in the eight Member States

(III) An analysis of the main investment trends in the eight countries and the lagging regions

(IV) Three case studies to provide an in-depth analysis of lagging regions, aimed at identifying their development opportunities and comparative advantages

The aim of Parts I-III is to work out the links between the macroeconomic environment, structural reforms and investment trends on the economic performance of especially the lagging regions, while Part IV, accounting for the fact that there may be no one-size-fits-all solution for the lagging regions, provides a deeper analysis of potential strategies to foster economic development for a selected number of individual regions.

In some more detail, the four Parts centre on the following issues:

› **Part I** analyses the fiscal and macroeconomic environment in the lagging regions and the relevant Member States, as a sound and sustainable macroeconomic framework is a necessary, but by itself not a sufficient precondition for investment and growth in the regions. The first task therefore

1) presents a range of indicators which represent the fiscal and macroeconomic environment, drawing on the most recent economic governance reports, and covering sufficiently long time periods to capture current trends;

2) discusses the relationship between these indicators and the narrative that emerges with respect to the current status and development path of the macroeconomic environment;

3) further analyses investment activity, and demonstrates how the macroeconomic situation influences what investment takes place, where it occurs (across the regions) and how this relates to the development of regional export capacity and competitiveness;

4) summarises the principal macroeconomic policy challenges that are affecting the lagging regions and what this implies for the national and regional government.

› **Part II** focuses on structural reforms and governance issues in the lagging regions and the respective Member States. The analysis is broken down to address six questions:

1) What have been the main structural reforms carried out over the recent past which are relevant for the ESI Funds?

2) What has been their effect on the countries concerned but most especially on the lagging regions within them?

3) Which remaining structural reforms need to be implemented which are relevant for the performance of lagging regions in the eight countries?

4) Which governance issues affect the performance of the programmes cofinanced by the ESI Funds?

5) How does the implementation of structural reforms affect the investment decisions of enterprises located both within these Member States and regions and outside?

6) How are the investment decisions affected by the quality of governance?

› **Part III** analyses recent investment trends in the lagging regions, regional development strategies and future investment requirements. The analysis is broken down into three parts:

1) A detailed analysis of regional investment trends, focusing on investment as recorded by the National Accounts, ERDF and Cohesion Fund investment for the periods 2000-2006 and 2007-2013 and foreign direct investment.

2) An assessment of the effects of these investments on regional GDP, employment and productivity growth in the lagging regions, as well as an analysis of their opportunity costs.

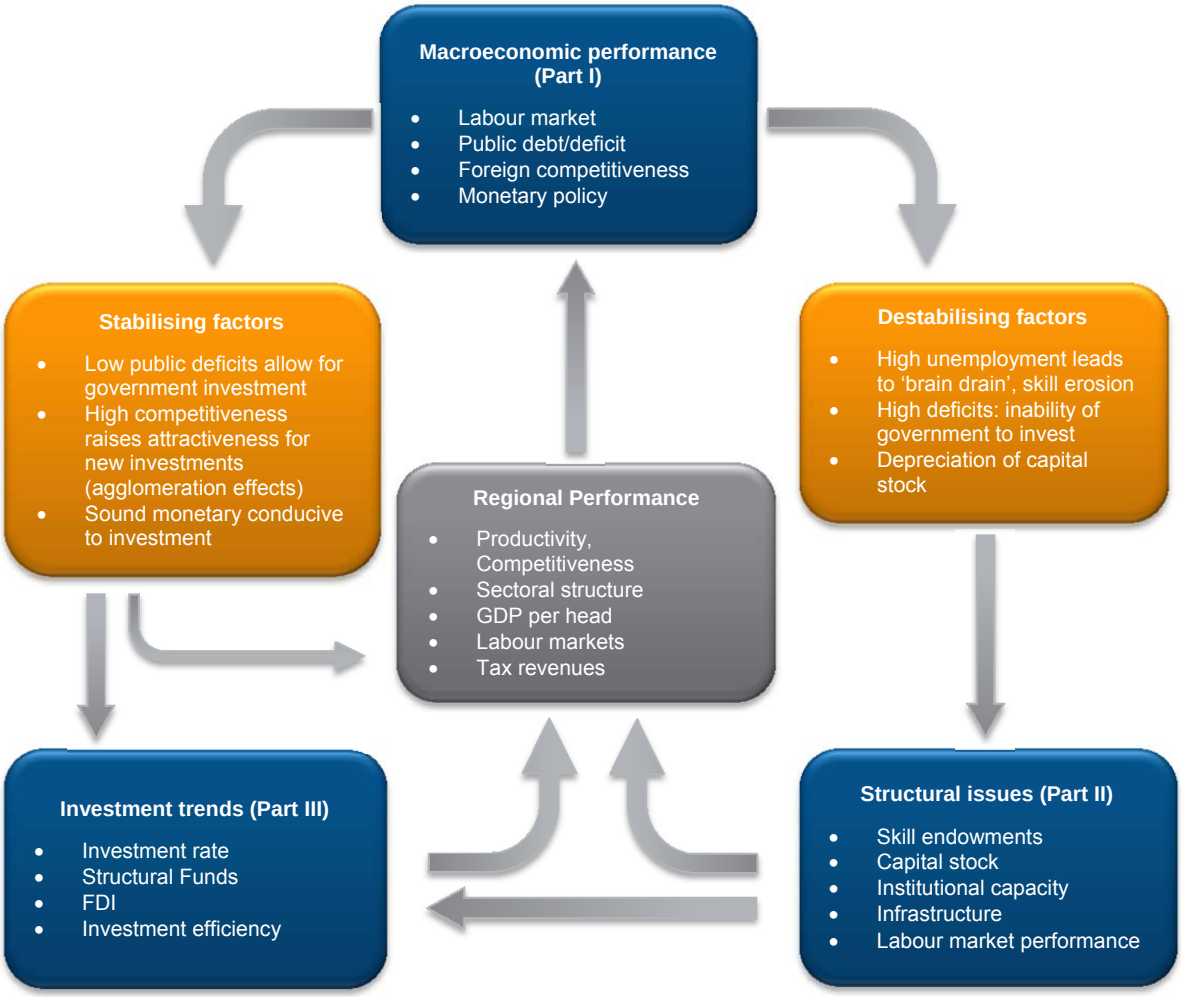
3) An analysis of investment needs and investment support policies in lagging regions.

› **Part IV** includes three case studies on lagging regions, namely a) the Romanian Nord-Est region (RO21), representing a predominantly rural, low income region; b) the Portuguese Norte region (PT11), representing a low growth region specialised in manufacturing; and c) the Italian Campania (ITF3), representing a low growth urban region specialised in services activities. Each case study analyses the region's comparative advantages and development opportunities, the constraints on exploiting these opportunities as well as the potential consequences that may arise if these development opportunities are realised.

Overall therefore, the study explores determinants of and challenges to regional economic performance from three different angles (represented by Parts I-III). Individually, each of these angles not only affects in one way or another, the level and sustainability of growth in the regions. Also, each angle has effects on the distribution of growth across regions, considering that changes in the macroeconomic environment or national structural reforms may entail asymmetric effects on the regions, depending on their characteristics. At the same time there are also transmission channels between these angles, i.e. the macroeconomic framework, structural issues and investment trends, so that changes in one of them has repercussion on the others, which in sum have further repercussions on the regions' economic performance (e.g. changes in the macroeconomic conditions may necessitate the introduction of structural reforms and/or change the investment behaviour in the regions). Finally, there are also repercussions from the regional performance itself on the countries' macroeconomic development, the need and ability to conduct structural reforms and also the investment trends in the regions (e.g. through agglomeration effects).

From this, the structure of the study, the links between the individual tasks analysed in Parts I-IV and regional economic performance as well as the transmission channels between the tasks are illustrated in Figure 1.1.

Figure 1.1 / Structure of the study, linkages and transmission mechanisms between tasks



This structure shows the relationship between the macroeconomic environment, the more fundamental structural issues and the investment trends in the regions that are believed to be at the root of their potential performance. It shows how the macroeconomic environment through stabilising and destabilising transmission channels directly and/or indirectly affects both, structural issues and investment trends. Thus, the structure suggests that the macroeconomic environment also has both, a direct and indirect impact on regional performance. The direct impact emanates from the stabilising factors, as e.g. a sound monetary policy with low and stable inflation, favourable nominal and real exchange rates is directly conducive to the regions' foreign competitiveness, thus generating spillovers on the regions' labour markets, tax revenues, income growth and even the economic structure (e.g. through easier financing of R&D or start-ups). The indirect effects of the macroeconomic environment on

regional performance are transmitted through its impacts on structural issues and investment, both of which affect the regions' performance on their own.

The impacts of the macroeconomic environment or, in this case, rather the macroeconomic imbalances on structural issues are transmitted through a number of destabilising factors, as long-term economic underperformance can exacerbate the fundamental structural problems of a country and its regions. Thus, running high public deficits and debt levels lower the government's ability to invest e.g. in infrastructure, education, R&D, leading to a decline of the capital stock, a deterioration of public infrastructure, an erosion of the skill and science base etc. Equally, high public deficits make the implementation of necessary structural reforms much more difficult, and the required cuts in public spending and employment might not necessarily be conducive to the institutional capacity or the quality of governance (e.g. through an increase in corruption, adverse selection in public employment etc.).

As far as the impacts of the macroeconomic environment on investment trends are concerned, the structure indicates that both, stabilising and destabilising factors may affect the size and structure of investment. A sound macroeconomic performance stabilises expectations, providing a secure environment for investment, while low or sustainable public (and private) debt levels facilitate the financing of public (and private) investment via banks or the capital market. Interest rates may be conducive to investment if low (though this is only a necessary, not sufficient condition), yet if misaligned may distort the relative prices of capital and lead to investment bubbles[3].

Long-term fundamental structural issues, which include social, institutional, physical, regulatory and economic problems, directly impact upon the regions and their ability to compete and attract external investment. Major direct impacts on the regions' performance include a) a lack of competitiveness within sectors, b) a potential over-reliance on low wage and low productivity sectors, c) low income growth and levels, d) unfavourable labour market situations and conditions or e) low tax revenues and high expenditure requirements faced by the local government, with repercussions on the central government budget.

Simultaneously structural issues in one way or another also affect the (foreign or domestic) investment going to the regions as low skill endowments, a low institutional capacity and outdated infrastructure are likely to deter private investment from the regions and may lead to an inefficient use of public and Structural Funds investments. In this way, structural issues indirectly affect regional performance, too, as investment is a major determinant of regional growth and development.

Finally, the regions' performance itself has repercussions on the macroeconomic environment (as the country is the sum of its regions), and reveals itself through the designated macroeconomic indicators referring to the labour market, public finances, foreign competitiveness or monetary policy.

This report is Part I, 'Fiscal and Macroeconomic Environment', of the study 'Economic Challenges of Lagging Regions'.

[3] In the structure this is considered as rather exceptional cases, therefore no link between 'destabilising factors' and 'investment trends' is shown.

2. Introduction to Part I

This chapter presents the findings of Part I of the project: starting with identifying relevant indicators to highlight the macroeconomic environment in the lagging regions, the performance of the regions across these indicators (with the aim of revealing imbalances in the regional economy) is assessed, and a framework setting out the potential causes of these imbalances is established. This sets the scene for further analysis of the transmission mechanisms which cause the regional discrepancies in these Member States between the lagging and the non-lagging regions, as well as exploring the differences between the low growth and low income lagging regions. The chapter concludes with a summary of these findings and how they could be used as a basis for policy recommendations which might improve the economic performance of the lagging regions.

Part I has four broad objectives:

1) Present a range of indicators which represent the fiscal and macroeconomic environment, drawing on the most recent economic governance reports, and covering sufficiently long time periods to capture current trends.

2) Discuss the relationship between these indicators and the narrative that emerges with respect to the status and development path of the fiscal macroeconomic environment.

3) Further analyse investment activity, and demonstrate how the fiscal macroeconomic situation influences what investment takes place, where this occurs (across the regions) and how this relates to the development of regional export capacity and competitiveness.

4) Summarise the principal macroeconomic policy challenges that are affecting the lagging regions and what this implies for national and regional government.

Below, we introduce the lagging regions, set out the existing Macroeconomic Imbalance Procedure framework, examine the drivers of regional economic growth as set out in the existing literature, and use them to establish our own framework which demonstrates the role that macroeconomic and structural imbalances play in constraining regional economic growth. The performance of the lagging regions is then considered and evaluated, as viewed through the framework, including an assessment of the transmission mechanisms from national to regional economic performance, exploring how they might differ between the lagging and non-lagging regions, as well as differences between performance in the low growth versus low income lagging regions.

3. The lagging regions

There are several structural issues which are common to almost all of the lagging regions, whether they are low income or low growth regions.

All the lagging regions suffer from adverse sectoral structures. Agriculture and low- and medium-low technology manufacturing account for a large proportion of employment and output. This industrial structure is often the result of historical legacy; in the case of the low income regions, the structure is a result of an industrial base established before these Member States emerged from communism. These regions have not experienced the rapid inflows of FDI that have benefited the capital cities and large urban centres in other Member States. In the low growth regions, adverse sectoral structures reflect a loss of competitiveness and profitability of (typically low-tech) manufacturing and an inability to shift the focus of the regional economies towards the high and medium-high technology manufacturing that characterises the manufacturing sector in the higher income Member States of the EU.

One of the legacies of this industrial structure is the low skills of the resident workforce. In all cases, the workforce in the lagging regions has a lower proportion of skilled workers (upper secondary or tertiary level) than the national average, and in many cases lower than the EU average. Established universities may have some role to play here (none of the lagging regions has a top-300 ranked university); their impact is as much in improving levels of R&D activity as increasing education levels. At the same time the low proportion of population with upper secondary qualifications cannot simply be solved by increasing school places, but must be facilitated by a cultural shift in attitudes to education.

Related to this, **there are low levels of innovation activity in almost all the lagging regions**, reflected in low levels of R&D expenditure and low levels of patent registrations. Again, institutions of higher education are known to produce significant knowledge spillovers, and a lack of such institutions will be an impediment to innovation activity amongst the regional labour force and business population. While the lack of foreign investment in R&D is partly explained by the low skill levels of the population, the two are clearly interdependent; as a lack of R&D (and other high-skilled activities) correspondingly reduces demand for high-skilled workers.

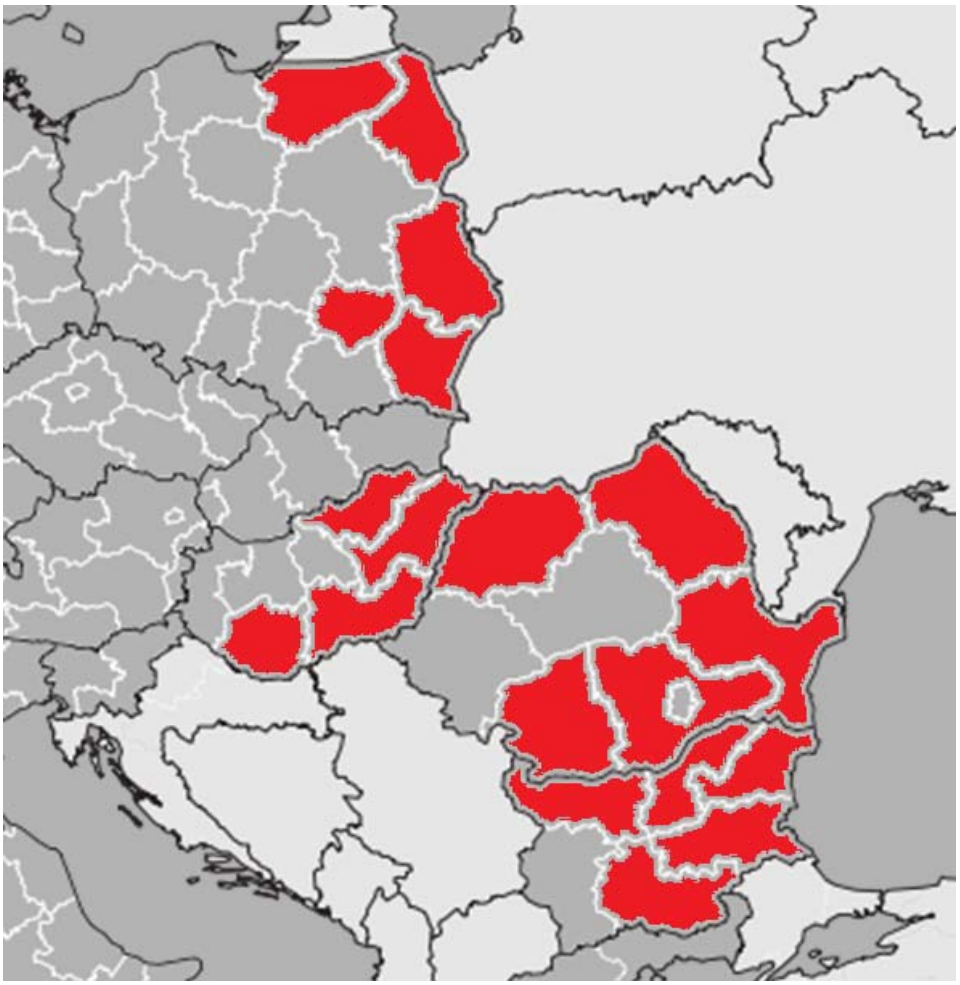
The problems in the labour markets of these lagging regions are not a recent phenomenon, although they have been exacerbated by the economic and fiscal crisis that has characterised the period since 2008. Thus, **activity rates in many of the lagging regions are well below national and EU averages**, and long-term unemployment has consistently been above that seen in other parts of these Member States. Most worryingly, youth unemployment rates are also high, and have been pushed up by the recent economic downturn, suggesting that the economic and social issues in these regions are in danger of becoming entrenched for the next generation.

3.1. LOW INCOME REGIONS

The low income regions cover parts of Bulgaria, Hungary, Poland and Romania (see Figure 3.1). Their key geographical characteristic is that they are located in an area on the eastern fringe of the European Union. In some countries, for example Poland, the low income regions comprise the eastern periphery only, whereas further south, for example in Bulgaria, the low income regions comprise every region except the capital region.

Most of the economic issues experienced by the low income lagging regions are historic in origin; the countries on the eastern fringe of the EU were amongst the latest to accede to the Union, and investment and infrastructure have tended to be concentrated around the capital cities or in regions that adjoin other more established Member States.

Figure 3.1 / The low income lagging regions



However, this group of countries have shown, and continue to show, moderate to good levels of convergence to EU average levels of GDP per capita. The lagging regions in these countries, which in many places cover a significant proportion of the landmass and population, are typically converging to this level at the same rate as the national average, albeit from a lower initial position.

The low income regions tend to be less heavily populated than the EU average, with higher proportions of the working force employed in agriculture than the EU average. More urbanised regions do exist, but tend to be more reliant on labour-intensive industry.

Beyond those commonalities outlined above, the low income lagging regions are located in Members States that are more notable for the differences between them than their similarities. While both Poland and Hungary employed counter-cyclical policies in response to the relative fiscal flexibility offered by an independent country, Romania pursued pro-cyclical policies (expanding budget deficits during economic expansionary periods and reducing government spending during contractionary periods), along with Bulgaria (which faced different pressures due to the lev being pegged to the euro). Thus, public sector investment fell more rapidly in Bulgaria and Romania than in Poland and Hungary, exacerbating the decline of capital stock in these Member States (as public sector investment fell). The Polish and Romanian lagging regions have experienced more sustained high relative levels of emigration than those in Hungary and Bulgaria. Many of the low income regions are themselves on the periphery of their Member State, and not on a direct path between the large urban centre(s) and the large and lucrative markets in western Europe; as such, they are typically poorly provisioned in terms of transport infrastructure.

The low income lagging regions suffer from several structural problems that will need to be addressed as these regions move towards convergence with the EU in terms of GDP per capita.

› The sectoral composition of **Bulgaria**'s lagging regions shows significant differences from the EU28 average. It is over-represented in agriculture, industry and wholesale & retail, and under-represented in services activities, most notably in public services and knowledge services. Thus, there is a large proportion of activities in the low skill, low wage sectors. At the national level, Bulgaria's economy is showing signs of convergence towards the EU average, although there is evidence that this is largely confined to Sofia and its immediate surroundings. The EU competitiveness rating system assesses both nations and regions against a variety of measures. On the national level, Bulgaria ranks 28th out of 28 for quality of institutions, and 25th out of 28 for basic education, two factors that are crucial in attaining high levels of productivity and competitiveness.

› **Hungary**'s lagging regions, in the great plains regions in the east and south of the country, all suffer from under-investment, low innovation, low levels of educational achievement, and slow growth in high value, high skilled industries. This has led the region to be relatively under-developed compared to the richer regions in Hungary and the EU28 average. As well as suffering from lower investment, and partly because of this, the lagging regions in Hungary suffer from low levels of productivity. Despite this, the lagging regions have relatively high unit labour costs which, although they fell during the mid-2000s, have started to rise again while productivity has remained constant.

› The structural issues in **Poland**'s lagging regions are primarily around the sectoral make-up of the economy and a relatively low-skilled workforce, exacerbated by large-scale emigration. The lagging regions have economies much more focused towards agriculture and low-tech industry than the rest of Poland, meaning lower productivity and wealth levels. The workforce has lower skill levels than the rest of the country, particularly in terms of percentage of the population with tertiary qualifications, and the trend of substantial emigration (both to the wealthier parts of Poland and to other Member States) has resulted in a substantial proportion of those highly skilled workers leaving the lagging regions.

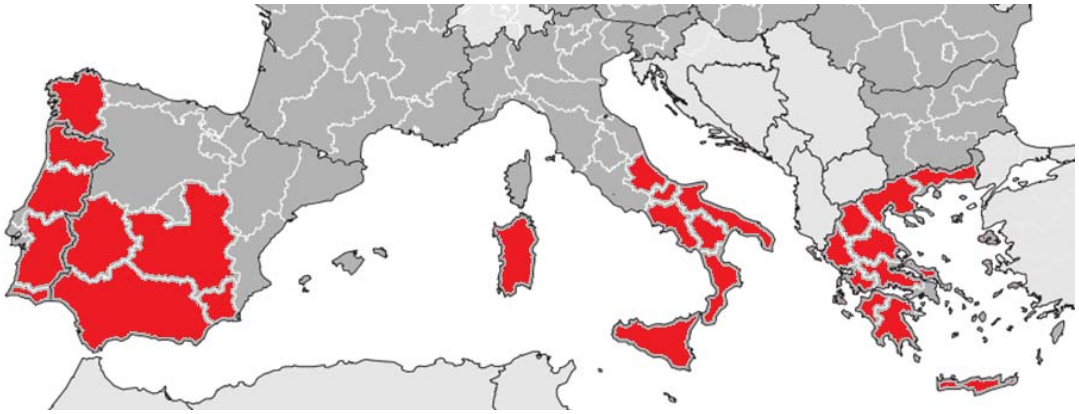
› The structural issues facing the lagging regions of **Romania** can largely be attributed to the lack of investment in the human capital and infrastructure that would enable the growth of sectors with higher skills and wages. Human capital among the lagging regions of Romania is found to be broadly split on an east-west basis, with lagging regions in the west of the country having levels of human capital (evident in higher rates of educational attainment) closer to the national average than those in the east of the country. In contrast, investment in physical infrastructure such as motorways and railways has tended to be focused on those lagging regions closest to poles of economic growth such as the capital Bucharest in the south-eastern part of the country, with investment in these regions exceeding the national average. These conflicting factors are reflected in the levels of innovative activities, which are highest (amongst the lagging regions) either close to the capital (benefiting from the higher levels of investment) or in the west of the country (where levels of human capital are higher). However, it should be noted that even in these areas, levels of innovative activity remain below the national average. Such structural issues result in a large share of economic activity focused on agriculture, and under-representation in knowledge services in the lagging regions of Romania.

Whilst all the problems mentioned above require both consideration and action from the national governments, the overall trend within the low income lagging regions has been one of slow recovery after the effects of the financial crisis had wiped out many of the economic gains of the previous 20 years. Investment and support for the lagging regions is required to ensure that the current trends of gradually improving skill levels, capital stock and labour productivity do not stagnate or reverse.

3.2. LOW GROWTH REGIONS

The low growth regions include the southernmost regions within the EU and those geographically most isolated from the central economic mass of the European Union (see Figure 3.2). In the case of Portugal and Greece, the low growth regions include most of the country, with the capital region as the exception. In the case of Spain and Italy, there is a clear distinction between the northern and southern parts of the country that partially reflects historic and cultural differences.

Figure 3.2 / The low growth lagging regions



The low growth lagging regions are all within Member States that are part of the eurozone. Their membership status reduces transaction costs within the rest of the single currency area, but it implies

that adjustments to relative competitiveness are typically achieved through internal adjustments (meaning that they usually take longer than the external adjustments that the low income countries can make/have made, but have fewer long-term ramifications such as importing inflation). While Greece (most noticeably), Spain and Portugal have all managed some extent of internal devaluation (through decreasing wage rates) in response to the economic crisis, and therefore increased the competitiveness of their lagging regions, the same is not true for Italy (where the lagging regions are a smaller part of the national economy).

Although all four Member States have seen emigration increase as a result of the economic and financial crisis, it is noticeable in all countries that emigration from the lagging regions has been slower than that from the more prosperous regions; this reflects in part the low skill levels of the resident workforce (which make finding work in other countries more difficult) but also social norms, where low levels of economic activity and high unemployment levels have become endemic to varying degrees across the lagging regions; this is in contrast to the low income regions, where emigration grew mostly at a faster rate than the national average.

While the low income lagging regions have typically experienced rising incomes and increased prosperity over the past twenty-five years, the same is not true of the low growth regions. Most economic gains made over 2000-2008 were wiped out in the subsequent downturn, while debt levels (both in the public and private sector) have continued to increase, with little prospect for bringing these down to sustainable levels in the short-to-medium term. The ability of national governments to assist these regions (through investment and other spending) is therefore curtailed when compared to the low income regions.

As an example, the lagging regions of Italy and Greece both suffer from geographical remoteness, which is not sufficiently offset by their transport infrastructure, but the particularly large scale of public debt in both Member States makes any substantial spending by the national government to address this problem difficult. Indicative issues in each of the four low growth Member States are highlighted below:

› The lagging regions of **Spain** show substantial disparities in human capital levels: the levels of education in the lagging regions are below the national average. Such disparities in regional human capital are exacerbated by rigidities in the labour market, resulting in lagging economic growth and a deficit of labour market opportunities and engagement, particularly for the younger population. The further erosion of skills in the labour market through long-term unemployment is exacerbated by public under-investment in human capital in the lagging regions, the result of which is a further amplification of existing disparities. As a consequence of these disparities, key measures of economic performance such as productivity, employment, real wages, GDP per capita and overall competitiveness underperform against both the national and the EU28 regional average.

› **Greece** has been particularly badly affected by its fiscal crisis, with sharp cutbacks in government spending across both capital investment and general expenditure (including automatic stabilisers) causing a substantial decline in economic and social outcomes in the period since 2008. Unemployment rates in the lagging regions, which remained high even during the early years of the 2000s, have substantially increased since, and while average wages have decreased in the lagging regions (and in Greece) structural rigidities in the labour market have not allowed this to take place rapidly enough to slow the growth of unemployment. Gross fixed capital formation rates remained low

through the 2000s, and have deteriorated since, and the inability of the local or national government to engage in countercyclical policy will severely limit the rate at which the lagging regions can emerge from this downturn.

› **Italy** suffers from several structural issues, in particular from high inactivity rates and low educational attainment levels; less than 15% of the population of Southern Italy have tertiary education or above, compared to the EU-wide average of 30% of the population. Low skill levels, insufficient or inappropriate regulatory environments, and uncompetitive domestic markets limit the attractiveness of the regions to investors. The result is stagnating productivity and a lack of genuinely competitive exporting markets that have also troubled Italy since joining the eurozone in 2000. Italy ranks 24th out of the 28 EU Member States in regulatory quality, and 25th out of the 28 EU Member States in its effectiveness in tackling corruption in the World Bank Governance report.

› **Portugal** has had several underlying issues which were masked by the success felt during the financial boom of the early and mid-2000s. These issues ranged from uncompetitive export markets, weaker skills and labour market performance to sustained high public and private debt with lower levels of investment into innovation and high skill, high value industries. The resulting lower levels of productivity coupled with the relatively high compensation levels in Portugal's lagging regions make these regions uncompetitive for investors, and falling employment in high value sectors has contributed to the problems holding back Portugal's lagging regions. The automatic stabilisers that kicked in during the initial economic downturn helped to even out fiscal spending across the regions, but this effect was short-lived and by 2010 Portugal had increased taxes and lowered government expenditure, with the lagging regions bearing much of the impact of the reduced spending, which further exacerbated the existing economic issues. Without the stabilising effects of countercyclical fiscal policy, Portugal's lagging regions have failed to keep up with the rest of Europe.

The low growth regions suffer from several structural problems that need to be urgently addressed to regain previous levels of economic growth. However, almost all measures required to tackle such structural issues require some form of expenditure or relinquishment of revenue; either capital investment in the form of improvements to infrastructure, tax incentives, or current expenditure required to maintain government departments tasked with improving regulation or raising skill and education levels. With rising levels of sovereign debt, obtaining the necessary budget for dealing with structural issues in the regions is often extremely challenging. This points to a key role for EU-level funds in tackling these issues (and/or providing incentives to national/regional governments to do so).

4. Macroeconomic environment

The analysis undertaken has drawn heavily on the framework used in the Macroeconomic Imbalance Procedures (MIP, part of the European Semester programme). This process, carried out annually by DG ECFIN for all Member States, assesses a number of indicators (often including the rate of change in indicators, calculated over up to five years so as not to be too heavily influenced by any single data point). Table 4.1 below sets out these indicators, the mechanism through which excessive values are believed to highlight structural imbalances, and the thresholds over which DG ECFIN considers them to signal economic imbalances. These thresholds are fixed values which signify when strong movements in these macroeconomic indicators are viewed to be an indication of wider structural issues; our analysis will use the same thresholds for identifying these issues at a regional and national level.

These indicators measure different structural dimensions of the economy over time. Within the MIP framework, behind each headline indicator is a series of auxiliary indicators which provide additional detail on the make-up of each indicator.

We consider these indicators alongside the transmission mechanisms by which they impact on regional performance in Section 6 later in this report. Section 4.1 below provides an overview of key trends in each of the eight Member States which include at least one lagging region.

Table 4.1 / Macroeconomic imbalances indicators

Indicator	Transmission mechanism	Threshold(s)
Current account balance, as a %age of GDP (3-year moving average)	A substantial and sustained current account deficit can lead to an unsustainable external debt level (and therefore future funding issues). Large surpluses can indicate poor domestic demand, and are unsustainable across the eurozone as a whole.	+6%, -4%
Net international investment position, as a %age of GDP	A stock measure of the flow measure above (current account balance) – so similar issues apply; large negative positions are expensive to maintain and can make future funding difficult.	-35%
Export market shares, values (%age change over 5 years)	Export shares (rather than volumes) are a measure of competitiveness, measuring as they do the change in export volumes relative to changes in world trade. A rapid decline in export shares would reflect a rapid loss of competitiveness.	-6%
Nominal unit labour cost (%age change over 3 years)	Unit labour costs measure the labour cost associated with producing a unit of output; rapid increases signify therefore a loss of price and cost competitiveness (e.g. that wage growth is outstripping productivity growth).	+9% for eurozone Member States, +12% for non-EZ MS
Real effective exchange rates (%age change over 3 years)	Real effective exchange rates are an indicator of price and cost competitiveness. Rapid shifts in these rates (particularly within a currency union) can reflect a divergence between productivity and wages.	+/-5% for eurozone Member States, +/-11% for non-EZ MS
Private sector debt, as a %age of GDP	High levels of private sector debt increase the vulnerability to economic shocks, and limit the ability of the economy to withstand economic downturns.	133%
Private sector credit flow, as a %age of GDP	Rapid increases in credit flows can indicate economic imbalance in a number of ways. It is often associated with a reduction in the quality of credit checks, increasing the risk exposure of the financial system, while it also often leads to increased demand for imports (and therefore a worsening of the current account position).	14%
Real house prices (year-on-year %age change)	This acts as a proxy for real asset prices. Rapid increases (and the high level of spending that they imply) can create systemic risk, particularly in the financial sector (over-exposure to subsequent downturns in house prices), causing credit growth to collapse during crises.	6%
General government sector debt, as a %age of GDP	High government debt levels increase economic vulnerability, as they can limit the ability of the public sector to respond to private sector downturns. They can also reflect a highly leveraged financial system, where banks are substantial creditors and there is a risk of contagion through the financial system.	60%
Unemployment rate (3-year moving average)	A persistent high level of unemployment reflects a misallocation of resources, and a rigid economy, unable to adapt to this misallocation.	10%
Total financial sector liabilities (year-on-year %age change)	This indicator captures the refinancing needs of the economy, reflecting the stability of the financial system.	16.5%
Activity rates (3 years change in p.p. of the activity rate	The activity rate complements the indicator on the unemployment rate, in that it monitors the movement of people into or out of the labour market (where they would fail to be captured in the unemployment data).	-0.2%
3 year change in p.p. of the long-term unemployment rate	Long-term unemployment can identify the degree to which unemployment is structural. The long-term unemployed suffer from hysteresis effects, reducing the likelihood of subsequent re-employment.	0.5%
3 year change in p.p. of the youth unemployment rate	Youth unemployment is generally more responsive to changing economic conditions than the overall unemployment rate, so it can provide an 'early warning' system. Youth unemployment has a substantial impact on future as well as current, potential output.	2%

4.1. COUNTRY-BY-COUNTRY ASSESSMENTS

Low income countries

Bulgaria's economy struggled for much of the 1990s in the aftermath of the transition to a liberalised economy, with GDP either stationary or declining for most of the decade. It eventually began to pick up at the turn of the century and in 2004 it passed its previous pre-1989 high. It expanded rapidly until the financial crisis in 2008/2009, and although it suffered a double-dip recession in the aftermath of that event, the years 2014-2015 have seen a more sustained recovery. Despite this progress, it does still possess the lowest national GDP/capita in the EU28. Private debt in Bulgaria increased during the 2000s in the run-up to the financial crisis and has remained stable at between 120% and 140% of national GDP from 2008 onwards. In comparison, general government debt has been reduced substantially over this period: it was as high as 76.1% of GDP in 1999, but fell as low as 13% in 2007, and while it saw a small increase in 2014, it remained at only 27%. By the standards of EU28 Member States, this remains a significantly lower level of public debt.

Although **Hungary** was impacted by the financial crisis of 2007 it has been able to recover relatively quickly after the initial shock. Over the course of the subsequent twelve months, average Hungarian GDP per capita fell to only EUR 9,338 per capita in 2009, but thereafter, growth continued at a similar rate as before the crisis and by 2014 Hungarian GDP per capita had reached its pre-crisis levels. Although Hungary has recovered somewhat since the crisis, it is still lagging behind the European average by a substantial amount. Levels of public and private debt peaked during the crisis and are tailing off now. Furthermore, both long-term and youth unemployment have fallen substantially since 2010; but while Hungary has managed to recover to pre-crisis levels relatively quickly, these are still below the EU-28 average.

Poland's economy has been growing rapidly since its emergence as a market economy in 1990. It was the only EU Member State to avoid recession in the aftermath of the financial crisis in 2008, and has continued to progress towards the EU28 average in terms of key macroeconomic indicators including GDP per capita. This strong growth performance was observed in all regions of Poland. Of all the Member States in the EU, Poland proved the most resilient to the financial crisis, continuing to achieve positive GDP growth at a time when the EU experienced negative growth. However, while Polish economic growth has been supported by all regions, the growth has not been distributed equally. The unemployment rate in Poland was substantially higher than the EU28 average throughout the early 2000s, although it started to come down sharply from the middle of the decade, and by the time of the financial crisis it was around the same level. Poland's strong economic performance post-crisis is reflected in the fact that the unemployment rate is now lower than the average across the EU28.

After a period of economic contraction throughout much of the 1990s, **Romania**'s economy grew up until the financial crisis in 2008 when the economy entered into recession once again. However, as in the case of Poland, the depreciation of the Romanian leu relative to the euro allowed Romania to remain relatively competitive with its neighbours and prevented its current account deficit from accelerating further. Economic growth has picked up again since 2010, but still Romania remains a developing economy with a GDP (PPP) per capita only 40% of that of the EU28 average. Private credit flows increased before the financial crisis as credit became easier to obtain, although flows have since

stabilised and begun to decrease. In contrast, public debt has increased substantially since the financial crisis and has exceeded the previous peak in 2001. Despite a return to economic growth and moderately high unemployment, public debt has continued to trend upward although at a much slower pace which suggests stabilisation on current trends.

Low growth countries

Spain has experienced strong growth during the last decade, outperforming other members of the eurozone. However, part of that growth relied on a property boom driven by low interest rates. In addition, external investment during this period left Spain vulnerable to economic contraction before the financial crisis. Following the crisis, Spain has experienced economic contraction to a greater degree than other eurozone countries but has retained some of the gains made in the previous decade. Higher unemployment rates and negative GDP growth have increased the difficulties faced by the government in maintaining a sustainable budget deficit. Following the financial crisis, a divergence occurred between private and government debt. Private debt fell between 2009 and 2014 as households and firms deleveraged from a level of 200% of GDP to closer to 150%. This still represents a private debt level above the threshold of 133% indicated in macroeconomic imbalance procedures. In contrast, government debt has increased, from below 50% of GDP in 2008 to approximately 100% in 2014. Coupled with the developments in GDP, the 3-year average of unemployment in Spain had fallen consistently from a high point of over 20% in 1995 to a figure of under 10% in 2007, before rapidly increasing from 2008 onwards. Currently, the 3-year average sits at a figure of around 25%. The very high level of unemployment has also been characterised by very large increases in youth unemployment and increases in long-term unemployment, both of which are especially damaging to future economic growth as labour market skills are undeveloped or deteriorate, formally known as hysteresis. The 3 year average percentage change for youth unemployment experienced a rapid increase after 2007 and continues to increase. A similar trend, albeit at a more moderate intensity, is also shown for long-term unemployment.

Through much of the 2000s, **Greece**'s economy grew at a steady rate. But since the financial crisis the country has been affected severely across many areas. Notably, GDP per capita in the Greek lagging regions fell substantially relative to the EU average as Greece entered into a sharper and more sustained recession than that seen in the rest of the EU. Greece has been running a double-digit current account deficit for most of the recent past (peaking at -13.7% of GDP in 2010), although since 2010 this has been reduced. The lack of competitiveness in the Greek economy is illustrated by the country's export market share, which declined dramatically in the aftermath of the financial crisis. Investment in Greece has suffered because of the uncertainty around the country's fiscal position and, at times, questions over its future within the eurozone. Total gross fixed capital formation (GFCF) was only one third of its 2007 peak in 2014, and while public sector GFCF had decreased by around 40%, the clear majority of the decrease was from a fall in private sector GFCF, by 73% over the same period. As a result, private sector GFCF has fallen from 81% of total GFCF to 66% in 2014. Unemployment in Greece had declined steadily in the first part of the 21st century, before growing rapidly in the aftermath of the financial crisis. From a low point of 8% in 2008, it grew to over 25% of the labour force as of 2014.

Italy has experienced significant economic struggles since the launch of the euro, as its ongoing productivity issues have led to a competitiveness deficit in comparison to its EU neighbours and a

declining GDP per capita in real terms since 2007. Italy had been lagging behind the growth rate seen in the rest of the eurozone already by the time of the financial crisis, and this was only exacerbated from 2008. Explanations for these low and negative growth rates include several historic structural issues causing competitiveness problems, including poor governance and low skill levels. Over the same period, Italy's general government debt (measured as a percentage of GDP) remained above 100%, although it came down from 116% in 1995 to 100% in 2004. The economic slowdown which started in 2008 saw the debt-to-GDP ratio increase rapidly, to 132% of GDP in 2010. As a result, Italy has the second highest public debt to GDP ratio in the EU. Italy's struggle to deal with its debt issues has been a major factor in the current situation faced by its lagging regions.

After a sustained period of growth in GDP per capita, the economy of **Portugal** has remained stagnant since 2008. Although there were slight increases in GDP per capita between 2000 and 2010, since then it has fallen to its early 2000 values. While Portugal had seen economic growth, its convergence to the EU average has been relatively slow. This indicates that there were several structural issues such as high levels of unemployment as well as public and private debt coupled with under-investment in education as well as insufficient expenditure on R&D per capita affecting Portugal prior to the crisis. While some of these issues were improving before 2007, this was not occurring at a sufficient rate for Portugal to converge to the European average. Since 2009, Portugal's relatively low growth rates have remained, causing the country to diverge once again from the EU average level of GDP per capita. The underlying structural issues in the Portuguese economy were unresolved during the period of higher growth in the early 2000s such that recovery was more difficult in the aftermath of the financial crisis.

5. Theory of regional performance

To be able to tie together the national level economic narratives and the ongoing struggles of their associated lagging regions, an evidence-based logic framework must be constructed through which these transmission mechanisms can be understood and contextualised. The approach taken to identify constraints on economic growth depends, most fundamentally, on what are understood to be the drivers of economic growth. Only through evaluating the performance of an economy (at the national or regional level) and its components can constraints, weaknesses and, therefore, structural imbalances also be identified.

There is a substantial literature on the determinants of economic growth, both at the national and regional level, based upon a combination of theoretical and applied (econometric) models. Table 5.1 below summarises the key themes, grouped by typology of approach.

There are several commonalities between the theories in terms of drivers; the quality/quantity of capital, the skills of the workforce and the central role played by innovation are repeated across all typologies, while all also require an adequate level of demand (whether achieved through trade, government or private domestic demand). It is clear also that the growth typologies do not necessarily imply that convergence will be achieved (outside of classical/neoclassic theory); the uneven accumulation of the factors of production (and competitive advantage) allows for long-term divergence of regional performance. This theoretical basis has been used to shape our thinking on the role that structural issues play in determining and influencing regional economic growth. This is set out in more detail below.

The drivers themselves support the use of the MIP indicators; the vast majority of drivers are covered, explicitly or implicitly, by the headline MIP indicators. There are some gaps around the skills present in the labour market, and on innovation metrics, but both themes should emerge through the competitiveness indicators (e.g. unit labour costs, real effective exchange rates); however, if these drivers are believed to be the underlying cause of a lack of competitiveness, clearly further data will have to be identified to examine this in more detail; this is true also for those drivers which are explicitly included in the MIP indicators; the headline numbers provide only a framework for initial analysis of structural themes in the lagging regions, and this study will move beyond those to analyse in more detail the role that macroeconomic and fiscal imbalances play in constricting the economic performance of those regions.

Table 5.1 / Determinants of economic growth

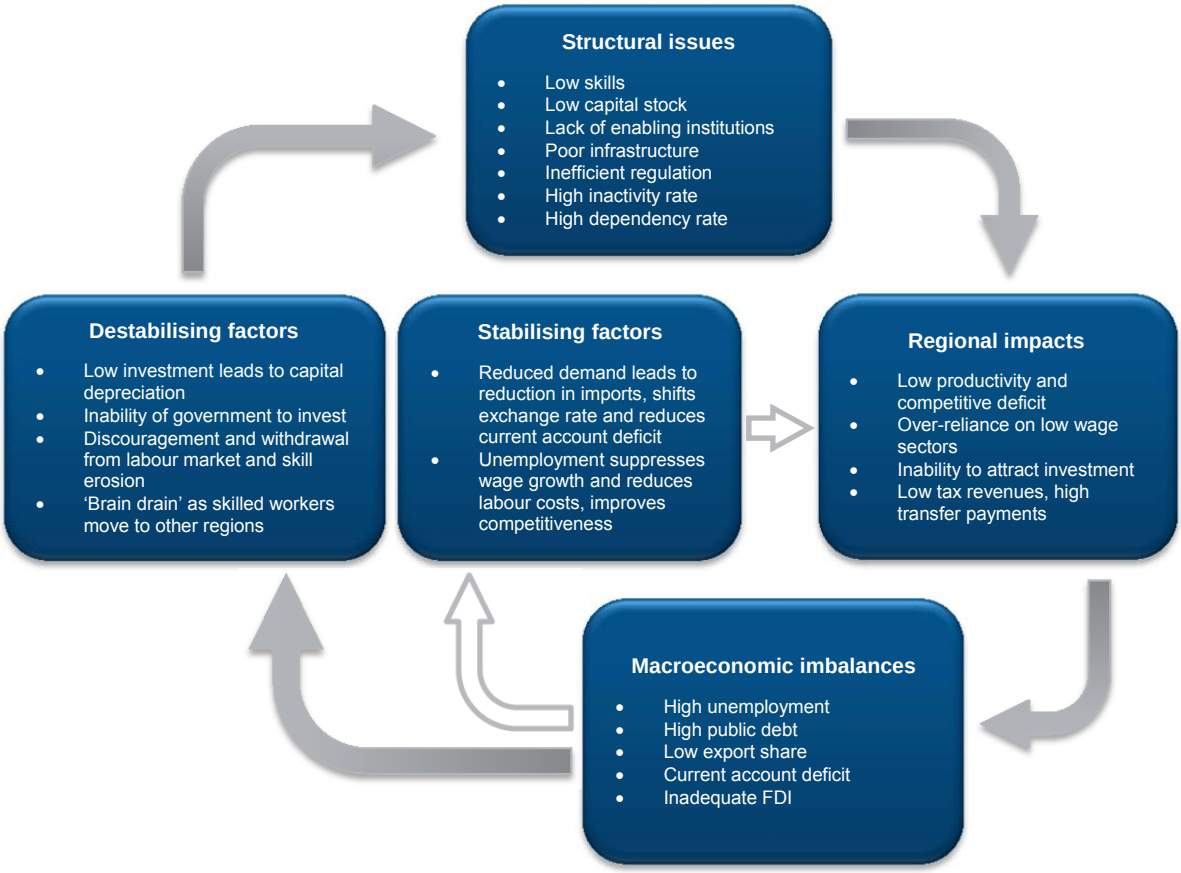
Typology	Key drivers	Implications for the analysis
Classical/Neoclassical theory	Investment in capital (i.e. improved technology) enhancing the division of labour (specialisation) and, hence, raising productivity. Trade (move from autarky to free trade) provides an engine for growth.	Implies convergence of regions
Keynesian	Capital intensity Investment Government spending, such as investment in the public domain and subsidies/tax cuts for enterprises	Allows for persistent disequilibrium
Endogenous growth theory	R&D expenditure Innovativeness (patents) Education level Spending on investment in human capital (schooling, training) Effective dissemination of knowledge Factors influencing 'first mover' advantage (e.g. skilled labour, specialised infrastructure, networks of suppliers, localised technologies)	Allows for persistent differences between regions
New economic geography/ Urban economics	'Productive efficiency' Labour force skills R&D Agglomeration economies Technological and institutional innovations Firm rivalry Favourable demand conditions Supply network Factor supply conditions	Agglomeration effects and externalities generally result in divergence between regions
Evolutionary growth theory (adaptive growth)	Path dependence and lock-in processes New industrial and technological path creation Firm population dynamics Institutional environment and change Adaptability (to new markets, technologies and competitors)	Regional growth shaped by capacity to upgrade and develop new specialisms, technologies and competences

5.1. REGIONAL IMPACT FRAMEWORK

There are clear interlinkages between the state of the national economy and of the regions that sit within it. The upward (that is, going from less aggregated to more aggregated spatial levels) causality is clear, as ultimately, the national economy is the sum of the regional components; however, macroeconomic conditions (and therefore policies which affect them) do not have the same impact in all regions, and macroeconomic developments which are beneficial for one region may be detrimental to another. The problems faced by the lagging regions are in some cases national issues which are directly manifested in the regions themselves (this is particularly true of the low income lagging regions), and in other cases there are regions which lag not only when compared to EU averages but also when compared to national measures and other regions within their own Member State (most notably in the low growth lagging regions). However, all the lagging regions identified suffer to some extent from structural issues;

whether these are national structural issues, or locale-specific. Building on the MIP framework, and the drivers of economic growth identified in the literature, we have established the framework shown in Figure 5.1.

Figure 5.1 / Regional structural issues and macroeconomic indicators



This schematic shows the relationship between the macroeconomic imbalances and the more fundamental structural issues that are believed to be at the root of regional performance deficits. The diagram shows that long-term fundamental structural issues, which include social, institutional, physical, regulatory and economic problems, directly impact upon the region and its ability to compete and, crucially, attract external investment. Major regional impacts include an over-reliance on low wage and low productivity sectors, a lack of competitiveness within sectors, and an inability to attract private investment, either domestic or foreign. This also impacts upon the revenues and expenditure requirements faced by the local government, with a lower tax take and a higher rate of transfer payments leading to a continued structural budget deficit.

These impacts then reveal themselves through the designated macroeconomic indicators in several ways, including rates of public and private debt, FDI and capital investment levels, export share and current account balance, and unemployment.

Two potential feedback mechanisms are included. The first, denoted as ‘stabilising’ effects, corresponds to neoclassical economic theory, in which the region returns towards a stable relative position to its neighbours through a variety of mechanisms. These mechanisms tend to be short- to medium-term in nature, and prevent a short-term negative economic shock from turning into a recession, or a recession from turning into a long-term economic depression. We suggest that for a variety of reasons beyond the scope of this study, in many of the lagging regions specifically, and the Member States included in this study more generally, these mechanisms are weak or non-existent.

There are three primary stabilising feedback mechanisms shown in the diagram above:

› High levels of unemployment, as might be caused by a negative demand shock, reduce the bargaining power of workers and hence suppress wage growth. If productivity levels remain stable, this leads to lower unit labour costs and helps the affected regions improve their relative competitiveness, increasing demand.

› Low or shrinking levels of exports should cause a deficit in the national current account and, all else being equal, trigger a period of currency depreciation, making exports comparatively more competitive again. If the currency is fixed or pegged to partner/competing regions, this mechanism may be ineffective.

› A reduction in private income and demand may reduce demand for imports, which will reduce current account deficits. However, if consumption levels are smoothed rather than reduced in response to the shock, then the net result may simply be a build-up of private debt.

Several of these factors are determined on a national rather than regional level; thus, whereas the economic situations of each region may be heterogeneously distributed, the impact of these factors is homogeneous across all regions in the country. If the economic characteristics of the region are atypical of the wider country, a theoretically stabilising effect may engender a destabilising effect.

The other feedback mechanism, denoted as ‘destabilising’, represents the mechanisms by which long-term economic underperformance can exacerbate the fundamental structural problems and create a self-reinforcing cycle of high debt and unemployment, and low investment and productivity. To address the serious economic issues confronting chronic lagging regions, these are the mechanisms that specifically need to be confronted and reversed.

The destabilising feedback mechanisms depicted above may interact with the structural economic fundamentals of a region over a longer period, and in a cumulative manner. The effect of this may be to create an economic path which the region becomes ‘locked into’ over an extended period. The individual feedback mechanisms can be characterised as follows:

› High levels of public debt are likely to lead to a reduction in public investment in education and skills training, infrastructure, and the setting up or assistance towards important enabling institutions, such as universities or centres of research. The lack of these resources will have a direct impact on productivity and the ability to innovate, and on the region’s ability to attract private investment.

› Low levels of private investment are likely to lead to a reduction in the value of capital stock, as equipment and technology become obsolete and are not sufficiently replaced, and to low levels of innovation, as links are not maintained with ideas and knowledge arising externally to the region.

› Under-representation of key knowledge-based service sectors and high value manufacturing leads to a lack of associated agglomeration benefits and the benefits to competitiveness and productivity this produces.

› High levels of unemployment in the short term often lead to discouragement and withdrawal from the labour market in the long term.

› Finally, skilled workers may leave the region in search for better, more highly paid jobs in other regions, further eroding the skill base on the remaining labour force and increasing the dependency ratio of the region.

6. National imbalances, their transmission mechanisms and impact on regional economic performance

This section focuses on the empirical evidence suggesting how national performance differentially impacts regions. In particular, how national-level characteristics pass on to lagging (versus non-lagging) regions differently or to different extents, and any differences between these transmission mechanisms in the low growth versus the low income Member States and lagging regions.

This analysis is dependent upon detailed regional data being available; and such data is very limited in availability. As such, the work below focuses on either high level data which is available at the national or regional level or, in the case of several examples, it draws on data for only one or two Member States, in order that some conclusions for other lagging regions (where such detailed data is not available) can be drawn. Note that the analysis below uses indicators measured in euros; in the low income Member States, using this (rather than a measure in national currency) has the potential to influence the results (as movements in the exchange rate may alter the trend). Annex I to this report[4] contains an analysis of the differences between GDP measures in euros and national currency to evaluate the potential impact of this; the overarching conclusion is that while it may have some impact on levels, the impact upon overall trends is minimal.

6.1. PUBLIC DEBT, EXPENDITURE AND INVESTMENT

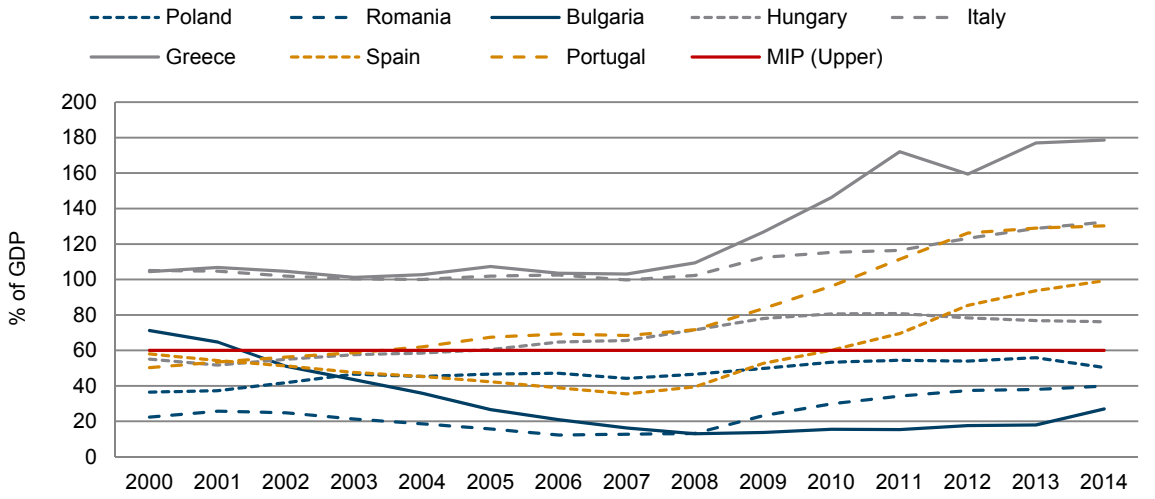
National performance

General government sector debt has consistently exceeded the MIP threshold among all the low growth countries and in Hungary, a low income Member State. Higher government debt limits the scope of the government to counteract economic downturns with economic stimulus and may also indicate high leverage in the financial sector acting as creditors to the government. While Greece and Italy exceeded the MIP threshold over the entire period 2000-2014, Spain drifted above the threshold in the early 2000s and Portugal also began to exceed the threshold following the financial crisis. **In contrast, low income Member States have managed to maintain government sector debt within the MIP threshold except for Hungary**, which began to exceed the threshold in the early 2000s. In contrast to Hungary, Bulgaria managed to reduce government sector debt below the threshold in the early 2000s, while Poland's government sector debt increased following the financial crisis, approaching the MIP threshold but showing tentative signs of decreasing once again in 2014.

[4] See *wiiw Research Report* No. 425, 'Online Annex – Economic Challenges of Lagging Regions: Annex I – Country Case Studies'.

Public capital investment decisions are made on a number of grounds, taking account of economic and social factors as well as political priorities. The underlying policy decisions are based on a quantitative and qualitative analysis of the value of projects assessed according to project costs and benefits, the cost of capital and a discount rate encompassing the time preference for project returns to the public in the future as well as political considerations. Political considerations and pragmatism may influence decision-makers, including political considerations between ministries, and other unquantifiable factors according to the feasible bounds set by cost-benefit analysis. Moreover, public investment is primarily a sub-national concern among countries with, for example, almost two thirds of public investment occurring at the sub-national level.

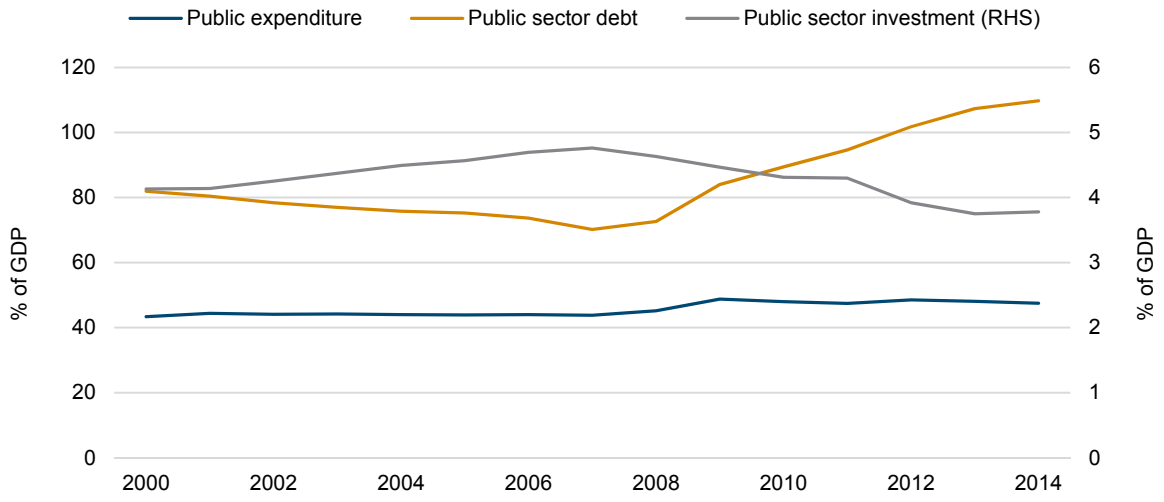
Figure 6.1 / General government sector debt, as % of GDP



However, a major factor limiting the ability of the public sector to make capital investments is the budgetary position of the government. A budget deficit or financially unsustainable levels of public debt may curtail a state's ability to invest while operating countercyclical budget deficits, and surpluses may also be considered desirable for economic growth and stability, limiting the scope for public investment. This issue is one that is particularly relevant given the challenging fiscal positions of several of the Member States in the EU in the immediate aftermath of the financial crisis and the associated austerity programmes that have been pursued as a result.

Public investment may also originate outside of the region or state impacted by the expenditure, such as in the case of EU structural and cohesion funds, which constitute direct investment into a Member State or sub-region by the European Commission. The availability of these funds depends on the overall budget of the European Commission for regional investment, which is influenced by funding from Member States, investment objectives outlined in EU structural and cohesion policy (agreed among policy-makers in the European Commission, European Parliament and Member States) and the amount of funding allocated based on the level of GDP in specific regions, with poorer regions receiving a higher allocation. The policy objective of cohesion funding and disbursements of the funds for projects is influenced by similar economic, social and political decision-making factors among policy-makers as described at the national and regional level outlined above.

Figure 6.2 / Public debt and expenditure and non-market services investment across 8 Member States



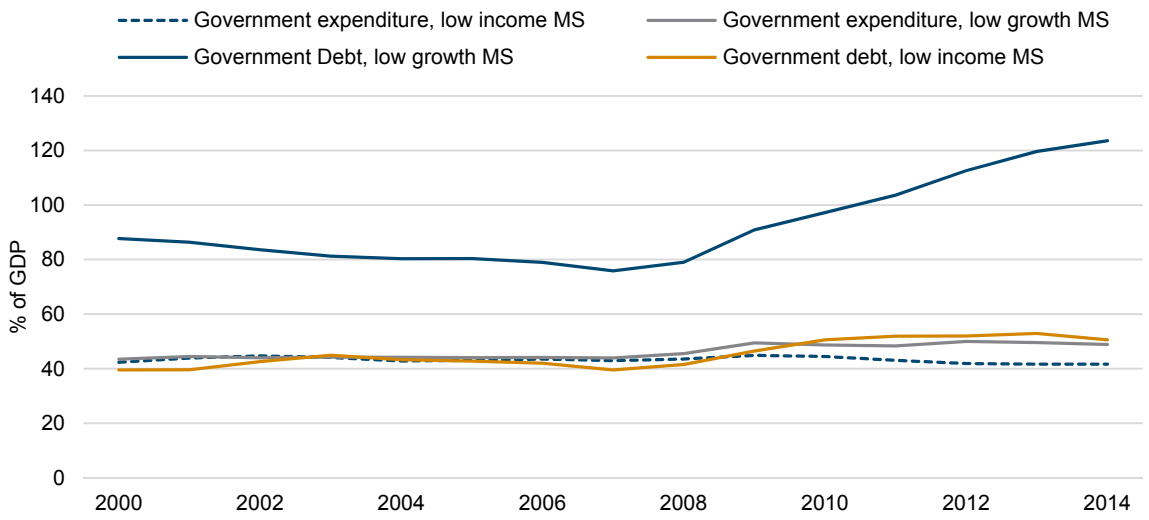
Source: Eurostat and Cambridge Econometrics Regional Dataset.

Transmission mechanisms and regional performance

The economic downturn and subsequent slowdown have been characterised within parts of the EU by high levels of public debt (even by historical standards in countries where public debt relative to GDP has often remained large). All other things being equal, it might be expected that increases in public debt levels cause public policy to adapt and spending to be cut. However, in the eight Member States that include lagging regions, there is little evidence of this (see Figure 6.3). **The structural shock of the 2008 financial crisis triggered a change in the trend of the debt-to-GDP ratio from falling to increasing.** However, total government expenditure across the eight Member States did not fall but settled at a higher level of 48% of GDP, higher than the stable pre-crisis level of 44% of GDP. The increase in expenditure-to-GDP is likely due to increased expenditure required on automatic stabilisers (such as unemployment benefits) which accompanied the economic downturn. This increase primarily occurred in low growth Member States (see Figure 6.3).

However, **public investment (gross fixed capital formation) fell after debt started rising**. Note that throughout this analysis, we use data on investment in non-market services as a proxy for investment from the public sector at the regional level. This trend suggests that while automatic stabilisers obligated governments to increase consumption spending such as unemployment benefits, the more discretionary investment expenditure was cut. To the extent that investment underpins (and bolsters) long-term economic growth, the slowdown in investment would be expected to have a negative effect on future GDP growth.

Figure 6.3 / Public debt and expenditure in the low growth and low income Member States

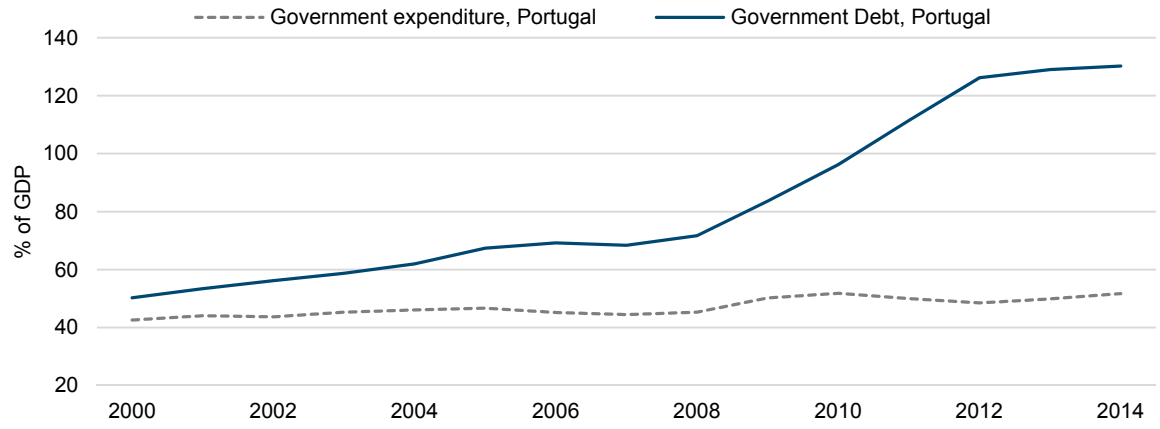


Source: Eurostat and Cambridge Econometrics Regional Dataset.

Evidence from Portugal and Hungary

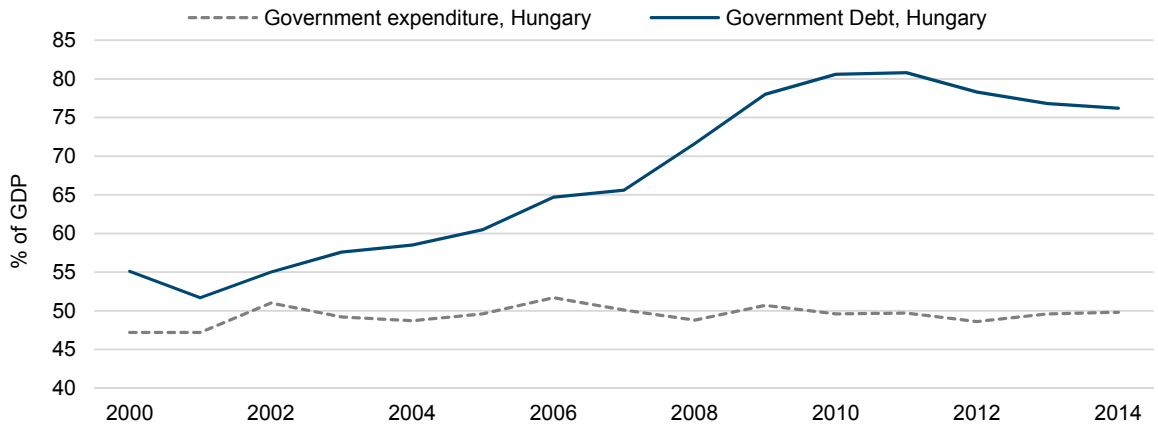
There is further evidence of the divergence in government debt and expenditure trends in low income and low growth MS from other Member States. Portugal and Hungary, a low growth and low income country respectively, had similar levels of public debt and expenditure in 2000. However, **while both have maintained government expenditure as a share of GDP at relatively constant levels over time, government debt as a share of GDP has grown much more rapidly in Portugal than in Hungary**, particularly since the financial crisis. The differences between these two countries help to illustrate the differing challenges facing low growth and low income lagging regions because of the reduced scope that a large stock of public debt imposes on Member States' abilities to counter regional economic inequalities with public investment.

Figure 6.4 / Public debt and expenditure in Portugal



Source: Eurostat and Cambridge Econometrics Regional Dataset.

Figure 6.5 / Public debt and expenditure in Hungary

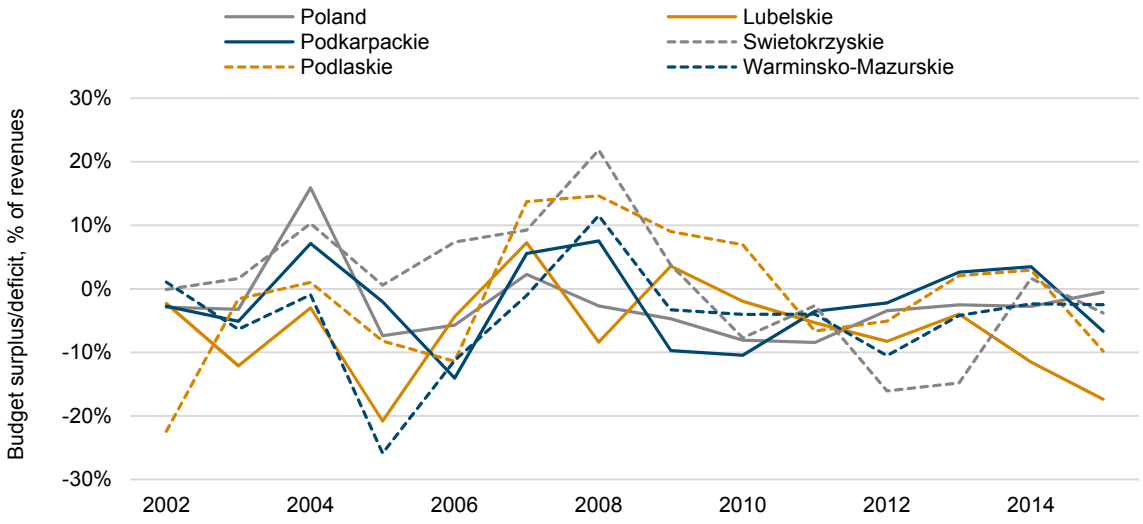


Source: Eurostat and Cambridge Econometrics Regional Dataset.

Evidence from Poland

Regional public budgets in the lagging regions in Poland broadly follow the national countercyclical trend: budget deficits are decreased or budget surpluses are developed in expansionary periods and a more expansionary budgetary stance is adopted in economic contractionary periods where budget surpluses are reduced and deficits increased. The consequence of this approach is that **public expenditure in the lagging regions is deployed to counter economic contraction in the private sector** allowing the lagging regions to be more resilient during economic contractions such as in the aftermath of the economic crisis. There is evidence that this policy was broadly successful in Poland, which was the only EU Member State to avoid a technical recession during the economic downturn.

Figure 6.6 / Regional public surplus/deficit in Poland



Source: Central statistics office of Poland, local data bank and own calculations.

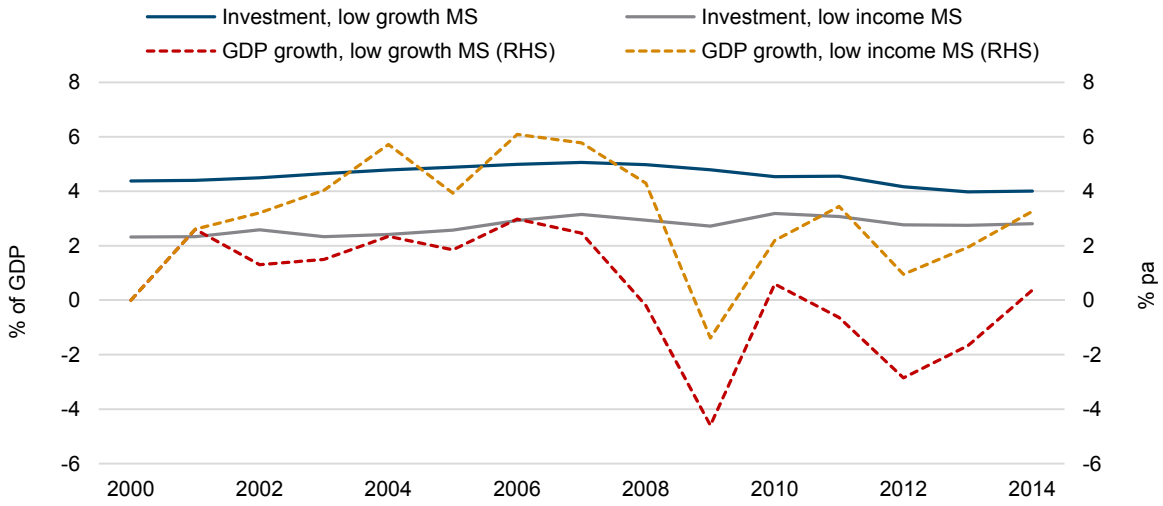
6.2. PUBLIC INVESTMENT AND GDP GROWTH

In regions with depressed private investment, public capital expenditure can provide the necessary stimulus as well as the conditions for medium- and long-term growth. Economically lagging regions are likely to benefit from centralised funding (at either the national or European level) of public investment.

The evolution of public capital expenditure (proxied through gross fixed capital formation in non-market services) in the lagging regions shows that, since the financial crisis in 2008, total public capital expenditure per capita has declined, primarily due to a reduction in public investment expenditure, while capital transfers have been largely maintained. Such a decline is likely to exacerbate contraction in public sector investment and growth. Indeed, by 2014 the ratio of public investment-to-GDP had fallen below the 2000 level.

Economic theory suggests that **falling investment has a negative effect on long-term economic performance**[5]. Up to sixteen years of data (from 2000-15) is insufficient for a thorough analysis of the link between public investment and long-term GDP growth. In addition, the structural break in the middle of the sample further limits the scope of such analysis. However, we can still analyse the interaction between public investment and GDP performance for the lagging regions and Member States. This should identify those regions most exposed to the effects of falling public investment.

Figure 6.7 / Public investment and GDP growth, low growth and low income Member States



Throughout the period 2005-2014, **the ratio of public investment-to-GDP in low income Member States exceeded that in low growth Member States** (see Figure 6.7). **Furthermore, the public investment-to-GDP ratio in low growth Member States started falling in 2010 and is now below its 2000 level.** This slowdown in the flow of public investment (from 4% of GDP in 2007 to just above 2% in 2015), if it continues, has the potential to damage long-term economic growth prospects. On the other

[5] For instance, see: Solow, R.M. (1956), 'A Contribution to the Theory of Economic Growth', *The Quarterly Journal of Economics*, Vol. 70, No. 1 (February), pp. 65-94.

hand, **the low income Member States' public investment-to-GDP ratio rose over the fifteen years and is now twice its 2000 level**.

Comparing lagging regions in low growth Member States with those in low income Member States, GDP growth was consistently higher in the latter (see Figure 6.7). This reflects national-level GDP, with low growth Member States experiencing lower GDP growth than low income Member States. Furthermore, **low income Member States have a higher public investment-to-GDP ratio than that in low growth Member States**.

Figure 6.8 / Non-market investment and GDP growth, lagging regions and non-lagging regions

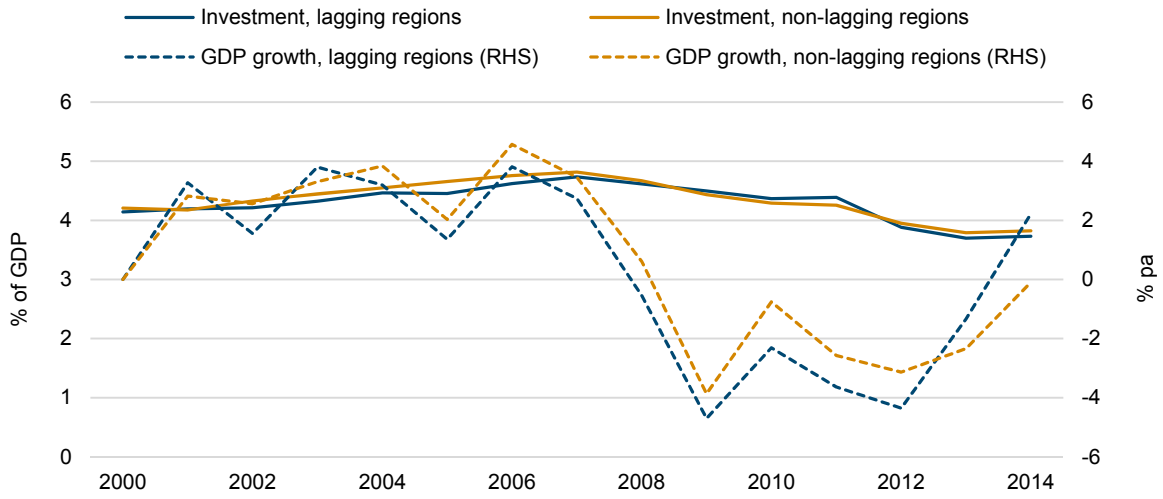
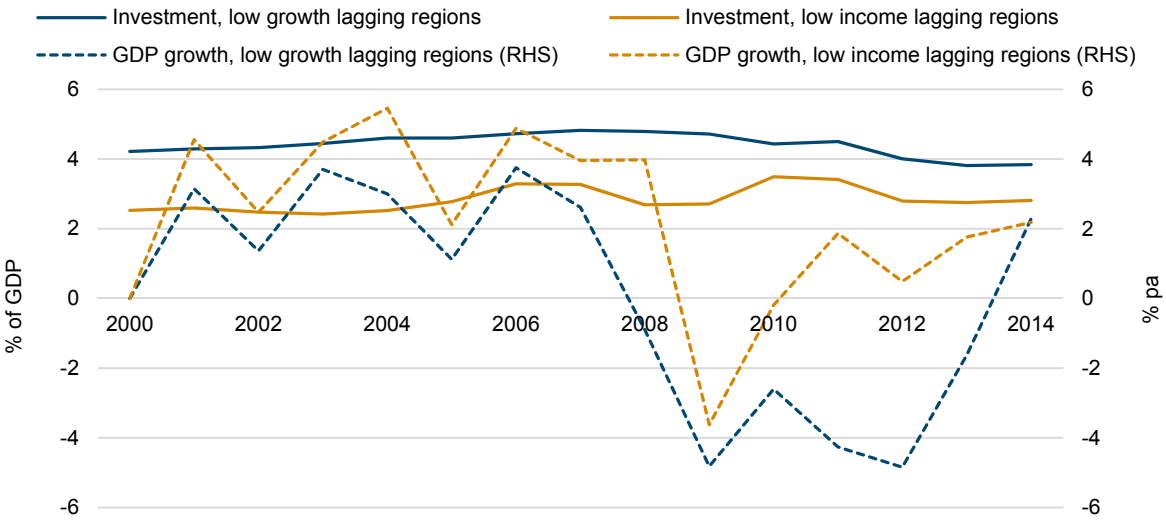


Figure 6.9 / Non-market investment and GDP growth in the lagging regions

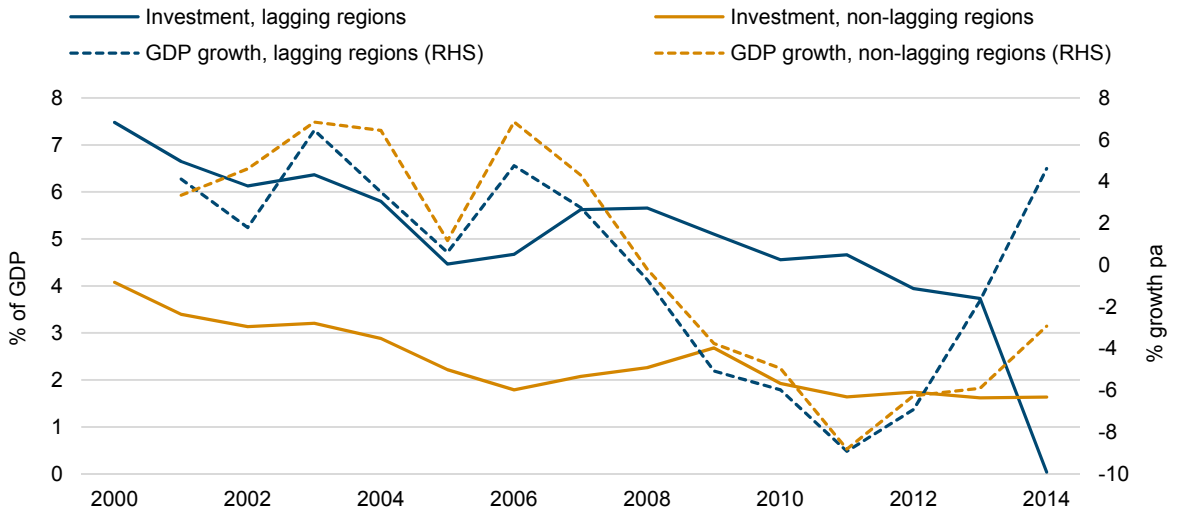


Non-market investment-to-GDP[6] ratios (a proxy of public investment) are similar across both lagging and non-lagging regions. There is evidence that GDP growth was higher in non-lagging regions until 2012. To the extent that investment underpins growth, this begs a policy question: how do regions with a similar non-market investment-to-GDP ratio end up with different GDP growth rates? One explanation is that regional GDP growth is more strongly driven by national factors of the Member State, and that non-market investment plays a less than dominant role, particularly during a macroeconomic downturn.

Evidence from Greece and Bulgaria

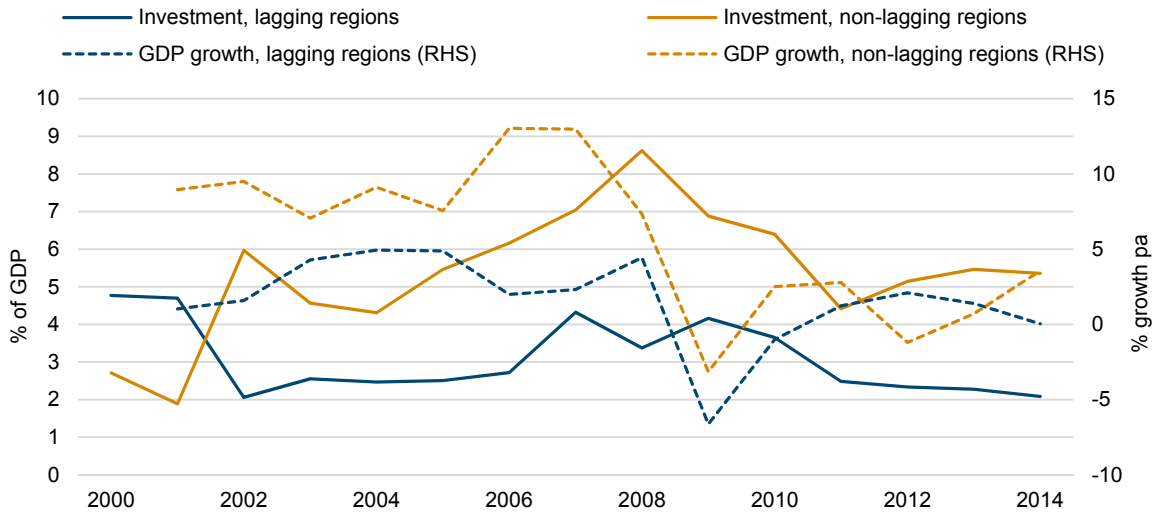
The lagging regions of Greece, a low growth Member State, have higher non-market investment to GDP shares than in non-lagging regions. The converse is true for Bulgaria, a low growth Member State. However, GDP growth rates were broadly similar in both lagging and non-lagging regions in Greece whereas GDP growth was higher in non-lagging regions in Bulgaria at least before the financial crisis **which suggests that higher non-market investment in the non-lagging regions in Greece has aided convergence in GDP growth rates**.

Figure 6.10 / Non-market investment and GDP growth in Greece, lagging regions and non-lagging regions



[6] Public investment data is unavailable on a regional basis from Eurostat so non-market services data was used to proxy public investment. Non-market investment data consists of NACE Rev. 2 sectors U-O and includes investment relating to public administration and defence; compulsory social security; education; human health and social work activities; arts, entertainment and recreation; repair of household goods and other services.

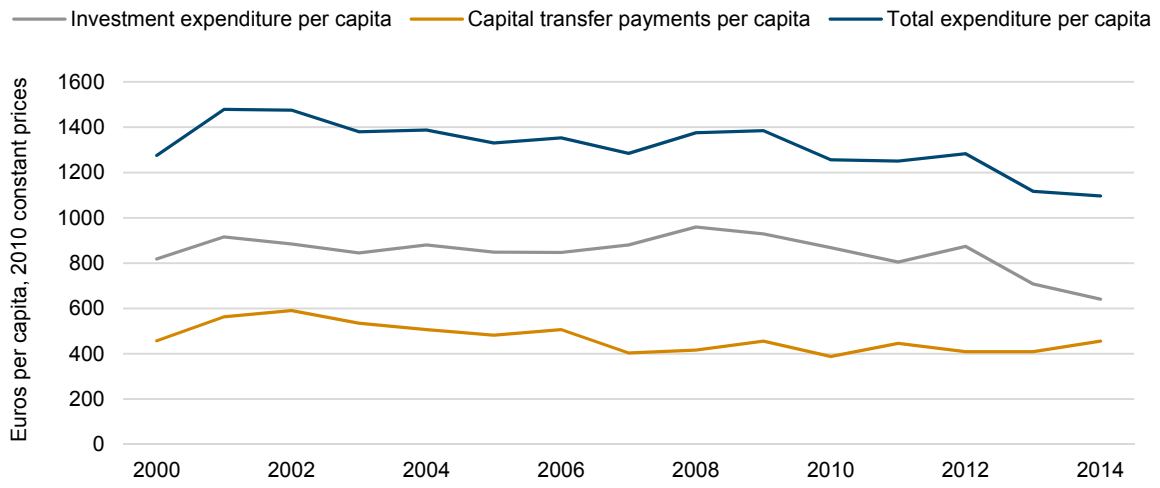
Figure 6.11 / Non-market investment and GDP growth in Bulgaria, lagging regions and non-lagging regions



6.3. THE ROLE OF PUBLIC CAPITAL EXPENDITURE AND PUBLIC INVESTMENT IN THE ITALIAN LAGGING REGIONS

Capital transfer payments to the Mezzogiorno have fallen more rapidly than the Italian average since the early 2000s, particularly since the financial crisis in 2007. Over this period the Mezzogiorno's share in total Italian public capital transfer payments has fallen from substantially more than half to slightly below half following the financial crisis.

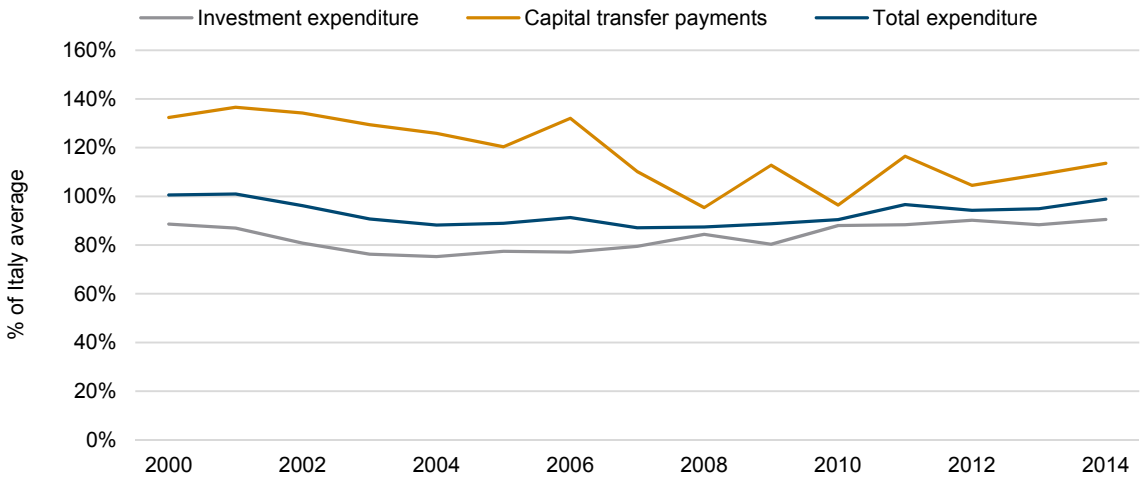
Figure 6.12 / Public expenditure per capita in the lagging regions of Italy



Source: Istat, regional public accounts and own calculations.

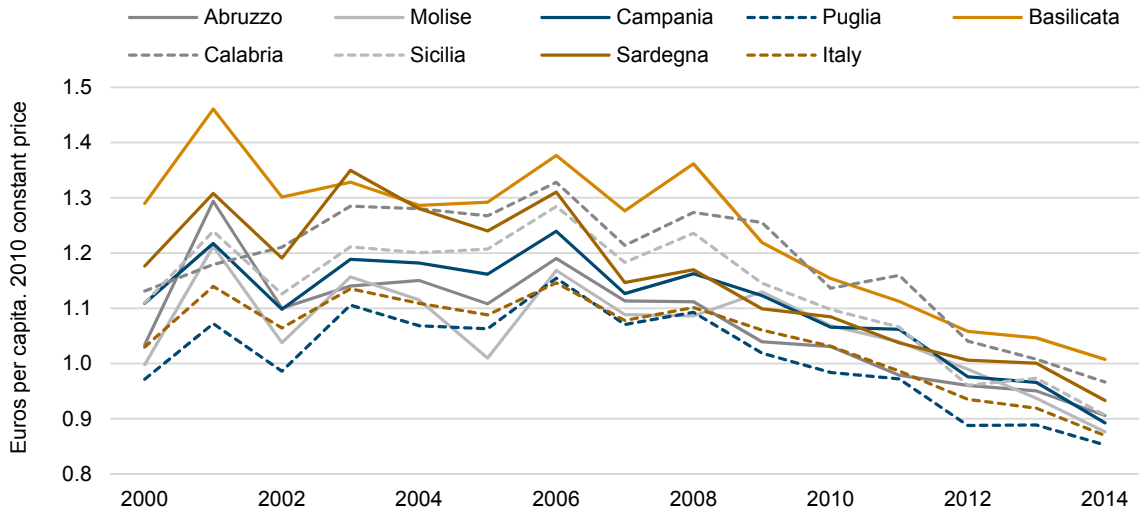
Public investment expenditure has trended in the opposite direction; while historically per capita public investment had been as much as 25% lower than the Italian average, since 2010 public investment expenditure in the Mezzogiorno has approximately matched the national average. As a result, total public capital expenditure, of the Mezzogiorno which lagged behind the national average by as much as 10%, has now made up almost all of that gap.

Figure 6.13 / Public capital expenditure in the Italian lagging regions, compared to the Italian average



Source: Istat, regional public accounts and own calculations.

Figure 6.14 / Italian public expenditure on education, training and research & development



Source: Istat, regional public accounts and own calculations.

This indicates that **the southern lagging regions of Italy have experienced underinvestment relative to the Italian average primarily in terms of public investment expenditure** with negative consequences for economic growth in the regions, but since 2010 this has been partly reversed helping to counter regional disparities and the consequences of the financial crisis.

Specific expenditure on education, training and research and development approximates public expenditure relating to human capital and innovative activities necessary for driving productivity and hence economic growth. The evolution of public expenditure on human capital and innovative activities shows some variation between the lagging regions but the trend is broadly the same for all lagging regions as it is for Italy. Almost all the lagging regions spend more on human capital and innovation when compared to the Italian average except for Puglia, which is broadly similar to the national average. Such trends suggest that **public expenditure on human capital and innovation does indeed focus on countering regional economic inequalities** although since the financial crisis this expenditure has fallen in all lagging regions (as well as across Italy as a whole). However, expenditure has fallen more rapidly in the lagging regions than in Italy as a whole, and most of the lagging regions spend amounts on human capital and innovation that are comparable to the national average. The consequence is that efforts to increase productivity and economic growth in the lagging regions through **public investments in human capital and innovation have declined since the financial crisis**, limiting the potential for the lagging regions to converge to the national average.

Public expenditure of local governments per capita in the lagging regions broadly matches that of Italy over the period 2012-2014. On the other hand, both the level and growth of local government public expenditure varies substantially among the lagging regions. For example, local government expenditure (measured on a per capita basis) in Sardegna exceeds that of Italy substantially whereas expenditure in Puglia is significantly less than in other regions. In contrast, Molise has the lowest local government expenditure among the lagging regions and shows the largest decline in local public expenditure, but its capital expenditure is marginally above the Italian average. Local capital investment expenditure also plays a substantial role, as this expenditure makes up approximately half of all public capital investment expenditure and as such is a key driver of medium- and long-term economic growth. Across the lagging regions, the share of capital expenditure spent on investment typically slightly exceeds the national average, but some regions such as Puglia and Sicilia fall below the national level. Furthermore, Campania, Puglia, Calabria and Sicilia all fall below the Italian average in terms of capital expenditure per capita including capital expenditure on investments.

Table 6.1 / Public expenditure of local government (average over 2012-2014; euros per capita)

Region/Country	Total expenditure	Growth rate	Current expenditure	Capital expenditure	Capital exp. of which investments	Capital exp. share of total exp. (%)
Abruzzo	3,633	1.5	2,957	677	544	15
Molise	3,569	-2.4	3,073	497	325	9
Campania	2,765	-5.5	2,408	358	251	9
Puglia	3,065	0.9	2,702	363	221	7
Basilicata	3,525	0.1	2,938	587	387	11
Calabria	3,245	0.7	2,894	351	302	9
Sicilia	3,433	-3.4	3,014	419	291	8
Sardegna	4,443	-1.7	3,807	636	452	10
Lagging regions	3,460	-	2,974	486	347	10
Italy	3,516	-1.6	3,088	428	321	9

Source: Istat, regional public accounts and own calculations.

In general, **in the lagging regions public expenditure of local governments does not substantially lag behind that in the rest of Italy** and even exceeds the Italian average in the case of capital public investment. However, this is not true of all lagging regions as many experience lower levels of capital expenditure than average, meaning that some of the lagging regions face disproportional under-investment by local governments with adverse consequences for economic growth.

6.4. PRIVATE DEBT

National performance

While both low income and low growth Member States have experienced an increase in private sector debt over time, **the low growth Member States have exceeded the MIP threshold** (particularly Spain and Portugal), thereby **increasing their vulnerability to economic shocks**. In contrast, the low income Member States have tended to remain below the MIP threshold, although Bulgaria has remained very close to the threshold since the start of the economic downturn in 2007, and debt levels are higher in all Member States than they were in 2000.

Private investment may come from domestic or foreign sources. Both types of investor are likely to take several factors into consideration when deciding whether to invest in a location.

The presence of existing capital may enable an investor to set up a profitable business or ensure that existing firms are more efficient than would otherwise have been the case. This may be physical capital, for example transport infrastructure, communications networks or business parks; human capital in terms of levels of education or work-place skills and training[7] or natural capital, for example access to natural resources or geographic features[8]. Primary industries, including agriculture, fishing, mining and extraction are dependent upon natural capital, as are other sectors such as tourism, where the presence of a geographic feature such as a beach or a mountain range may provide the basis for an industry to develop.

One feature attracting private investment is the presence of a workforce with high levels of productivity compared to wage costs leading to competitive unit labour costs and the ability to derive a low marginal unit cost. Another related feature is the presence of a high-skilled and thus highly productive workforce with the absorptive capacity to benefit from knowledge and innovation spillovers.[9] A knowledge institution, for example a research-intensive university, may act as a key driver in this process.

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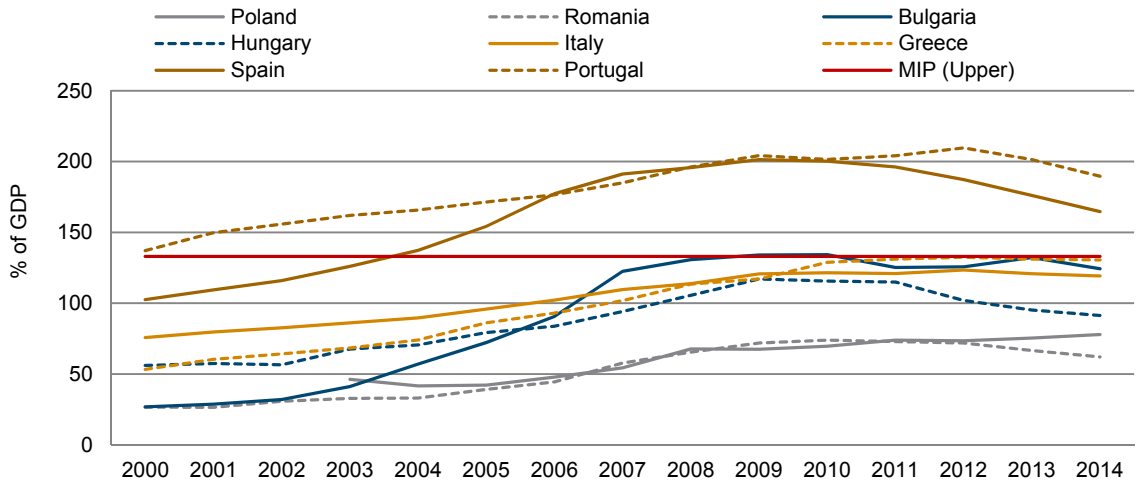
7 Bassanini, A. and S. Scarpetta (2001), 'The driving forces of economic growth: Panel data evidence for OECD countries', *OECD Economic Studies*, Vol. 33, No. 2, pp. 9-56.

8 Atkinson, G. (2015), 'Natural Capital and Economic Growth', Natural Capital Committee (UK); https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/516948/ncc-discussion-paper-economic-growth-natural-capital.pdf.

9 Franco, C., A. Marzucchi and S. Montresor (2012), Absorptive capacity, innovation cooperation and human capital. Evidence from 3 European countries, IPTS Working Papers on Corporate R&D and Innovation, No. 05/2012; European Commission (2012), JRC technical reports, November; https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/absorptive-capacity-innovation-cooperation-and-human-capital-evidence-3-european-countries.

An investor may identify the presence of potential suppliers or customers as a crucial factor in the location of a new or existing business venture as this reduces the effective transaction costs involved in the procurement of required inputs in a process known as agglomeration[10].

Figure 6.15 / Private sector debt, as a % of GDP



Firm investment decisions are affected by financial determinants such as the cost of capital for investment financing, the level of firm indebtedness and uncertainty which influence both the decision to invest as well as the level of investment[11]. Furthermore, fiscal incentives, for example through lower relative tax rates, or other measures of government support, may also attract private investment and encourage positive spill-overs such that firms form clusters and benefit from agglomeration effects associated with their proximity[12]. However, tax competition may induce a 'race to the bottom' and ultimately result in the under provision of public investment through reduced tax revenues[13].

Additional factors[14] may also influence foreign investors' decisions to invest; on top of those already listed, these include:

› Fluctuations in the exchange rate and local interest rate can dramatically impact upon the effective rate of return of any investment, presenting an additional element of risk. This can be ameliorated to a degree among larger firms with the resources to hedge currency, although this will incur additional costs.

[10] Ellison, G., E.L. Glaeser and W.R. Kerr (2019), 'What Causes Industry Agglomeration? Evidence from Coagglomeration Patterns', *American Economic Review*, Vol. 100, No. 3, pp. 1195-1213; http://economics.mit.edu/files/7597.

[11] Barkbu, B., S.P. Berkmen, P. Lukyantsau, S. Saksonovs and H. Schoelermann (2015), Investment in the Euro Area: Why Has It Been Weak?, IMF Working Paper, WP/15/32; https://www.imf.org/external/pubs/ft/wp/2015/wp1532.pdf.

[12] Devereux, M.P., R. Griffith and H. Simpson (2003), Agglomeration, Regional Grants and Firm Location, The Institute for Fiscal Studies WP04/06; http://www.ifs.org.uk/wps/wp0406.pdf.

[13] Gomes, P. and Pouget, F. (2008), Corporate tax competition and the decline of public investment, ECB Working Paper series No. 928, August; https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp928.pdf?24dde46abd64aeff1f7a0bfab059d0dc

[14] Blonigen, B.A. (2005), A Review of the Empirical Literature on FDI Determinants, NBER Working Paper 11299, April; http://www.nber.org/papers/w11299.pdf.

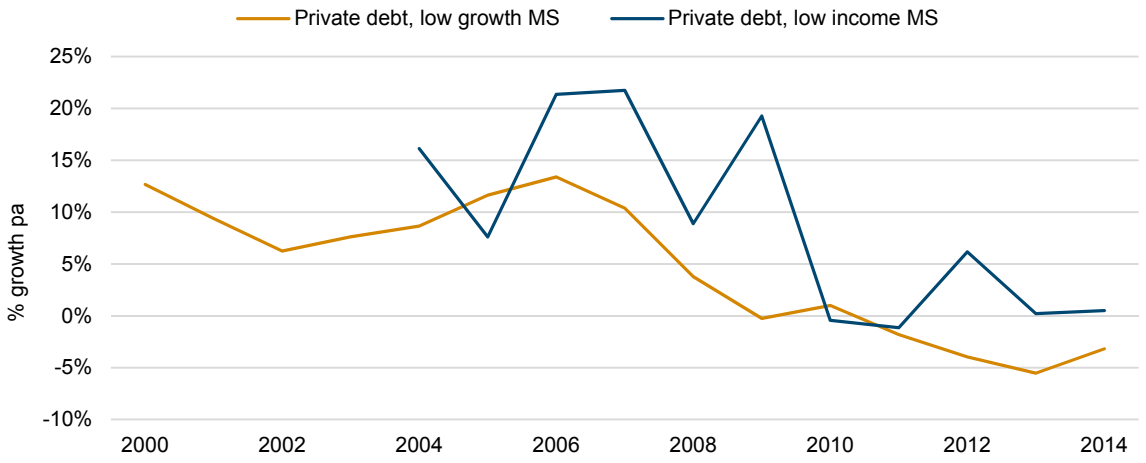
› Cultural and linguistic barriers, or unfamiliarity with local regulatory or legislative frameworks, present an element of risk in making investments in regions.

› Potential macroeconomic and geopolitical stability of the regions also presents a risk to investors. Assets may be confiscated or destroyed through periods of instability, vital infrastructure may become insufficient, and macroeconomic shocks may supress demand for products and services.

Transmission mechanisms and regional performance

Private debt levels as a share of GDP have increased in the EU over the period from 2000, and the 8 Member States with lagging regions are no exception (see Figure 6.16). However, the impact of increasing levels of debt can be viewed in different ways. On the one hand, increasing debt can be the result of increasing private expenditure (particularly increased household consumption), and the resultant increase in demand for goods and services can have a positive effect on output in the short term. An alternative driver of increased private debt might be increasing private investment, and while the short-term positive impacts of this are more limited (typically the construction and supply chain activity that is created), in the long term private investment (particularly in capital goods) should lead to higher labour productivity and therefore increased output. There are also potential negative impacts from private debt, however. Large levels of private debts require increasingly high financing costs, which displaces expenditure in sectors with larger economic impacts (assuming that financial services create fewer direct jobs and have a smaller footprint in terms of indirect jobs and output than alternative uses of the same funds). Private debt also represents a liability that (it is assumed) ultimately must be paid back; in this sense, private debt represents bringing forward expenditure, and while there may be positive short-term impacts of this expenditure, it is effectively 'borrowed' from the future periods in which repayments must be made.

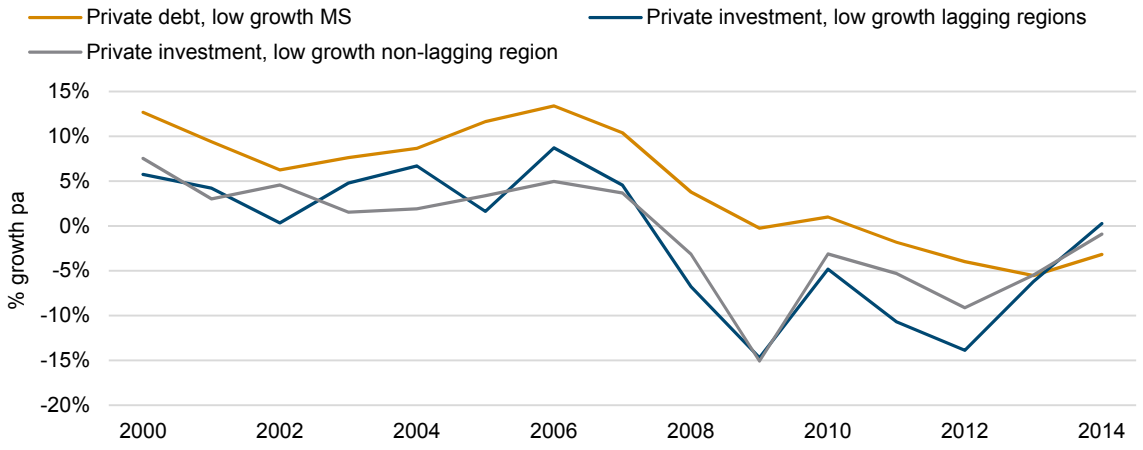
Figure 6.16 / Growth in private debt in the low growth and low income Member States



There is evidence of deleveraging in the 8 Member States with lagging regions, beginning in 2009 in the low growth MS, and 2010 in the low income states. However, it should be noted that the two sets of countries had different starting levels of private debt; debt levels were much higher in the low

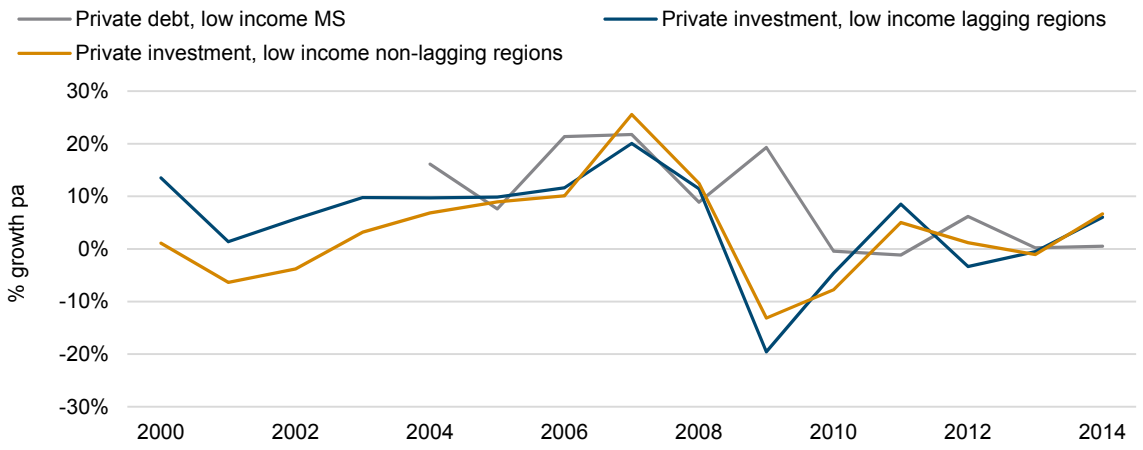
growth countries than the low income Member States, making the required rate of deleveraging much more severe. While the low income countries experienced an economic slowdown and some deleveraging, because debt levels were not as high the impact of the deleveraging on the real economy was not as substantial.

Figure 6.17 / Private investment in the regions of the low growth Member States



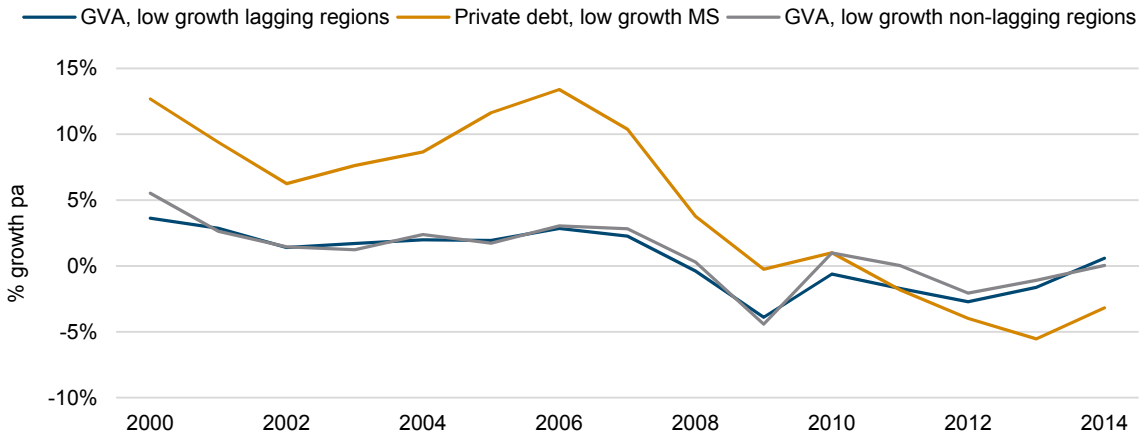
In both the low growth (see Figure 6.17) and the low income (see Figure 6.18) Member States, there was little difference in the performance of private investment between the lagging and non-lagging regions; **the decline in private investment immediately after the crisis was sharper in the low income lagging regions than the non-lagging regions**, but subsequent performance slightly stronger in the lagging regions. There is a further difference between the experiences of the low growth and the low income countries; while the growth of private debt was already slowing in the low growth Member States in the run-up to the crisis (and the continuation of this trend in the post-crisis period resulted in private debt decreasing over 2011-2014), in the low income Member States the change was more severe; private debt rapidly increased in 2009 (by almost 20%) and then decreased slightly in 2010.

Figure 6.18 / Private investment in the regions of the low income Member States



Private investment in both the low growth and low income countries contracted sharply in 2009, evidence of **substantial deleveraging by private investors**. However, subsequently the growth path of the two sets of regions diverged; while private investment in the low growth regions continued to decline, in the low income regions private investment started to grow again from 2011. This could have substantial implications for the nature of the economic recovery seen in the two sets of regions; **while an inflow of private investment into the low income regions is likely to lead to increased employment opportunities and economic growth, the continued shrinking of the flow of private investment in the low growth regions will limit such opportunities** there (although it should be noted that private investment is continuing to flow into these regions, just at a decreasing rate).

Figure 6.19 / Private debt and GVA growth in the low growth Member States



The direct impact of private debt on economic output is more difficult to establish, as it is only one of several drivers of economic performance (and the financial crisis, and subsequent global economic slowdown, are the over-riding drivers of economic performance in the 8 Member States over the post-crisis period). In the low growth Member States, while growth in private debt slows at the same time as economic growth stalls during the downturn, the later stabilisation in GVA growth (in both the lagging and non-lagging regions) is not reflected in private debt, which continues to fall. In the low income Member States, the non-lagging regions consistently grow more rapidly than the lagging regions, but **economic growth does not seem particularly responsive to changes in private debt** (for example, the upturn in private debt in 2012 occurs at the same time as the slight slowdown in economic growth, a result which is counterintuitive), and other factors appear to be driving changes in GVA.

Evidence from Bulgaria and Portugal

The relationship between deleveraging of debt and private investment in Portugal appears strong after the financial crisis although the effect on private investment does not appear to differ much between lagging and non-lagging regions. In Bulgaria, private debt only briefly falls, but growth is slower after the financial crisis. After an initial contraction, **private investment in Bulgaria recovers along broadly the same trajectory in lagging and non-lagging regions.**

Figure 6.20 / Private debt and GVA growth in the low income Member States

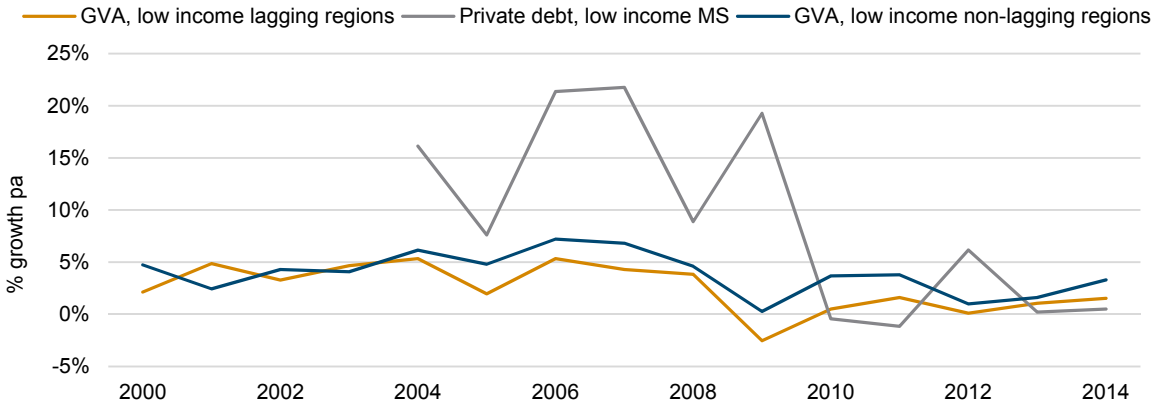


Figure 6.21 / Private debt and investment growth in the lagging and non-lagging regions of Portugal

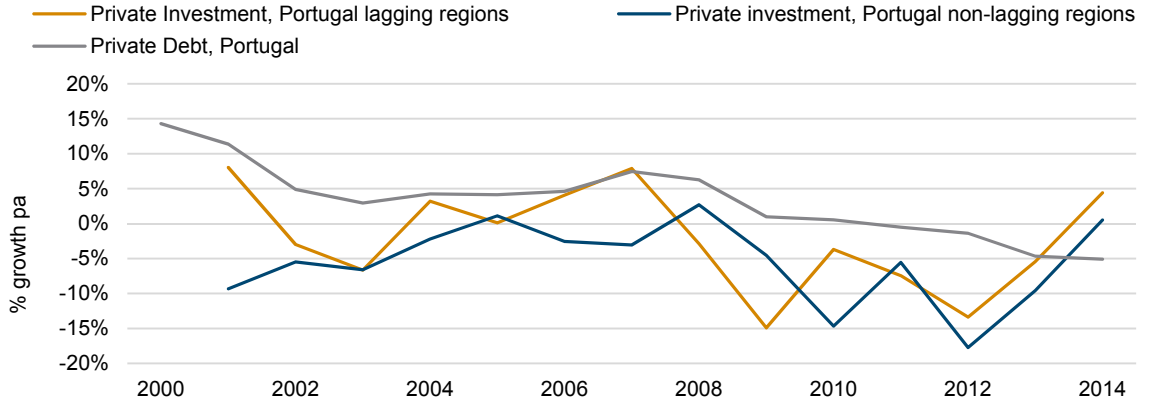


Figure 6.22 / Private debt and investment growth in the lagging and non-lagging regions of Bulgaria

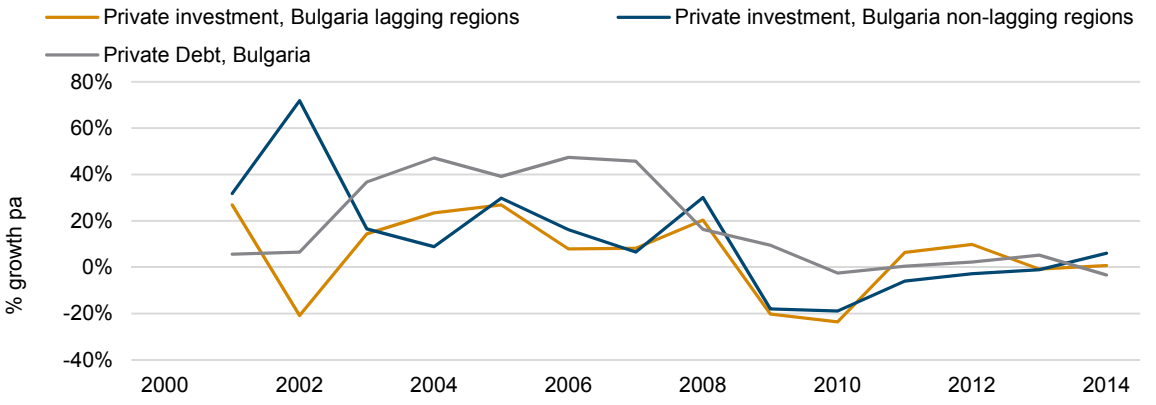


Figure 6.23 / Private debt and GVA growth in the lagging and non-lagging regions of Portugal

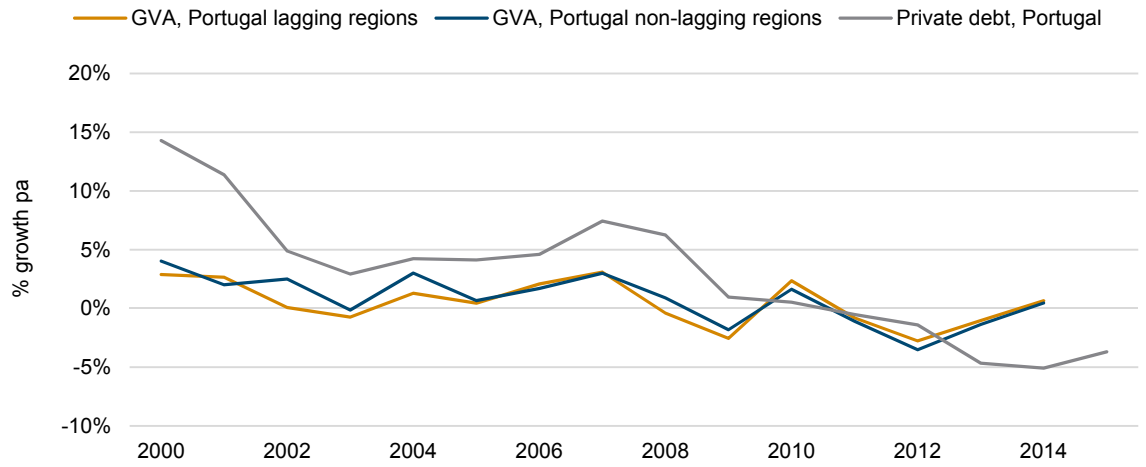
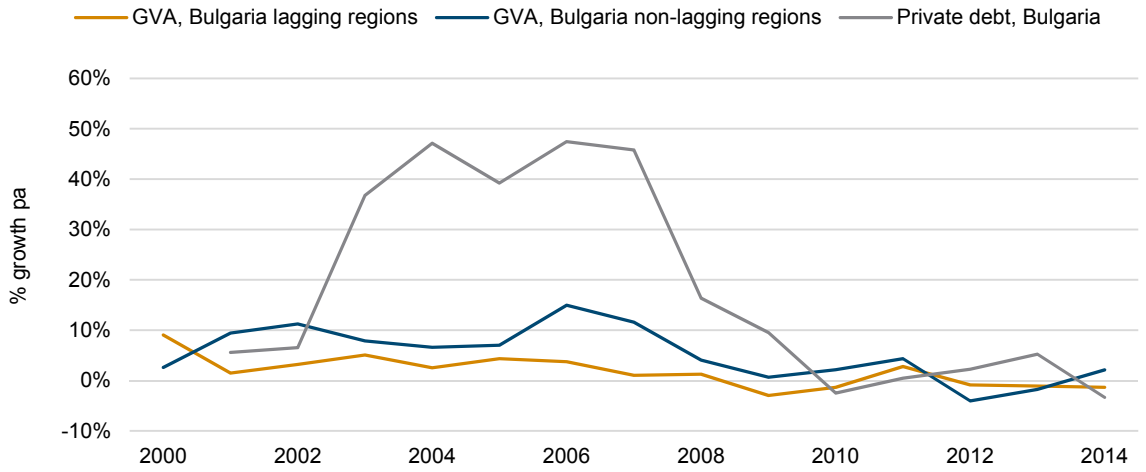
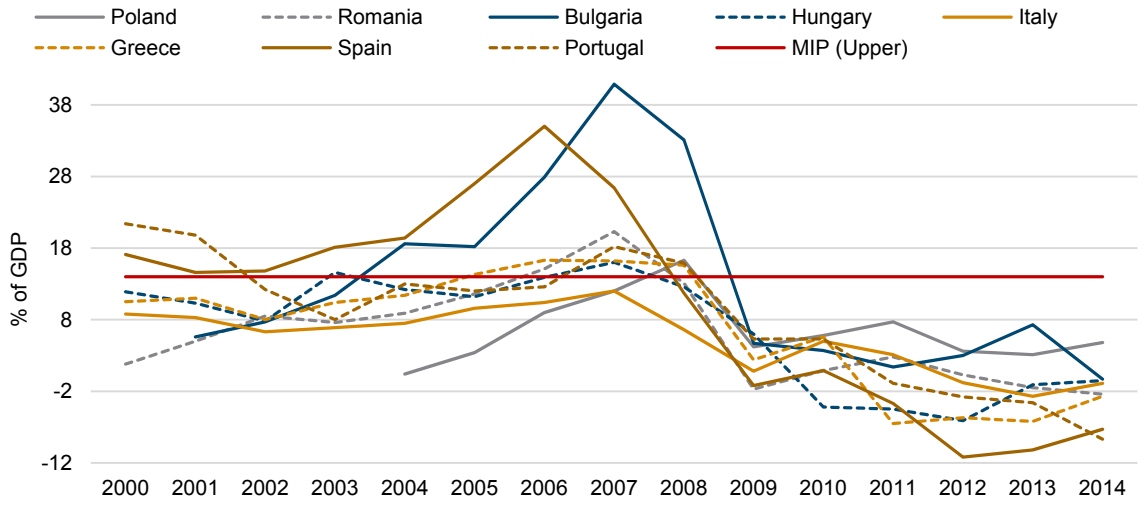


Figure 6.24 / Private debt and GVA growth in the lagging and non-lagging regions of Bulgaria



While deleveraging occurs in Portugal following the financial crisis, there is little difference in the GVA growth performance between lagging and non-lagging regions. In contrast, there is little deleveraging in Bulgaria and no evidence to demonstrate a differential impact on GVA growth between lagging and non-lagging regions as a result of declining debt growth.

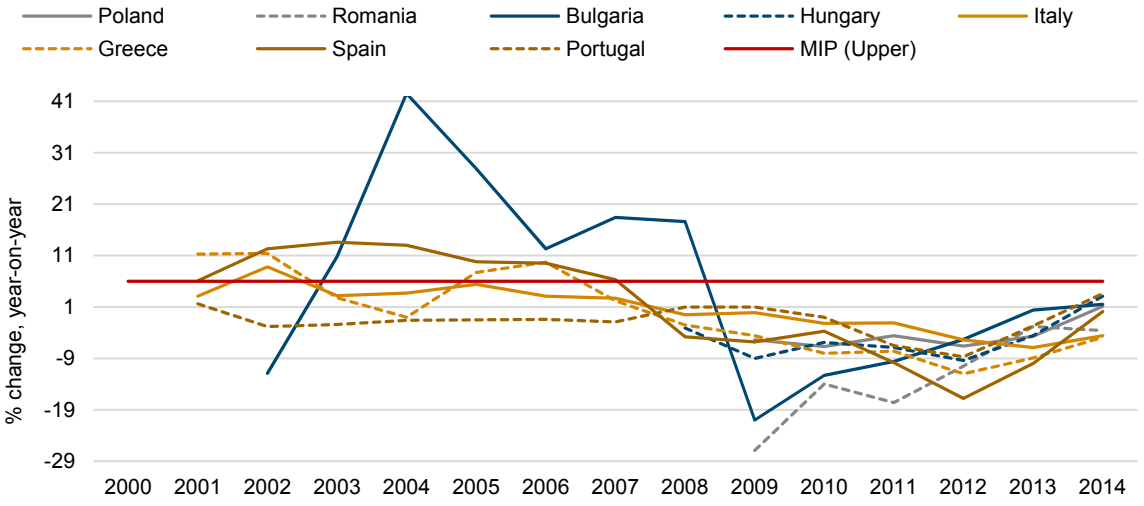
Figure 6.25 / Private sector credit flow, as a % of GDP



Private credit national performance

There is little discernible difference in performance between low growth and low income countries with respect to private sector credit flows. During the mid-2000s most of the lagging Member States approached or exceeded the MIP threshold, with the largest flows observed in Spain and Bulgaria, increasing the risk exposure of their financial systems. However, following the financial crisis, credit flows to all lagging Member States declined to levels well within the MIP thresholds with the **tendency for credit flows to contract more severely among low growth countries**, whereas low income Member States either did not experience contracted credit flows or not to the same degree as some low growth MS such as Spain and Portugal.

Figure 6.26 / Real house prices (year-on-year % change)

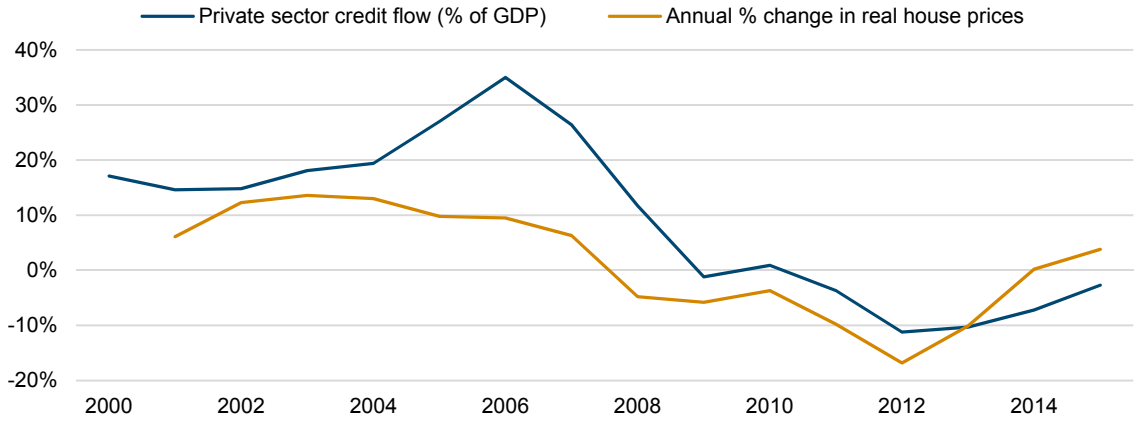


Real house prices among the low growth Member States have generally remained within the MIP thresholds, except for Spain and (for a period) Greece, where rapidly rising real house prices indicated risks to the financial systems of those countries. Little data exists before the financial crisis for the low income Member States but data for Bulgaria shows it far exceeded the MIP for much of the period before the financial crisis. The post-financial crisis period shows decline in real house prices for all the Member States, but since 2012, in both low income and low growth MS real house price growth has either returned or the rate of decline has slowed from the substantial rate of decline experienced after the financial crisis.

Transmission mechanisms and regional performance

The flow of private credit can have a substantial impact upon economic development of regions, as was first recognised by Schumpeter[15]. However, it also has other potential impacts upon development in the real economy. Some of the regional economies of the lagging regions were severely impacted by rapid expansion and subsequent collapse of the construction sector (a 'bubble'), driven primarily by real estate prices (particularly private dwellings). The analysis below seeks to assess the extent to which changes in private sector credit flows (measured at a national level), drove changes in house prices (i.e. easier availability of credit facilitating increasing prices) and whether this contributed to the development of construction bubbles in the lagging regions.

Figure 6.27 / National private sector credit flow and change in real house prices in Spain



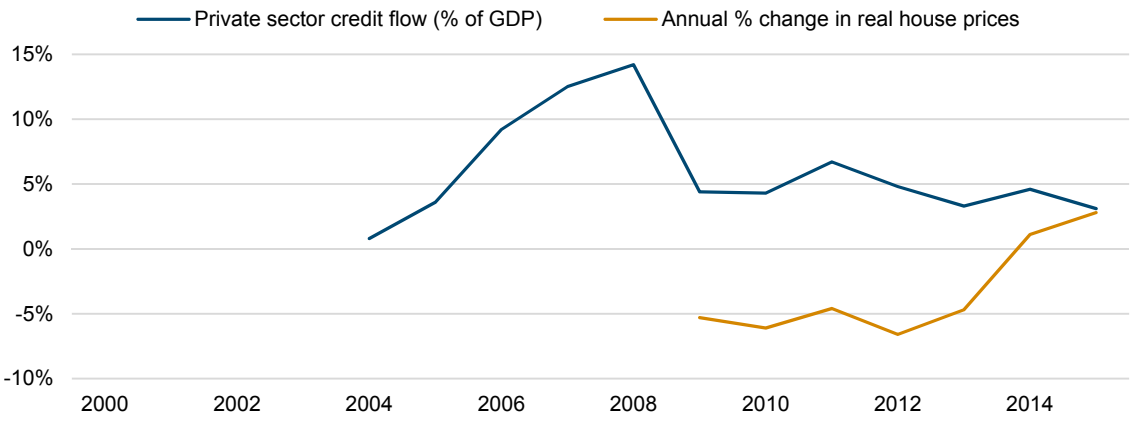
There is some evidence across the countries including lagging regions of **a positive correlation between changes in real house prices and private sector credit flow** (measured as a % of GDP), with the former leading the latter as both variables rise and fall together. Among low growth Member States, both real house prices and private sector credit flows to GDP were declining from 2007 in Greece, Spain and Italy. Real house prices in Portugal have been falling for much of the last fifteen years, only increasing in 2008, 2009 and from 2014 onwards. Figure 2.30 shows that in Spain, private sector credit flows grew rapidly before peaking in 2006 at 35% of GDP[16]. While flows remained positive

[15] Schumpeter, J.A. (1934), *The Theory of Economic Development*.

[16] Private sector credit flow to GDP in Bulgaria, Greece, Italy, and Poland peaked at 41%, 16%, 12% and 14%, respectively, in 2007 or 2008.

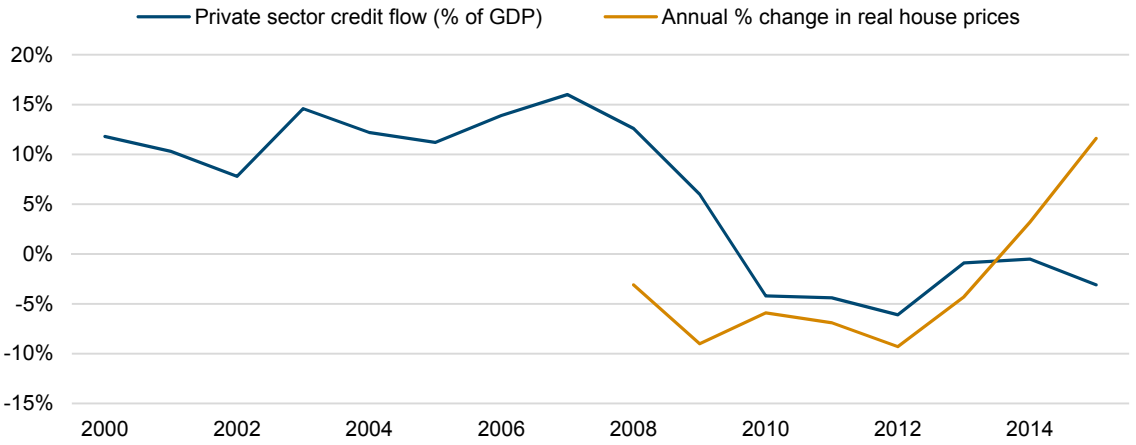
after 2006, they trended downwards and fell below zero (representing a decline in the stock of private credit) in 2009 as the Spanish property market collapsed and the economy entered recession. The evolution of Spanish real house prices mirrors the flow of credit, with both trending downwards until 2012 after which they began to increase. This reflects a stabilising property market and improving economic performance in Spain.[17]

Figure 6.28 / National private sector credit flow and change in real house prices in Poland



After 2008, most Member States had falling house prices while private sector credit flow was either negative (mainly in low growth countries) or positive but close to zero (in low income countries). The notable exception is Poland where private sector credit flow remained positive, as can be seen in Figure 6.28.

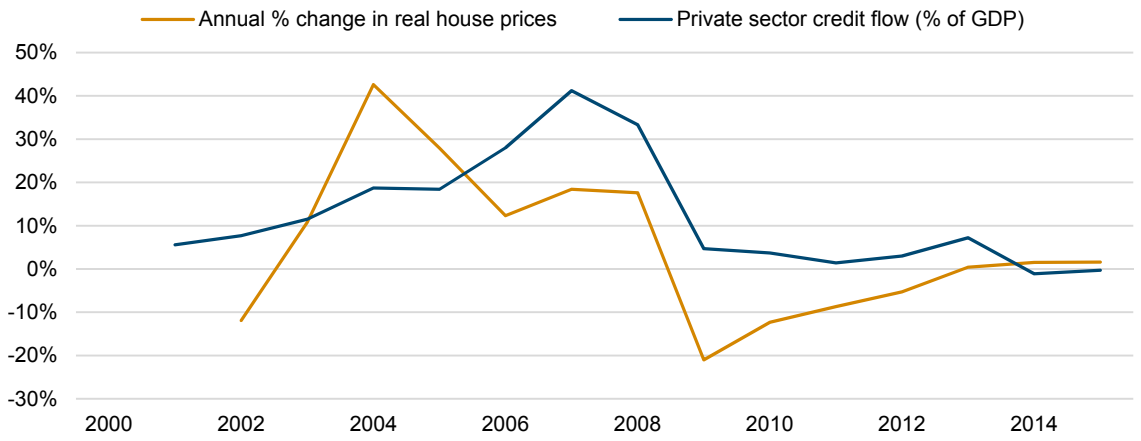
Figure 6.29 / National private sector credit flow and change in real house prices in Hungary



[17] This improvement in the property market (in terms of the upward trend) after 2012 is also seen in the other Member States.

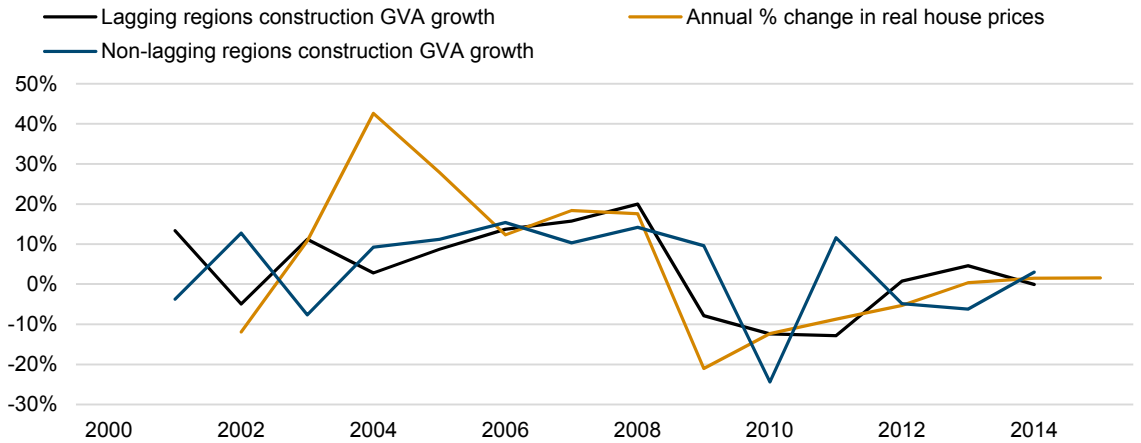
Across low income Member States the link between private sector credit flow and real house prices is somewhat weaker, as shown in Figure 6.29 and Figure 6.30 for Hungary and Bulgaria respectively. While house prices in this set of countries fell for most of the post-2008 period, private sector credit flows remained positive everywhere except in Hungary. However, while real house prices started to increase in 2009 in low income Member States, they did not start to rise in low growth MS until 2012.

Figure 6.30 / National private sector credit flow and change in real house prices in Bulgaria



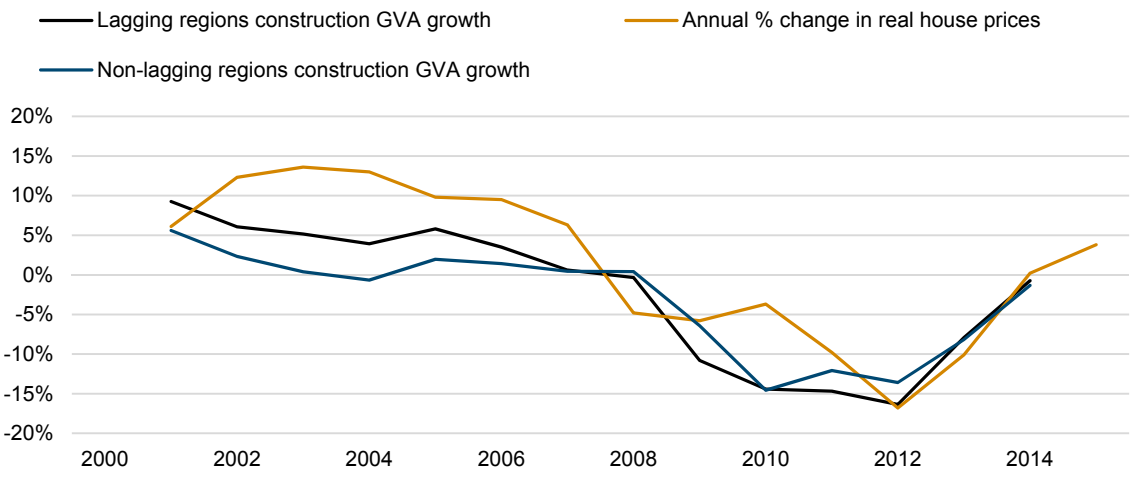
In the construction sector, downward trends in GVA growth (either slowing growth or a contraction in GVA) reflect housing markets that deteriorated for most of the last ten years, particularly amongst low growth Member States. Within each Member State, construction GVA growth is quite similar across lagging and non-lagging regions, especially in low growth MS. Movements in construction GVA in the low growth MS mirror changes in real house prices, with both trending downwards between 2007 to 2012. After 2012, there was a turnaround in the housing market with prices either starting to increase or falling at a slower rate than before, as shown by the positive trends in Figure 6.31 for Bulgaria and Figure 6.32 for Spain.

Figure 6.31 / Change in real house prices and regional construction GVA growth in Bulgaria



In low income Member States, the link between construction GVA growth and real house prices is weaker in the period since 2008. Nevertheless, the deterioration of the housing market over this period is still evident in declining GVA from the construction sector. Real house prices returned to growth during 2014-2015, which is also reflected in construction GVA growth, which returned in 2014 in all low income MS apart from Romania.

Figure 6.32 / Change in real house prices and regional construction GVA growth in Spain

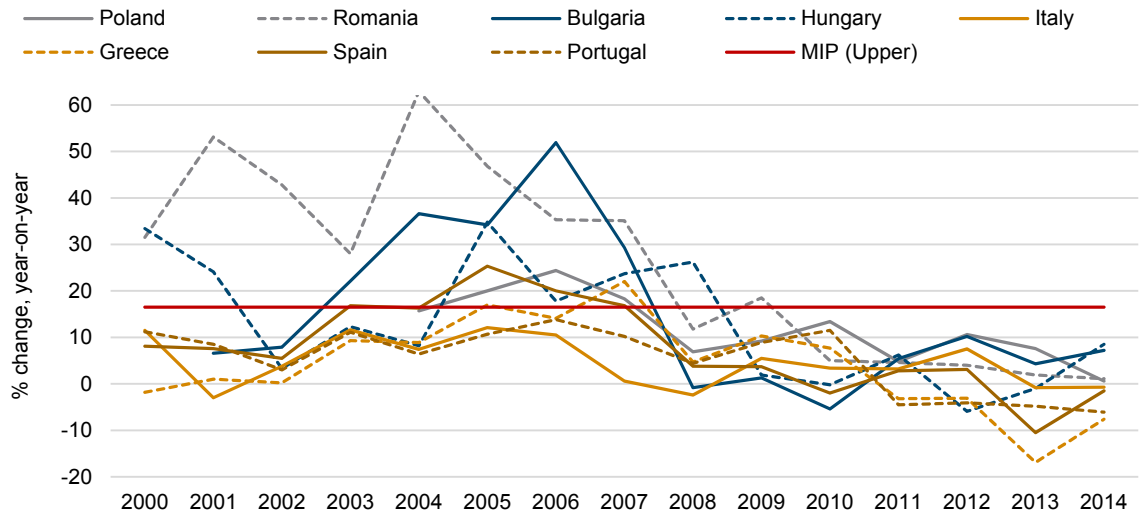


6.5. ACCESS TO FINANCE

National performance

Throughout much of the 2000s, the low income Member States exceeded the MIP threshold for the change in total financial sector liabilities, reflecting increased financing needs but also a volatile financial system whereas the low growth MS only exceeded the MIP threshold in the few years preceding the financial crisis. Following the crisis, the financial sector liabilities in both the low income and low growth countries have tended to a lower range (in some cases liabilities have been decreasing, demonstrating deleveraging), all of which are well within the acceptable MIP threshold. Despite the convergence in the rate of change between low income and low growth Member States in the years following the financial crisis, the former continue to experience growth in financial sector liabilities whereas the latter have experienced contractions.

Figure 6.33 / Total financial sector liabilities (year-on-year % change)



Transmission mechanisms and regional performance

Evidence from Italy

One of the factors influencing regional private investment and therefore medium- and long-term economic growth is access to finance. **Among Italy's lagging regions, interest rates charged by banks are substantially above interest rates charged across Italy on average, which seems largely attributable to the legacy of impaired and non-performing loans on bank balance sheets.** Interest rates charged in Abruzzo show the smallest difference from the national average at 6.2% compared to 5.0% for Italy while the largest differential from the national average can be found in Calabria where interest rates charged average 8.5%, 346 basis points above the national average. Higher costs of finance limit access to finance for firms and thus limit a firm's ability to borrow for investment. Investment is how firms increase productivity and generate economic growth; as such, higher costs of finance limit productivity and economic growth via lower investment.

Most of the interest differential within the lagging regions can be found in the large difference charged to medium and large enterprises in the lagging regions. Although medium and large enterprises generally enjoy lower interest rates compared to small enterprises due to the lower risk associated with lending to larger firms with greater resources and assets for use as collateral, there is a smaller differential in the interest rate charged to medium and large enterprises in the lagging regions when compared to the Italian average. For instance, the differential charged based on enterprise size falls to as low as 1.68% in Molise and only Basilicata has a differential larger than the Italian average where small enterprises are charged substantially higher interest rates compared to medium and large enterprises. Furthermore, enterprises in Calabria are charged the highest interest rates among the lagging regions but the rate charged to small businesses is 8.5% compared to the national average of 7.9% whereas 8.0% is charged to medium and large enterprises in Calabria compared to 4.7% nationally. Smaller enterprises are charged high rates of interest and the differential rate charged to medium and large enterprises in

the lagging regions is lower, indicating that medium and larger enterprises face higher financing premiums in the lagging regions. The higher interest rate differential potentially limits the scope for firms to experience productivity and efficiency improvements through firm scale economies as private investment is more limited by higher financing costs for larger firms in the lagging regions relative to the other regions of Italy.

Table 6.2 / Bank interest rates in 2015 by enterprise size

Region/ Country	Total enterprises	Small enterprises	Medium-large enterprises	Differential due to enterprise size
Abruzzo	6.24	8.86	5.89	2.97
Molise	7.15	8.52	6.84	1.68
Campania	6.8	9.5	6.5	3
Puglia	6.99	9.51	6.55	2.96
Basilicata	6.04	9.57	5.51	4.06
Calabria	8.5	9.92	8.01	1.91
Sicilia	7.38	8.99	7.02	1.97
Sardegna	7.04	9.45	6.56	2.89
Italy	5.04	7.94	4.7	3.24

Source: Bank D'Italia, central credit registry and own calculations.

Interest rates charged to enterprises by sector in the lagging regions exceed the national average apart from services enterprises in Basilicata, broadly demonstrating the higher cost of financing for firms in the lagging regions of Italy. Generally, **interest rates for firms in the manufacturing sector are lower than for construction or services firms** although in Basilicata interest rates charged to services enterprises are lower than those for manufacturing and construction enterprises.

Table 6.3 / Bank interest rates in 2015 by sector

	Interest rates			Interest rate differential from national average		
Region/ Country	Manufacturing enterprises	Construction enterprises	Services enterprises	Manufacturing enterprises	Construction enterprises	Services enterprises
Abruzzo	5.03	7.08	7.08	0.79	0.94	1.74
Molise	6.92	6.86	7.66	2.68	0.72	2.32
Campania	5.86	6.96	7.28	1.62	0.82	1.94
Puglia	6.31	7.47	7.11	2.07	1.33	1.77
Basilicata	6.64	6.98	5.3	2.4	0.84	-0.04
Calabria	8.25	9.3	8.4	4.01	3.16	3.06
Sicilia	6.23	7.97	7.66	1.99	1.83	2.32
Sardegna	5.97	7.54	7.51	1.73	1.4	2.17
Italy	**4.24**	**6.14**	**5.34**	-	-	-

Source: Bank D'Italia, central credit registry and own calculations.

The higher cost of finance in the lagging regions of Italy may be interpreted as partly reflecting the risk premium of investing in lagging regions where impaired loans and non-performing loans are above the Italian average. The share of impaired loans to total loans is substantially higher among the lagging regions with a larger share of impaired loans generally found among smaller companies and more impaired loans among firms in the construction sector than the manufacturing sector with the

lowest number found in the services sector. This indicates that, while the cost of financing is higher in the lagging regions**, the cost of financing is partly explained by the risk and poorer economic conditions for lending to enterprises in the lagging regions**. However, the share of impaired loans to total loans in manufacturing is higher than in construction in Calabria and Basilicata, and substantially higher in Molise, which does not seem to be reflected in the interest rates charged suggesting that the difference between in the interest charge is not wholly attributable to differences in risks to repayment.

Of particular importance is the share of impaired loans to total loans for financial and insurance companies due to the general implications for access to finance for a regional economy with a financial sector with poor balance sheets. The rate of impaired loans for financial and insurance companies indicates the risk of increased costs to access to finance in general in the lagging regions. A high share of impaired loans means that financial institutions are limited in the new financing they can offer for firms' investment and cashflow while their balance sheets are rebuilt such that access to finance is further hindered. In some cases, the rate may be so high as to indicate risks to overall financial stability. **Sardegna is the only lagging region in Italy with an impaired loan rate lower than the Italian average whereas many regions have substantially higher rates such as in Puglia and Sicilia**, with rates as high as 70% indicating substantial problems in the finance stability of these regions.

Table 6.4 / Impaired loans by sector of economic activity in 2015 (% share of total loans)

Region/Country	Total companies	Small business	Manufacturing enterprises	Construction enterprises	Services enterprises	Financial and insurance companies
Abruzzo	43.6	45.2	40.3	53.6	44	9.5
Molise	53.5	48.5	68.3	56	43.7	-
Campania	48.3	49.9	43.2	64.3	47	25.4*
Puglia	46.8	46.8	49	62.4	41.6	68.5
Basilicata	51.2	55.9	57.7	61.9	46.5	-
Calabria	57.7	61.5	69.3	69.7	55.5	-
Sicilia	49.7	55.2	51.2	71.4	43.8	72
Sardegna	45.8	46.8	41.2	65.4	42.1	1.4
Italy	**35.1**	**34.5**	**30.6**	**56.6**	**32.2**	**4.5**

Note: This figure is adjusted for the effects of a limited number of large-value transitions to the category of probable non-compliance regarding some financial companies.
Source: Bank D'Italia, central credit registry.

Among other sectors, the share of impaired loans broadly follows the sectoral trend of the country as a whole. However, some exceptions exist within the lagging regions, such as Molise where manufacturing firms have the highest share of impaired loans and Calabria where manufacturing firms also have a high share of non-performing loans, illustrating financial difficulties in the manufacturing sectors concentrated in some lagging regions. The services sector generally has the lowest share of non-performing loans, with the highest share found in construction. However, there is little difference concerning non-performing loans between all companies and small businesses.

Impaired loans indicate firms facing difficulty in meeting repayments for loans whereas non-performing loans indicate firms struggling to make any repayments for loans and as such indicate substantial problems with bank balance sheets. **The rate of non-performing loans for companies follows the same broad trends as impaired loans, with substantial problems in the lagging regions** although

Sardegna again proves to be an exception with a rate below the national average for financial and insurance companies. **In many cases the rate of non-performing loans for financial and insurance companies is close to the impaired loans rate, indicating substantial problems with financial stability in those regions**. For other sectors and smaller firms, the general trends for impaired loans are also found in non-performing loans.

Table 6.5 / Non-performing to total loans by sector of economic activity in 2015 (% share)

Region/ Country	Region Code	Total companies	Small business	Manufacturing enterprises	Construction enterprises	Services enterprises	Financial and insurance companies
Abruzzo	ITF1	33.4	32.5	36.4	36	32.2	4.5
Molise	ITF2	43.7	40.4	61.4	43.1	34.3	-
Campania	ITF3	32.8	40.8	36.3	48.5	27.3	23
Puglia	ITF4	36.3	37.6	42.1	46.9	31.1	55.2
Basilicata	ITF5	42.3	48.6	53	47.9	37.9	-
Calabria	ITF6	46.7	53.7	61	50.4	45.2	57.1
Sicilia	ITG1	38.7	45.3	44.2	56.7	32	65.5
Sardegna	ITG2	33.4	39	36.3	48.7	28.2	0.2
Italy	**IT**	**23.2**	**25.4**	**23.2**	**36.3**	**20.6**	**1.9**

Source: Bank D'Italia, central credit registry.

Table 6.6 / Indebtedness of enterprises

	Leverage* (%)			Finance charges/EBITDA (%)		
	2007	2013	2014	2007	2013	2014
Abruzzo	58	53	49	28	31	19
Molise	56	62	58	29	87	27
Campania	58	53	52	34	28	22
Puglia	59	60	60	34	37	31
Basilicata	51	48	47	27	20	24
Calabria	62	61	59	35	38	33
Sicilia	56	53	50	27	25	27
Sardegna	56	44	47	23	36	56
Italy	**54**	**51**	**49**	**24**	**24**	**21**

Note: * Leverage is defined as the ratio of financial debt to the sum of financial debt and shareholder's equity.
Source: Bank D'Italia, central credit registry.

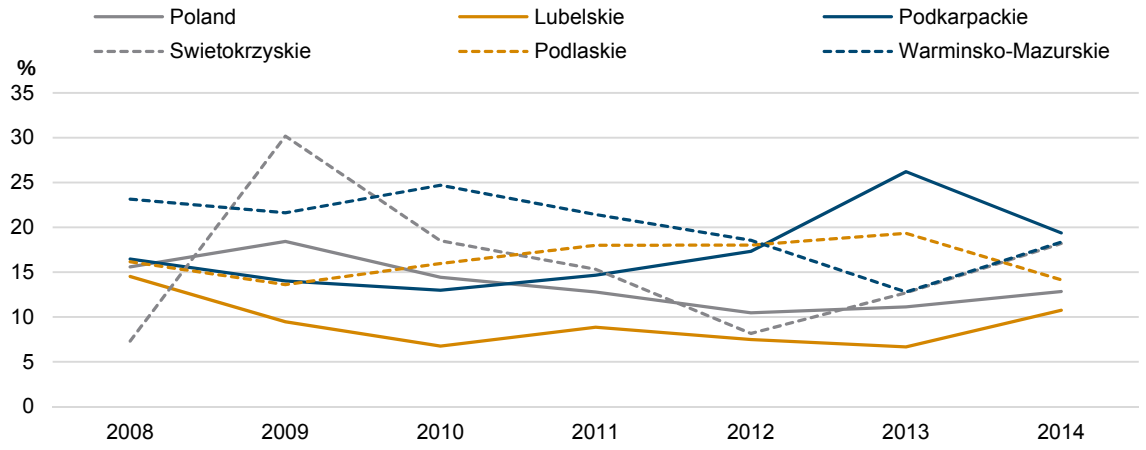
Despite the poor shape of the balance sheets of the lending institutions in the lagging regions demonstrated above, **financial indebtedness is not substantially above the Italian average in the lagging regions**. Furthermore, financial indebtedness has not seen large changes since the financial crisis. However, finance charges as a share of profits (measured by earnings before income, tax, depreciation and amortisation, EBITDA) are substantially above the national average in some years reflecting the higher interest costs charged by banks and the more difficult economic conditions in given years and regions. This would seem to indicate that **financing costs and lending are hindered by the condition of the balance sheets of financial institutions more than by overleverage or increasing financial charges/EBITDA ratios**.

The available evidence would suggest that problems with **access to finance is a substantial issue for Italy's lagging regions**, especially for some specific regions. However, enterprises are not disproportionally indebted in the lagging regions compared to the national average; rather the financial sector in the lagging regions has acquired a substantial portfolio of impaired loans most of which are non-performing. Therefore, **higher interest rates charged to enterprises in the lagging regions are likely to be the result of balance sheet problems such as impaired and non-performing loans within the financial sector as much as a higher risk premium for poorer economic prospects in the lagging regions**. The implication of this is **that access to finance in the lagging regions is disproportionately costlier than in other regions**. Consequently, private investment is likely to be lower due to higher financing costs and thus economic growth will also be lower.

Evidence from Poland

Access to finance plays a key role in financing private investment for economic growth. However, dependence on bank borrowing can vary such that private investment in some regions is more reliant on access to finance than in others. Increased reliance on bank borrowing may mean that private investment and economic growth is more closely reliant on access to finance.

Figure 6.34 / Share of investment financed by bank borrowing



Source: Central statistics office of Poland, local data bank and own calculations.

The lagging regions in Poland are more reliant than the Polish average on financing private investment by bank borrowing. This indicates that private investment in the lagging regions is particularly vulnerable to potential disparities in the access to or the cost of finance as this would impact disproportionately on firms in the lagging regions which, apart from Lubelskie, are consistently more reliant on borrowing to finance private investment over time. The consequences of **reduced access to finance in the lagging regions would therefore disproportionately limit private investment in these regions** and potentially reduce medium- and long-term economic growth as a result.

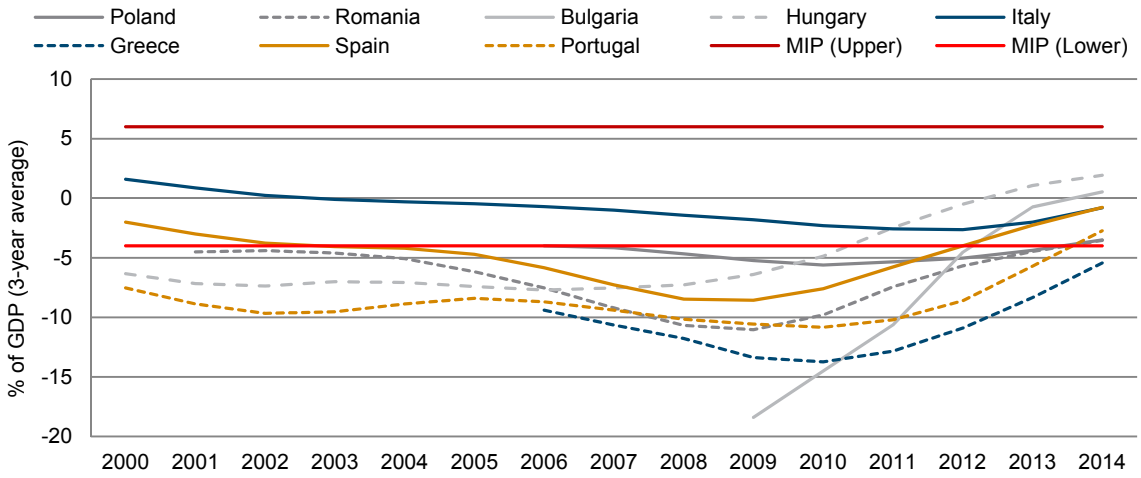
6.6. REGIONAL COMPETITIVENESS

National performance

The current account balances among the Member States indicate that while many were at risk of an unsustainable external debt level in the run-up to the economic downturn, progress has since been made to reduce the risk by reducing current account deficits (or in fact moving to a surplus). Both low growth and low income Member States exceeded the lower MIP threshold for the current account balance as a share of GDP in the period from 2000, at least temporarily (with the notable exception of Italy). The evolution of the current account balance over time shows a deterioration in the current account from the mid-2000s, but this bottoms out over the period 2008-2010 in all Member States. Since 2010 both low income and low growth Member States have moved within or approaching the MIP acceptable thresholds for the current account balance.

The net international investment position of these countries shows that the majority are indeed heavily exposed to external investors; **both low growth and low income Member States exceed the lower MIP threshold (except for Italy), risking unsustainable external debt levels**. However, the low income MS have not experienced as large a deterioration in their net internal investment position over time as the low growth MS. The low income MS have also shown some evidence of improving their net international investment position, and moving towards the MIP threshold since 2010, although the low growth countries have not shown a similar trend.

Figure 6.35 / Current account balance, as a % of GDP (3-year moving average)



A relatively clear dichotomy in performance exists in terms of export market shares between **the low income countries which, apart from Hungary, have maintained export share growth** and **the low income countries which have tended to see their export shares fall**, and which have fallen sufficiently quickly to be below the MIP threshold since the mid-2000s, indicating a loss in competitiveness. However, even in the low income Member States the rate of increase of export shares has slowed through the period (and in Hungary it has been declining on a rolling 5-year basis since 2011).

Figure 6.36 / Net international investment position, as a % of GDP

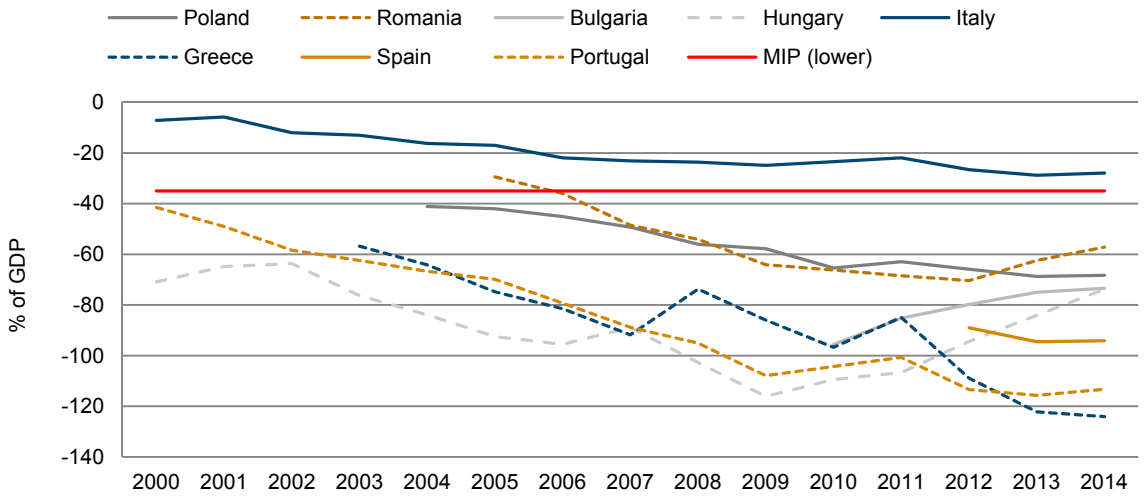
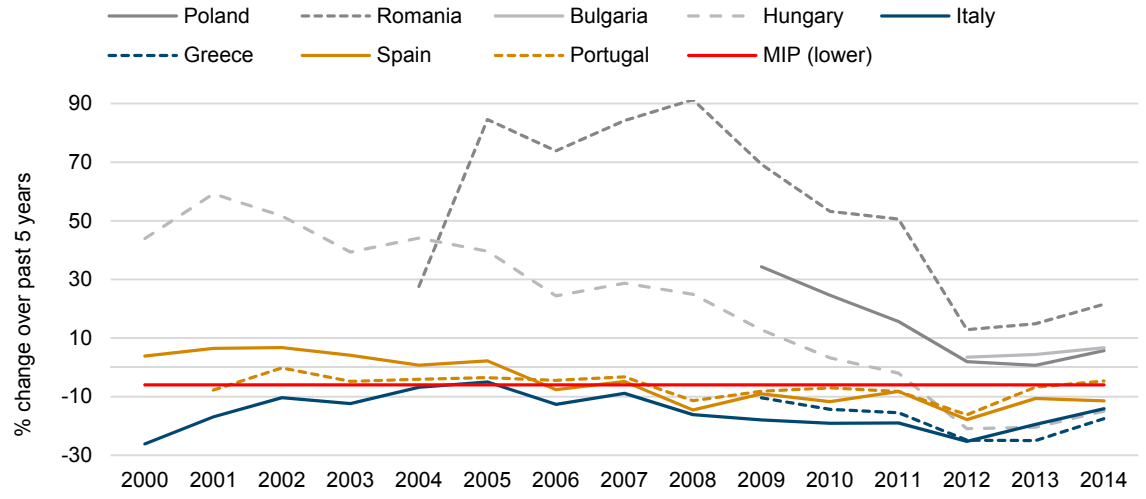


Figure 6.37 / Export market shares, values (% change over 5 years)



In the period since the financial crisis, **nominal unit labour costs have declined in many of the Member States** studied; however, for much of 2000-2015, growth in nominal unit labour costs across the low income MS exceeded the MIP threshold, with only Poland maintaining growth in labour costs below the threshold (and in fact it fell in Poland for much of the early 2000s). These **increases suggest that the competitiveness of the low income Member States was eroding** over the period. In contrast, low growth MS have mostly maintained nominal unit labour cost growth either below or only moderately above the MIP threshold with the largest breaches of the threshold observed in Greece. **The economic downturn has served to reduce nominal unit labour costs (or dampen growth) in all Member States**; only in Bulgaria has the increase in labour costs continued to exceed the MIP threshold.

Figure 6.38 / Nominal unit labour cost (% change over 3 years)

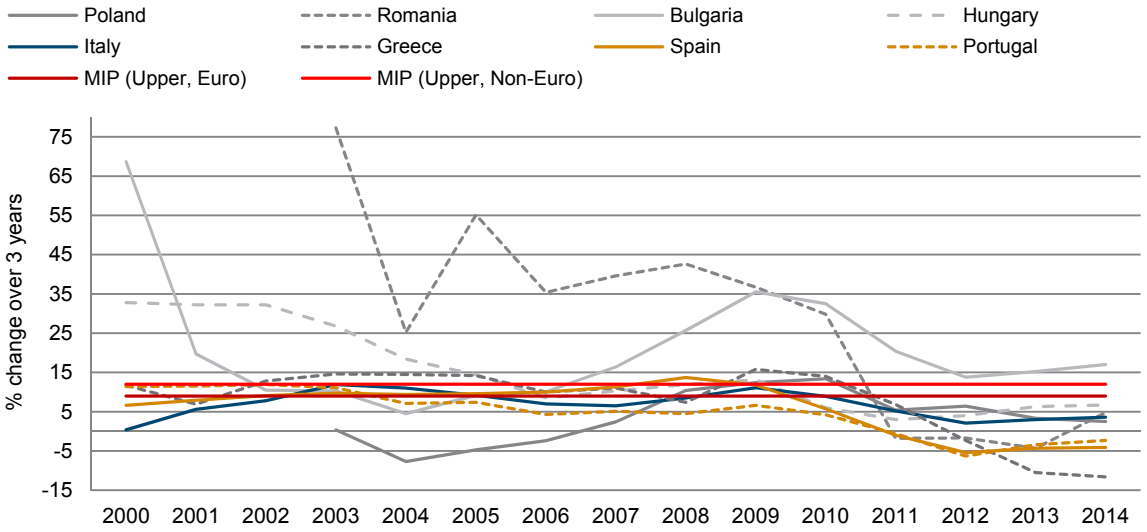
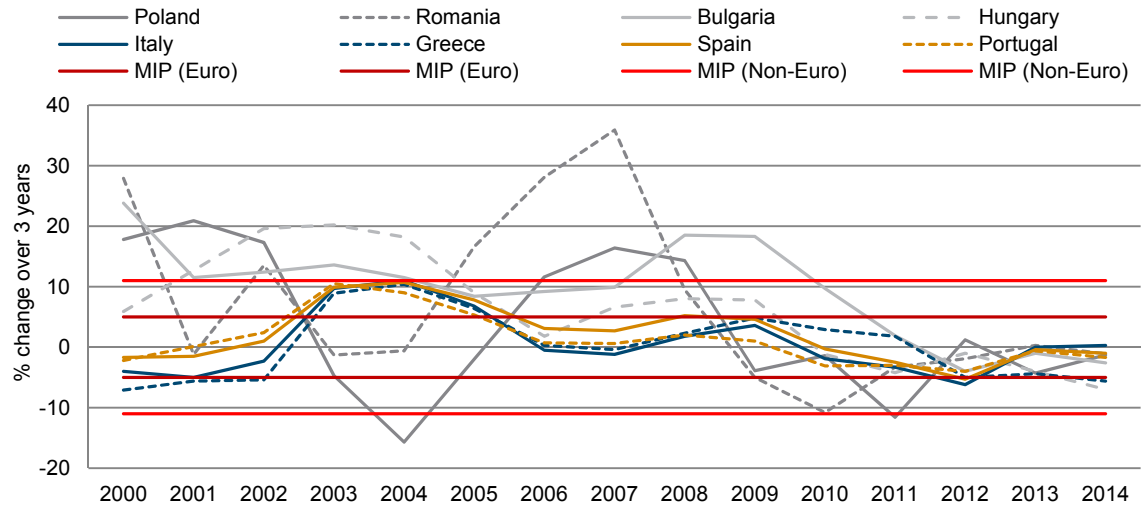


Figure 6.39 / Real effective exchange rates (% change over 3 years)



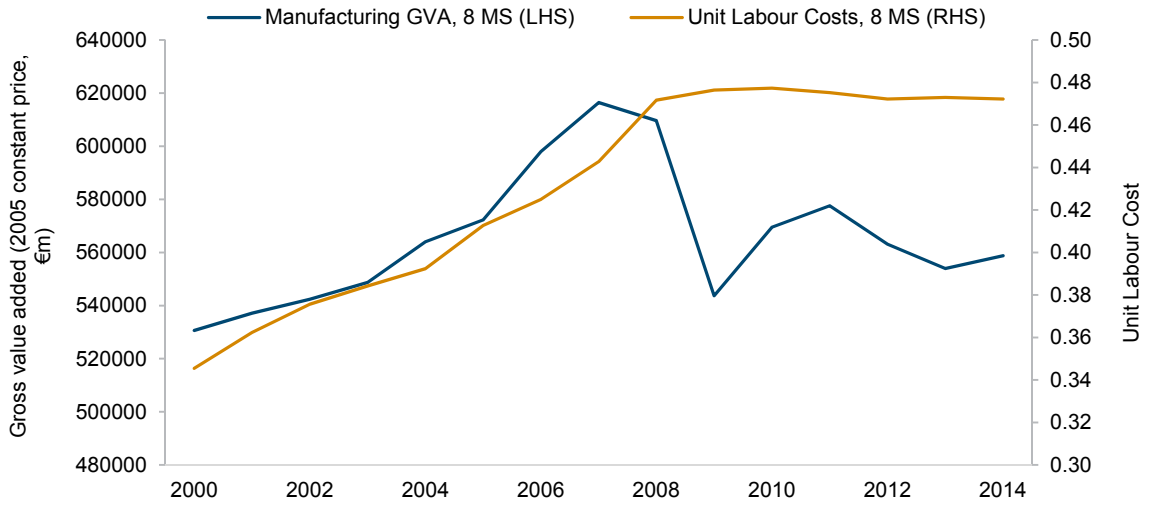
Over much of 2000-2015, **the low growth Member States** experienced movements in their real effective exchange rates within the MIP thresholds, **demonstrating broadly stable prices and therefore maintaining cost competitiveness**. In contrast, **the real effective exchange rate among low income Member States has been very volatile over time** and growth often exceeded the upper MIP threshold, particularly in Romania but also in Poland, indicating some divergence from other MS. The low income countries, which are all members of the single currency, have typically had very similar movements in their real effective exchange rates, and since 2010 these changes have tended to remain with the acceptable MIP band.

Transmission mechanisms and regional performance

Broader structural and competitiveness issues also limit the success of public and private expenditure and investment. Among the other key factors affecting regional competitiveness is labour costs. Higher wages driven by wage inflation rather than improvements in productivity result in a loss of competitiveness as companies face higher costs of production without a concurrent increase in productivity and thus output. Unit labour costs measure the productivity of labour relative to the value of output that they are producing, and so indicate the degree to which labour costs reduce or improve productivity and competitiveness.

One way of assessing the role of labour costs in determining competitiveness is to compare the performance of unit labour costs (as a measure of the labour cost of producing a single unit of output) against exports. In the absence of regional trade data, exports can be proxied through output from the tradables sector; in the analysis that follows manufacturing GVA is therefore used as a measure of external trade (and implicitly the relative competitiveness of manufacturing). Economic theory suggests that, all other things being equal, a decrease in unit labour costs (i.e. a reduction in the labour cost of producing output) should increase competitiveness and lead to an increase in exports (and therefore output) of manufactured goods.

Figure 6.40 / Manufacturing GVA and nominal ULC across 8 Member States



Across the 8 Member States that cover the lagging regions, there is some evidence of a link between unit labour costs and manufacturing output (see Figure 6.40). In 2009, as manufacturing GVA decreased sharply, unit labour costs stabilised. However, **the causality in this case is likely to be running the wrong way**; because unit labour costs are calculated as compensation divided by output, if output decreases sharply (as happened during the economic downturn), and wage costs are sticky (i.e. it is difficult to reduce employment and/or compensation commensurately), then upward pressure would be exerted on unit labour costs (and as a result they would be expected to stabilise or rise in the same way that productivity typically falls during an economic downturn).

Figure 6.41 / Manufacturing GVA growth and nominal unit labour costs in the lagging and non-lagging regions

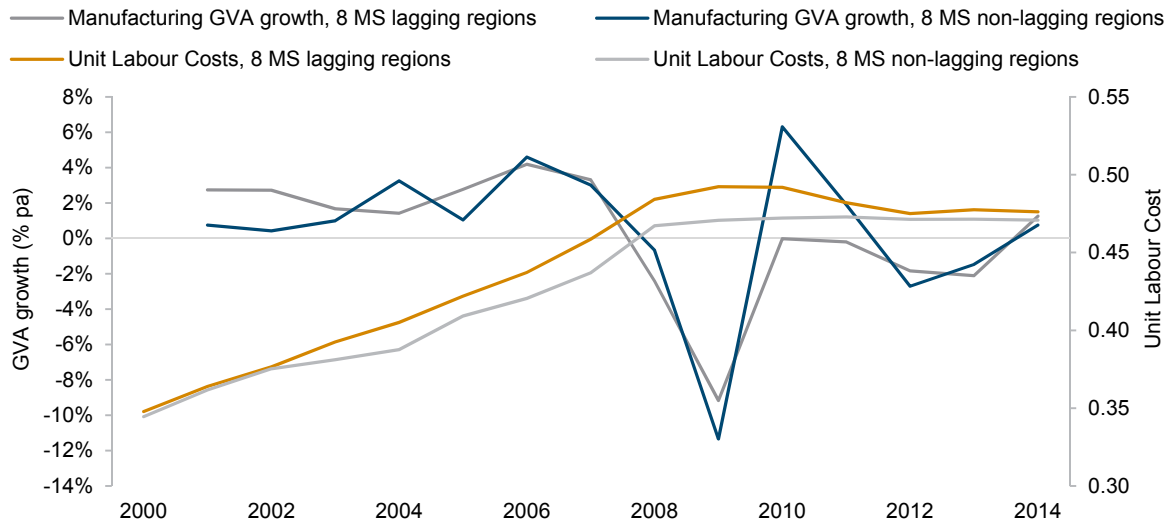
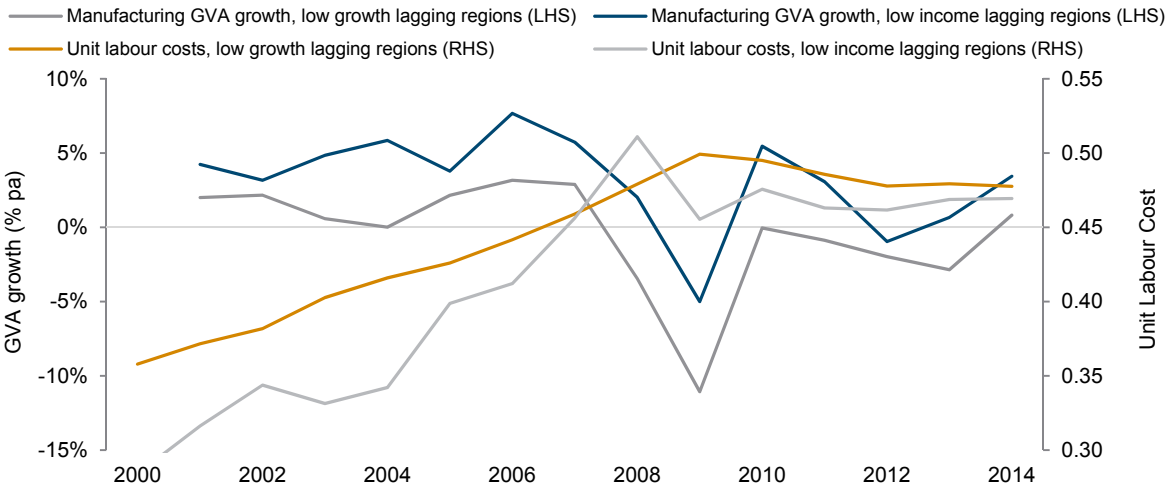


Figure 6.42 / Manufacturing GVA and nominal unit labour costs in the low income and low growth lagging regions



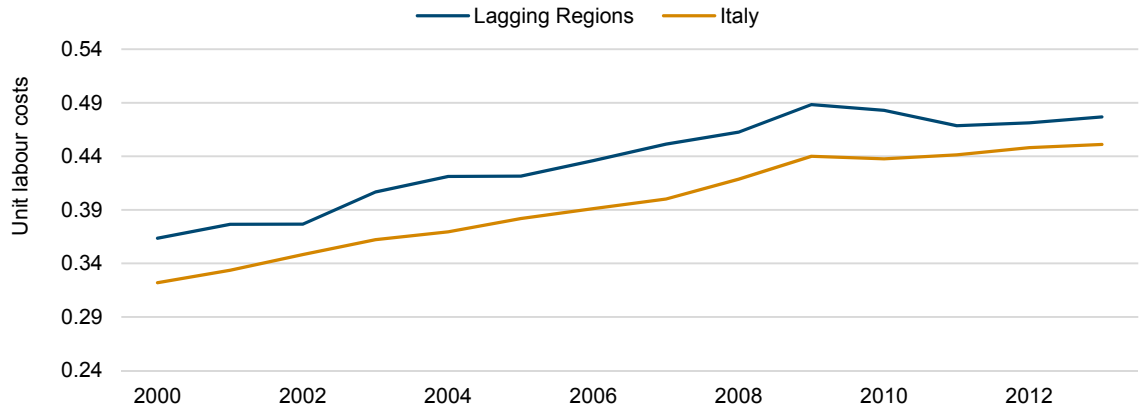
Separating out the lagging regions from the non-lagging regions, across the 8 Member States the performance of manufacturing GVA was very similar over much of 2000-2015; the only exception being that the lagging regions bounced back strongly in 2010 (although this was short-lived), while GVA growth in the lagging regions was around zero (see Figure 6.42). Despite this similar performance, **there was a consistent gap in terms of unit labour costs between the lagging and non-lagging regions**, with costs consistently higher in the lagging regions, at least until 2012; costs seem to have converged more recently. Therefore, the strong growth in manufacturing in the first half of the decade in the lagging regions must have been driven by external factors; on the evidence of unit labour costs alone, GVA growth should have been more rapid in the non-lagging regions.

There are some clear differences in performance between the low growth and the low income lagging regions, starting with a different trajectory in unit labour costs. **While in both the low growth and low income regions, unit labour costs steadily increased in the run-up to the economic crisis (peaking in 2009), in the low income regions they remained** consistently lower than in the low growth regions **throughout this period** (driven most notably by wage moderation in unit labour costs in Poland in the first half of the decade). While growth in manufacturing GVA in the two sets of regions ran broadly parallel throughout 2000-2015, growth in the low income countries was consistently faster than in the low growth countries (see Figure 2.45). This suggests that while differences in unit labour costs may not be the driving factor in differences between the lagging regions and the non-lagging regions, there is some evidence that the fact that the low income lagging regions are more cost-competitive than the low growth lagging regions has allowed their manufacturing sector to grow more rapidly.

Evidence from Italy

Before the financial crisis, nominal unit labour costs in the lagging regions of Italy exceeded the national average for much of the previous decade. However, **since the financial crisis, nominal unit labour costs have fallen more in the lagging regions of Italy than they have in Italy as a whole, although nominal unit labour costs in the Mezzogiorno still exceed the national average**. This indicates that the lagging regions are slowly becoming more competitive to other regions in Italy by moderating labour costs in relation to productivity.

Figure 6.43 / Nominal unit labour costs in the Italian lagging regions

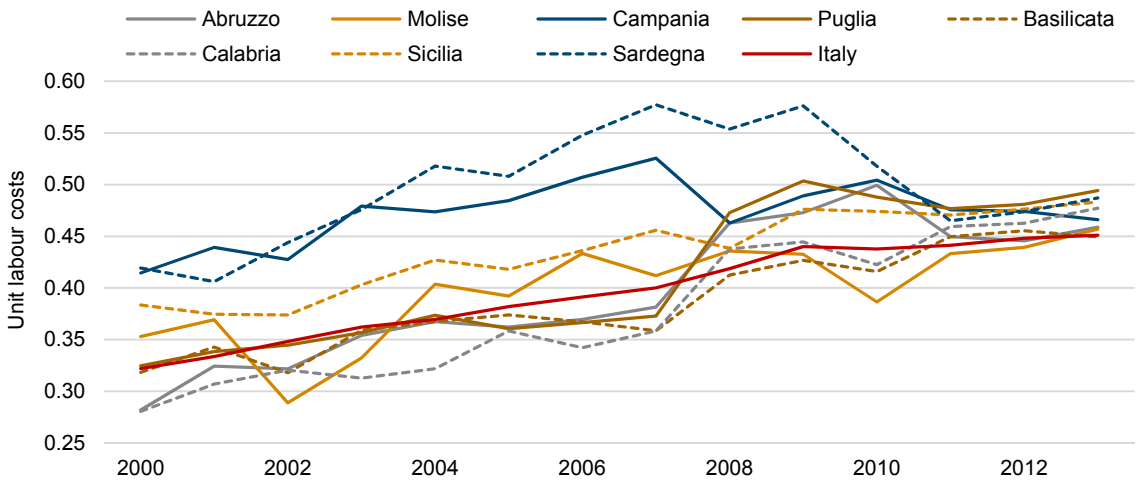


Note: Regional nominal unit labour costs are defined as compensation of employees in current prices divided by real GDP in 2005 constant prices
Source: Cambridge Econometrics Regional Dataset.

Nominal unit labour costs show a good deal of variation within the Mezzogiorno but the broad trend of improving nominal unit labour cost competitiveness – both in absolute terms and in comparison to the Italian average – remains intact. **Since 2011 there has also been substantial convergence in unit labour costs across the lagging regions**. Nevertheless, most lagging regions continue to have unit labour costs which are higher than the national average.

A broader measure of the competitiveness of the lagging regions of Italy can be derived from the export market share of each region in the national total. More competitive regions or countries tend to export more of their goods and services abroad.

Figure 6.44 / Nominal unit labour costs in Italy's lagging regions



Exports in the southern lagging regions of Italy account for slightly more than 10% of all Italian exports in 2015. **When exports are expressed on a per capita basis, all lagging regions underperform as compared to the Italian average**. **Such a large imbalance in the national export share indicates significant structural competitiveness issues in the lagging regions including with access to finance, public investment and in relation to nominal unit labour costs.**

Table 6.7 / Exports (millions of euros, current prices 2015)

Region/Country	Amount (EUR million)	Growth (% change on previous year)	Export share	Per capita exports (EUR)
Abruzzo	7,443	7.3	1.8	5,590
Molise	491	36.1	0.1	1,567
Campania	9,743	2.8	2.4	1,662
Puglia	8,196	0.7	2.0	2,004
Basilicata	2,821	145.7	0.7	4,892
Calabria	374	15.1	0.1	189
Sicilia	8,473	-12.4	2.0	1,664
Sardegna	4,799	3.2	1.2	2,885
Italy	413,881	-2.63	-	6,808

Source: Bank D'Italia, central credit registry and own calculations.

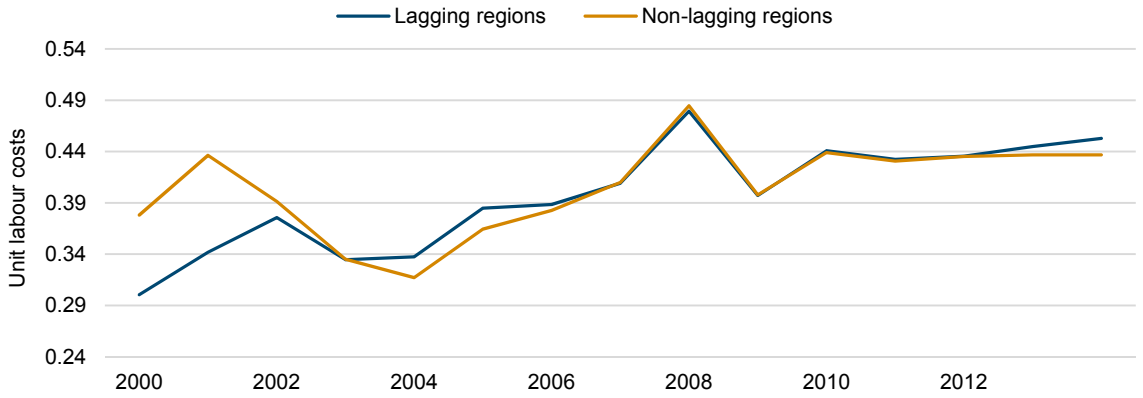
On the other hand, export growth has been very strong in 2014/15 with all regions but Sicilia experiencing growth in exports and strong growth in Basilicata, Molise, Calabria and Abruzzo. Except for Abruzzo, those regions which experienced the strongest export growth also tended to be those with a smaller share in total Italian exports, indicating improving export performance among those regions with the lowest shares of exports although export shares remain substantially smaller than in other regions of

Italy. In contrast, total exports from Italy declined somewhat over 2015. Nevertheless, the lagging regions substantially underperform compared to other regions of Italy in terms of their export competitiveness.

Evidence from Poland

Poland had the most competitive nominal unit labour costs (ULC) among the low income Member States. There was a noticeable difference in ULC in the early 2000s (see Figure 6.45); while the lagging regions had low unit labour costs which were increasing, in the non-lagging regions ULC were initially relatively high but came down substantially, suggesting an improvement in the relative competitiveness of these regions (and a loss of competitiveness amongst the lagging regions). However, the unit labour costs of the two subsets of regions converged in 2007 and have remained very similar since.

Figure 6.45 / Nominal unit labour costs in Poland's lagging and non-lagging regions



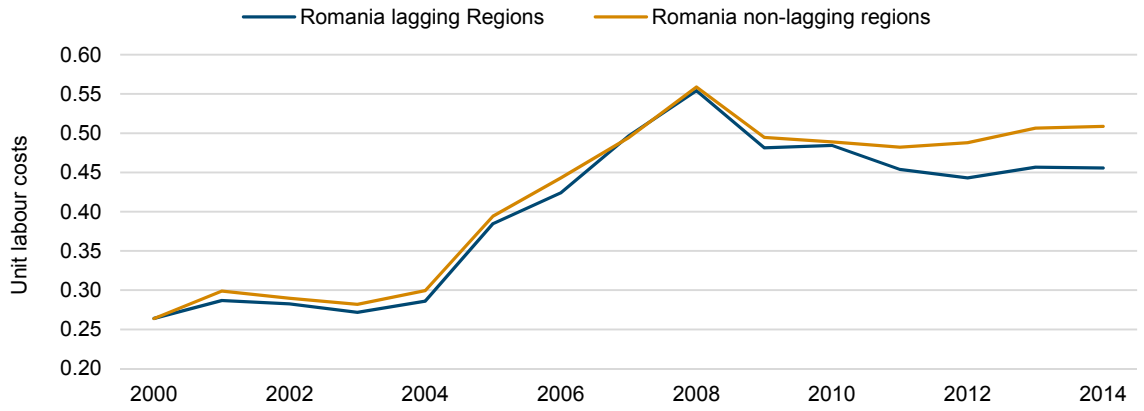
Note: Regional nominal unit labour costs are defined as compensation of employees in current prices divided by real GDP in 2005 constant prices.
Source: Cambridge Econometrics Regional Dataset.

Unit labour costs in the lagging regions vary substantially around the average for Poland. For instance, nominal ULC in Swietokrzyskie are substantially lower than in other regions and the Polish average, whereas Podkarpackie exceeds the national average and all other lagging regions. On the other hand, **the evolution of nominal unit labour costs over time shows that, after a period of divergence in ULC among the lagging regions and in Poland in the period before the financial crisis, unit labour costs have stabilised and begun to converge somewhat, perhaps reflecting wage moderation in the aftermath of the financial crisis**. This would seem to indicate that unit labour costs are not excessive in most of the lagging regions, which remain broadly competitive after some adjustment following the financial crisis.

Evidence from Greece and Romania

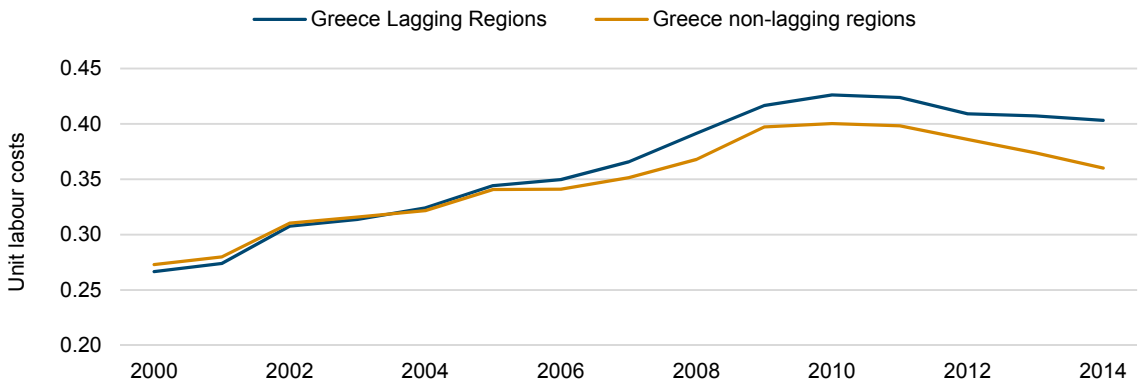
Further evidence of changes in competitiveness can be seen in the contrasting developments of unit labour costs in Greece and Romania, examples of low growth and low income Member States respectively. Both countries have reduced unit labour costs following the financial crisis after steady increases in the period before. Following the financial crisis, however, ULC in Greece's non-lagging regions fell more rapidly, **indicating a loss of competitiveness in lagging regions relative to non-lagging regions.** In contrast, ULC in Romania's lagging regions have decreased faster than non-lagging regions, **increasing the competitiveness of lagging regions relative to non-lagging regions.**

Figure 6.46 / Nominal unit labour costs in Romania's lagging and non-lagging regions



Note: Nominal unit labour costs are defined as compensation of employees in current prices divided by real GDP in 2005 constant prices.
Source: Cambridge Econometrics Regional Dataset.

Figure 6.47 / Nominal unit labour costs in Greece's lagging and non-lagging regions



Note: Nominal unit labour costs are defined as compensation of employees in current prices divided by real GDP in 2005 constant prices.
Source: Cambridge Econometrics Regional Dataset.

6.7. LABOUR MARKET RESILIENCE

National performance

Many of the Member States which include lagging regions have experienced periods when the unemployment rate substantially exceeded the MIP threshold. This indicates a misallocation of labour resources and a rigid economy unable to adapt to the misallocation. Early in the 2000s Bulgaria and Poland substantially exceeded the MIP threshold, **whereas since 2010 all low growth Member States have moved above the MIP threshold while low income MS have experienced smaller increases in unemployment rates**; of the four Member States, only Bulgaria exceeded the threshold in 2014.

Activity rates, which record changes in the rate of engagement within the labour market, have declined among both low income and low growth Member States, reflecting periods in which workers left the labour market. The largest decline in activity rates was experienced in Bulgaria following strong growth before the financial crisis, but Hungary has also recorded a decline below the threshold (although it witnessed a subsequent recovery). All the low growth Member States, except for Portugal, exceeded the MIP threshold for activity rate declines. However**, all the lagging Member States have experienced an improvement in activity rates since 2013,** trending back either within or towards the MIP threshold.

Before the financial crisis, all the low growth countries either maintained long-term unemployment rates within the MIP threshold or trended towards the acceptable MIP threshold. Following the crisis and economic downturn, all low income Member States exceeded the MIP threshold at least temporarily but have since trended back below the threshold. In contrast, the low growth Member States experienced much larger increases in the long-term unemployment rates (particularly Greece and Spain) for a longer period, and there is less evidence of them falling within the MIP threshold (such as Italy and Portugal), indicating persistent structural problems in the labour market.

Figure 6.48 / Unemployment rate (3-year moving average)

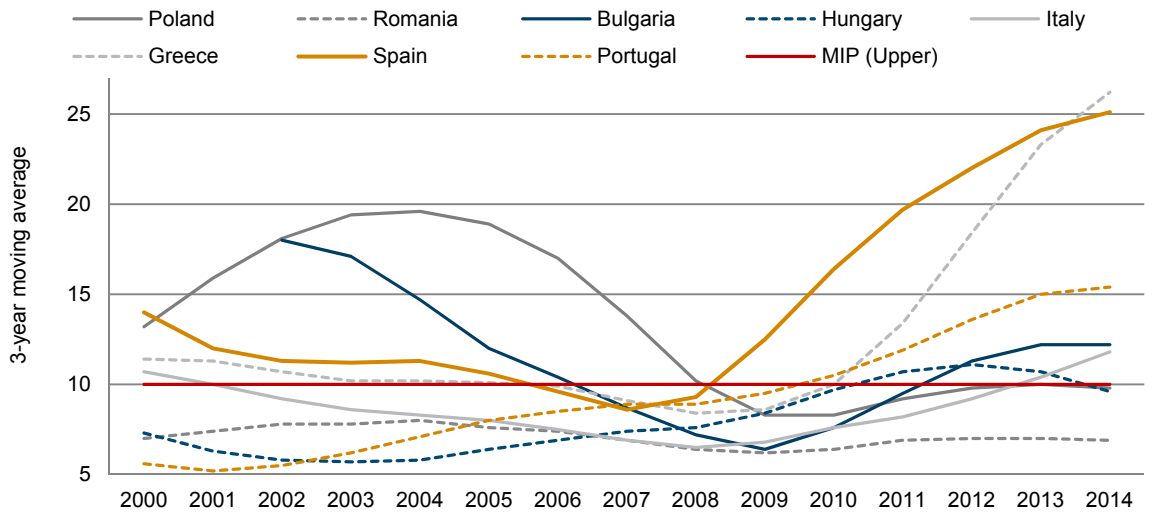


Figure 6.49 / 3-year change in p.p. of the activity rate)

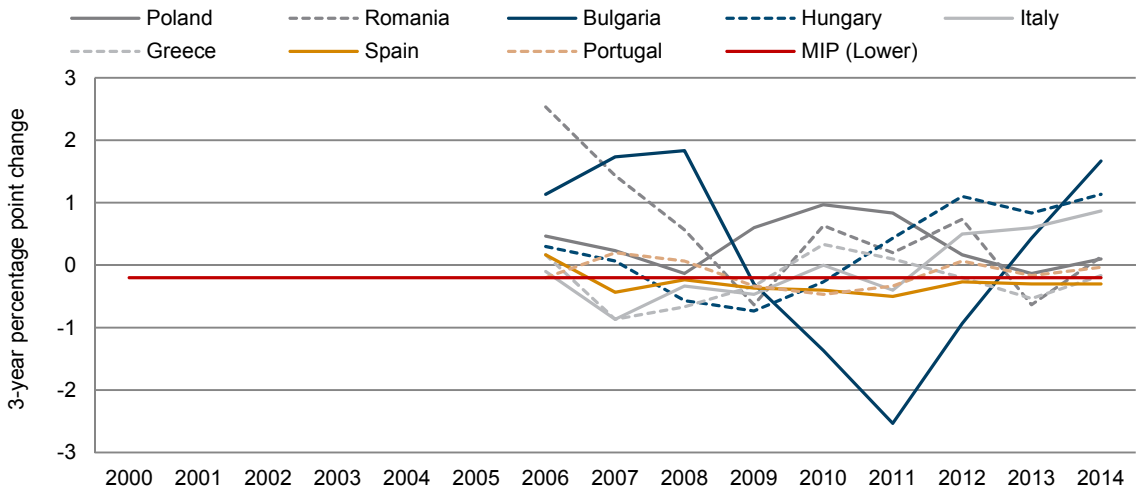
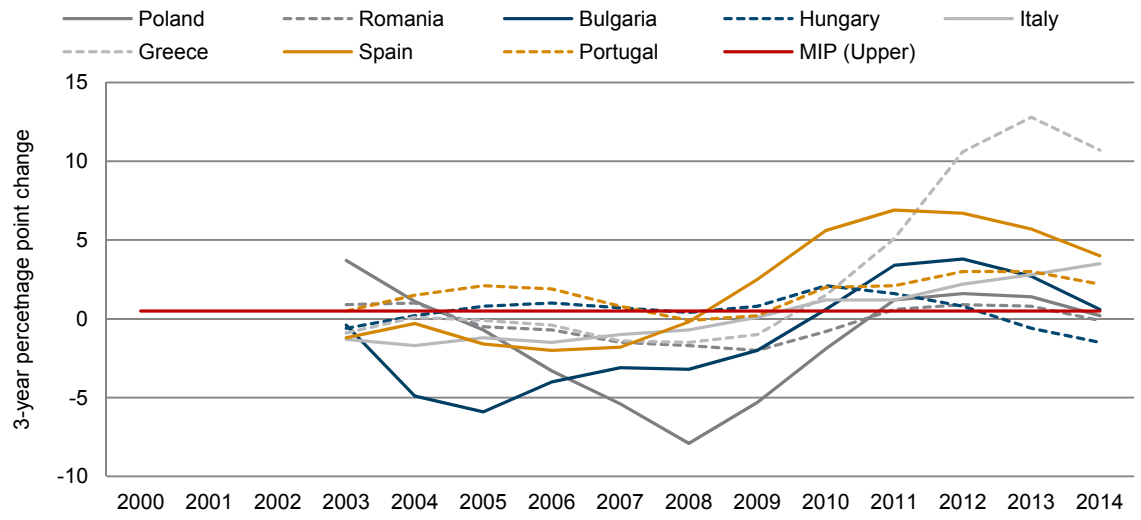
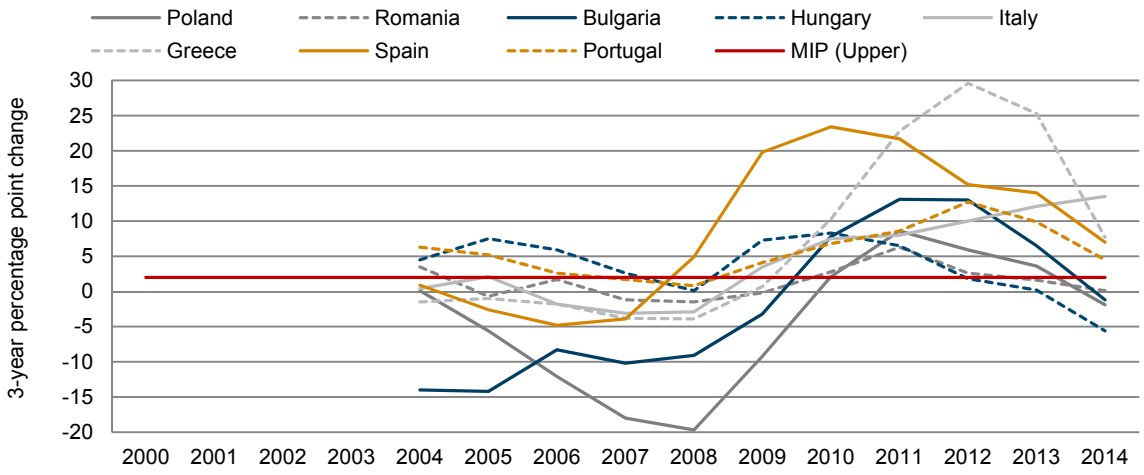


Figure 6.50 / 3-year change in p.p. of the long-term unemployment rate



Changes in the youth unemployment rate broadly mirror those of the long-term unemployment rate. Youth unemployment is generally a more responsive indicator and so may give an early indication of labour market developments but also has long-term implications for economic performance. Both low income and low growth Member States exceeded the MIP threshold at some point after the financial crisis, but low income MS proved more resilient than low growth MS, with the former falling within the acceptable MIP threshold in 2014. In contrast, among low growth Member States both Spain and Greece experienced sharp increases in the youth unemployment rate, while Italy has shown no evidence to date of an improvement in this respect in contrast to other low growth MS. **The developments in low growth Member States indicate larger increases in youth unemployment following the financial crisis, which are likely to prove detrimental to economic performance in the long term**.

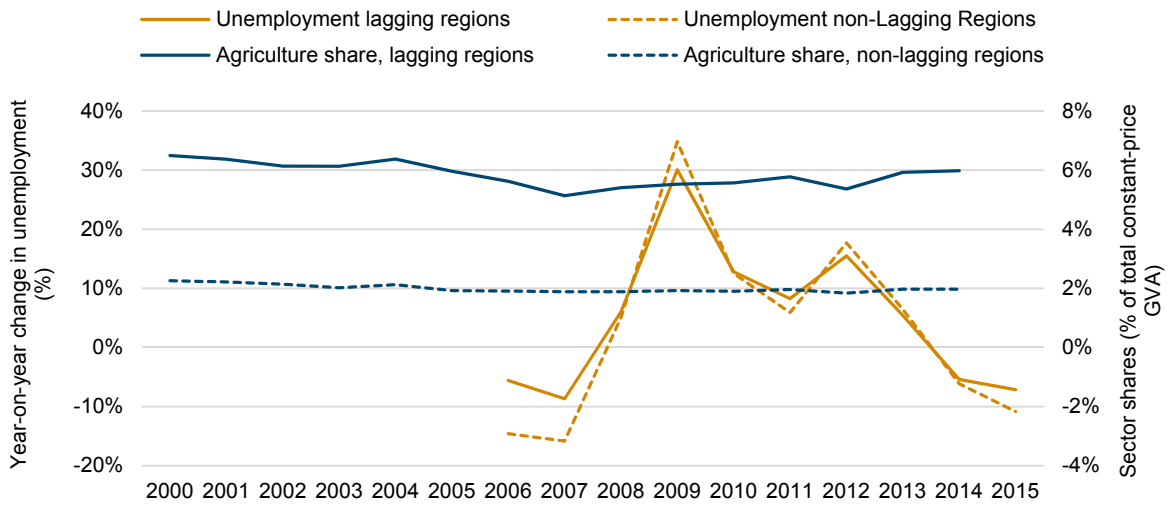
Figure 6.51 / 3-year change in p.p. of the youth unemployment rate



Transmission mechanisms and regional performance

There is some evidence[18] that sectoral structures across the regions of Europe had an impact upon regional growth performance over the past fifteen years; specifically, that regions which had a (relatively) high concentration of agricultural (and construction) activity demonstrated less economic resilience to economic shocks and suffered from a sharper downturn during the crisis and a slower recovery afterwards. An adverse sectoral structure may therefore be part of the explanation for the presence of Europe's lagging regions (particularly the low growth regions).

Figure 6.52 / Change in unemployment and agricultural GVA share in lagging Member States



[18] See, for example, Crescenzi, R., D. Luca and S. Milio (2016), 'The geography of the economic crisis in Europe', *Cambridge Journal of Regions, Economy and Society*, Vol. 9, pp. 13-32.

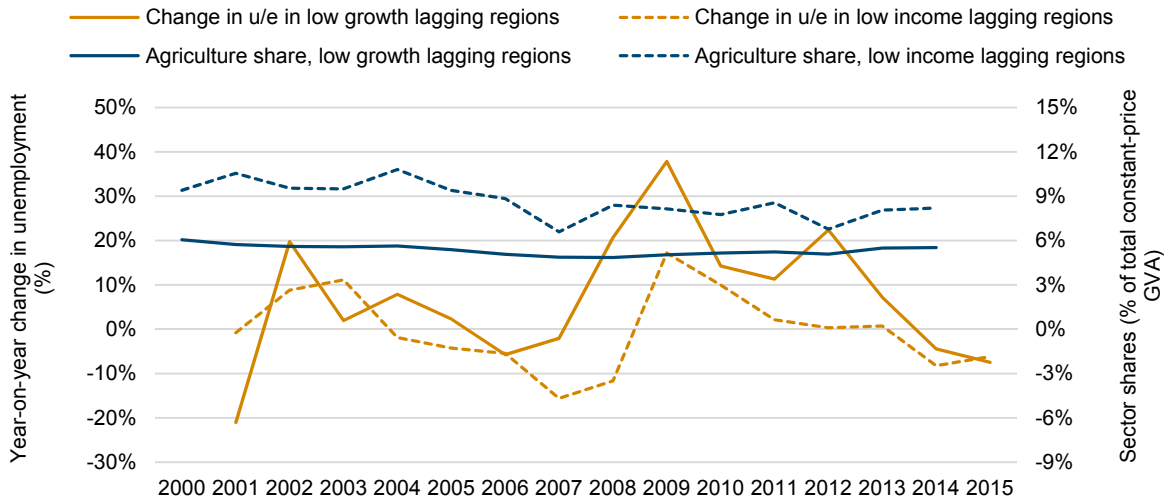
To explore this, we assess the share of GVA in both agriculture- and manufacturing-related activities as illustrative of sectors which reduce and increase resilience to economic shocks, and how this might explain differential changes in unemployment between lagging and non-lagging regions.

The share of GVA in agriculture-related activity differs substantially between lagging and non-lagging regions in the 8 Member States including lagging regions.

However, this does not seem to result in differential unemployment performance prima facie as changes in unemployment are similar between lagging and non-lagging regions; nevertheless, it should be noted that the share of GVA in agriculture is small even amongst the lagging regions.

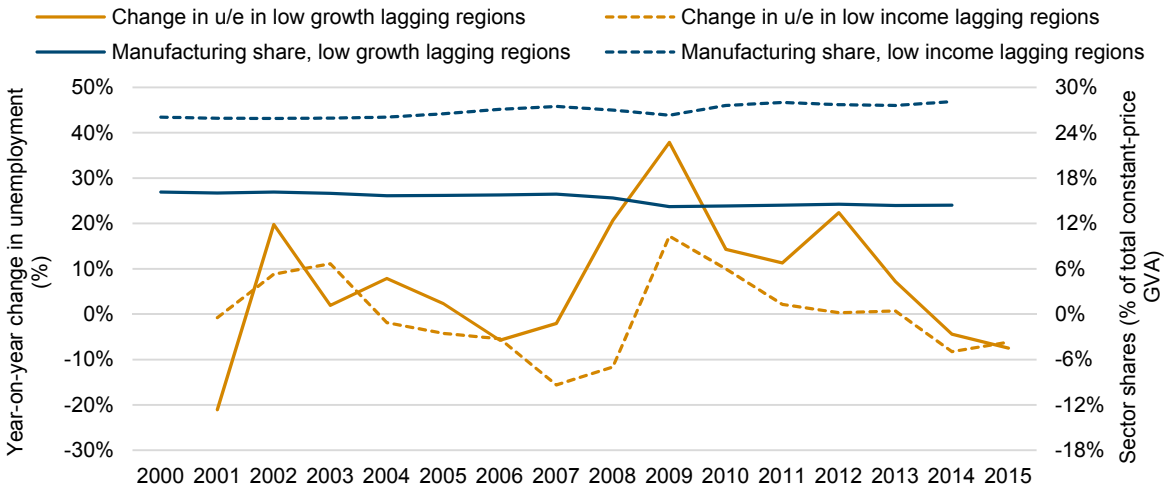
There is some evidence of divergence in unemployment between the low income and low growth Member States however, with a larger increase found in the unemployment rate in the low growth lagging regions than the low income lagging regions. This divergence is primarily seen in the period following the financial crisis, and growth rates have begun to converge once again. Over this period the share of GVA in agriculture has fallen among lagging regions in low income MS while the share of agriculture in lagging regions in low growth MS has remained static. This suggests that low income Member States are increasing their economic resilience by diversifying away from agriculture whereas this has not occurred in the lagging regions in low growth MS.

Figure 6.53 / Change in unemployment and agricultural GVA share in low growth and low income lagging regions



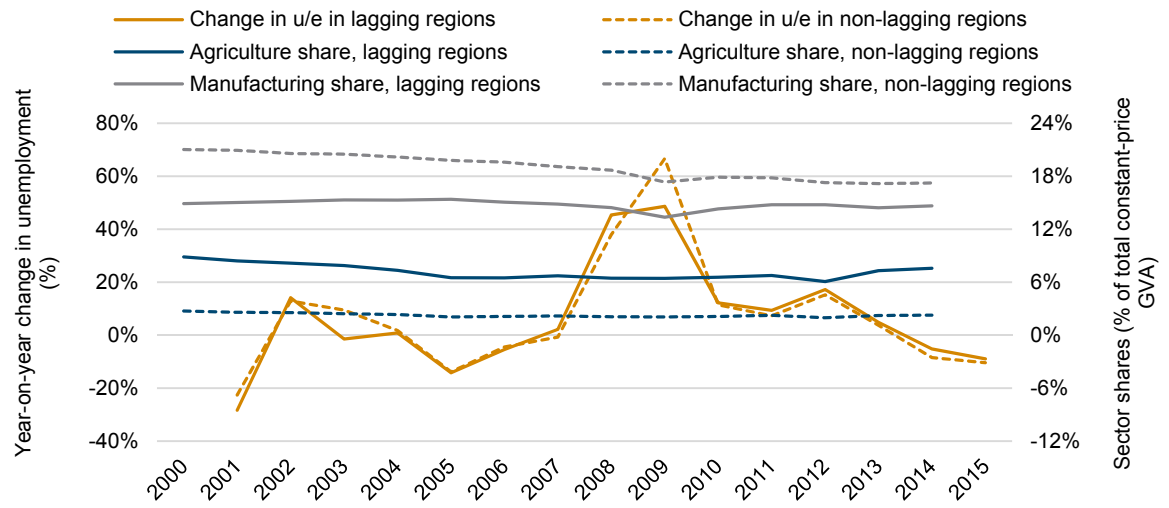
The differences in terms of manufacturing shares are more pronounced. The difference in the share of GVA related to manufacturing between low income and low growth Member States has increased over time with the lagging regions in the low income MS increasing their share of GVA devoted to manufacturing whereas the share of manufacturing-related GVA in lagging low growth MS has been decreasing. Such changes indicate increasing economic resilience among the lagging regions of the low income MS but decreasing resilience among the lagging regions in the low growth MS.

Figure 6.54 / Change in unemployment and manufacturing GVA share in low growth and low income lagging regions



The **difference in the share of GVA in Spain between lagging and non-lagging regions for both agriculture and manufacturing is smaller than that found in other low growth Member States**. The changes in the unemployment rate have also been largely similar between lagging and non-lagging regions**, suggesting that the sectoral structure of the regions is influencing the change in unemployment. This would seem to indicate that industry structure plays a significant role in the economic resilience of lagging regions.**

Figure 6.55 / Change in unemployment and GVA sector shares in Spain



As in Spain, the difference between the share of manufacturing in the lagging and non-lagging regions in Romania is small although, unlike in Spain, it shows some divergence over time. This similarity and slight divergence in the sectoral structure is reinforced with broadly similar developments in the

unemployment rate between lagging and non-lagging regions. **In Romania, periods of divergence or convergence in the share of manufacturing among lagging and non-lagging regions are coupled with divergence or convergence in the respective unemployment rates.**

This is further illustrated by the case of Italy, a low growth Member State, but with a large difference in the share of GVA activity relating to manufacturing in lagging and non-lagging regions. Although the share of agriculture-related GVA is small, the difference in manufacturing-related GVA is large. This suggests that the **non-lagging regions should have greater resilience to economic shocks, and this is supported by the fact that unemployment in the lagging regions rose much more rapidly than in the non-lagging regions**.

Figure 6.56 / Change in unemployment and GVA sector shares in Romania

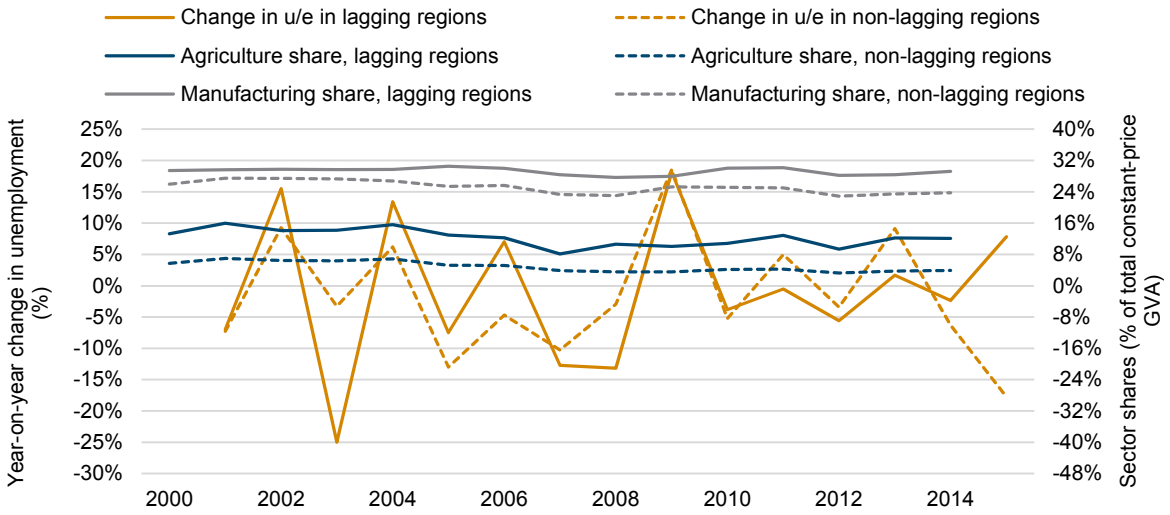
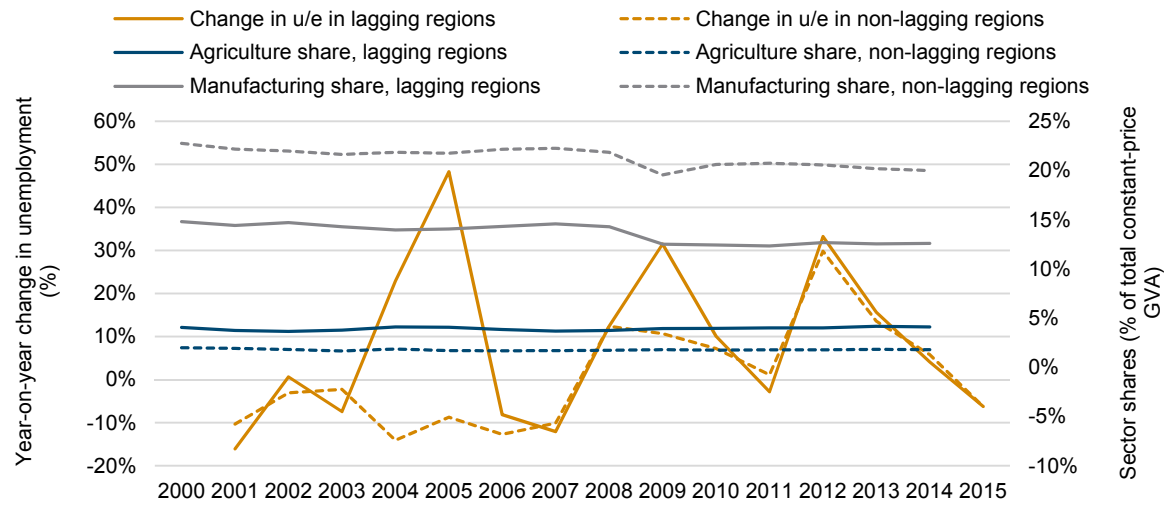


Figure 6.57 / Change in unemployment and GVA sector shares in Italy



7. Approaches to tackling structural deficits

There are multiple methods by which a regional, national, or supra-national organisation may attempt to address the underlying structural issues within a region. The two fundamental aims of this approach are typically an attempt to improve regional competitiveness via improved productivity, and to make the region more attractive to private investors with a sustainable, long-term outlook. Short-term fixes, involving encouraging unsustainable levels of public sector employment, a low wage economy and deleterious tax incentives, are unlikely to have a sustained positive impact on the region's ability to maintain high levels of productivity and investment in the long run. Instead, four avenues of approach are discussed below. These approaches are also discussed in more detail in subsequent Parts of this study.[19]

7.1. INVESTMENT IN HUMAN CAPITAL

The ability of a region to maintain a high productivity, high wage economy is dependent upon the skills and education levels of its workforce. There is evidence from both low growth and low income regions that low skills and low education levels are a significant constraint on the ability of businesses in those regions to maintain high levels of productivity and international competitiveness. Low levels of productivity imply either low and stagnant real wages, which depresses the quality of life of the regional populace, or high and uncompetitive unit labour costs, which detracts from the attractiveness of the industry to private investors.

Demand for high-skill level jobs has increased substantially since the financial crisis and economic downturn, and this trend is expected to continue, meaning in future demand for these roles will increase significantly relative to demand for low- to medium-skilled jobs. Comprehensive public investment in education and training programmes for all workers, along with a cultural outlook that values and understands the necessity of a highly-skilled labour force, is the primary means through which the region will be able to generate and maintain a sustainable high-wage economy.

One such method could include the promotion of universities that both generate tacit and explicit knowledge and attract and retain highly skilled individuals with the capabilities to contribute to a knowledge-based labour force. Targeted incentives and direct assistance could be set up to assist firms whose intention it is it provide employment to this section of the labour market.

Although the labour demand for university level workers will increase over the next 20 years and beyond, there is still a significant sector of the economy that requires more practical and vocational training. The aim of the regional authority in this circumstance must be to identify the sectors and occupations in which this section of the labour market can maximise their employable skills, productivity and ultimately their wages, be it in the high value manufacturing sector, the services sector, or otherwise, and then act to promote and fund educational and training opportunities in this way.

[19] See *wiiw Research Reports* No. 422 to 426.

7.2. DIRECT INVESTMENT IN HIGH VALUE ADDED SECTORS

Many of the lagging regions have struggled to effectively make the transition from an agricultural or heavy industry based economy to a more modern, high tech, high skilled, knowledge based economy. Thus, they have been unable to take advantages of the opportunities of globalisation in the way other western economies have done. Productivity levels have remained static whilst other regions have pushed ahead, leaving the region internationally uncompetitive. Remaining sectoral strengths must be protected and updated through a continuous process of innovation and upgrading infrastructure and facilities.

Although the bulk of this investment is likely to come from private sources, it is in the interest of the populace that highly capital intensive activities that promote high levels of productivity and high wages should be encouraged and facilitated wherever possible. In addition to maintaining existing sectoral strengths, growth in new or innovative sectors or sub-sectors must be aided by the regional authority wherever possible to ensure that growth continues.

Methods of supporting innovation and industry might include incentives or tax breaks for R&D work and capital investment, state funded research institutes that generate regional knowledge, innovation spillovers & private spin-off companies, and direct public investment in tailored business-facilitating infrastructure such as improved connectivity or other technological, logistic or entrepreneurial facilities that may be shared by multiple enterprises.

7.3. REGULATORY REFORM

Business and industrial regulations often vary across countries and regions, and need to be tailored to specific regional needs and characteristics. However, the evidence suggests that many of the lagging regions have regulatory regimes that do not sufficiently promote competition, capital investment and high levels of both employment and wages. The answer to structural reform is rarely either simply more regulation or less regulation; the answer is to identify the specific problems with current regulatory systems in that area that are causing perverse incentives or allowing inequitable practices to go unchecked, and address these directly. This may mean removing unnecessary red-tape that inhibits the functioning of business and increases the cost of starting or running a firm; it may also mean strengthening regulation to reduce market power, reduce barriers to entry, reduce informational asymmetry and prevent detrimental employment practices that discourage participation and incentivise businesses to follow a low investment, low wage business model.

7.4. REMOTENESS

Finally, it is crucial to acknowledge the key characteristic that all lagging regions have in common, that of geographical remoteness from the central core of economic growth in the EU. Although this problem can be ameliorated by improved transport links, periphery economies will also suffer from a relative disadvantage due to the increased distance of travel. It is therefore crucial that these regions develop a sufficiently strong and productive local economy to be able to support themselves and not simply rely on wealth spillover effects from more prosperous neighbours.

8. Policy recommendations

Structural policy themes are already well established, and corrective actions such as those put forward by the Commission under the Macroeconomic Imbalance Procedure and the IMF[20] are well known. However, the analysis in this report outlines a particular set of issues which afflict the lagging regions (and the substantive difference in issues which affect the low growth and low income lagging regions), and these call for a specific range of policies to address them. The broad themes identified can be summarised as:

› Reducing labour market rigidities
Amongst the Member States with lagging regions, it was Poland, where unit labour costs were restrained in the early part of the 2000s, that performed most strongly, partly through maintaining competitiveness. The reduction of rigidities in the labour market (e.g. collective bargaining) in other Member States would help to improve flexibility to respond to changes in consumer demand, technology, etc. This should facilitate the move towards a high productivity economy, reducing or restraining unit labour costs and increasing external competitiveness. However, there are pitfalls to this approach; if policy focuses too heavily on reducing labour costs (rather than increasing labour productivity), it is possible for regions to get locked into a low productivity, low wage economy.

› Maintaining public investment
Public investment, particularly in the low growth lagging regions, has slowed in the aftermath of the economic downturn, with government (both national and local) reacting to increased debt levels and increased automatic stabiliser expenditure by cutting 'optional' expenditure such as capital investment. This is likely to damage long-term productivity growth prospects in these regions, and should be discouraged.

› Encouraging private investment
Private investment levels have also fallen in the lagging regions (again most substantially in the low growth regions). This deleveraging will reduce both short-term (in terms of construction) and long-term economic growth prospects, and limit the prospects for the expansion of high-skilled activities which should be a central aim to boost productivity. Policies aimed at encouraging private investment should be pursued with the aim of increasing the flow of private investment and boosting the capital stock of the lagging regions. For example, policy to encourage domestic savings rates could be used to bolster funds available for private investment, without opening these less resilient economies to excessive dependence upon external agents.

› Facilitating domestic private investment
There is some evidence that access to finance is limiting the ability of domestic operators to borrow money, which might be used to facilitate expansion and long-term investments. Policies aimed at encouraging lending to domestic firms (such as using local government bonds as backstops to

[20] See, for example, Structural Reforms and Macroeconomic Performance: Initial Considerations for the Fund (2016), IMF Staff Report.

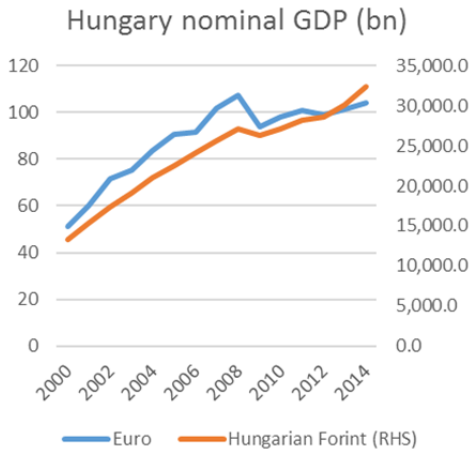
incentivise lending) might serve to improve access to finance and give domestic firms the opportunity to expand where an economic justification (either focused at servicing an internal or external market) might make such an investment worthwhile, bolstering growth prospects in the lagging regions.

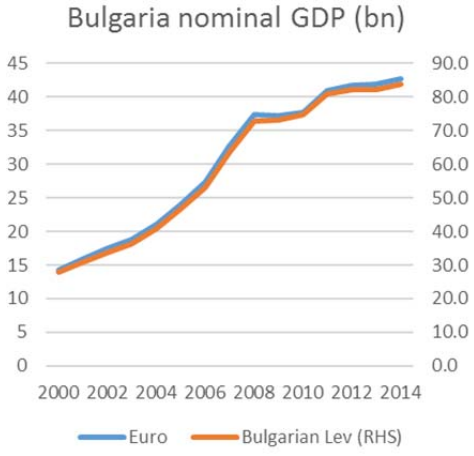
› Human capital development and skills matching
Many of the lagging regions suffer from low skill levels amongst their resident populations, and this should be addressed through educational reform and particularly the promotion of education & training courses for older people. However, in some regions (such as the Bulgarian lagging regions) skill levels are relatively high, and yet productivity levels remain low; there is a role for institutions in ensuring that entrepreneurship and small business growth is facilitated, and in minimising skills mismatches so that educational institutions are producing people with the right skills for the local labour market.

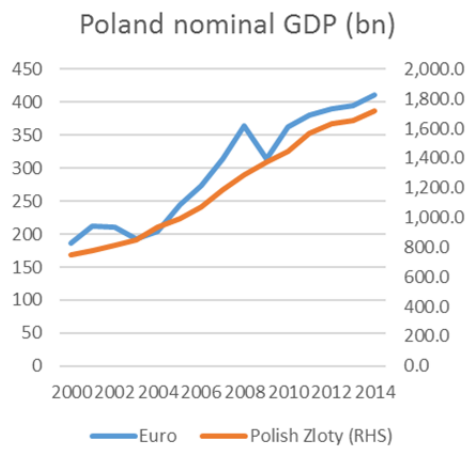
Annex I: Measuring indicators in national currency or euros

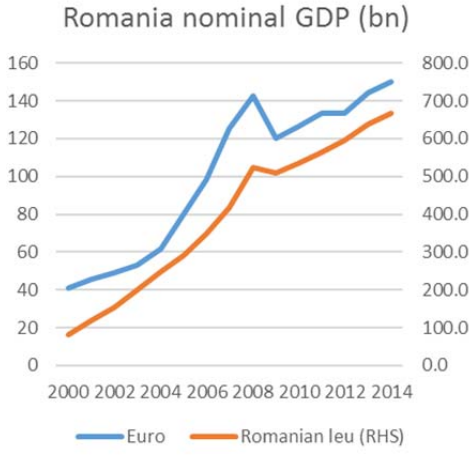
All four low income Member States – Bulgaria, Hungary, Poland and Romania – are not members of the eurozone single currency area. To facilitate the comparison of indicators across Member States, non-eurozone Member State data are converted into euros. A potential consequence of this currency conversion is exchange rate distortions. Such distortions have substantial effects if the economies being compared are vastly different. However, these low income Member States have long been linked to western EU economies through trade and pro-convergence policies designed to prepare them for EU membership, actions that have limited exchange rate distortions. Indeed, Annex Figure 1 indicates comparable nominal GDP dynamics in euros against the respective national currency measure, particularly for Bulgaria and Romania. We therefore assume it reasonable to ignore exchange rate effects and proceed to implement the analysis in euros, where necessary.

Annex Figure 1 / Nominal GDP in euros and national currency









Annex II: List of the 47 lagging regions in the 6 countries

Annex Table 1 / List of the 47 lagging regions in the 6 countries

Country	Region	Name
BG	BG31	Северозападен
BG	BG32	Северен централен
BG	BG33	Североизточен
BG	BG34	Югоизточен
BG	BG42	Южен централен
HU	HU23	Dél-Dunántúl
HU	HU31	Észak-Magyarország
HU	HU32	Észak-Alföld
HU	HU33	Dél-Alföld
PL	PL31	Lubelskie
PL	PL32	Podkarpackie
PL	PL33	Świętokrzyskie
PL	PL34	Podlaskie
PL	PL62	Warmińsko-Mazurskie
RO	RO11	Nord-Vest
RO	RO12	Centru
RO	RO21	Nord-Est
RO	RO22	Sud-Est
RO	RO31	Sud - Muntenia
RO	RO41	Sud-Vest Oltenia
EL	EL51	Ανατολική Μακεδονία, Θράκη
EL	EL52	Κεντρική Μακεδονία
EL	EL53	Δυτική Μακεδονία
EL	EL61	Θεσσαλία
EL	EL54	Ήπειρος
EL	EL62	Ιόνια Νησιά
EL	EL63	Δυτική Ελλάδα
EL	EL64	Στερεά Ελλάδα
EL	EL65	Πελοπόννησος
EL	EL41	Βόρειο Αιγαίο
EL	EL43	Κρήτη
ES	ES42	Castilla-La Mancha
ES	ES43	Extremadura
ES	ES61	Andalucía
ES	ES62	Región de Murcia
IT	ITF1	Abruzzo
IT	ITF2	Molise
IT	ITF3	Campania
IT	ITF4	Puglia
IT	ITF5	Basilicata
IT	ITF6	Calabria
IT	ITG1	Sicilia
IT	ITG2	Sardegna
PT	PT11	Norte
PT	PT15	Algarve
PT	PT16	Centro
PT	PT18	Alentejo

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