Economic Challenges of Lagging Regions

Annex 1

Task 1: Country case studies

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Final Report – Annex 1

Task 1: Country case studies

Economic Challenges of Lagging Regions

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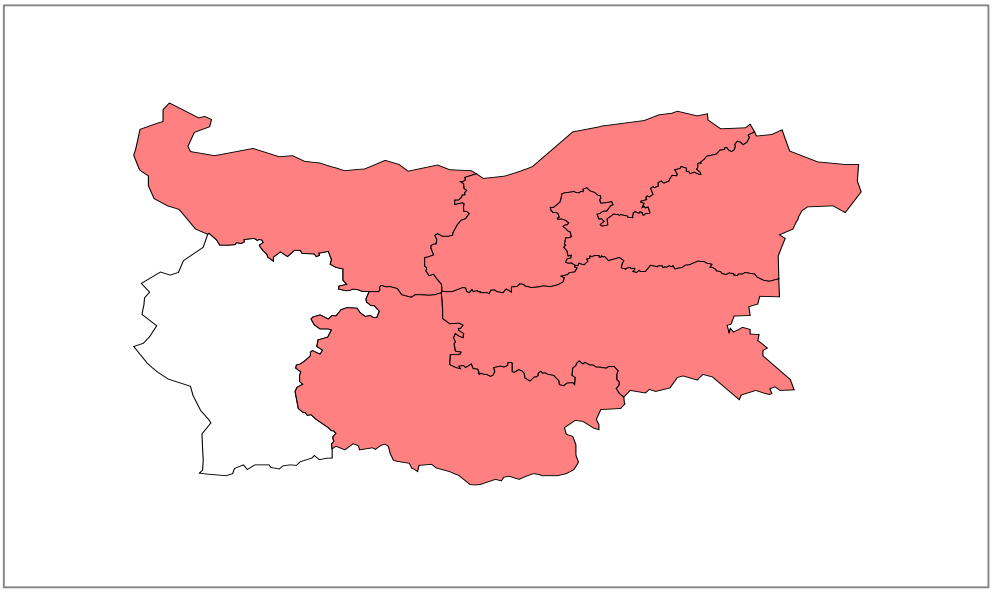
1.1 Bulgaria

1.1.1 Introduction

Bulgaria is subdivided into six NUTS2 regions: Severozapaden (BG31), Severen Tsentralen (BG32), Severoiztochen (BG33), Yugoiztochen (BG34), Yugozapaden (BG41), Yuzhen Tsentralen (BG42).

Five of these regions have been denoted lagging regions. The sole exception is the south-western province of the country, Yugozapaden. This is due to the location of the national capital, Sofia in this region. The presence of Sofia, which has a GDP/capita of approximately 28,000 euro, significantly improves this region's overall GDP/capita.

Figure 1.1: The NUTS2 regions of Bulgaria



Most of Bulgaria has a significantly depressed GDP/capita level that is less than half of the GDP/capita of Sofia itself and only 46% of the EU average. Rather than having distinct lagging and non-lagging regions distributed across the country, Bulgaria's economic issues manifest as a sizeable gap between the Sofia city region and the rest of the country.

Many of the economic issues experienced by the Bulgaria's lagging regions are driven by historical disparities; the countries on the eastern fringe of the EU were amongst the latest to join to the European Union, and investment and infrastructure has tended to be concentrated around the capital city or in regions that adjoin other more established Member States.

The other countries that the lagging regions border are themselves not wealthy countries; along Bulgaria's land borders, to the south lie lagging regions of Greece and

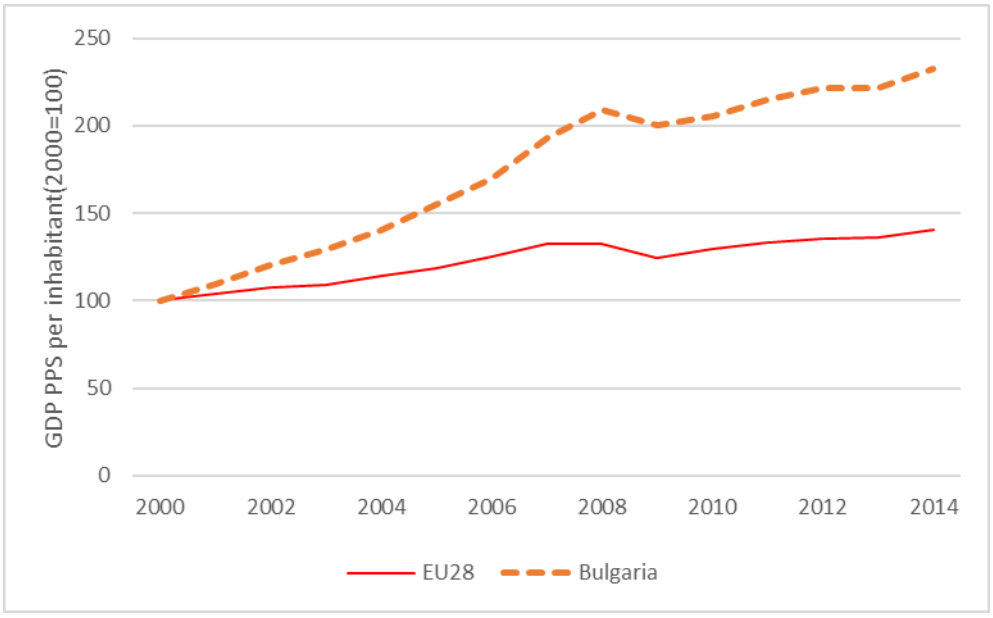
Turkey, to the north the lagging regions of Romania, and to the west Serbia and FYR Macedonia. There is very little prospect of a positive wealth spillover from any of these neighbouring regions.

1.1.2 Fiscal and macroeconomic environment

GDP

Bulgaria's economy struggled for the majority of the 1990s in the aftermath of the transition to a liberalised economy, with zero and negative GDP growth for the majority of the decade. The Bulgarian economy eventually began to expand 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 last two years (2014-2015) have seen a more sustained recovery. However, Bulgaria still has the lowest GDP per capita in the EU. The Lev is pegged to the Euro at a fixed rate and so Bulgaria was not able to take full advantage of currency depreciation specific to its economy in the wake of the financial crisis.

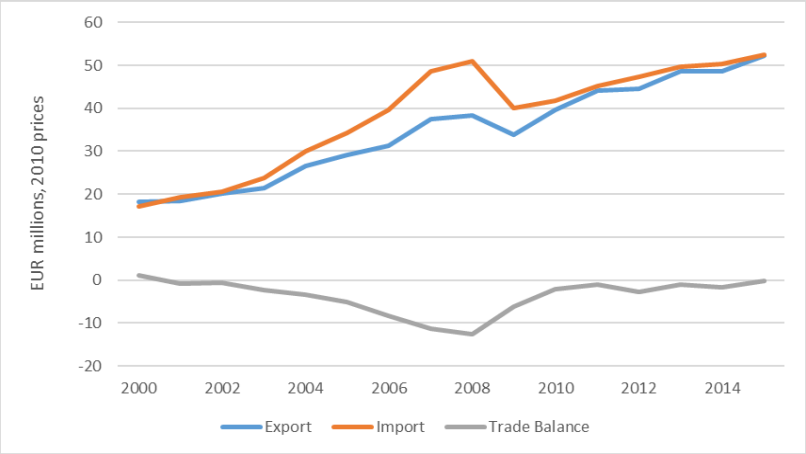
Figure 1.2: GDP per capita for Bulgaria



Trade

As the Bulgarian Lev is pegged to the Euro and, with the exception of Turkey, Bulgaria's main trading partners are all in the Eurozone, Bulgaria was not able to regain competitiveness by depreciation of its currency. As a result, in the post-crisis period, the trade deficit that Bulgaria has run since the start of the 2000s has not narrowed (see Figure 1.3).

Figure 1.3: Imports and Exports for Bulgaria

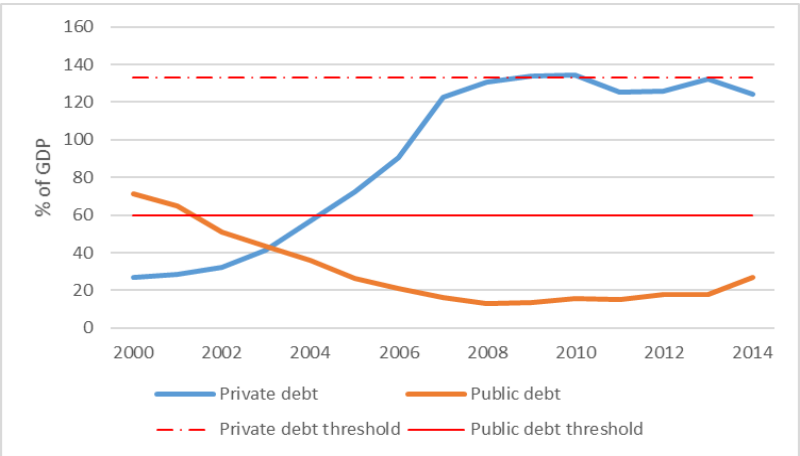


Debt

Private debt in Bulgaria is relatively high at 124% of GDP but below the macroeconomic imbalance procedure threshold at 133%. Private debt in Bulgaria increased through the 2000s before the financial crisis and has remained stable at between 120 and 140% of national GDP from 2008 onwards (see Figure 1.4).

In comparison, general government debt has been reduced substantially over this period; while it was above the macroeconomic imbalance threshold of 60% of GDP in 2000 but it fell as low as 13% in 2007, and while it saw a small increase in 2014, it still remained at only 27%.

Figure 1.4: Private and public debt for Bulgaria

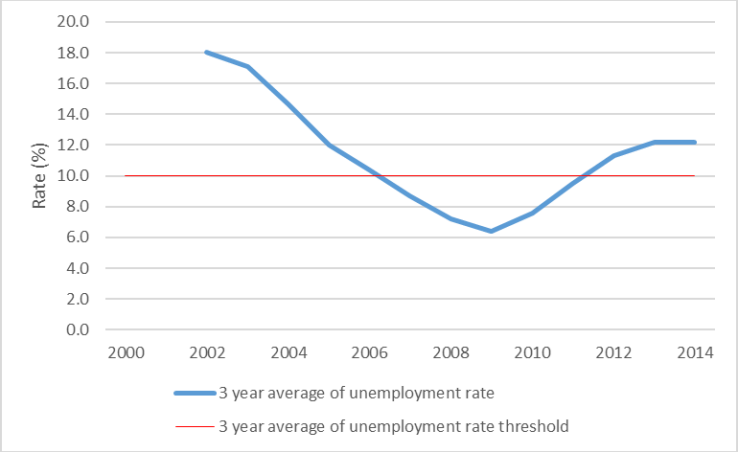


Labour Market

The unemployment rate in Bulgaria fell steadily through the early half of the decade to a low of just over 6%. However, the unemployment rate increased once again after

the financial crisis (see Figure 1.5). Although the unemployment rate appears to have peaked at 12% in 2013, it is still above the macroeconomic imbalance procedure threshold of 10% in 2014.

Figure 1.5: 3-year average unemployment rates in Bulgaria

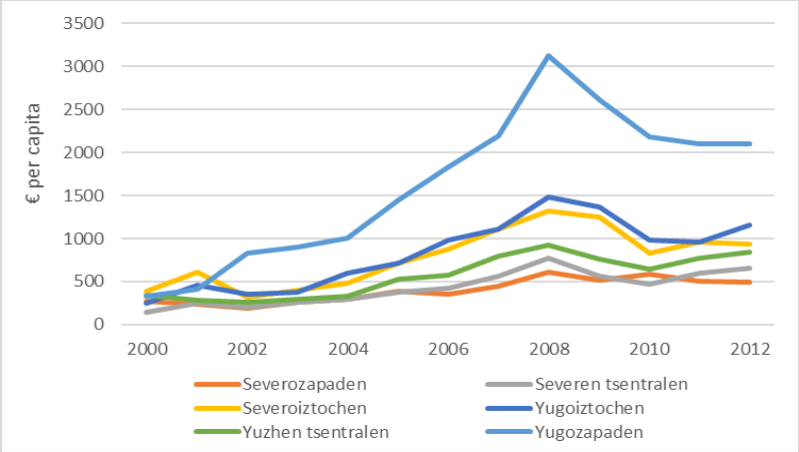


Regional Structural Issues

Investment

The rates of gross fixed capital formation in Bulgarian regions is shown in Figure 1.6 On the left of the graph, in 2000, all regions of Bulgaria received similar levels of gross fixed capital formation. Since then, the divergence between the capital region and the rest of the country has been profound. The capital region of Yugozapaden received a significant increase in investment between 2000 and 2008, before this substantially declined in the aftermath of the financial crisis. In contrast, the other regions of Bulgaria have not received comparable amounts of investment.

Figure 1.6: Regional gross fixed capital formation per capita in Bulgaria



Labour market

Regional unemployment in Bulgaria fell towards during the first half of the 2000s such that by 2008 all five regions were either at or below the EU average. After 2008, unemployment rose again. Even though regional unemployment fell after 2013, it has remained above the EU average. Severoiztochen in particular has had high unemployment rates both before (over 20%) and after the 2008 financial crisis. While long-term unemployment has been rising since 2009, the rate it has been rising stabilised in 2009 and was already falling in 2014 in Severoiztochen and Yuhzen Tsentralen.

Figure 1.7: Regional unemployment rates in Bulgaria

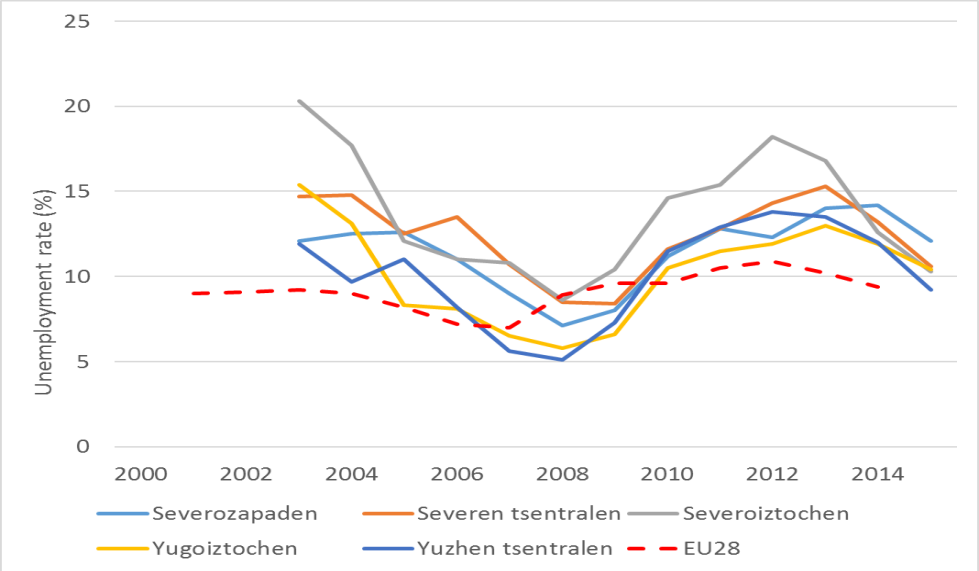
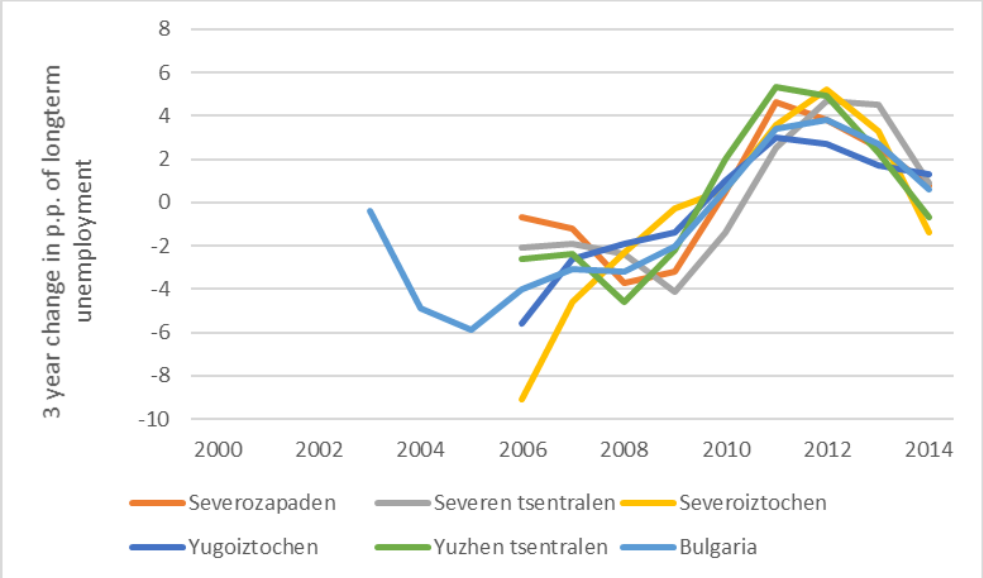


Figure 1.8: Change in long-term unemployment in Bulgaria



Sustained periods of unemployment can result in the loss of the human capital if unemployed individuals being to lose work-place skills gained in employment. Changes in long-term unemployment in Bulgaria (see Figure 1.8) demonstrate a large increase in long term unemployment across all the lagging regions following the financial crisis in 2008. Although the rate of change in the increase of the long-term unemployment

rate decreased following 2012, long-term unemployment has continued to increase into 2014 for many of the lagging regions in Bulgaria. These trends indicate the challenges to medium term economic growth as a result of the increase in unemployment following the financial crisis.

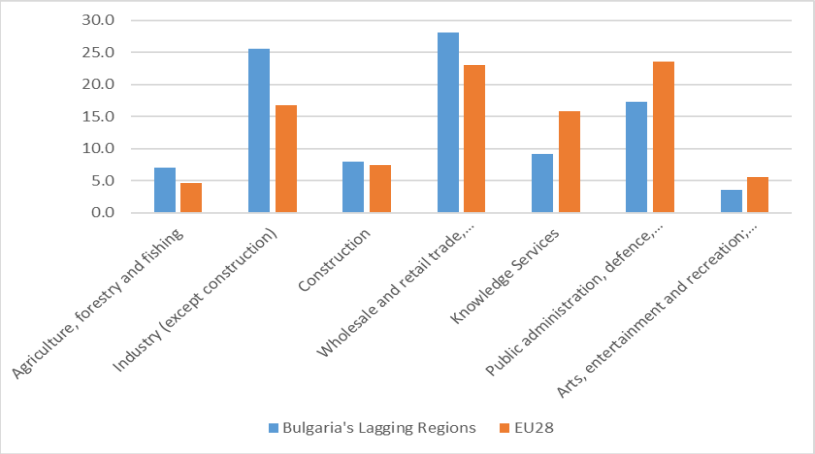
Economic structure and innovation

The sectoral composition of Bulgaria's lagging regions shows substantial divergence from the EU average (see Figure 1.9). The lagging regions of Bulgaria are overrepresented in agriculture, industry and wholesale and retail, and underrepresented in services sectors, most notably in public services and knowledge services. The major implication of this economic structure is a focus on low productivity sectors.

With respect to the technology and knowledge intensity of manufacturing and services respectively in Bulgaria, the lagging regions of Bulgaria generally have smaller knowledge intensive and high and medium high-technology manufacturing sectors in comparison to Bulgaria as a whole. These regional disparities indicate the challenges in achieving knowledge or technology led economic growth in the lagging regions of Bulgaria.

R&D expenditure can be interpreted as a measure innovation activity and driver of innovation output and thus economic growth. However, R&D expenditure is very low in Bulgaria but is lower still among the lagging regions of Bulgaria with an increasing disparity over time indicating the challenges to growth in these regions.

Figure 1.9: Industry structure (share of total employment) of lagging regions in Bulgaria, 2011



With respect to the technology and knowledge intensity of manufacturing and services respectively in Bulgaria, the lagging regions of Bulgaria generally have smaller knowledge intensive and high and medium high-technology manufacturing sectors in comparison to Bulgaria as a whole. These regional disparities indicate the challenges in achieving knowledge or technology led economic growth in the lagging regions of Bulgaria.

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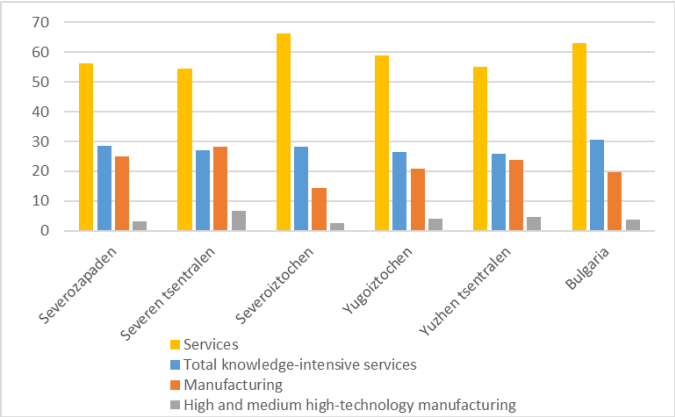
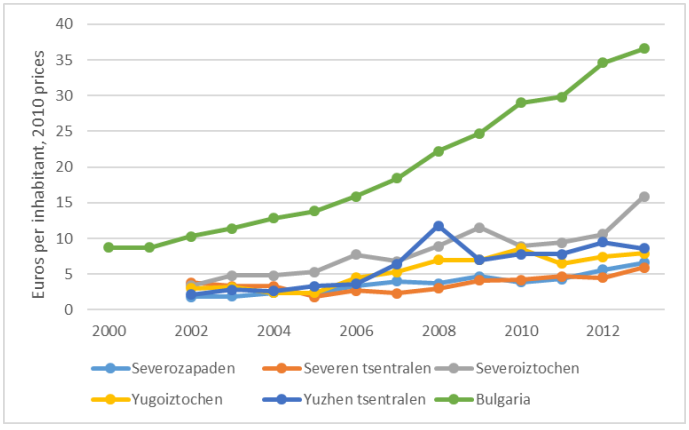
Figure 1.10: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing in the Bulgarian lagging regions, 2014



Nevertheless, the trend for R&D expenditure is positive for both Bulgaria and among the lagging regions of Bulgaria indicating that investment in R&D expenditure is increasing over time and was mostly unaffected by the financial crisis in 2008. This would seem to demonstrate efforts to increase innovative activities but with persistent disparities.

Figure 1.11: Regional R&D expenditure per inhabitant for Bulgarian lagging regions



Institutions

According to the World Economic Forum competitiveness report[1], Bulgaria ranks 97th out of 148 countries globally for the quality of its institutions with a ranking of 86 for trust in politicians and 118th for organised crime. Bulgaria performs somewhat better at 66th for the burden of government regulation.

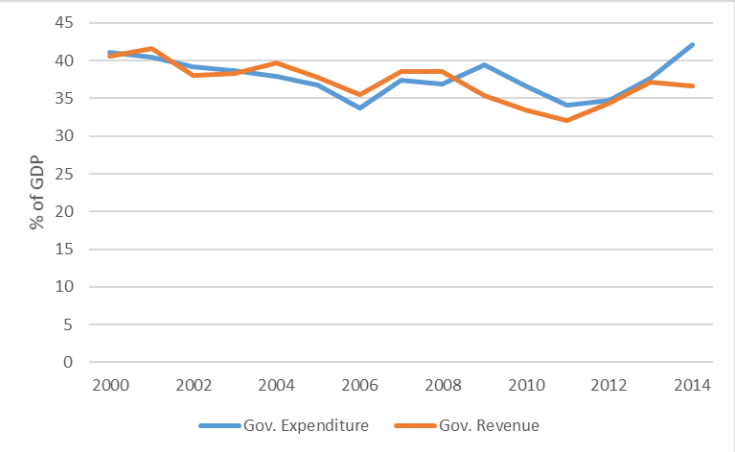
Despite being home to several institutions of higher education, Bulgaria has no universities in the world top 600[2]. Bulgaria has only one university in the world top 800, which is the university of Sofia (St. Kliment Ohridski), which is in Yugozapaden.

1.1.3 Stabilising and destabilising factors

Fiscal stimulus

There was a brief peak in government expenditure in the immediate aftermath of the financial crisis, but this dropped back in response to the ensuing recession before picking up again in 2011, possibly in response to more positive growth in revenues as positive GDP growth returned (see Figure 1.12). By maintaining low levels of public expenditure, Bulgaria has kept national debt levels at relatively tractable volumes. However, the consequence of this low investment has been a lack of progress in addressing the severe structural issues affecting the struggling periphery regions.

Figure 1.12: Government expenditure and revenue in Bulgaria



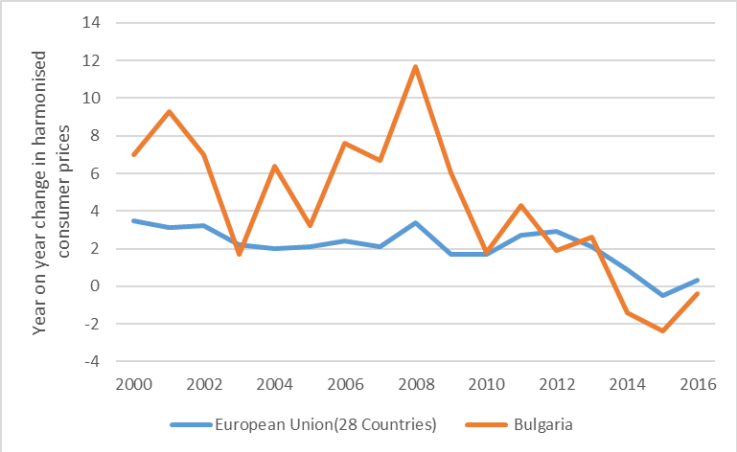
Competitiveness

Before the financial crisis, Bulgaria experienced relatively higher and more volatile price growth than the EU average (see Figure 1.13). The post-2009 period, on the other hand, has been characterised by convergence towards the EU average. This period had much lower annual price growth, including price deflation from 2014 onwards when price growth in Bulgaria was below the EU average. Convergence

[1] https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1
[2] https://www.topuniversities.com/university-rankings/world-university-rankings/2016

towards inflation in the EU region suggests that Bulgaria will maintain its price competitive advantage against this region, at least in the medium term.

Figure 1.13: Harmonised consumer prices in Bulgaria



The real effective exchange rate (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries) indicates that the Bulgarian Lev appreciated through the 2000s before peaking in 2014 (see Figure 1.14). Since 2014 the Lev has weakened slightly, a development that should have made Bulgarian exports relatively more competitive in foreign markets.

Investing in human capital is one method for increasing long-term economic growth, given the positive effect of human capital on labour productivity. One proxy for measuring human capital is the proportion of the population with tertiary education. While the proportion of 24-64-year-old Bulgarians with tertiary education has increased, it still lies well below the EU average in all lagging regions. This limited development of her human capital limits Bulgaria's ability to attract, retain and nurture growth of knowledge intensive and high-skill industries.

Figure 1.14: Real effective exchange rate for Bulgaria

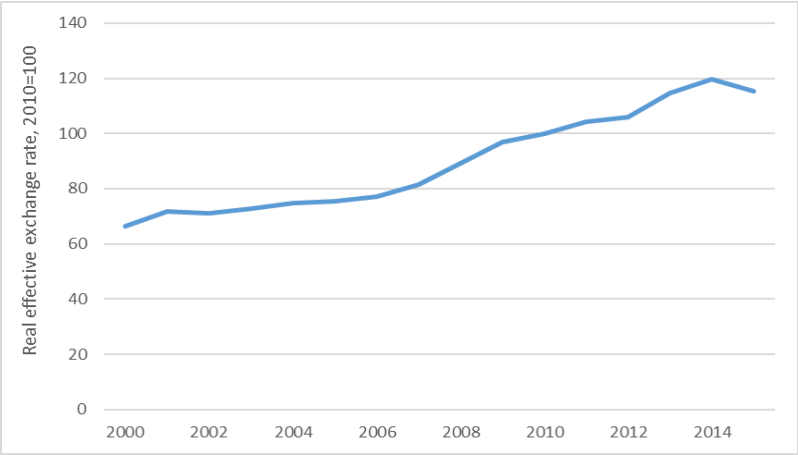
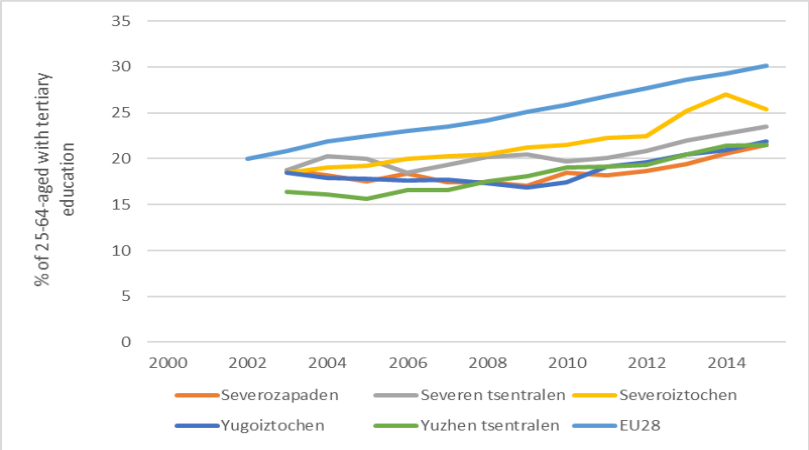
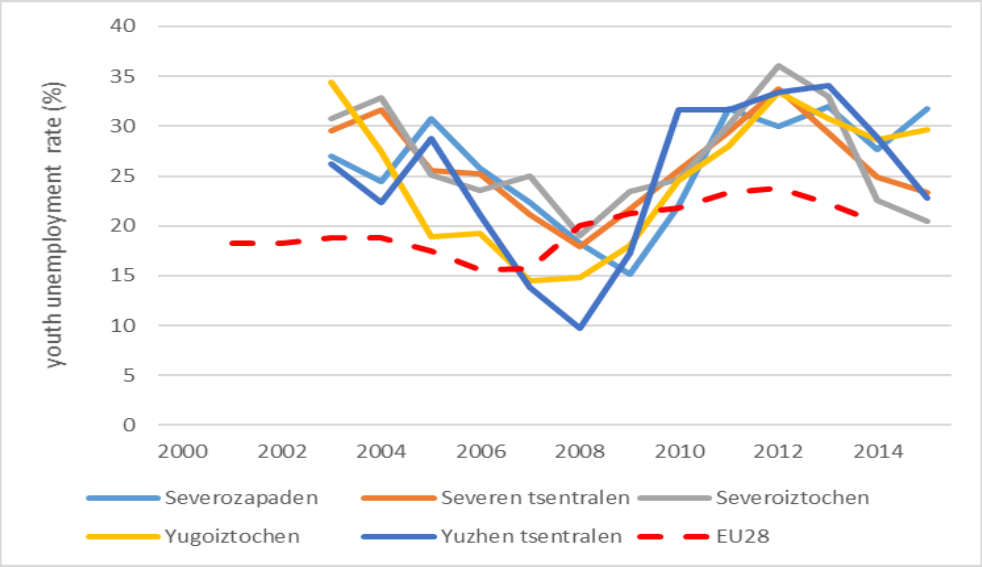


Figure 1.15: Tertiary education among those aged 25-64 in the Bulgarian lagging regions



Youth unemployment in all the lagging regions was above the EU average in the early 2000s but had fallen to (and in some cases below) the EU level in 2008. The financial and subsequent economic crises in 2008 preceded an upward increase in Bulgarian regional unemployment to levels above the EU28 average. This increase peaked in 2012 and has since resumed convergence towards the EU level.

Figure 1.16: Youth unemployment rates in the Bulgarian lagging regions

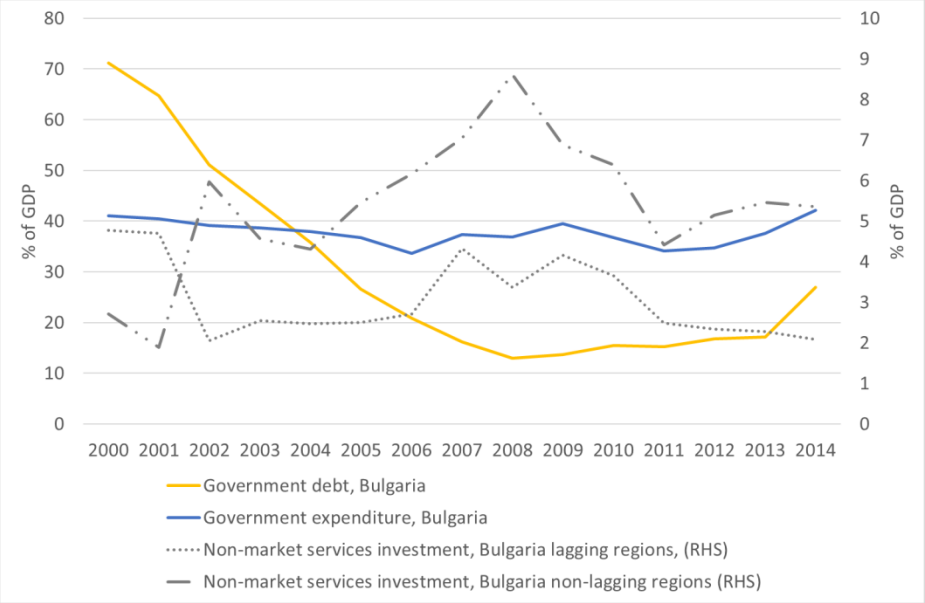


1.1.4 Transmission mechanisms

Public debt

Up until 2008 Bulgarian government debt was steadily decreasing, from around 70% of GDP in 2000 to around 15% of GDP in 2008. The reduction in debt ensured Bulgaria reduced public debt levels below macroeconomic imbalance procedure threshold of 60% in 2002. Following the 2008 crisis the decrease was reversed however, and since then the government debt has been slowly increasing, with a particularly high spike between 2013 and 2014. Although public debt has increased since 2008, current public debt remains low and below the macroeconomic imbalance procedure threshold. Since higher government debt limits the scope of government to counteract economic downturns with economic stimulus and may also indicate high leverage in the financial sector acting as creditors to the government these developments are very likely to be very beneficial to the Bulgarian economy.

Figure 1.17: Public debt, expenditure and investment in Bulgaria



Government expenditures as a percentage of GDP also decreased after 2000, although they did not decrease nearly as quickly as public debt. Furthermore, government expenditure started to increase again following 2006 and then rose steadily until 2009, when expenditure fell before once more rising from 2011 and onwards. The fact that Bulgaria experienced high GDP growth during most of this period indicates that government expenditures have increased considerably in terms of absolute numbers. Furthermore, while previous government expenditure increases were accompanied by a reduction in public debt, the increase since 2011 has been supplemented by increases in public debt, suggesting that the increased expenditure is not sustainable.

While non-market services investment[3] (a proxy of public investment) in the non-lagging regions rose considerably from 2000 until 2008, it decreased again in the years following the crisis indicating the increase in public expenditure is not investment related. Furthermore, even though non-market services investment in the non-lagging has increased somewhat since 2011, the increase has been accompanied by an overall decrease in non-market services investments within the lagging regions. Thus, there are hints that Bulgarian government expenditures are too high and that there is an overall lack of non-market services investment in lagging regions.

It must be noted that non-market services capital investment decisions are made on many grounds, based on economic and social factors as well as political priorities. Nonetheless, primary limiting factor on the ability of the public sector to make capital

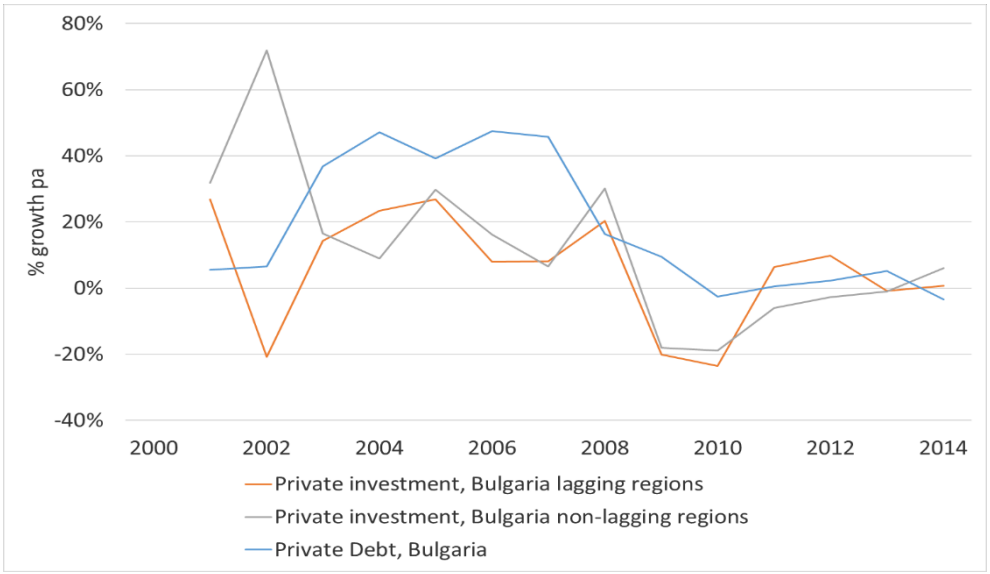
[3] Public investment data is unavailable on a regional basis from Eurostat so non-market services data was used to proxy public investment. Non-market investment data consists of NACE Rev. 2 sectors U-O and includes investment relating to public administration and defence; compulsory social security;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

investments is the budgetary position of the government. Considering the country's very favourable public debt position, however, this would not seem to be the limiting element. Furthermore, non-market services investment may also originate outside of the region or state impacted by the expenditure. Thus, foreign investment or funding from the EU structural and cohesion funds might provide some of the needed funds in the future.

Private debt

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. Private investment[4] (proxied by calculating total investment less non-market services) in the Bulgarian lagging regions grew steadily up to the 2008 crisis, not counting a onetime drop in 2002. In the years following the 2008 crisis however, private investment decreased considerably and has been mostly stagnant since 2011. Investment in the non-lagging regions followed mostly the same path, although these regions did not experience the same drop in 2002 as the lagging regions. Furthermore, in the non-lagging regions private investment was a bit slower to recover than in the lagging regions following the crisis. Nonetheless, by 2014 private investment in the non-lagging regions was growing slightly, while that in the lagging regions was stagnant.

Figure 1.18: Private debt and investment in Bulgaria



Private debt grew very quickly after 2002 and leading up to the 2008 crisis. Some of this growth was sustained following the crisis but by 2010 it had disappeared. In the following years, public debt remained mostly constant, growing by a small amount

[4] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

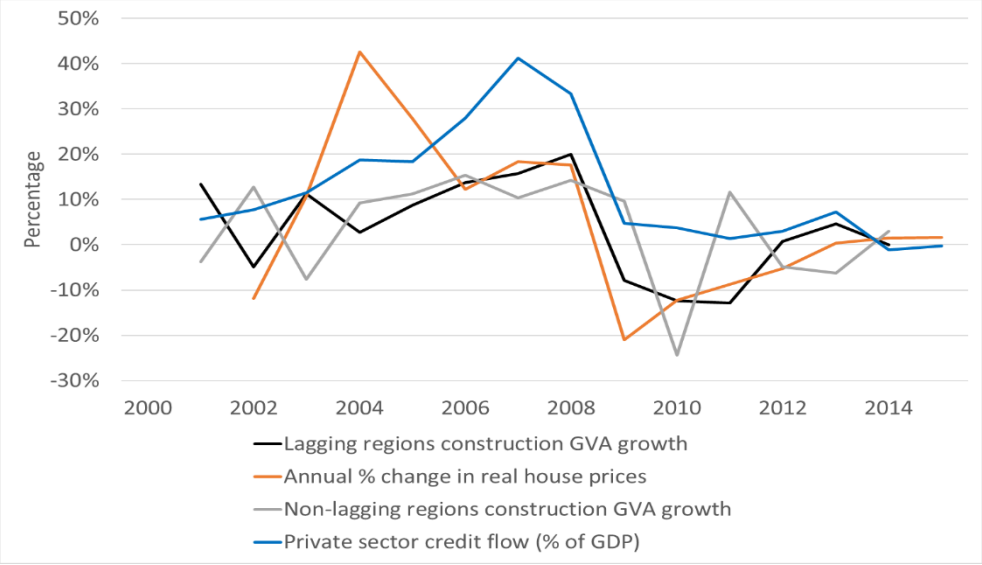
between 2012 and 2013 and then falling again by a similar amount between 2013-2014.

The direct impact of private debt on economic output is difficult to establish, as it is only one of several drivers of economic performance. However, the fact that the growth of private debt has recently slowed down while private investment in both the lagging and non-lagging regions has grown, does indicate that Bulgaria may be trending towards a more favourable position.

Private credit

The flow of private credit can have a substantial impact upon economic development of regions. However, private credit also has other potential impacts upon development in the real economy, including its role important role in determining house prices. Until 2008 private sector credit flows as a percentage of GDP increased by leaps but then fell sharply in the wake of the crisis. After 2008, despite a short-lived reversal in 2012 and 2013, private sector credit flows continued to decline and turned negative during 2014 and 2015.

Figure 1.19: Private credit, house prices and construction GVA in Spain



GVA growth within the construction sector followed a similar trend in both the lagging and non-lagging regions. From 2000 and up to the 2008 financial crisis the construction sector grew steadily but following the crisis a deep recession hit the sector. From 2010 and until 2014 the construction sectors in both lagging and non-lagging regions were slowly recovering, still shrinking but both trending towards growth again, with the non-lagging regions exhibiting positive growth in 2014. However, the path of the non-lagging regions was much more volatile than that of the lagging regions.

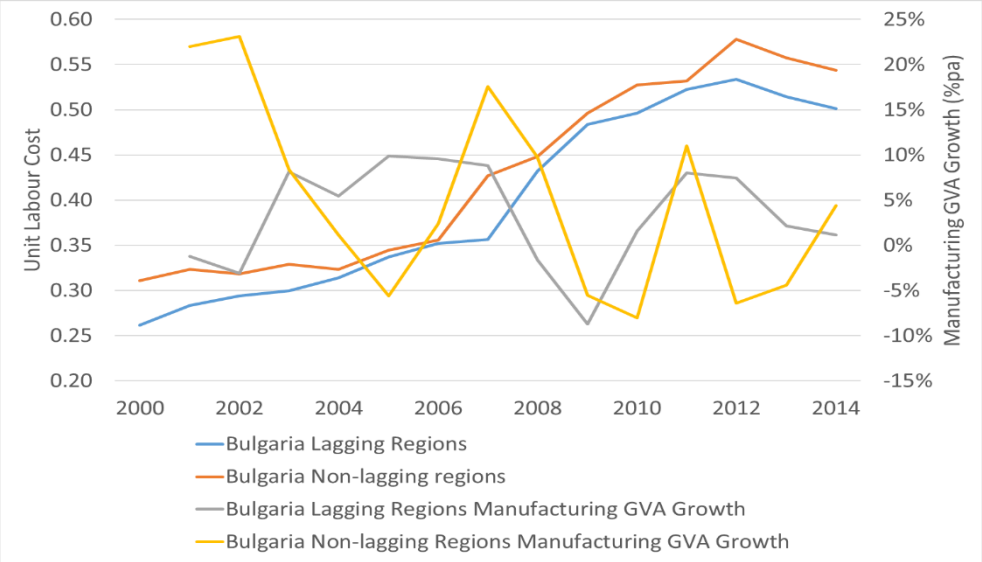
The annual changes in real housing prices followed the growth of the construction sector rather closely, growing a lot in the lead up to the 2008 crisis and then dropping sharply following the crisis. Afterwards they then followed same trend as the construction sector, continuing to decrease but steadily trending towards growth again.

The fact that private sector credit flow followed a similar path as that of the construction sector GVA growth and annual change in housing prices indicates that there is a positive correlation between private credit flows and real house prices. However, the link between housing prices and credit flows is not as strong in Bulgaria as in many of the other EU countries. Thus, while housing prices fell for most the post-2008 period, private sector credit flows remained positive until 2014.

Regional competitiveness

Broader structural and competitiveness issues limit the success of public and private expenditure and investment. One of the key factors is the competitiveness of labour costs. From 2000 to 2014 nominal unit labour costs almost doubled throughout Bulgaria. Bulgaria experienced a gradual increase in unit labour costs from 2000 to 2006, which was then followed by a period of rapid growth from 2007 to 2012. This growth reached its peak in 2012, with unit labour costs then decreasing somewhat from 2012 to 2014.

Figure 1.20: Unit labour costs and manufacturing GVA in Bulgaria



Examining lagging and non-lagging areas reveals a similar trend. Between 2004 and 2011 there was a convergence between the lagging and non-lagging areas. However, after 2011 these regions started to diverge and by 2014 the difference was similar in absolute values to the difference in 2000.

Looking at manufacturing GVA growth, it was very volatile in both the lagging and non-lagging regions during the period. There was no apparent trend in the lagging

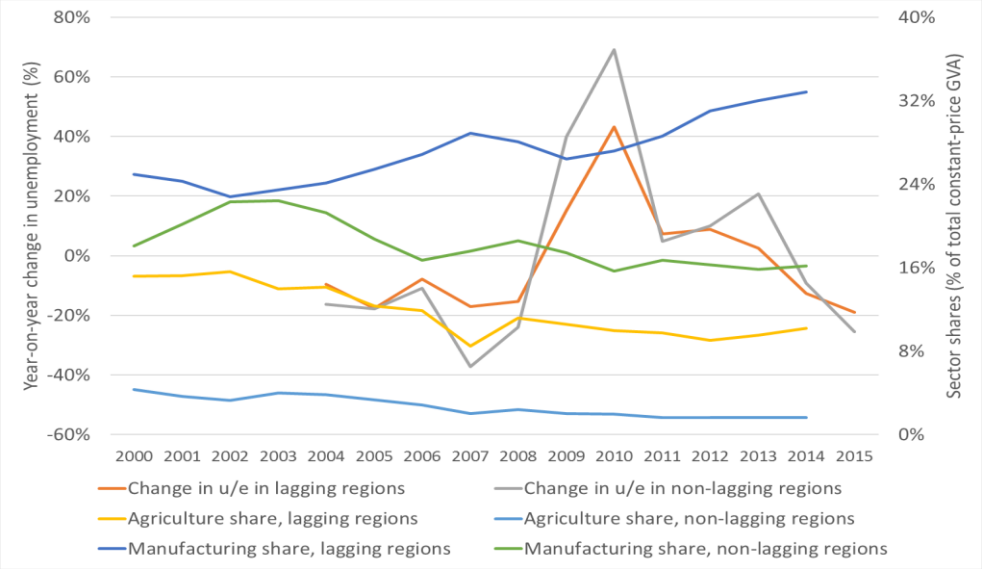
regions, GVA growth fluctuating between positive and negative growth. In the non-lagging region however, manufacturing GVA growth tended downwards during the period.

There was no clear relationship between unit labour costs and manufacturing GVA growth in either region. For example, between 2004 and 2006 GVA growth was much higher in the lagging regions than in the non-lagging region and at the same time unit labour costs in the regions were converging. However, between 2011 and 2013 GVA growth was also much higher in the lagging regions, but at that time unit labour costs were diverging rather than converging. This indicates that in terms of wage competitiveness, the competitiveness of the lagging regions of Bulgaria was being eroded during the 2002-2011 period, but post-2011 competitiveness has improved relative to the non-lagging region.

Labour market resilience

The share of agriculture in GVA was considerably higher in the lagging regions than in the non-lagging region. However, during the period both lagging and non-lagging regions saw the share of agriculture decline by a large amount, going from around 4% in the non-lagging region to between 1-2% and from around 15% to 10% in the lagging regions. The share of manufacturing in the lagging regions was higher in the lagging regions than in the non-lagging regions. Although the share of manufacturing in both types of regions came close to being equal in 2002 and 2003, the lagging and non-lagging regions started to diverge again in the following years. Thus, in the case of the non-lagging region, the share of manufacturing in total GVA decreased during the period from around 18% to around 16%. For the lagging regions on the other hand the share of manufacturing increased by around 7-8% during the period.

Figure 1.21: Unemployment vs sector share of output in Bulgaria



Unemployment mostly followed a similar trend in both the lagging and non-lagging regions, although changes were more volatile in the non-lagging regions. In both regions unemployment decreased in the years before 2008. However, after 2008 both regions experienced a sharp spike in unemployment with unemployment continuing to increase in both regions in the following years. In 2014 and 2015 this development started to reverse with unemployment decreasing rapdily. Overall, Bulgaria has tended to have high unemployment rates as compared to most other EU countries. This is examplified by the fact that since 2011 Bulgaria has not managed to stay below the macroecnomic imblance procedure unemployemnt threshold.

1.1.5 Conclusions

Bulgaria's structural problems are mainly historical in origin, and are, for the most part, neither caused nor excessively exacerbated by the macroeconomic environment of the past decade. The hinterland of the county outside of the capital suffers from a historic lack of consistent investment, whether public or private in origin. As the least economically developed member state in the EU, Bulgaria still has some way to go towards converging towards the EU mean level of GDP per capita. Particular issues that need to be addressed are enabling of high productivity jobs outside of the capital region through improved education levels and investment, improving the quality of national and regional institutions.

At the national level, Bulgaria's economy is showing signs of a convergence towards the EU average, although growth is largely confined to Sofia and its immediate surroundings. More effort needs to be made by the national government to provide

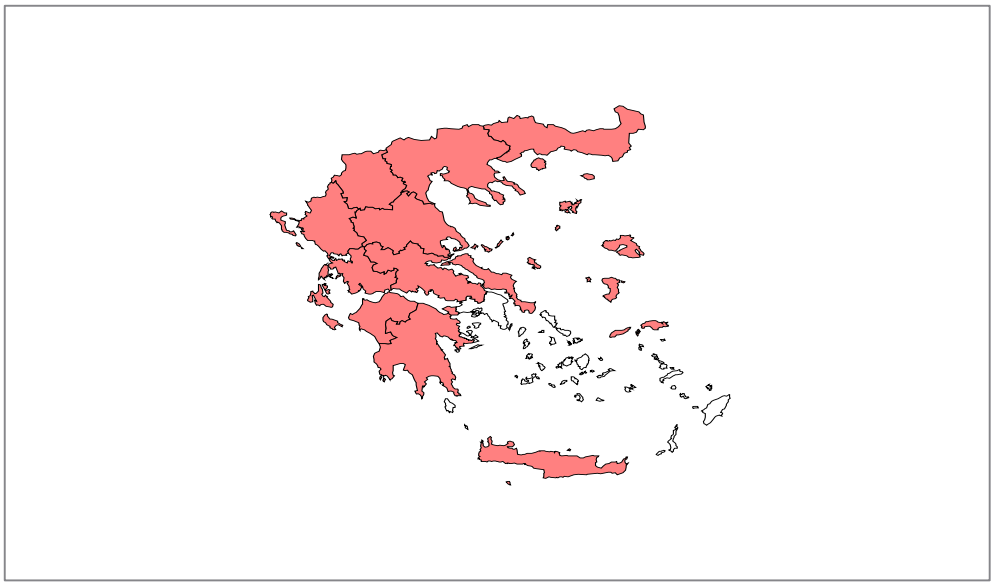
the assistance required to the north and east of the country in order to tackle the structural issues to ensure increases in productivity without reducing competitiveness.

1.2 Greece

1.2.1 Introduction

The lagging regions of Greece consist of most of the NUTS2 regions in Greece, except for Attiki (Athens) and Notio Aigaio (South Aegean) (see Figure 1.22). Athens, the capital of Greece, has the largest and most advanced regional economy in the country while the Notio Aigaio region consists of a group of islands in the south of Greece which is relatively strong in tourism. The lagging regions of Greece account for 37% of employment in the country.

Figure 1.22: The NUTS2 regions of Greece

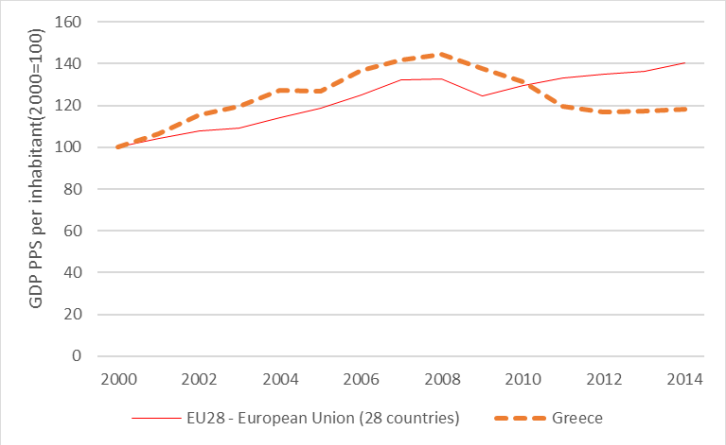


1.2.2 Fiscal and macroeconomic environment

GDP

Through much of the 2000s, the Greek economy grew at a steady rate and exceeded the EU average rate of growth. However, since the financial crisis the country has experienced a major economic contraction which has persisted over time to the present and reduced the level of GDP per capita (see Figure 1.23).

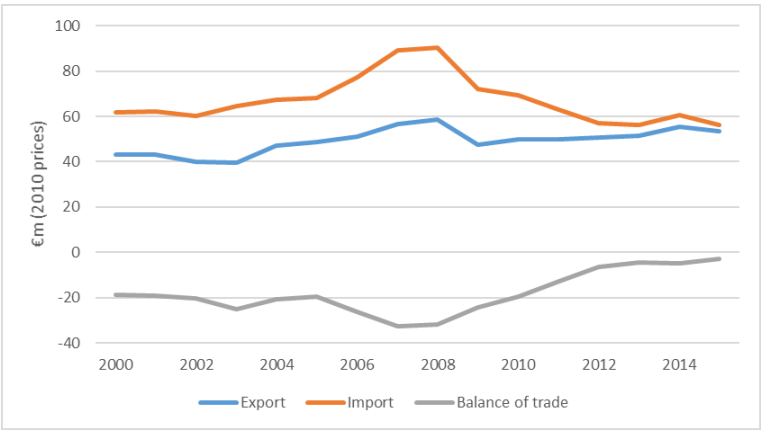
Figure 1.23: GDP per capita for Greece



Trade

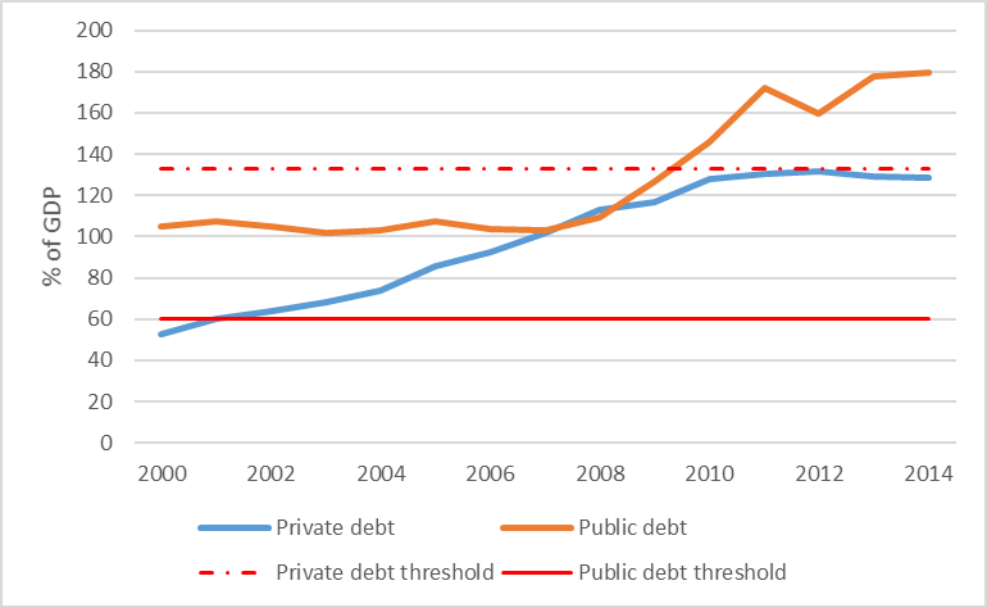
Greece has experienced a large trade balance deficit throughout the 2000s (peaking in 2007 at over 30%), although in recent years this has fallen to less than 5% in 2014 (see Figure 1.24). Decomposing the trade balance between imports and exports reveals that the expansion of the trade balance deficit and indeed the subsequent decrease has largely been driven by the development of imports. Imports and exports followed a similar trajectory before 2008 but with the rate of growth of imports exceeding exports. Following 2009, exports resumed their growth somewhat but have yet to reach the level achieved in 2008. In contrast, imports have fallen to levels below that experienced in the 2000s. These developments indicate that trade competitiveness in Greece eroded throughout the early 2000s but has since improved through a reorientation away from imports rather than substantially increasing exports.

Figure 1.24: Imports and exports for Greece



The development of debt in Greece is largely defined by the periods before and after the financial crisis in 2008 (see Figure 1.25). Before the financial crisis private debt grew steadily and stabilised in 2010 just below the macroeconomic imbalance procedure threshold of 133%. In contrast, public debt was mostly stable albeit far above the macroeconomic imbalance procedure threshold of 60% at just over 100% of GDP throughout much of the 2000s until the occurrence of the financial crisis in 2008. Following the financial crisis, the level of government debt began to increase sharply in the years following the emergence of the financial crisis to reach 180% of GDP in 2014. These elevated debt levels limit the scope for government stimulus while consumer and business demand is limited by large levels of private debt.

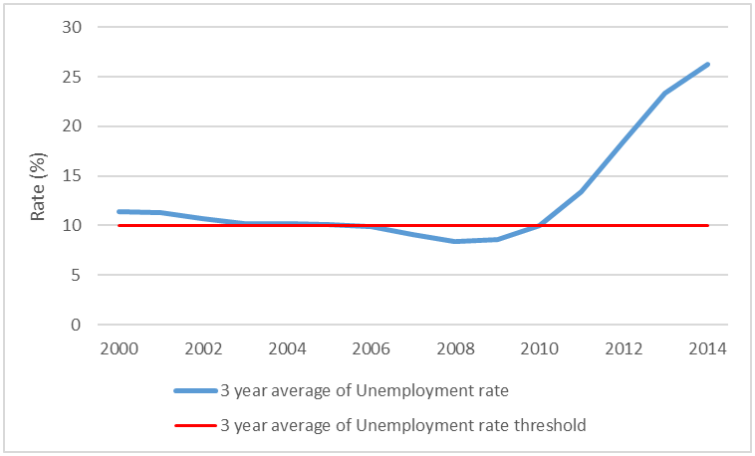
Figure 1.25: Private and public debt for Greece



Labour Market

Unemployment in Greece fell slowly but steadily in the first decade of the 21st century, falling below the macroeconomic imbalance procedure rate first in 2006. However, the unemployment rate increased rapidly in the aftermath of the financial crisis in 2008. From a low point of 8% in 2008, it has grown to over 25% of the labour force as of 2014, more than double the designated threshold value (see Figure 1.26). This development is largely driven by the severe contraction in the economy which occurred following the financial crisis in 2008.

Figure 1.26: 3-year average unemployment rate for Greece

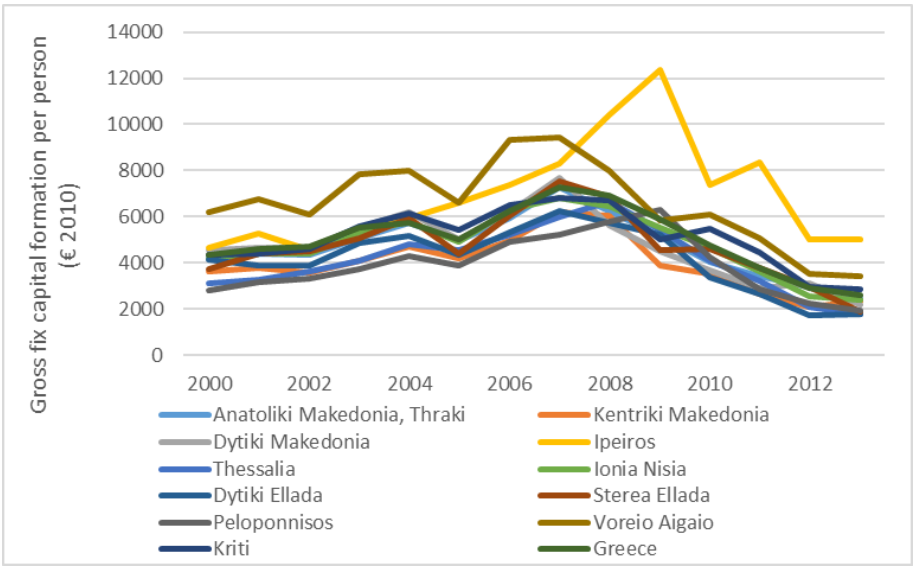


1.2.3 Regional structural issues

Investment

While the poor economic performance of the lagging regions of Greece has been exacerbated by the fiscal crisis in Greece, gross fixed capital formation per capita was low in most the lagging regions throughout the 2000s, with the notable exception of Ipeiros (see Figure 1.27). Since the financial crisis in 2008, capital formation has declined sharply, and the rates of new gross fixed capital formation do not appear to be consistent with even maintaining the existing levels of capital stock.

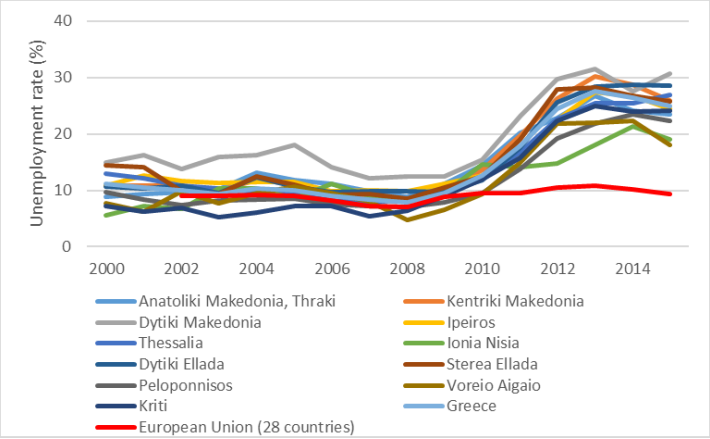
Figure 1.27: Regional gross fixed capital formation per capita in Greece



Labour market

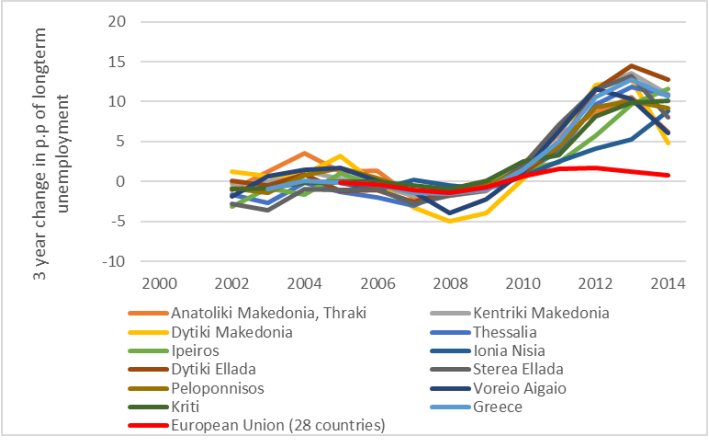
The effect of the economic contraction following the financial crisis is strongly evident in regional unemployment rates. Unemployment rates across the lagging regions of Greece varied around the EU average in the early part of the 2000s at around 10%. Following the financial crisis, however, regional unemployment rates in Greece rose rapidly (see Figure 1.28). By 2013, it was as high as 30% (in Dytiki Makedonia).

Figure 1.28: Regional unemployment rates in Greece



Long-term unemployment is particularly harmful to economic growth as unemployed individuals begin to lose their workplace skills the longer they are out of work. Developments in the changes in long-term unemployment rates show that the lagging regions of Greece broadly follow developments in long-term unemployment (see Figure 1.29). Long-term unemployment rates were stable before the financial crisis, and subsequently rapidly increased.

Figure 1.29: Regional changes in long-term unemployment rate in Greece

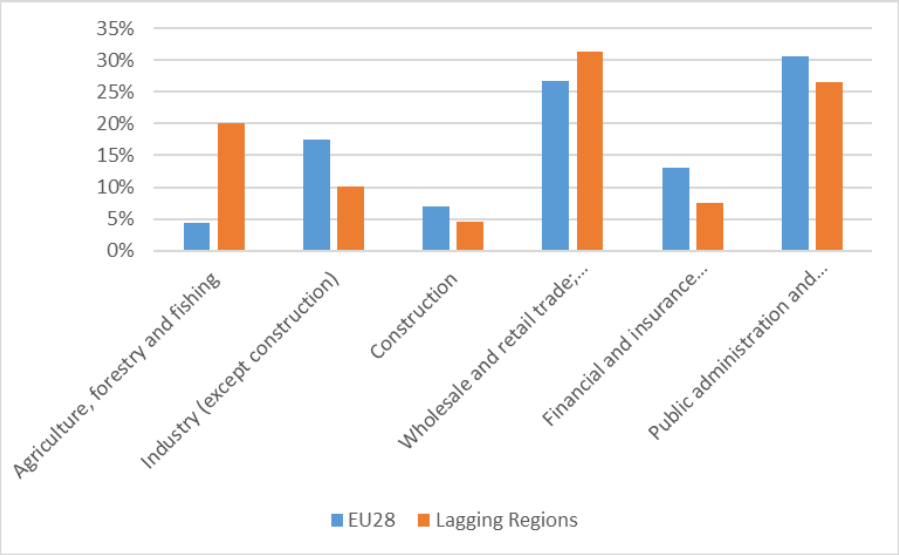


The lagging regions of Greece had long-term unemployment rate changes broadly similar to the EU average pre-crisis with some regional changes above or below the EU average. In the period since the financial crisis, the EU average has risen moderately but changes among the lagging regions of Greece have been large and exceed the EU average substantially indicative of the economic contraction experienced in Greece over this period.

Economic structure and innovation

Among the challenges facing the economically lagging regions of Greece is an unfavourable economic structure. For instance, Figure 1.30 below demonstrates that the lagging regions of Greece are heavily structured towards agriculture and to a lesser degree wholesale and retail trade. In contrast, industry and financial and insurance sectors are underrepresented in comparison to the EU average.

Figure 1.30: Industry structure (share of employment) of lagging regions in Greece, 2011



The challenges to regional economic structure is further illustrated in Figure 1.31 where knowledge intensive services are often underrepresented in comparison to the average for Greece. This would seem to indicate challenges for knowledge-led economic growth in the lagging regions of Greece. On the other hand, high and medium high-technology manufacturing does not seem to differ substantially among the regions in comparison to the average for Greece although the industry shares are very low even for the national average.

Figure 1.31: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing among Greek lagging regions, 2014

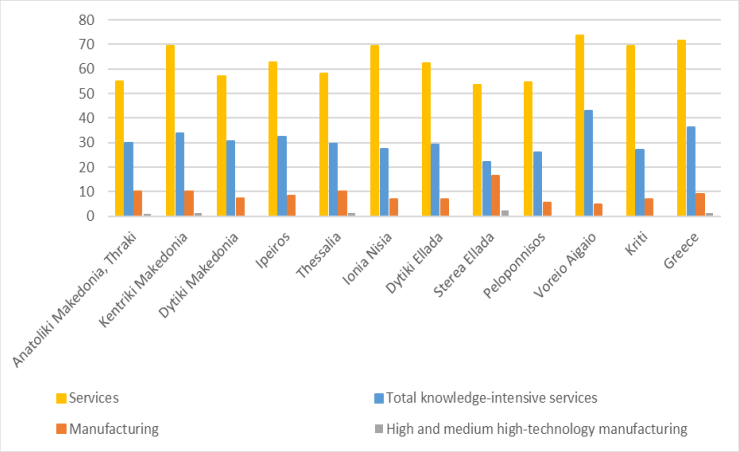
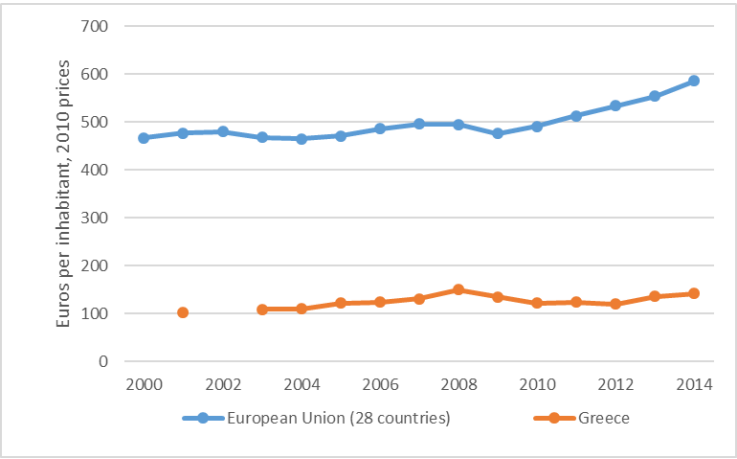


Figure 1.32 below illustrates the development of R&D expenditure per inhabitant in Greece in comparison to the EU average. R&D expenditure can be interpreted as a measure of innovative activity in Greece and thus it can be seen that R&D expenditure per inhabitant in Greece is substantially below the EU average. Furthermore, the effect of the financial crisis in 2008 is apparent in fall in R&D expenditure in Greece in contrast to the EU, in which R&D expenditure increased substantially following the financial crisis.

Figure 1.32: R&D expenditure per inhabitant for Greece



A time series of data for the Greek regions is not available but Table 1.1 is illustrative of differences in levels of R&D expenditure per inhabitant between the lagging regions in 2013. All the lagging regions of Greece except for Kriti have lower levels of R&D expenditure per inhabitant than Greece which can be broadly divided between regions

which fall far below the national average in terms of R&D expenditure and those which lag the national average only slightly. The evidence presented here indicates that Greece invests far less in innovative activity such as R&D expenditure than the EU average and the lagging regions invest less again than the Greek average with some lagging regions investing substantially below the national average. The effect of this lack of investment in R&D expenditure is a reduced potential for future economic growth derived from innovative activities for Greece and the lagging regions of Greece.

Table 1.1: R&D expenditure per inhabitant for the lagging regions in Greece

	R&D expenditure per inhabitant (2010, prices) in 2013
European Union (28 countries)	554
Greece	136
Anatoliki Makedonia, Thraki	72
Kentriki Makedonia	98
Dytiki Makedonia	65
Ipeiros	118
Thessalia	69
Ionia Nisia	40
Dytiki Ellada	119
Sterea Ellada	64
Peloponnisos	54
Voreio Aigaio	109
Kriti	195

Institutions

Institutions in Greece rank poorly at 81st out of 138 countries according to the World Economic Forum[5]. Greece ranks particularly poorly for the burden of government regulation at 129th out of 138th and 121st for transparency of government policy making. Public trust in politicians in Greece is ranked 107th. These rankings indicate the difficulties for effective policy makers in Greece.

With respect to the quality of third level education institutions, Greece has two universities ranked among the top 600 in world[6] although only one of these universities, the Aristotle University of Thessaloniki is located with a lagging region.

[5] http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

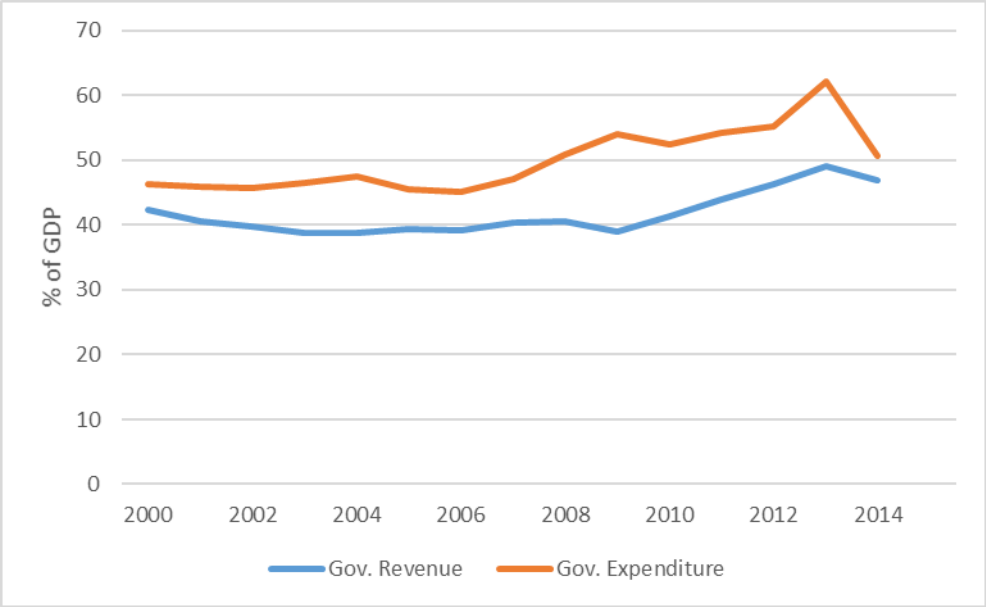
[6] See the QS university rankings here: http://www.topuniversities.com/qs-world-university-rankings

1.2.4 Stabilising and destabilising factors

Fiscal stimulus

It can be seen from Figure 1.33 that Greece has pursued largely pro-cyclical fiscal policies throughout the 2000s as government expenditure exceeded government revenue substantially during a period of economic expansion. Upon experiencing economic contraction following the financial crisis, fiscal policy in Greece remained expansionary on the expenditure side which is likely as a result of automatic stabilisers increasing government expenditure on unemployment assistance payments. However, fiscal policy on the revenue side also increased as the government increased taxes in response to the gap between government expenditure and revenue which emerged in the period before the financial crisis in 2008. Such contractionary but revenue raising policies likely counteracted the economic stimulus introduced by increased government expenditure.

Figure 1.33: Government expenditure and revenue in Greece

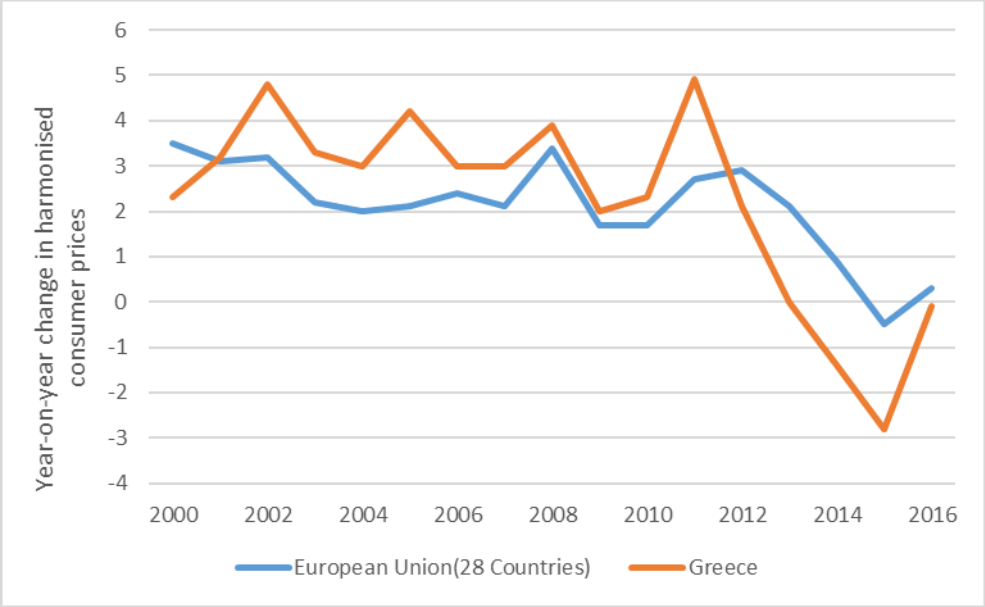


Competitiveness

Competitiveness in Greece can be proxied by price developments. As can be seen from Figure 1.34, prices in Greece largely exceeded the EU average throughout the 2000s indicating a loss of price competitiveness relative to the EU at least. However, following the financial crisis in 2008, prices became more volatile, first briefly converging to the EU average before exceeding them substantially in 2011 but declining below the EU average over the period 2012 to 2016 indicating a recovery of price competitiveness relative to the EU average. As Greece is a member of the Euro, monetary policy in Greece is less responsive to price developments specific to Greece such that periods of high price growth can occur with a monetary response if not experienced throughout Eurozone countries as is demonstrated where price levels can be seen to exceed the EU average.

Concurrent with increased prices both within Greece and the Eurozone, the real effective exchange rate (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries) for Greece increased over time reaching a peaking in 2009 but declining thereafter (see Figure 1.35). The increase in the value of the exchange rate throughout the 2000s reduced the price competitiveness of Greek exports outside the Eurozone. However, the subsequent decline since 2009 has made Greek exports more price competitive with international trading partners as prices and the exchange rate in Greece declines. Furthermore, Greek imports also become more costly for domestic producers and consumers as the exchange falls which may result in at least a partial substitution to domestic production and consumption.

Figure 1.34: Harmonised consumer prices in Greece



Another factor in the competitiveness of Greece is the level of human capital available in the labour force. Human capital aids productivity improvements and hence competitiveness through knowledge and skills acquisition. In Figure 1.36 human capital is proxied by the level of tertiary education among those aged 25-64. Levels of tertiary education in Greece falls below the EU average and that most of the lagging regions fall substantially below Greece for their levels of tertiary education. While a persistent gap exists in the level of tertiary education both for the Greece and its lagging regions relative to the EU, the trajectory of increasing levels of tertiary education holds over time for Greece and its lagging regions.

Figure 1.35: Real effective exchange rate for Greece

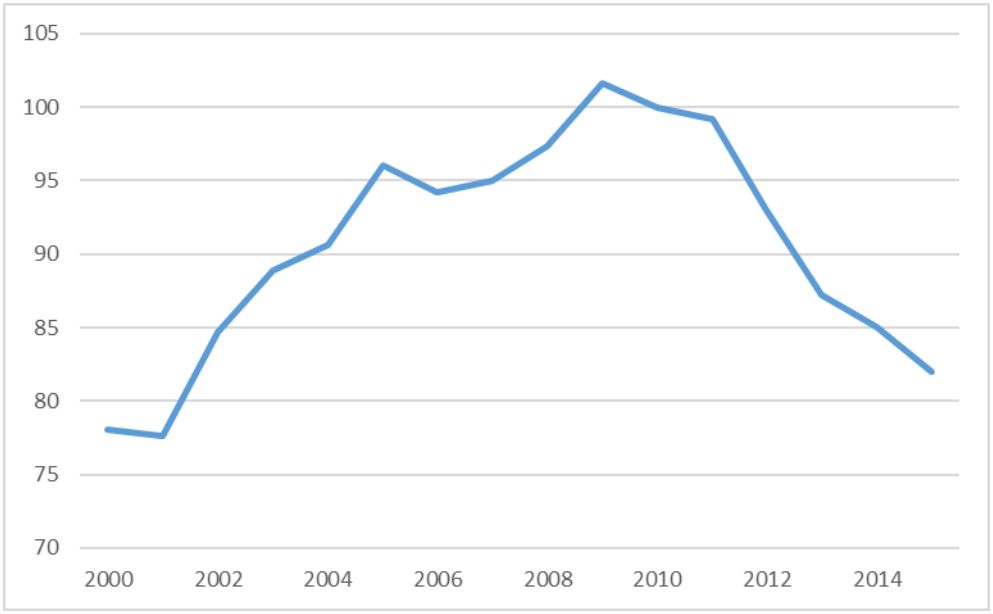
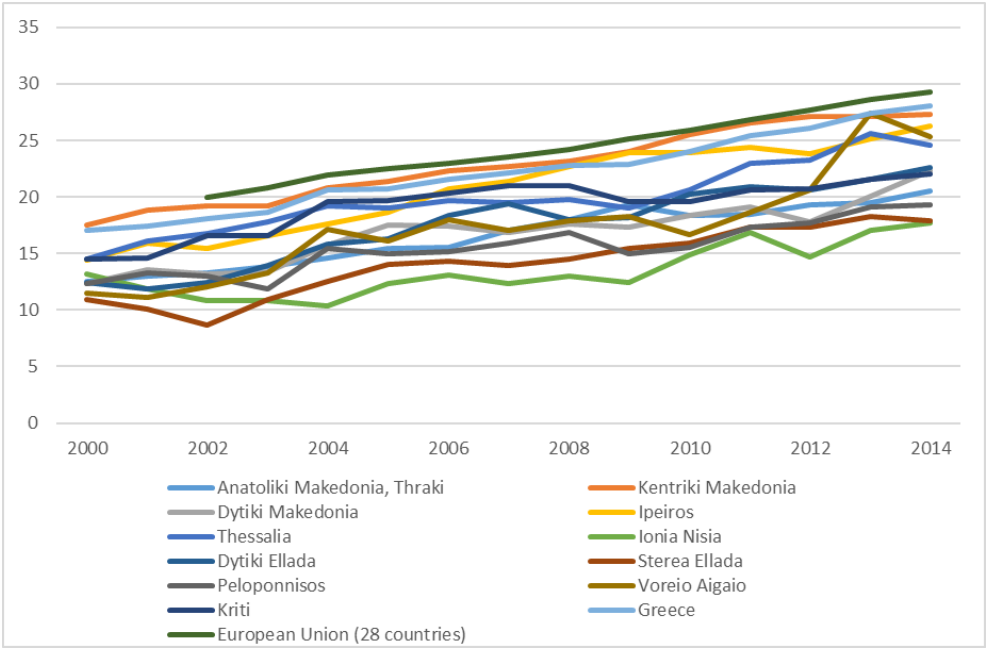


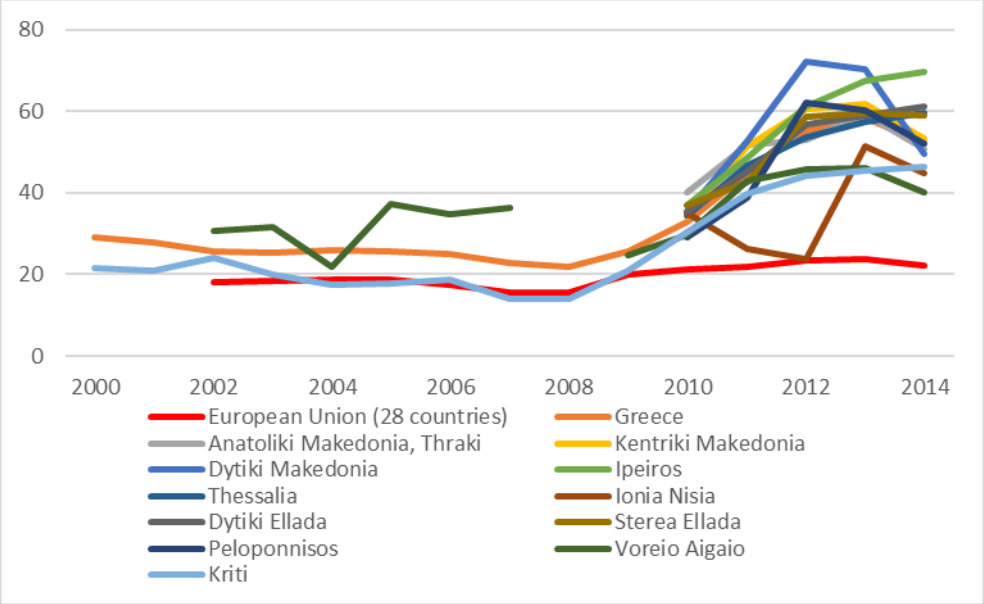
Figure 1.36: Tertiary education among those aged 25-64 in the Greek lagging regions



Linked to levels of tertiary education and human capital is the rate of youth unemployment in Greece's lagging regions. High levels of youth unemployment can indicate a lack of job opportunities for young people completing education and training to apply their knowledge and skills in the labour market. Over time, the gains to productivity that education offers can be deteriorate.

Figure 1.37 demonstrates that while Greece experienced youth unemployment rates above the EU throughout the 2000s, the gap expanded substantially following the financial crisis in 2008. Furthermore, many lagging regions in Greece have experienced levels of youth unemployment in excess of the Greek average. These rates of youth unemployment, while economically damaging on its own, is further compounded by the lost effectiveness of productivity-enhancing education in the labour market.

Figure 1.37: Youth unemployment rates in the Greek lagging regions

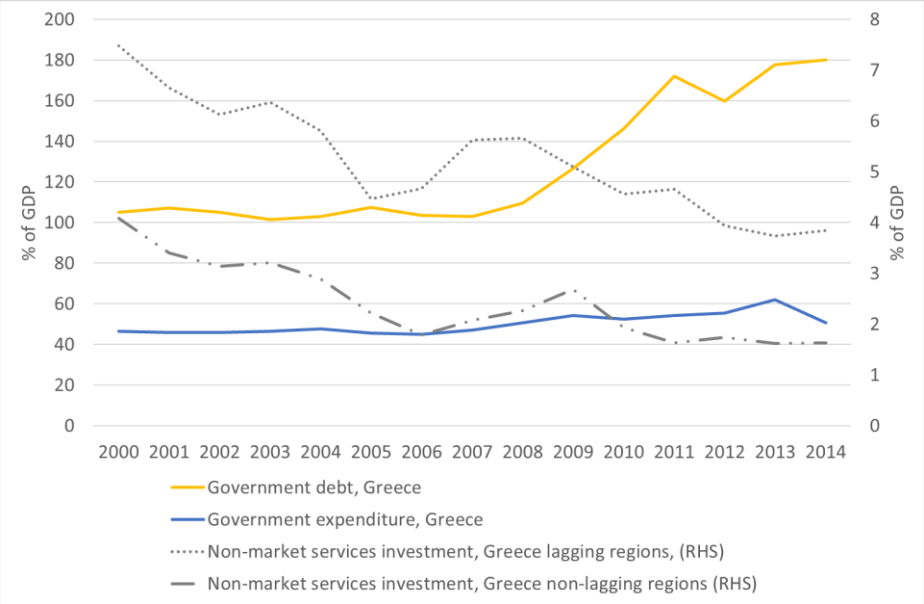


1.2.5 Transmission mechanisms

Public debt

For much of the 2000s the ratio of government debt-to-GDP remained stable at just above 100%, above the MIP threshold of 60% (see Figure 1.38). The financial crisis in 2008 contributed to a significant increase in public debt which reached over 180% of GDP. Multiple rounds of public debt bailouts by international organisations of the EU, the ECB and the IMF (the Troika) have not increased the public debt but the rate of growth appears to have reduced substantially.

Figure 1.38: Public debt, expenditure and investment in Greece



Government expenditure averaged around 47% before 2008. After 2008, public expenditure rose to about 54% of GDP, likely due to increased unemployment assistance payments as the rate of unemployment increased. Nevertheless, Greece has implemented expenditure-related reductions to meet the conditions of the public debt bailout offered by the Troika.

Non-market services[7] investment (a proxy of public investment) in the lagging regions has mostly been higher than in the non-lagging regions, however, it should be noted that most of Greece is classified within an economically lagging region. Investment has fallen considerably since 2000, more than halving to 3.7% and 1.6% by 2013 in lagging and non-lagging regions, respectively.

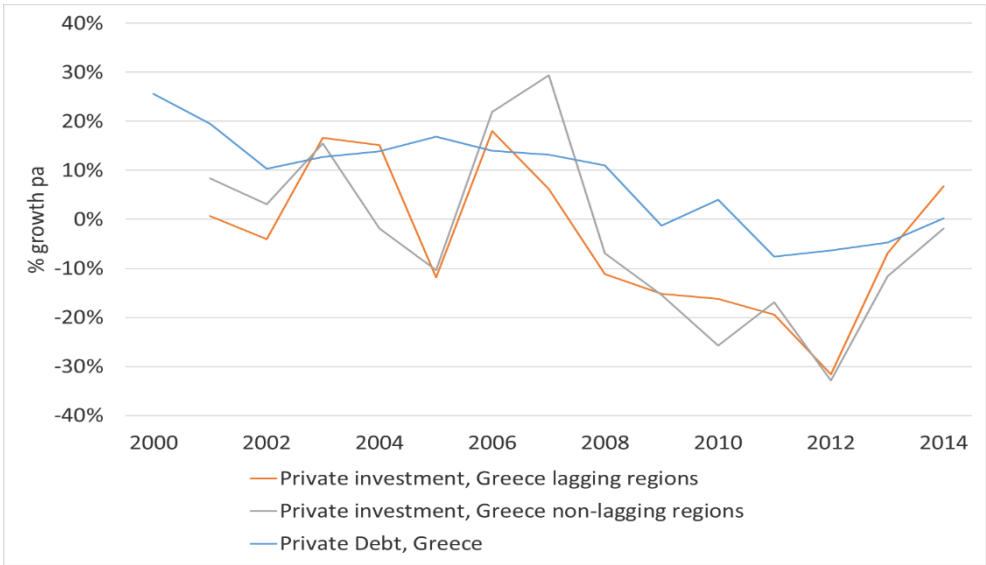
Private debt

The rate of growth of private debt contracted since 2009 after strong growth in the preceding period. Private debt grew more than from 26% in 2000 and 10% in 2002, before growing at an average of around 13% during 2002-08. Much of the post 2008 period can be attributed to deleveraging as firms and individuals reduce their debt levels. The effect of deleveraging is reduced investment and consumption which in turn reduces economic growth.

[7] 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

Private investment[8] (proxied by calculating total investment less non-market services) in lagging and non-lagging regions has evolved similarly. While most of the period before 2007 had growth in private investment, the post 2007 period is characterised by negative growth, suggesting that divestment was taking place (see Figure 1.39). Indeed, only after 2013 did private investment growth return in lagging regions. The decline in investment indicates challenges in generating economic growth in the future.

Figure 1.39: Private debt and investment in Greece



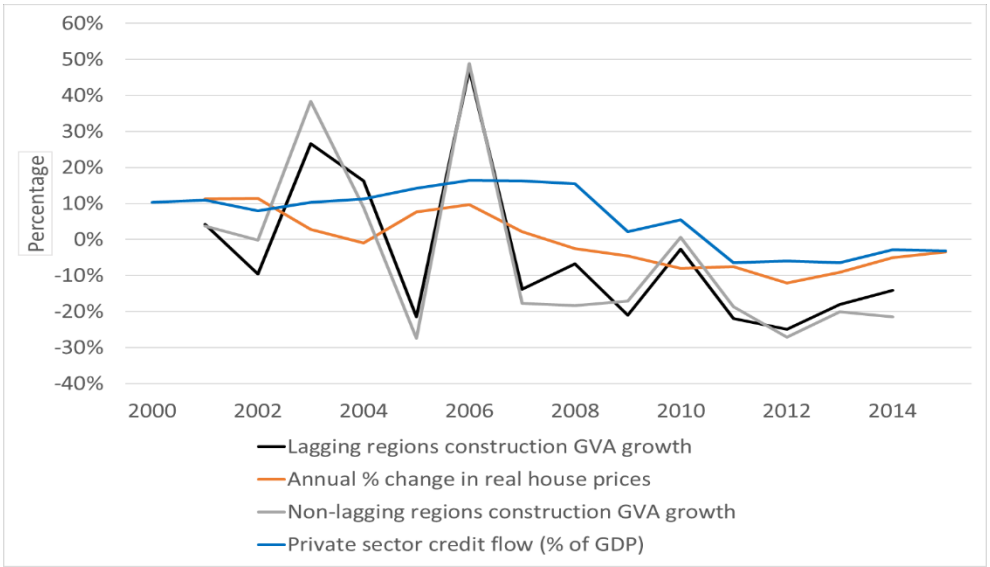
Private credit

Private sector credit flow (as a % of GDP) remained stable for much of the 2000s but still exceeded the MIP upper limit of 14% in 2005 (see Figure 1.40). It has been trending downwards since peaking at 16.4% in 2006, and has been negative since 2011. However, real house prices peaked in 2006 after falling since 2004. They have been falling since 2008.

Construction GVA growth was volatile before 2007 but has since turned consistently negative and has broadly followed the trends in real house prices if year to year volatility is ignored. Construction growth has been negative each year since 2007 with 2010 being the only exception in non-lagging regions. Such performance highlights construction as one of the sectors most affected by the economic crisis in 2007 and after. The similar movement between the trajectory of construction GVA in both lagging and non-lagging regions demonstrated limited regional differences for how construction GVA growth has evolved.

[8] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

Figure 1.40: Private credit, house prices and construction GVA in Greece



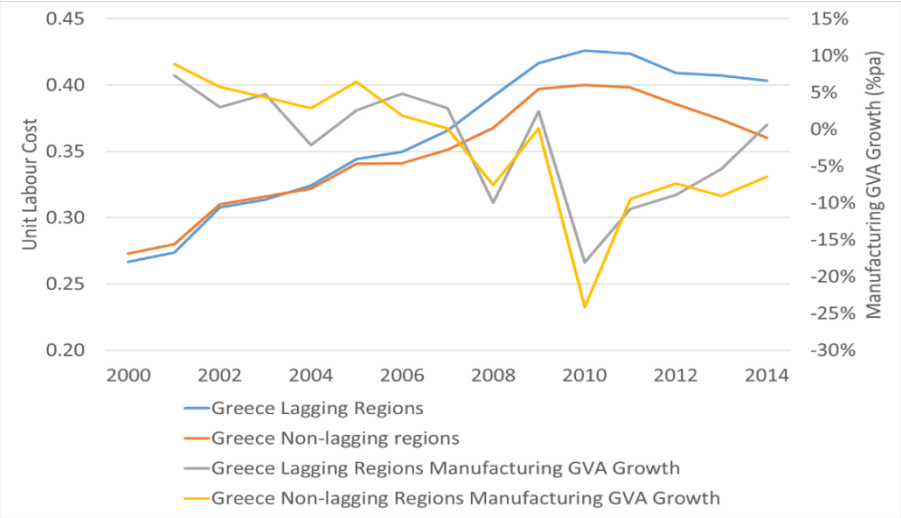
Regional competitiveness

In both lagging and non-lagging regions unit labour costs rose steadily and peaked in 2010 and have since been on a downward trend (see Figure 1.41). Since 2004, unit labour costs in lagging regions have risen above those in non-lagging regions, with the gap widening in subsequent years. This indicates that lagging regions are increasingly uncompetitive based on labour costs relative to non-lagging regions. Manufacturing GVA growth was comparable between lagging and non-lagging regions until 2009, however, non-lagging regions experienced a deeper contraction in 2010 and had a slower recovery from 2012 onwards.

Labour market resilience

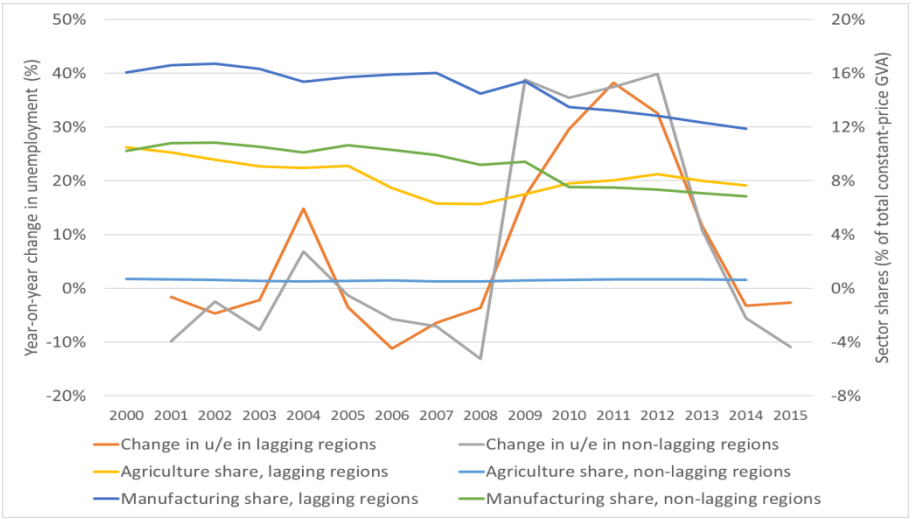
Changes in unemployment in both lagging and non-lagging regions are comparable in magnitude and trend (see Figure 1.42). In both lagging and non-lagging regions there were sharp increases in the change of unemployment in 2004 and after 2008 as well as a sharp decrease after 2012. The latter two events are linked to the post-2008 economic crisis.

Figure 1.41: Unit labour cost and manufacturing in Greece



Agriculture had a small and near constant share of GVA in non-lagging regions during the 2000–14 period. However, agriculture was far more important to lagging regions output which may indicative of a less economic resilience. On the other hand, the manufacturing share of both the lagging and the non-lagging regions GVA has declined from its 2000 level but it has remained substantial. Although manufacturing shares were already falling by 2007, the economic crisis accelerated this deterioration from 2010 onwards.

Figure 1.42: Unemployment and sector share in Greece



1.2.6 Conclusions

The lagging regions of Greece face multiple and persistent challenges to economic growth many of which are present at a national level but are of a greater magnitude among the lagging regions.

Before the financial crisis, price and wage (measured by unit labour costs) competitiveness was gradually eroded over time. This loss of competitiveness was reflected in the growth of imports as exports remained mostly constant. Pro-cyclical fiscal policies were aimed at reducing unemployment although unemployment rates remained high as government stimulus was countered by declining competitiveness and eventually rising debt levels, both public and private. Furthermore, persistent underinvestment in R&D expenditure is prevalent to a greater degree among the lagging regions of Greece coupled with an economic structure which does not pursue knowledge-led economic growth.

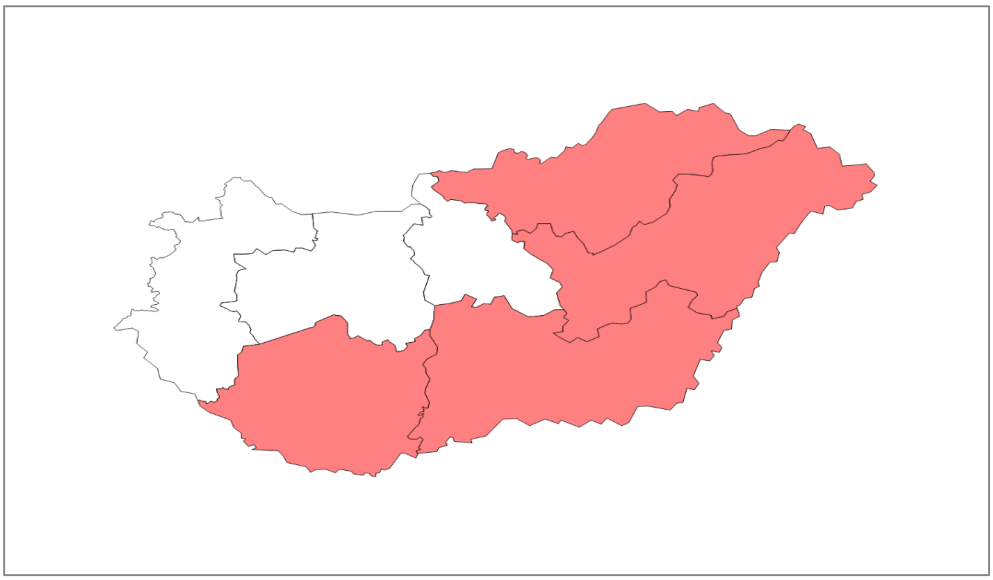
The occurrence of the financial crisis marked an escalation of the challenges facing Greece. Public debt levels reach critical levels following the financial crisis such that a bailout was necessary. The result was that further pro-cyclical expenditure-reducing and revenue-raising fiscal policies were pursued to reduce the budget deficit while consequently contributing to further economic contraction. A further increase in unemployment rates including youth and long-term unemployment was experienced nationally as the economy contracted but to a greater degree among the lagging regions. The problems in the labour market likely reduced the effectiveness of investment in education and skills (which were already lower among the lagging regions of Greece) particularly among those individuals formerly employed and entering the labour market upon completion of education. High and increasing debt levels were coupled with reduced investment, particularly in the lagging regions of Greece. Before the financial crisis, unit labour costs in the lagging regions began to exceed the non-lagging regions but the gap has increased further following the financial crisis resulting in further losses in competitiveness and challenges to the return of sustainable economic growth.

1.3 Hungary

1.3.1 Introduction

Hungary is made up of 7 regions, of which four are defined as lagging regions. The lagging regions of Hungary are Dél-Dunántúl, Észak-Magyarország, Észak-Alföld, and Dél-Alföld which are in South and East of Hungary (see Figure 1.43) located with Hungary's "great planes" region. Hungary experienced steady GDP growth in the 1990s which accelerated during the first decade of the 21st century up until the financial crisis. However, Hungary was hit particularly hard by the financial crisis and its economy has since stagnated.

Figure 1.43: The NUTS2 regions of Hungary

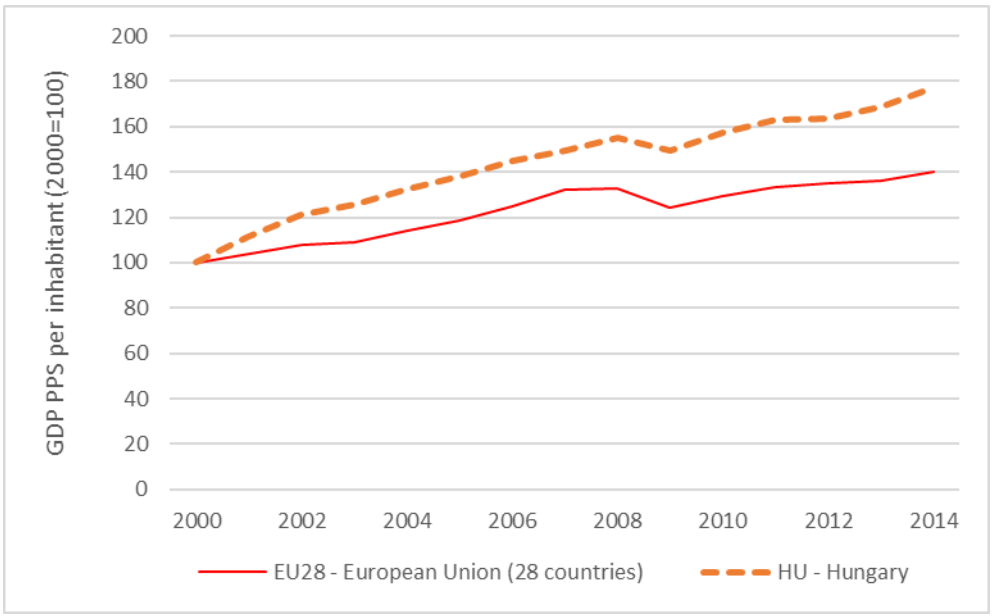


1.3.2 Fiscal and macroeconomic environment

GDP

GDP per capita in Hungary rose steadily over 2000-14, interrupted only by the impact of the global downturn in 2008-09 (see Figure 1.44). However, it is notable that the economic growth experienced in Hungary was also experienced throughout the EU although the rate of growth experienced in Hungary was faster.

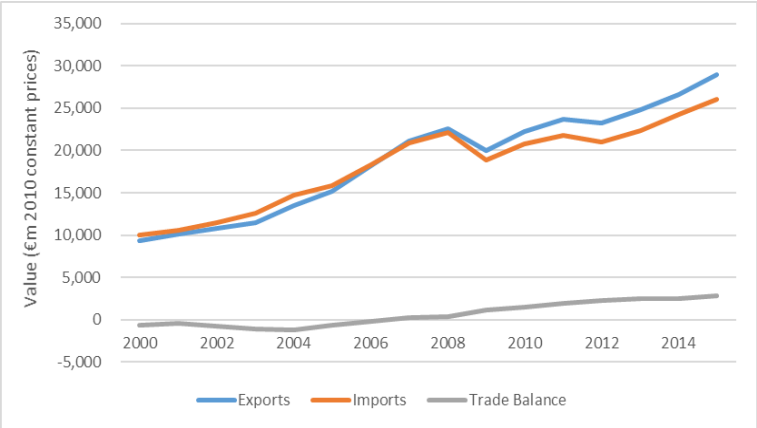
Figure 1.44: GDP per capita for Hungary



Trade

Throughout the early 2000s Hungary experienced a trade balance deficit where imports exceeded exports (see Figure 1.45). The trade balance deficit reached its largest extent in 2004 before narrowing thereafter. Hungarian exports had begun to exceed imports by 2008 and after the financial crisis in 2008 a brief contraction in both exports and imports was followed by a return to growth in trade and once again exports outpacing imports. The trade balance surplus expanded and continued to do so to the present.

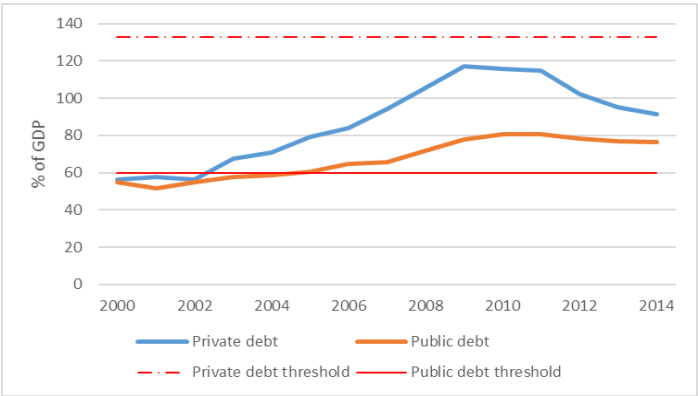
Figure 1.45: Imports and exports for Hungary



Debt

Public debt in Hungary began the early 2000s with a debt to GDP ratio below the macroeconomic imbalance procedure of 60%. However, public debt gradually grew over time and reached 80% of GDP following the financial crisis. After this point, efforts to reduce the public debt have resulted in a slight reduction but the debt to GDP ratio remains far in excess of the macroecnomic imbalance procedure limit. (see Figure 1.46). Similarly, private debt followed a similar trajectory as public debt albeit with a faster rate of growth throughout the 2000s and remaining below the macroeconomic imbalance procedure limit of 133% of GDP. Following the financial crisis, private debt as a share of GDP began to decline as individuals and firms deleveraged from previous borrowings.

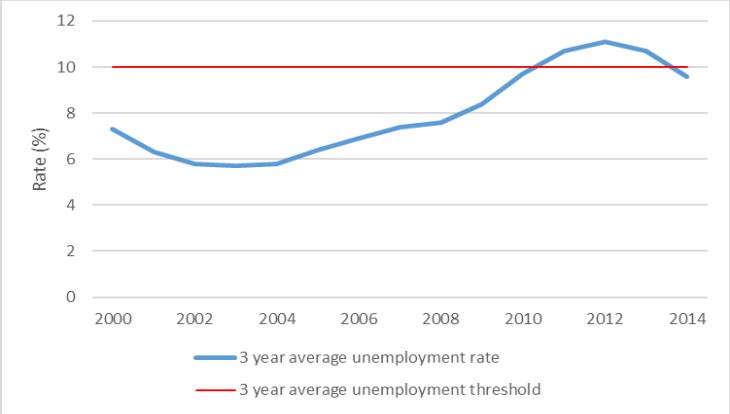
Figure 1.46: Private and public debt for Hungary



Labour Market

Hungary's unemployment levels remained stable between 6 and 8% for most the 2000s (see Figure 1.47). However, in the aftermath of the financial crisis the unemployment rate began to rise, and briefly exceeded the macroeconomic imbalance procedure threshold between 2010 and 2013. It has since fallen from peak levels.

Figure 1.47: 3-year average unemployment rate for Hungary

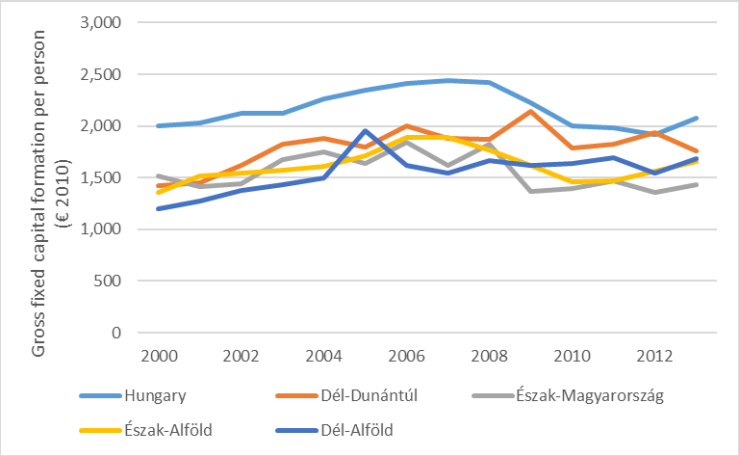


1.3.3 Regional structural issues

Investment

All the lagging regions of Hungary have experienced lower investment (measured by gross fixed capital formation per capita) than the Hungarian average (see Figure 1.48). However, since the financial crisis investment in the lagging regions has mostly stagnated average investment in Hungary has contracted. The consequence is the gap between many of the lagging regions and the national average has narrowed.

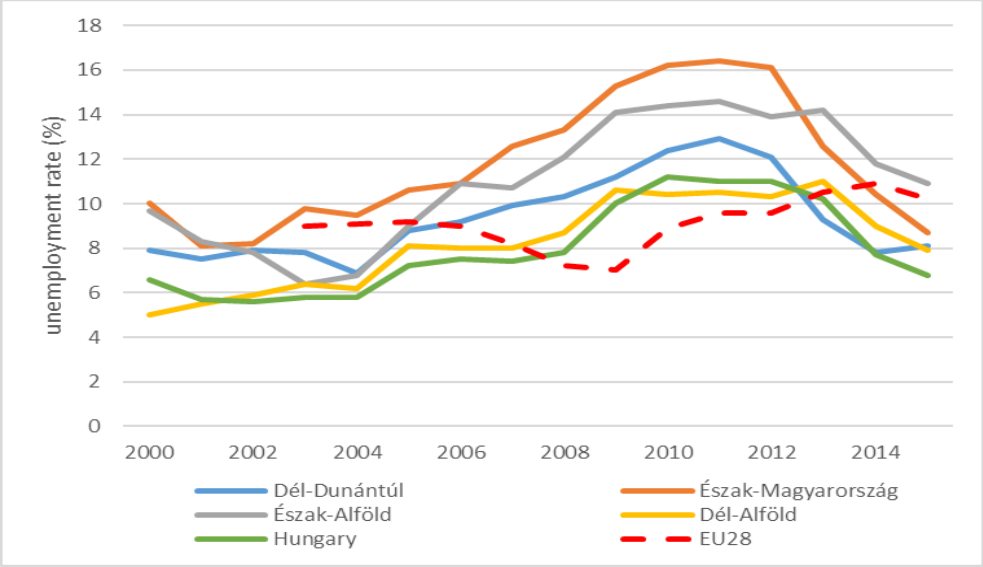
Figure 1.48: Regional gross fixed capital formation per capita in Hungary



Labour market

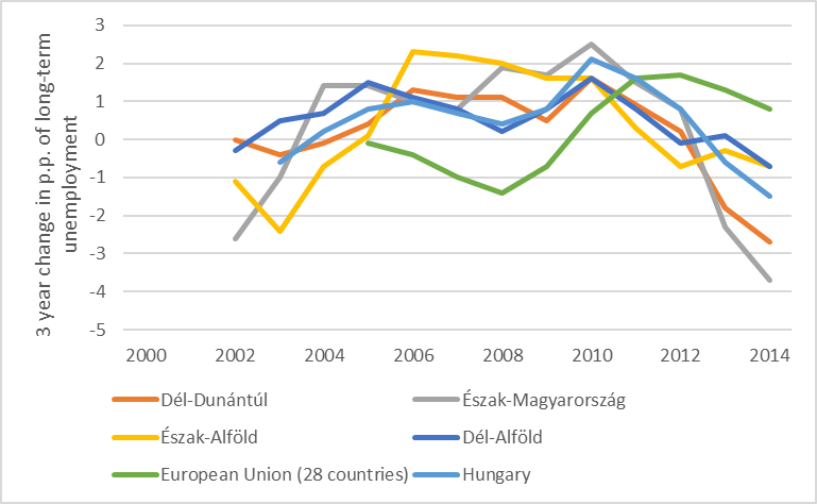
All of the lagging regions have unemployment rates above the Hungarian average throughout most of the period shown in Figure 1.49. In the early 2000s, unemployment in all the lagging regions was below 10%, but later in the decade, as Hungary's price competitiveness eroded somewhat, unemployment increased. The increase in unemployment was exacerbated by the economic downturn. Unemployment rates peaked around 2011 (reaching as high as 16%, in Észak-Magyarország) and have subsequently declined such that the Hungarian average was around 7% in 2015 and the highest unemployment rate in the lagging regions in Eszak-Alfold was 11%.

Figure 1.49: Regional unemployment rates in Hungary



Long periods of unemployment can result in a deterioration in human capital in for the form of workplace skills with negative consequences for productivity and economic growth. Long term unemployment rates in the lagging regions of Hungary had started to pick up before the economic downturn, although the crisis exacerbated the increase (see Figure 1.50). It was only in 2013 and 2014 that changes in the long-term unemployment rate started to turn negative in the lagging regions, although this compares favourably to the EU average where increases in long-term unemployment continued in these years.

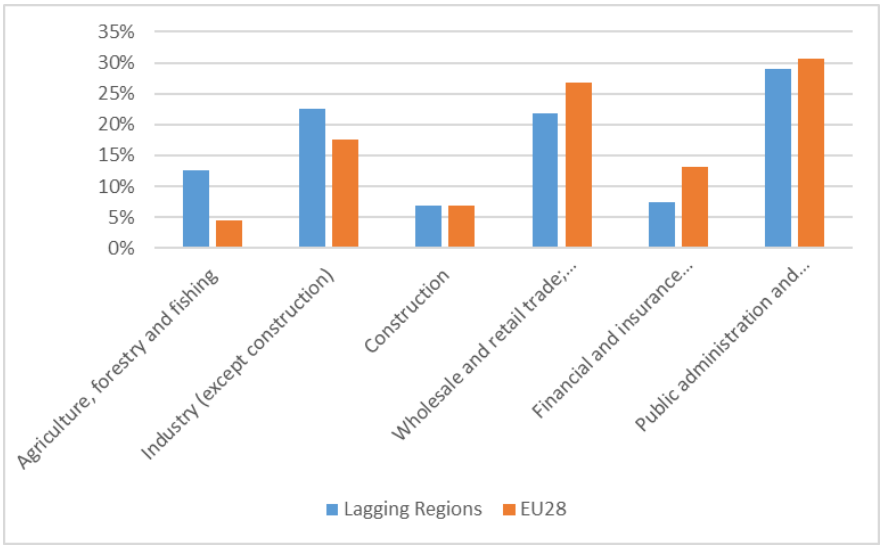
Figure 1.50: Regional changes in long-term unemployment rate in Hungary



Economic structure and innovation

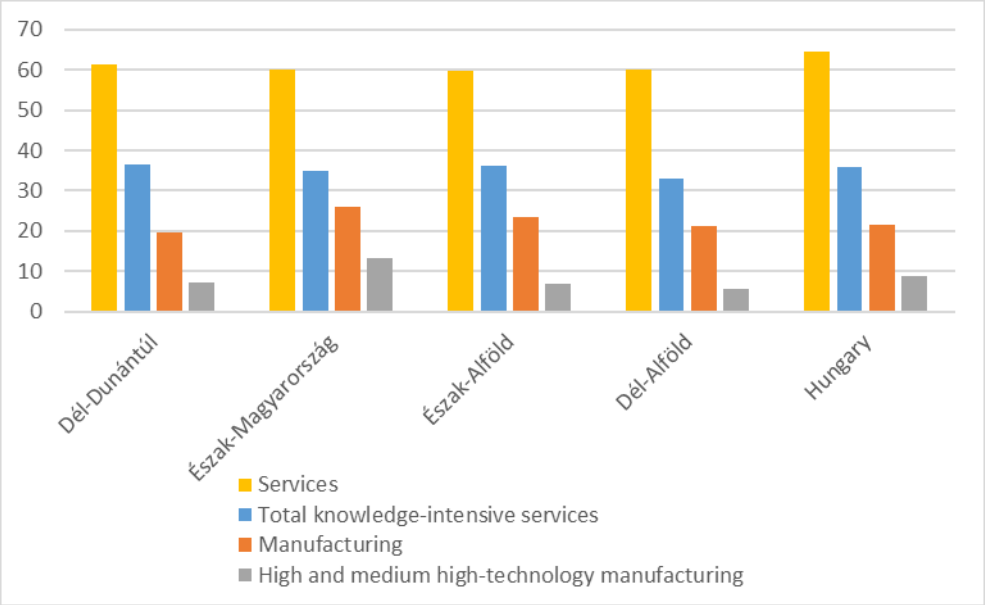
Hungary's lagging regions have a relatively high concentration of employment in agricultural and industry while lagging the EU average in terms of the share of the economy dedicated to services sectors (see Figure 1.51). This economic structure indicates an over reliance, particularly on agriculture rather than on sectors which are more likely to benefit from economic growth as a result of technological change.

Figure 1.51: Industry structure (share of employment) of lagging regions in Hungary



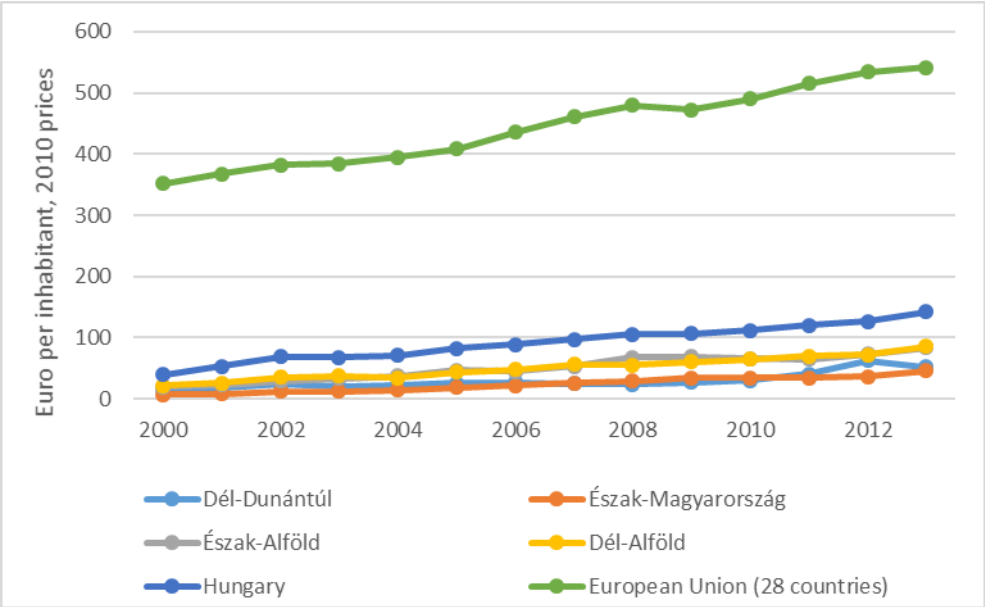
The share of services and manufacturing does not vary substancailly between the lagging reigons of Hungary and the Hungarian average (see Figure 1.52). However, many of the lagging regions have lower shares of high and medium high-technology manufacturing than the Hungarian average except for Észak-Magyarország. Among these lagging regions, the potential for technology-led growth is less than among other regions of Hungary.

Figure 1.52: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing in the Hungarian lagging regions, 2014



R&D expenditure is a measure of innovation input and as such gives an indication of investment in innovative activities. It can be seen in Figure 1.53 that Hungary lags the EU in the amount invested in R&D expenditure per inhabitant. Furthermore, all the lagging regions show lower levels of R&D expenditure than the Hungarian average indicating the challenges for future innovation driven economic growth in these regions. Nevertheless, the trajectory for all regions, the Hungarian average and the EU average is mostly growth in R&D expenditure indicating the disparity exists only relative terms of R&D expenditure rather than stagnant or declining R&D expenditure.

Figure 1.53: R&D expenditure per inhabitant for Hungarian lagging regions



Institutions

Institutions play an important role in the effectiveness of formulating and delivering government policy. In terms of quality of institutions, Hungary performs poorly according to the World Economic Forum which ranks Hungary's institution at 114th out of 138. The report notes the burden of government regulation (124th) and transparency (136th) as areas where the country performs particularly poorly. Furthermore, public trust in politicians is ranked at 97th further indicating the institutional problems in the effectiveness of government policy making.

With respect to the quality of educational intuitions and according to the World Economic Forum competitiveness index[9], Hungary is ranked 72nd out of 138 countries across the world for the quality of its higher education and training. However, the University of Szeged is the only Hungarian university in the global top 600 universities. Although the University of Szeged is in the lagging region Del-Alford of Hungary's top 4 universities, 2 are in Budapest[10].

[9] According to the World Economic Forum Competitiveness Report 2016-17 available here: http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

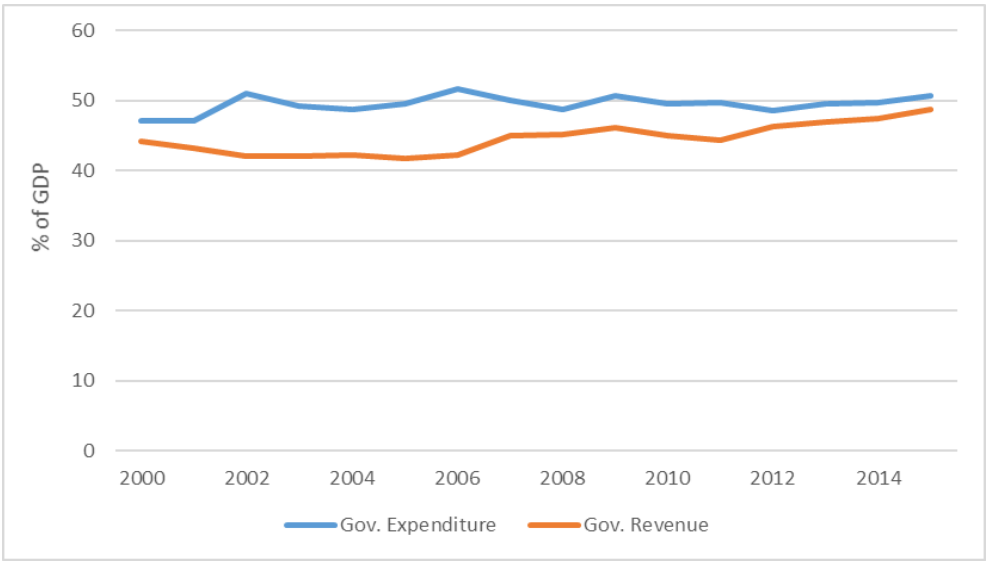
[10] See the QS university rankings here: http://www.topuniversities.com/qs-world-university-rankings

1.3.4 Stabilising and destabilising factors

Fiscal stimulus

Hungary's experience of fiscal policy throughout the 2000s has been mostly pro-cyclical (see Figure 1.54). Throughout the 2000s, government expenditure exceeded government revenue substantially in Hungary resulting in a persistent government deficit throughout the period while the economy expanded. However, in the immediate aftermath of the crisis, the government reduced government expenditure somewhat, consistent with pro-cyclical policies and likely exacerbating the economic contraction. More recently, a period of economic growth has coincided with increased government revenue helping to narrow the budget deficit more in line with counter-cyclical fiscal policies.

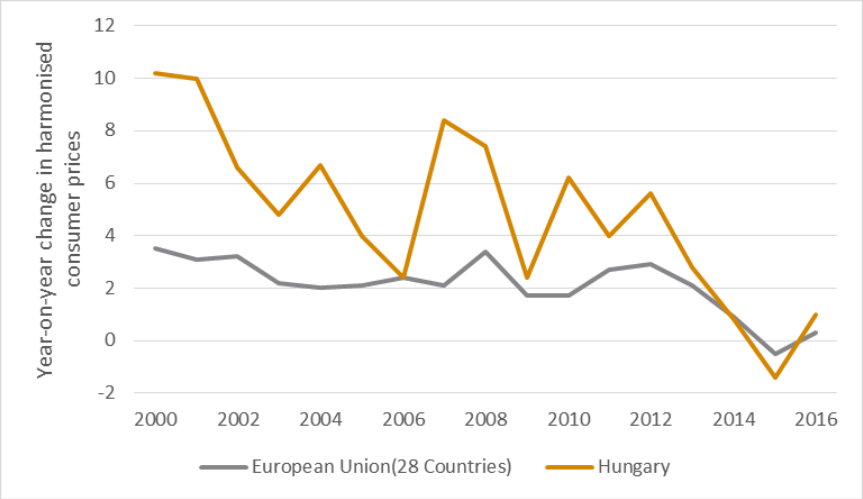
Figure 1.54: Government expenditure and revenue in Hungary



Competitiveness

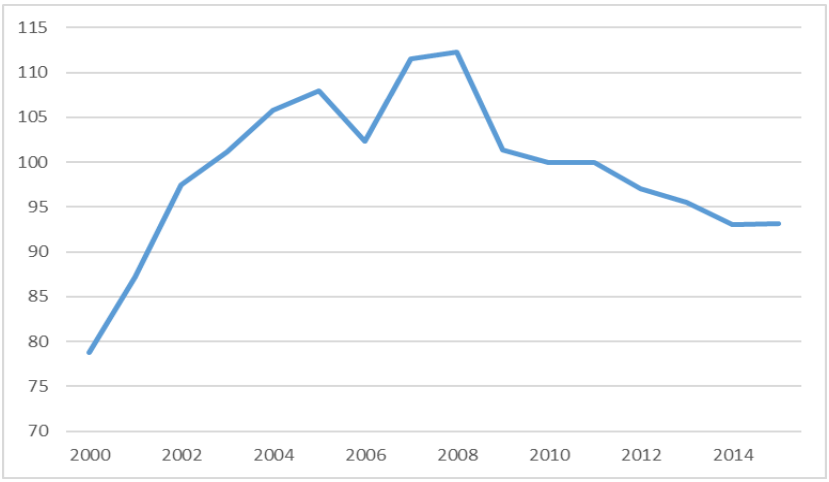
Before the financial crisis, Hungary experienced much higher growth in consumer prices than the EU (see Figure 1.55) indicating a loss of price competitiveness relative to the rest of the EU. However, this gap has begun to narrow to become more in line with the EU since 2013. Price growth since 2013 is consistent with the EU average and indicates that prices in Hungary relative to the EU are stabilising in recent years. Convergence in prices in more recent years imply that Hungary's price competitiveness relative to the rest of the EU may be beginning to stabilise, maintaining competitiveness, after a period of deterioration throughout the early 2000s.

Figure 1.55: Harmonised consumer prices in Hungary



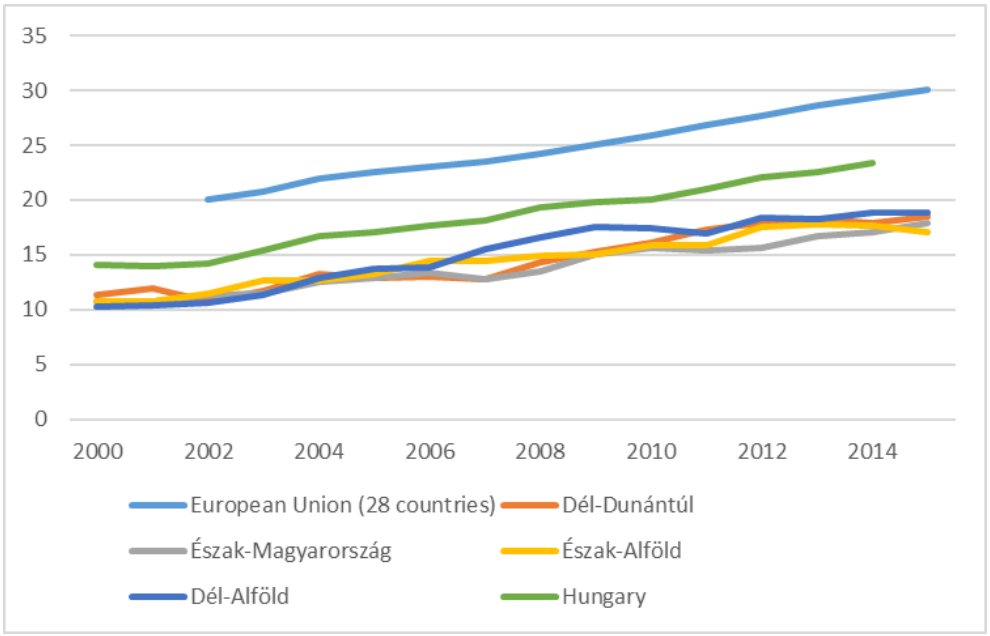
The Hungarian Forint somewhat reflects the developments of price competitiveness in Hungary. The forint, measured by the real effective exchange rate (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries) underwent a sharp strengthening through the first half of the 2000s (see Figure 1.56), concurrently with the price pressures identified above. In the period since the financial crisis the currency has weakened somewhat, which is likely to lead to an improvement in short-term competitiveness as the price of Hungarian exports fall and become more attractive to the rest of the world as is reflected in developments of Hungarian exports and imports.

Figure 1.56: Real effective exchange rate for Hungary



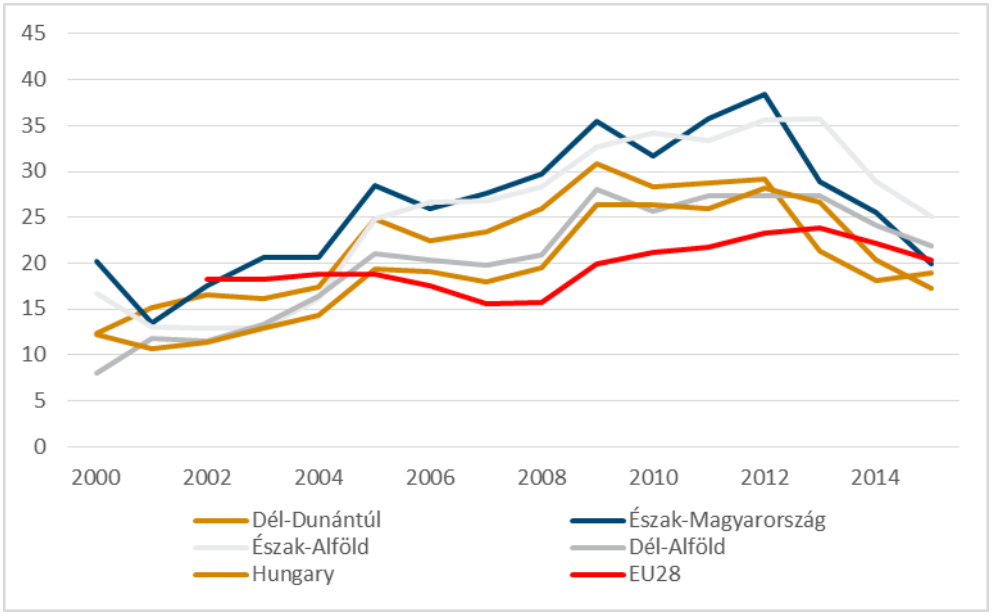
Increasing levels of tertiary education is necessary to for the lagging regions to increase productivity and benefit from technological change. However, the level of tertiary education in Hungary (see Figure 1.57) is below that of the EU and tertiary education levels in the lagging regions of Hungary are lower than that of Hungary as a whole. Despite the gap in the level of tertiary education levels among the lagging regions of Hungary, the trajectory of increasing levels of tertiary education over time is similar to that of Hungary and the EU averages. This indicates the disparity in education is improving in absolute terms and stable in relative terms even if the gap with the rest of Hungary and the EU is not narrowing.

Figure 1.57: Tertiary education among those aged 25-64 in the Hungarian lagging regions



The effects of increased education in Hungary and its lagging regions can be less effective if labour market opportunities do not exist for new graduates to apply the knowledge and skills gained in the labour market. Although Hungary and its lagging regions experienced youth unemployment rates below the EU average in the early 2000s, this began to change in 2005 when youth unemployment began to decrease in the EU but increased in Hungary (see Figure 1.58). Youth unemployment in Hungary continued to increase further over time but stabilised following the financial crisis before beginning to decline sharply in 2013 and 2014.

Figure 1.58: Youth unemployment rates in the Hungarian lagging regions



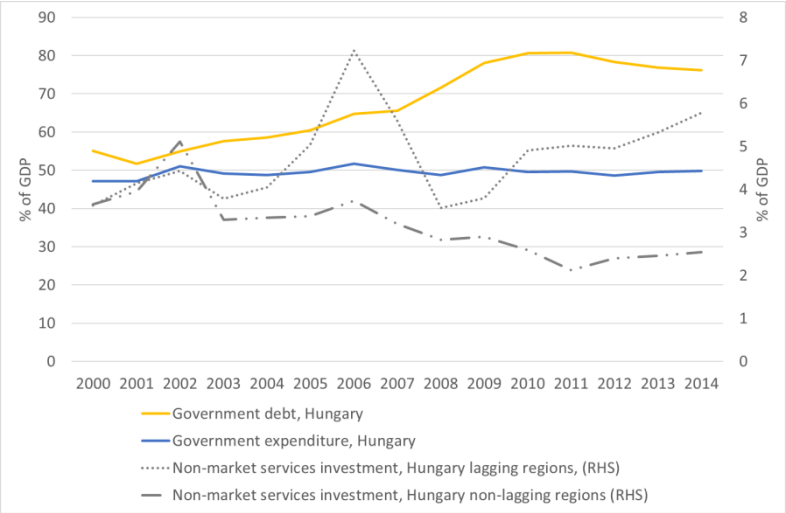
1.3.5 Transmission mechanisms

Public debt

Government debt (measured as a % of GDP) steadily rose through the 2000s (see Figure 1.59), although growth accelerated following the financial crisis. Government expenditure (also measured as a % of GDP) was broadly constant throughout 2000-14. However, the recession and subsequent increase in unemployment likely resulted in expenditure from automatic stabilisers (such as unemployment assistance payments) to rise while also putting downward pressure on tax revenues as GDP contracts. As a result, some forms of expenditure had to be reduced to prevent government expenditure rising. In Hungary, non-market services[11] investment (a proxy of public investment) was reduced, although by the time of the financial crisis it was only around 3% of GDP, less than it had been earlier in the decade.

[11] 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 1.59: Public debt, expenditure and investment in Hungary

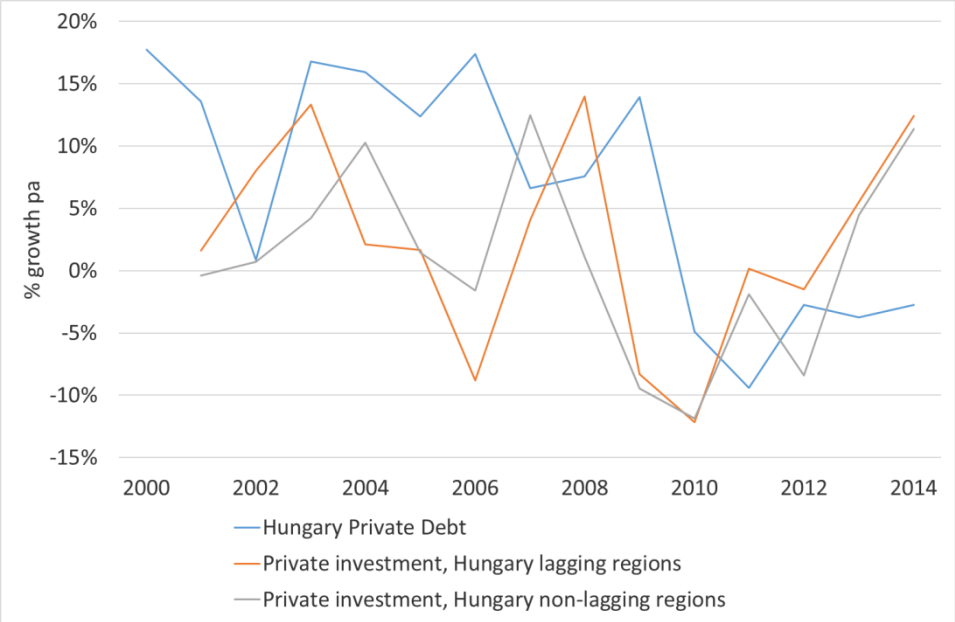


Private debt

Private debt in Hungary grew rapidly over the period 2000-09, demonstrating that while the financial crisis may have extended the accumulation of debt in the private sector it was the driver. Private sector investment[12] (proxied by calculating total investment less non-market services), while growing strongly over most of this period (with the notable exception of 2006 and the period immediately after the financial crisis in 2009-10), did not grow as rapidly as private debt and grew strongly over 2011-14 even though private debt was decreasing over this period (see Figure 1.60). While part of the difference between the two can be accounted for by the role of consumers in accumulating debt, the dislocation is great enough to suggest that there is another factor driving investment growth likely to be the continued attractiveness of Hungary to foreign investment.

[12] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

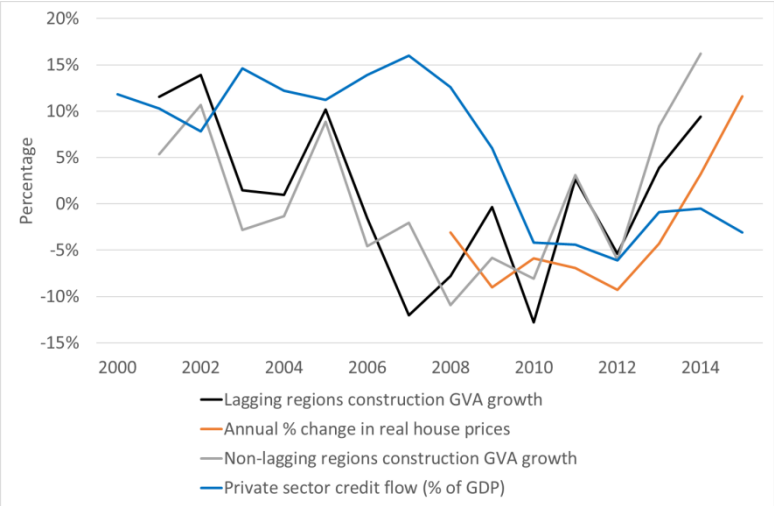
Figure 1.60: Private debt and investment in Hungary



Private credit

Private sector credit grew rapidly from 2000-08, when the financial and economic impact of the global financial crisis caused credit to contract. However, there is little evidence that the increase in credit was linked to growth of the housing market in Hungary. While construction activity grew strongly in some years over this period (primarily 2001, 2002 and 2005), it was otherwise weak suggesting that the private debt was not being spent on housing. This is further supported by the available data on house prices which shows that in the aftermath of the financial crisis prices fell for many years although in 2014-15 house prices started to rise rapidly, despite further contraction in private credit. (see Figure 1.61).

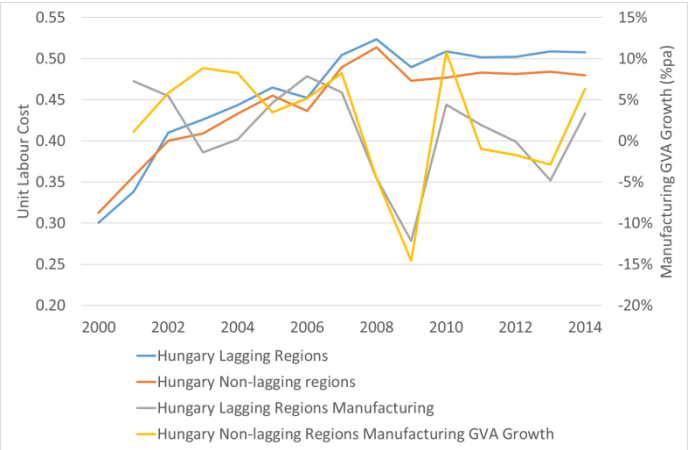
Figure 1.61: Private credit, house prices and construction GVA in Hungary



Regional competitiveness

Unit labour costs in both the lagging and non-lagging regions of Hungary rose steadily through much of the 2000s, although the financial crisis caused ULCs to stabilise subsequently (see Figure 1.62). There is no clear evidence of unit labour costs impacting upon the output of the manufacturing sector over the period from 2000. Despite increasing ULC, manufacturing GVA grew steadily before the crisis, and the subsequent stabilising in ULC did not prevent GVA in the manufacturing sector from declining post-crisis. This suggests that output of the manufacturing sector (taken to be a proxy of exports from the tradeable sectors) is influenced by macroeconomic trends such as the financial crisis and subsequent recession much more than changes in the competitiveness of the labour market in Hungary.

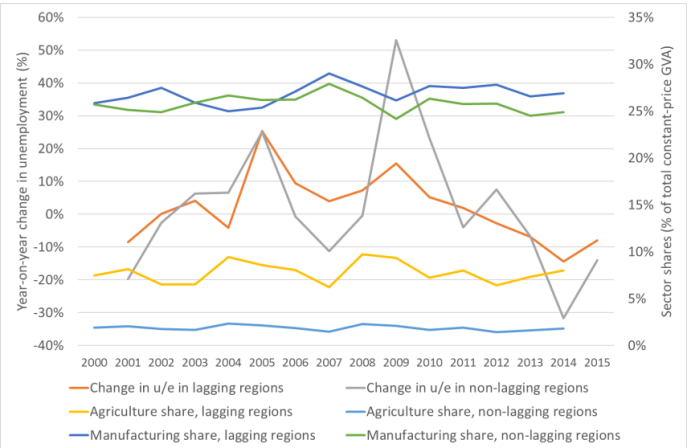
Figure 1.62: Unit labour cost and manufacturing GVA in Hungary



Labour market resilience

The primary difference in the sectoral structure of Hungary's lagging and non-lagging regions over 2000-14 was that agriculture was a much larger proportion of output in the lagging regions than the non-lagging regions, although shares of both agriculture and manufacturing were broadly stable throughout the period (Figure 1.63). Despite this, changes in unemployment differed substantially. While unemployment steadily increased in the lagging regions in the second half of the 2000s, unemployment started to decline from 2011 onwards. The profile of unemployment was much more volatile in the non-lagging regions as in 2009 unemployment sharply increased after declining in 2007 and 2008. Unemployment also fell by over 30% in the non-lagging regions in 2014 compared to a fall of 13% in the lagging regions.

Figure 1.63: Unemployment and sector share of output in Hungary



1.3.6 Conclusions

Hungary has experienced strong economic growth at a rate much faster than the EU average as it makes progress in converging to the average level of GDP per capita. However, pro-cyclical fiscal policies have resulting in increasing levels of public debt and likely exacerbated the economic downturn following the financial crisis. More recently, the emergence of more counter cyclical fiscal policies has helped to narrow the budget deficit as the economy continues to grow while prices and unit labour costs have not grown considerably which ensures Hungary's exports remain competitive.

Despite strong economic performance in converging to the EU average, future economic growth will likely be more limited by the disparity between levels of education and human capital in Hungary in comparison to the rest of the EU. R&D expenditure on innovative activities also falls behind in Hungary with a larger disparity for the lagging regions of Hungary. Furthermore, the economic structure of the lagging regions remains overly reliant on agriculture and many of the lagging regions have manufacturing sectors which are not sufficiently technology intensive enough to drive economic growth at least in comparison to the Hungarian average.

1.4 Italy

1.4.1 Introduction

The southern regions of Italy below Rome have for historical reasons long been considered culturally and economically distinct to the north of the county. The area of Italy south of Rome, including Sicily, region is commonly referred to as *Il Mezzogiorno.*

The lagging regions of Italy comprise the NUTS2 regions Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia and Sardegna (shown in red in Figure 1.64) corresponding to the south of Italy and NUTS1 regions of *Italia Sud* and *Italia Isolar*. Together, the lagging regions cover 41% of the landmass and 34% of the population of Italy.

The economic divide between the north and south of Italy has a long history extending from the formation of Italy itself in the 19th century. Previous efforts to develop the south of Italy to the level achieved in the north, most notably the *Cassa per il Messogiorno* (fund for the south) in the 1950s, have not successfully reduced this disparity.

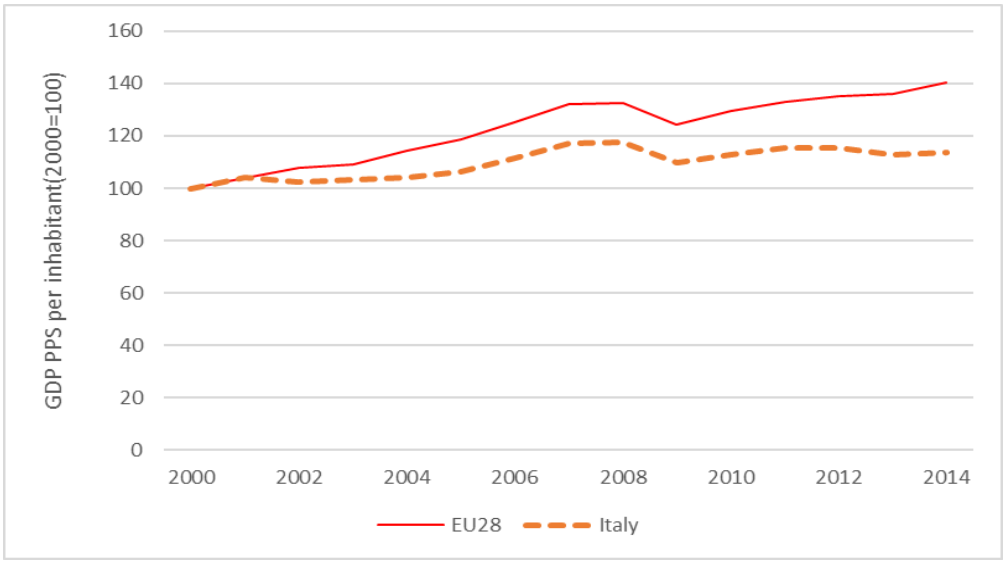
Figure 1.64: The NUTS2 regions of Italy

1.4.2 Fiscal and macroeconomic environment

GDP

Italy has the fourth largest economy in the EU, behind only France, Germany and the UK. However, Italy has experienced significant economic difficulties coinciding with the launch of the Euro, as problems with productivity have contributed to a deteriorating competitiveness in comparison to EU countries in addition to declining GDP per capita in real terms since 2007. Italy was already fallen behind the rates of GDP per capita growth experienced in the rest of the EU by the time of the financial crisis, and this was only exacerbated from 2008 onwards (see Figure 1.65). Explanations for low and negative growth rates in Italy include several persistent structural issues, including poor governance and low skill levels, which impact on the competitiveness of the Italian economy.

Figure 1.65: GDP per capita for Italy

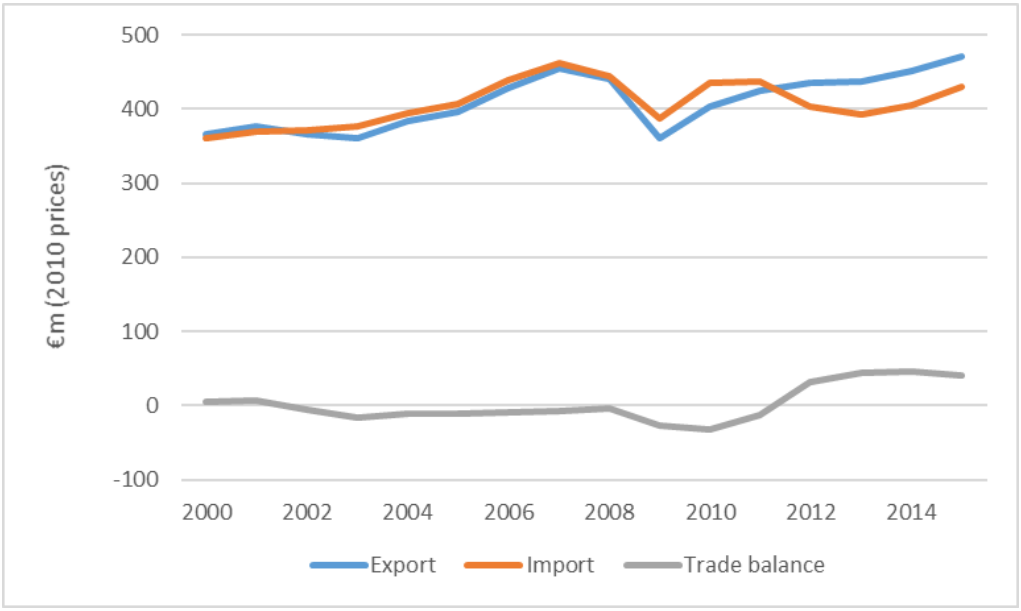


Trade

Italy has traditionally been a strong world exporter since the 1960s, with a reputation for high quality goods. Since the early 2000s, Italy has experienced a trade balance deficit with the largest deficit in 2008 and the years immediately afterwards but by 2014 the trade balance had returned to surplus.

Although Italian imports briefly fell in the immediate aftermath of the financial crisis, imports recovered promptly and by 2011 Italy was importing at pre-crisis levels (see Figure 1.66). Exports from Italy have not only recovered to pre-recession levels but have overtaken imports resulting in a current account surplus.

Figure 1.66: Imports and exports for Italy

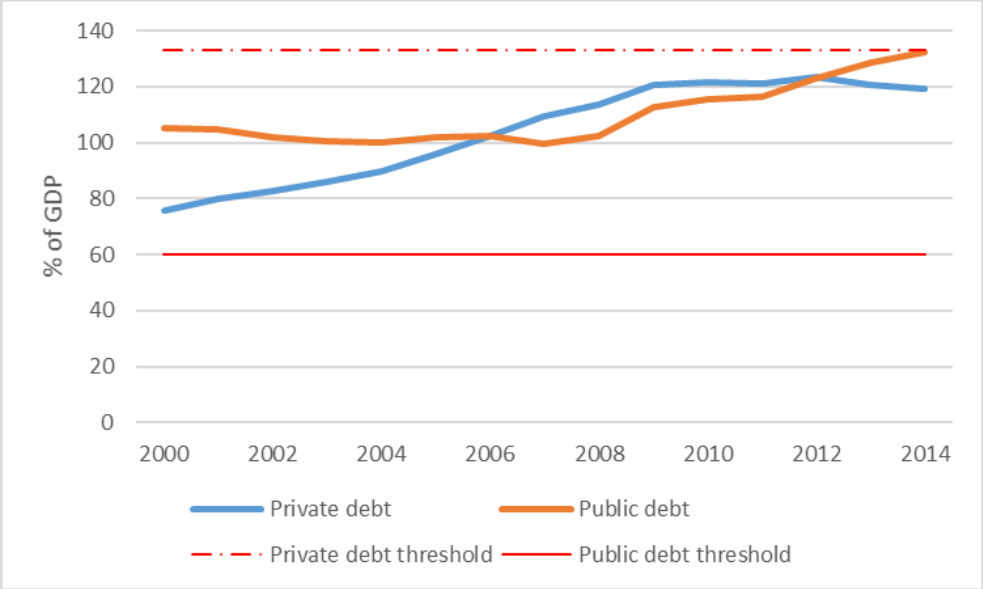


Debt

Italy's general government debt as a percentage of GDP has remained above 100% (far in excess of the 60% macroeconomic imbalance procedure threshold) throughout the 2000s to the present. However, public debt levels did reduce slightly in the early 2000s before increasing once again following the financial crisis (see Figure 1.67). The financial crisis which occurred in 2008 has seen 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. Private debt levels are similarly high, rising to 120% of GDP after the crisis but below the macroeconomic imbalance procedure threshold of 133%. Private debt levels also stabilised following the financial crisis and have begun to decrease in recent years.

High levels of public and private debt in Italy tend suppress household and government expenditure due to a desire to deleverage, but also limit the scope for private and public investment. A consequence of the financial crisis was a reduction in both private and public investment as the high levels of debt make investment less viable in terms of securing access to further financing or more costly to finance investment.

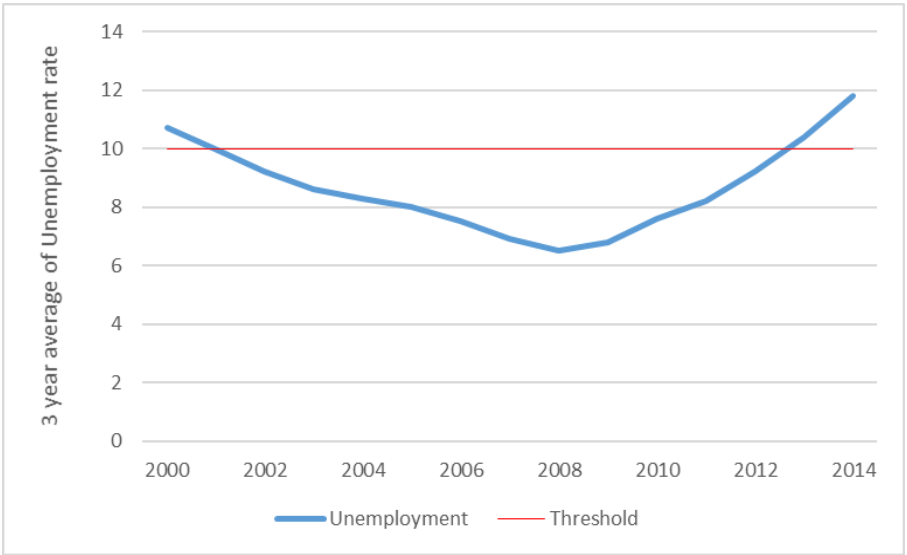
Figure 1.67: Private and public debt for Italy



Labour Market

Italy's unemployment rate declined steadily in the growth period between 2000 and 2008, falling below the 10% MIP threshold. However, since the financial crisis the unemployment rate has increased again, and reached its highest level in the past two decades. By 2014, it was at a level of just under 12% (see Figure 1.68).

Figure 1.68: 3-year average unemployment rate for Italy

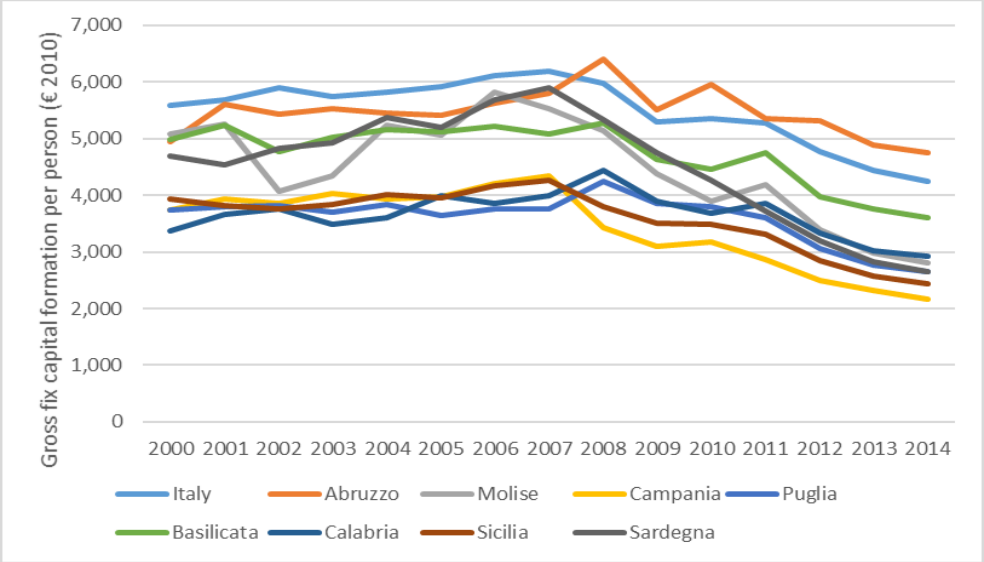


1.4.3 Regional structural issues

Investment

Investment in Italy (measured by gross fixed capital formation per capita) had remained relatively constant with throughout the 2000s up until the financial crisis (see Figure 1.69). Following the financial crisis investment has declined in Italy. The pattern is also reflected throughout the lagging regions. However, within the lagging regions two tiers seem to exist, those lagging regions which experienced investment far below the national average and those lagging regions just below but close to the national average. Following the financial crisis these two tiers have tended to disperse somewhat as investment fell throughout Italy. The exception to the lagging regions is the Abruzzo region which exceeds the national average investment per capita ever since the financial crisis. The widespread decline in investment in Italy presents a challenge to future and long-term economic growth unless investment levels recover.

Figure 1.69: Regional gross fixed capital formation per capita in Italy



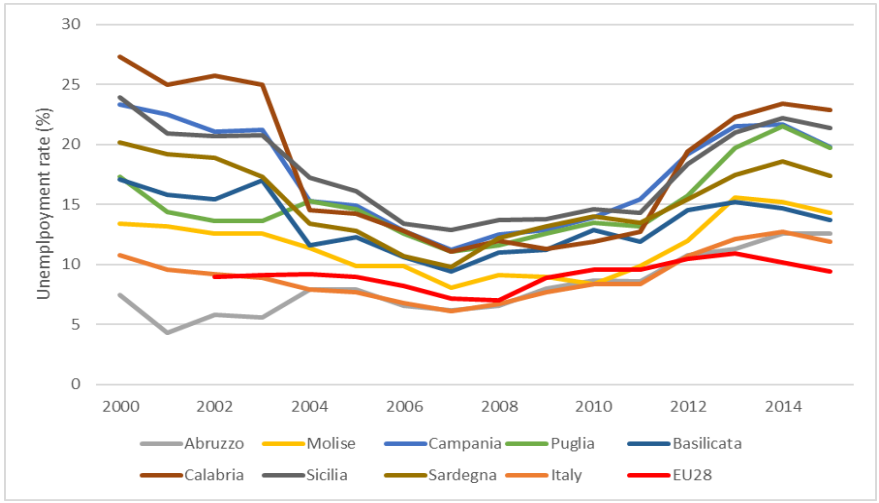
Labour market

Unemployment in Italy follows the EU average although since 2012, the unemployment rate in Italy has remained high while the unemployment rate in the EU has begun to fall. The national unemployment rate masks the large divergence between lagging and non-lagging regions with all the lagging regions, with the exception of Abruzzo, exceeding the national average. These differences in unemployment rates appear relatively constant over time, with again the exception of Abruzzo which went from being a region with unemployment below the national average in 2000 to slightly above the national average in 2014.

Unemployment can damage economic prospects particularly if it is sustained over time such that unemployed people begin to lose their workplace skills and hence their human capital deteriorates. Changes in the long-term unemployment rate over time show a period during the early 2000s when many lagging regions experienced greater

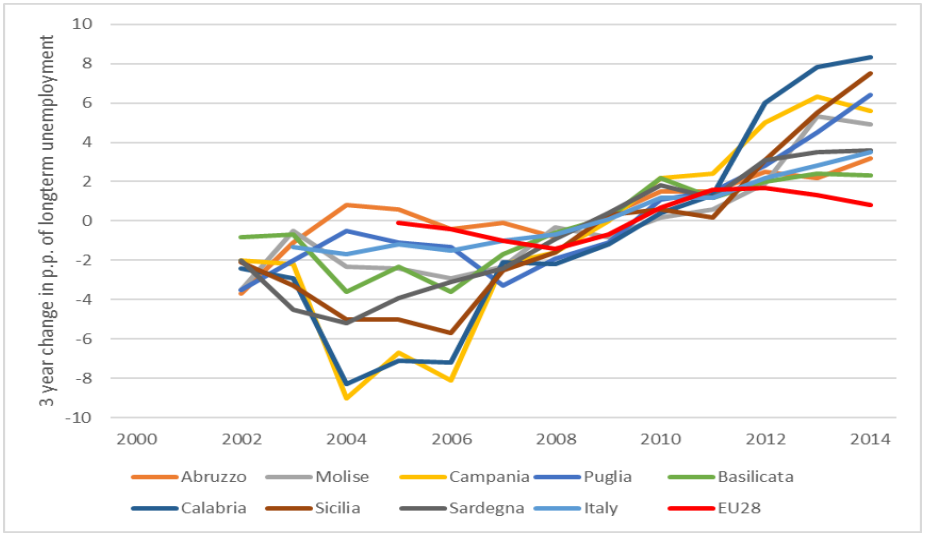
falls in the long-term unemployment than Italy as a whole while Italy itself matched the EU average.

Figure 1.70: Regional unemployment rates in Italy



However, following the financial crisis, the lagging regions more closely followed the national average before exceeding the national average from 2012 onwards while across the EU the long-term unemployment rate began to decline. These developments indicate that in the future long-term economic growth in Italy, and in particular the lagging regions of Italy, may be constrained by loss of human capital as a result of long-term unemployment difficulties.

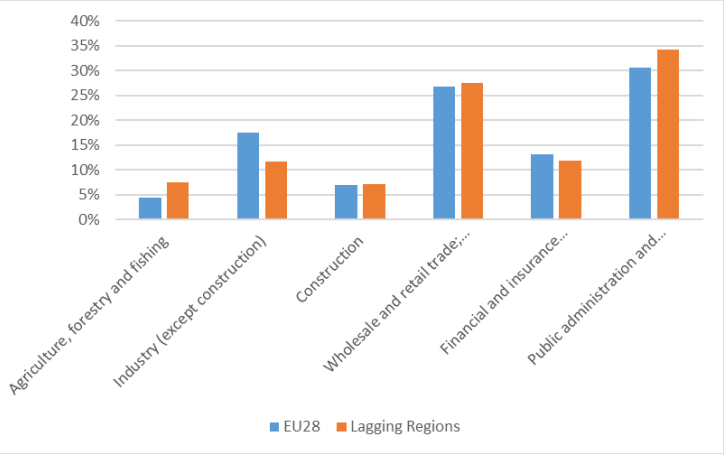
Figure 1.71: Regional changes in long-term unemployment rate in Italy



Economic structure and innovation

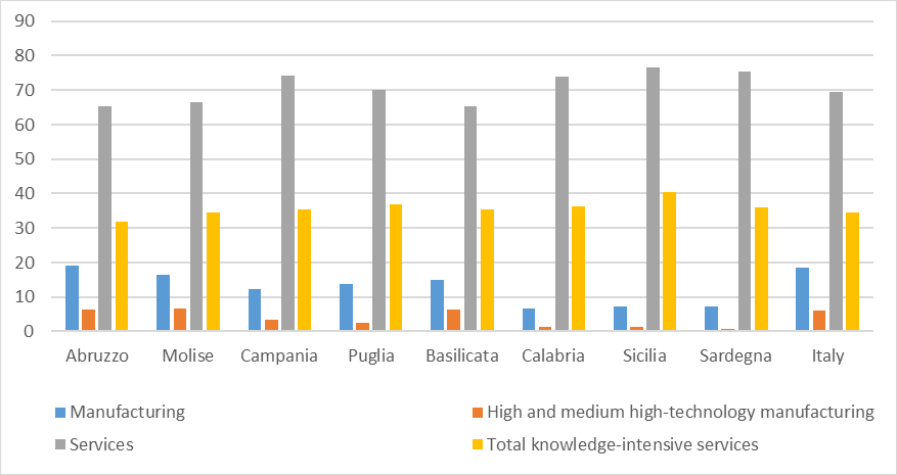
The economic structure of regional economies can play a role in those regions ability to achieve economic growth. If regional economies have a relatively larger share of their economy devoted to sectors which are not engaged in substantial technology or knowledge intensive activities, these regions will be less likely to generate substantial economic growth in the future. For instance, the lagging regions of Italy are structurally more focused on economic activities in the agriculture, forestry and fishing sector rather than industry which is a knowledge intensive sector with greater economic growth prospects derived from innovative activities (see Figure 1.72).

Figure 1.72: Industry structure (share of employment) of lagging regions in Italy, 2011



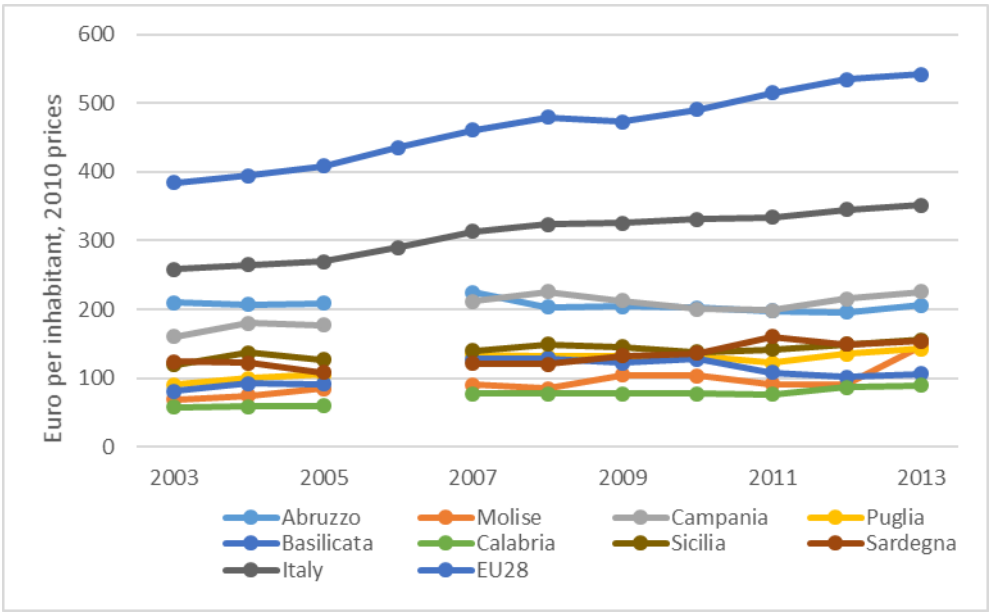
The challenges to economic growth are further illustrated where the manufacturing and services sectors are sub-divided into high and medium high-technology and knowledge-intensive activities respectively. In many of the lagging regions the manufacturing sectors have low levels of technology and knowledge intensity although some lagging regions such as Abruzzo and Molise show evidence of high-technology in manufacturing greater than the Italian average. On the other hand, many lagging regions at least match the Italian average for knowledge intensity in services which suggests that the lagging regions of Italy are better positioned to take advantage of growing knowledge intensity and economic growth in services than in manufacturing.

Figure 1.73: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing among Italian lagging regions, 2014



R&D expenditure (per capita) is significantly lower in the lagging regions of Italy than in Italy as a whole or the EU average (see Figure 1.74). Furthermore, in the lagging regions of Italy R&D expenditure has remained mostly constant over time whereas in Italy as a whole R&D expenditure has been steadily increasing over time. R&D expenditure not only provides a source of high quality employment opportunities in the short to medium term but also impacts on innovation and economic growth over the medium and long-term.

Figure 1.74: R&D expenditure per inhabitant for Italian lagging regions



Institutions

Italy has several major structural issues which are most prominent in the less developed southern region of the country. According to the World Economic Forum[13], Italy's institutions are ranked only 103rd out of 138th which is indicative of the governance issues affecting economic growth. For instance, for the burden of government regulation, Italy is ranked 136th. Southern Italy is also a location historically troubled by corruption and organised crime. The World Economic Forum ranks Italy 122nd for organised crime.

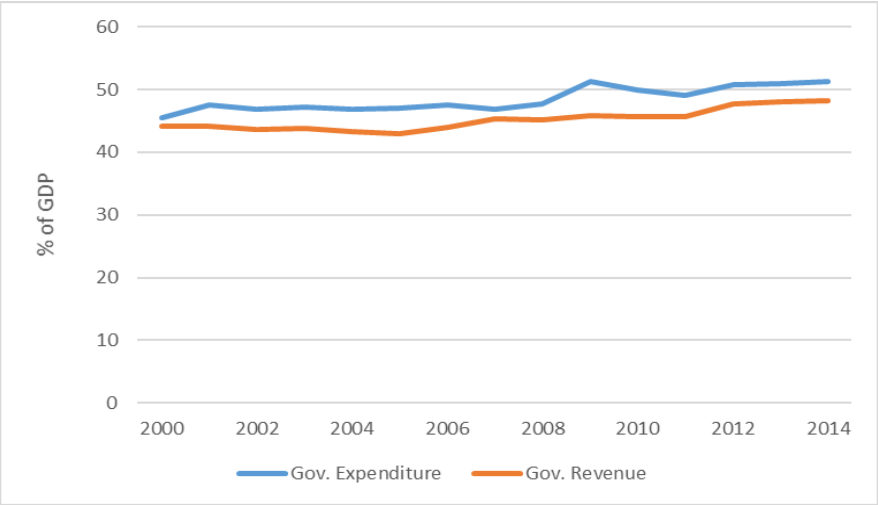
Also among the challenges to economic growth is that of human capital in Italy and it's lagging regions which is reflected in the number of top 600 world universities in the Italian NUTS1 regions (according to QS[14]). Although there are 14 high ranking universities in Italy as a whole, only one of these is in one of the lagging regions: The University of Naples.

1.4.4 Stabilising and destabilising factors

Fiscal stimulus

Italy has run persistent budget deficits over time with government expenditure exceeding government revenues (see Figure 1.75). In 2007, the gap between government expenditure and revenue narrowed but the financial crisis in 2008 necessitated fiscal stimulus through budget deficit expenditure with the consequence that the gap between government expenditure and revenue grew larger again, peaking in 2009. Since 2009, the government has made efforts to reduce or maintain government expenditure as a result of increasing debt levels while some recovery occurred in government revenue although slow and economic growth not returned.

Figure 1.75: Government expenditure and revenue in Italy

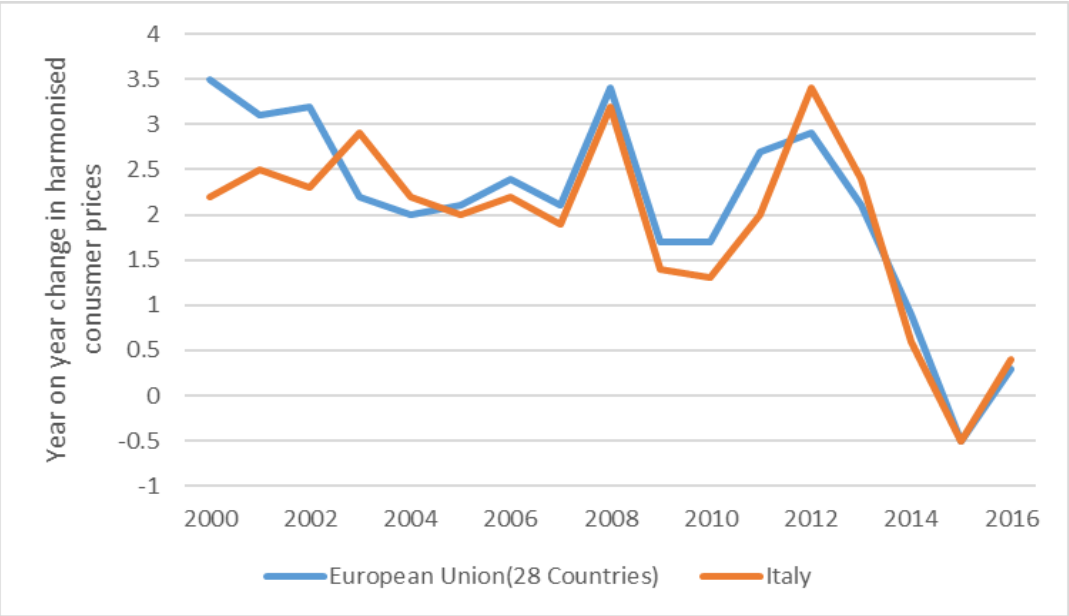


[13] http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf
[14] http://www.topuniversities.com/university-rankings

Competitiveness

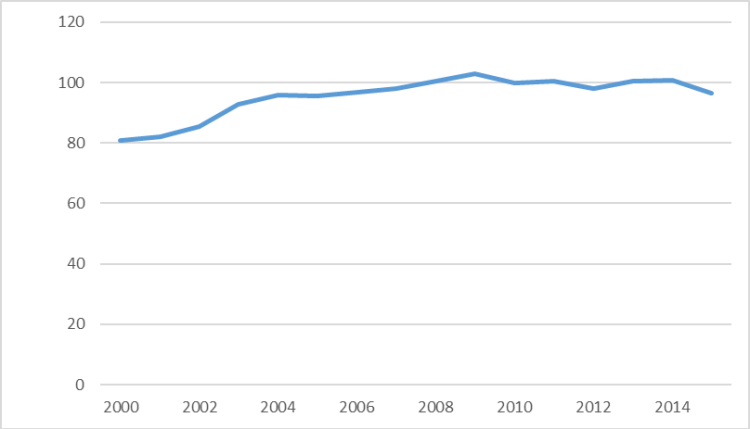
Harmonised consumer prices in Italy showed divergence from the EU throughout much of the early 2000s with prices initially lower in Italy which increased Italy's relative competitiveness to the EU (see Figure 1.76). In the years before the financial crisis, however, Italy slightly exceeded the EU28 price levels indicating a loss of relative competitiveness within the EU. This loss of competitiveness was quickly recovered in the years following the financial crisis and has closely converged to the EU average in more recent years where prices briefly deflated in 2015.

Figure 1.76: Harmonised consumer prices in Italy



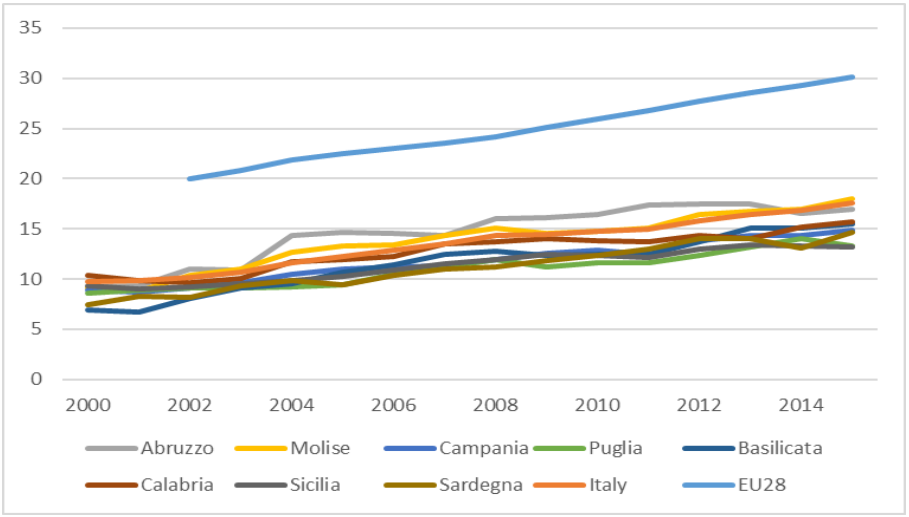
Price developments affect international competitiveness through the real effective exchange rate (which is deflated using unit labour costs, trade weighted and relative to 37 industrialised countries). In the early 2000s when prices in Italy were increasing at a slower pace than the EU the real effective exchange rate was lower making Italian exports more competitive. However, in the latter half of the 2000s to the present Italian price levels have converged to the EU average and the real effective exchange rate (and thus competitiveness) has remained stable.

Figure 1.77: Real effective exchange rate for Italy



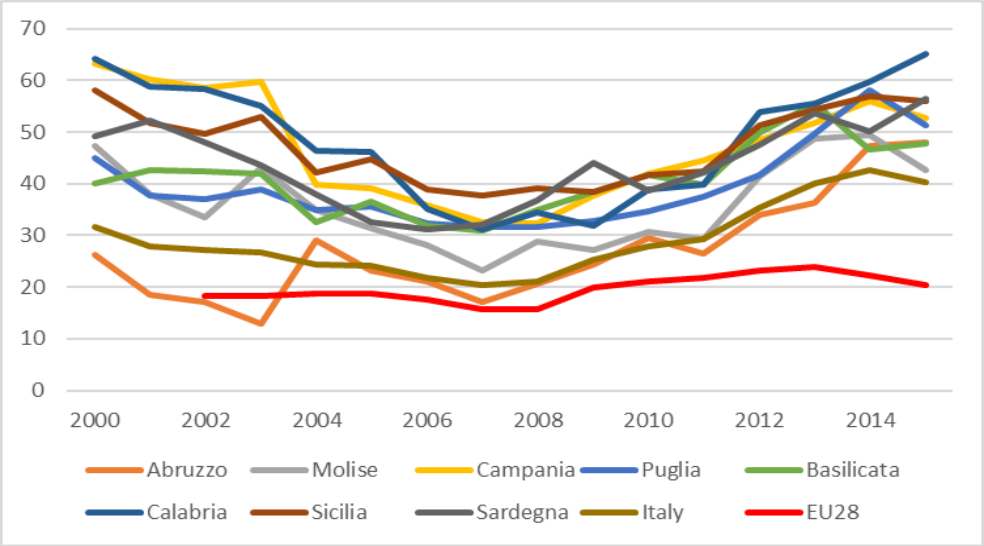
One method of increasing competitiveness is through increasing the productivity of the labour force. Increasing productivity relies on the ability of employees to acquire and apply knowledge in the form of human capital. Levels of third level education are one measure of human capital and by this measure Italy substantially lags behind the rest of the EU (see Figure 1.78). Furthermore, the lagging regions of Italy have lower levels of tertiary education than Italy as whole with some regions such as Abruzzo falling below the national average after many years of education levels above the national average. This indicates a lack of developed human capital to drive productivity and thus economic growth. Nevertheless, the trajectory of third level education is positive and in line with EU developments.

Figure 1.78: Tertiary education among those aged 25 to 64 in the Italian lagging regions



The benefits of higher education levels can be partially lost if that education is not applied in the labour market. Youth unemployment rates thus give an insight into how younger people leaving education and entering the labour market have found work to apply their human capital to economic activities. By this measure, it can be seen that Italy lags behind the EU in terms of human capital (see Figure 1.79). Furthermore, the lagging regions of Italy underperform the rest of Italy with some of the lagging regions substantially underperforming the rest of Italy. This would seem to indicate that the increasing levels of human capital evident in Italy is likely to be less effective for economic growth in regions which experience high levels of youth unemployment which is the case in Italy as a whole but particularly in the lagging regions of Italy.

Figure 1.79: Youth unemployment rates in Italian lagging regions



1.4.5 Transmission mechanisms

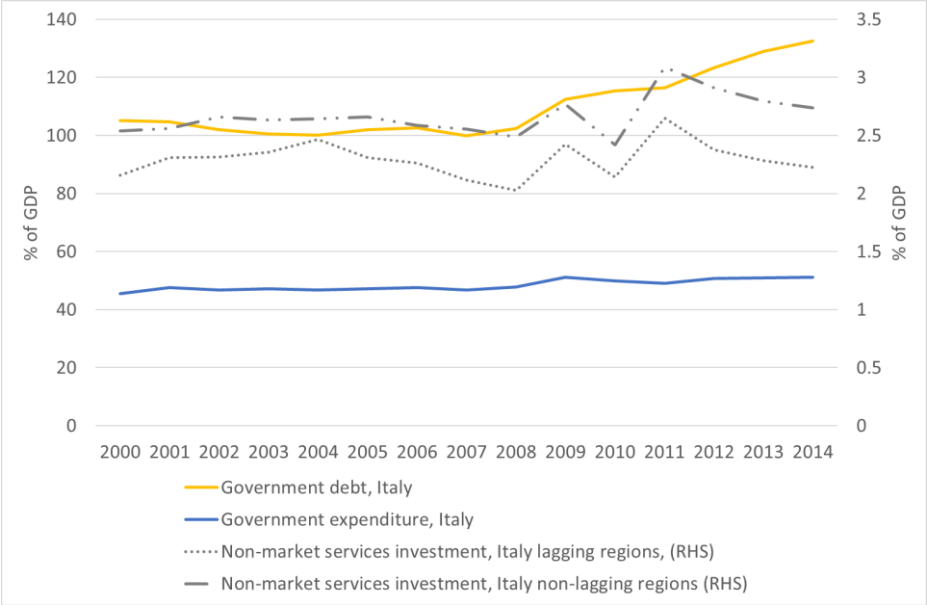
Public debt

High government debt constrains the ability of the Italian government to counteract economic downturns with economic stimulus. As can be seen in Figure 1.80, government debt in Italy consistently exceeded the MIP threshold of 60% of GDP during the 2000-14 period, remaining close to 100% until 2007 after which there was a sustained increase in the debt-to-GDP ratio. This was likely due to increased spending in response to the economic downturn.

On the other hand, government expenditure relative to GDP has remained mostly stable, only increasing to around 50% of GDP after 2008 compared to 47% before. Again, a considerable part of this increased spending was in response to the structural shock that was the 2008 economic downturn.

Figure 1.80 also shows that non-market services[15] investment[16] (as a % of GDP and a proxy of public investment) in the lagging regions was consistently below investment in non-lagging regions over the 200-14 period. In fact, after 2004, investment in the lagging regions was declining before 2008. In addition, non-market services investment in both lagging and non-lagging regions became more volatile after 2008, with a small upward trend since 2008. To the extent that investment underpins (and bolsters) long-term economic growth, increasing investment levels should have a positive effect on future GDP growth.

Figure 1.80: Public debt, expenditure and investment in Italy



Private debt

Overall, private debt growth in Italy slowed between 2000 and 2014. Private debt grew at an average of about 7% annually up to 2007, then slowed down thereafter. In fact, private debt growth was zero in 2011 and negative thereafter, indicating overall deleveraging. This deleveraging process likely impacted investment and consumption with negative consequences for economic growth.

Evidence of this effect is suggested by the close development of debt growth and private investment growth[17] (proxied by calculating total investment less non-market services) in both lagging and non-lagging regions (see Figure 1.81). Investment

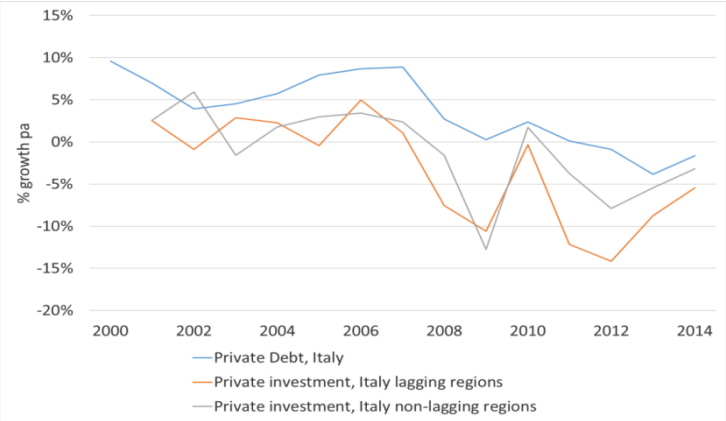
[15] Public investment data is unavailable on a regional basis from Eurostat so non-market services data was used to proxy public investment. Non-market investment data consists of NACE Rev. 2 sectors U-O and includes investment relating to public administration and defence; compulsory social security;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

[16] Data on investment in non-market services is a proxy for investment from the public sector.

[17] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

growth in both lagging and non-lagging regions slowed and turned negative after 2007. However, the lagging regions experienced a deeper slowdown in 2010 and a slower recovery in comparison to the non-lagging regions.

Figure 1.81: Private debt and investment in Italy



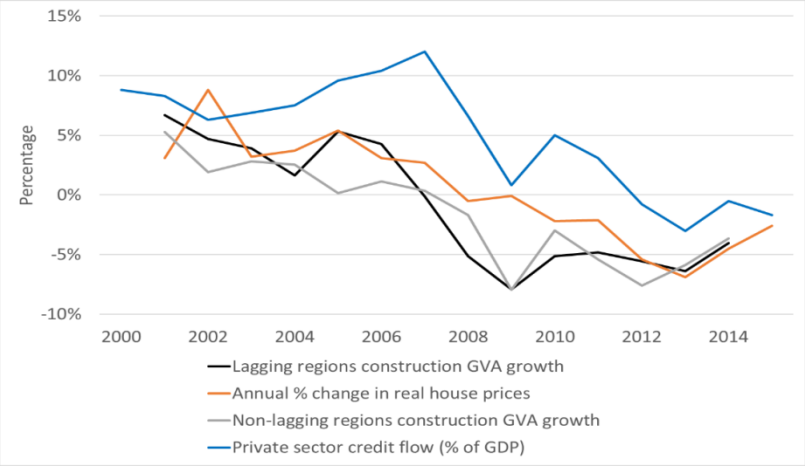
Private credit

Construction GVA grew similarly between lagging and non-lagging regions over the period 2000-14 (see Figure 1.82). Both lagging and non-lagging regions experienced slowing GVA growth in construction which turned negative after 2007. Although negative since 2008, the contraction of economic activity in construction has since slowed and appears headed towards positive growth territory.

As expected the growth pattern of real house prices closely follows that of construction GVA, with real house prices also contracting from 2008 but slowing the contraction from 2013.

The ratio of private sector credit flow to GDP doubled to 12% between 2002 and 2007 before falling under 1% in 2009. This sharp downward correction is in line with the slowdown in house prices and construction GVA in lagging regions.

Figure 1.82: Private credit, house prices and construction GVA in Italy



Access to finance

Firms in Italian lagging regions (both by size, see Table 1.2 and sector, see Table 1.2) face higher interest rates when compared to firms in non-lagging regions. 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.

Table 1.2: Bank Interest rates in 2015 by enterprise size in Italy

Region /Country Title	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.

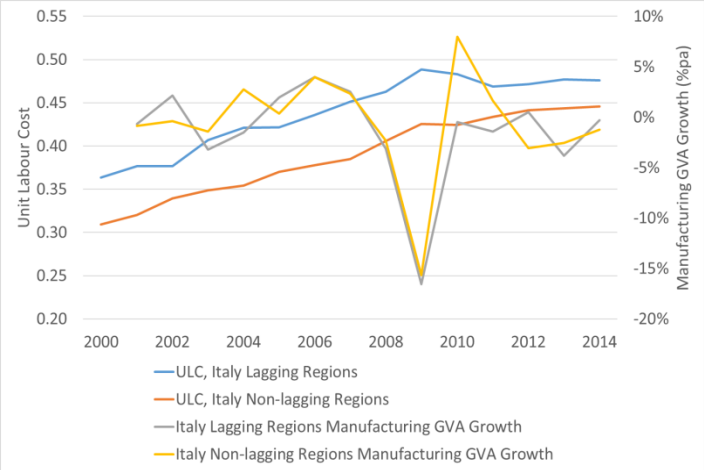
Table 1.3: Bank Interest rates in 2015 by sector in Italy

	Interest rates			Interest rate differential from national average		
Region /Country Title	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**	**-**	**-**	**-**

Regional competitiveness

Unit labour costs (ULC), a measure of competitiveness, rose steadily between 2000 and 2009 (see Figure 1.83), in both lagging and non-lagging regions but have since fallen slightly in lagging regions and only risen slightly in non-lagging regions. The 2000-09 period was characterised by a constant ULC differential between lagging and non-lagging regions in Italy compared to a narrowing gap after 2009. While unit labour costs in lagging regions have consistently been above those in non-lagging regions, the post 2009 convergence might reflect higher unemployment in lagging regions and therefore less upper wage pressure. Incidentally, manufacturing GVA had a better initial recovery in non-lagging regions after 2009.

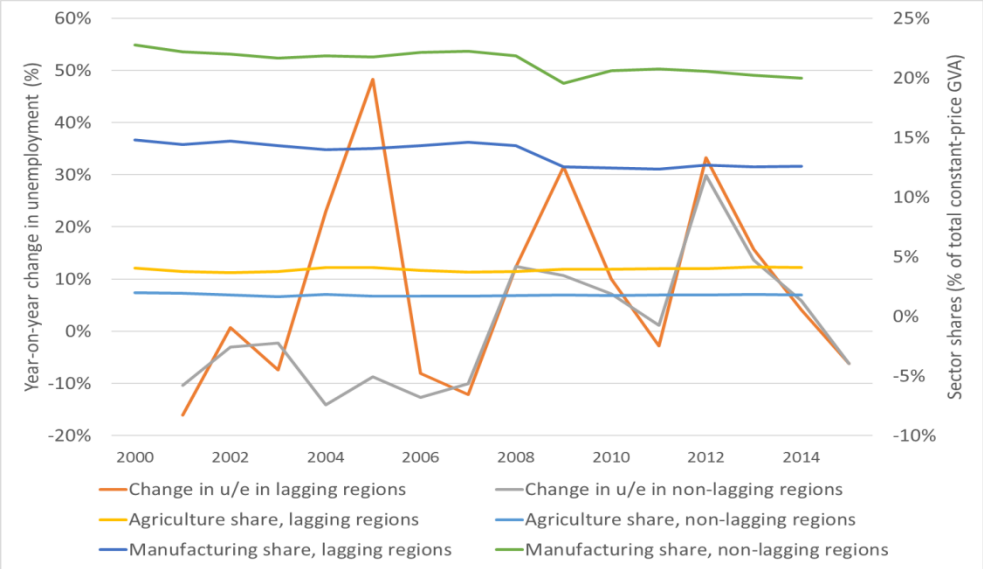
Figure 1.83: Unit labour cost and manufacturing GVA in Italy



Labour market resilience

Italy demonstrates 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 (see Figure 1.84). A large dependence on agricultural indicates a region may be less resilient to changes in the economy. This suggests that the non-lagging regions should have greater resilience to economic shocks, and is supported by the fact that unemployment in lagging regions rose much more rapidly than in non-lagging regions.

Figure 1.84: Unemployment vs sector share of output in Italy



1.4.6 Conclusions

Italy has experienced zero or negative GDP growth since the launch of the euro, as its ongoing productivity issues have led to a loss of competitiveness relative to the rest of the EU and a declining GDP per capita in real terms since 2007. The south of Italy in particular suffers from significant long-term structural problems, including poor governance, organised crime, and low education levels. High costs to finance in the lagging regions have also contributed to declining levels of investment. The result has been high unemployment rates, especially for young people which increases the challenges to developing and retaining human capital to drive economic growth in Italy's lagging regions.

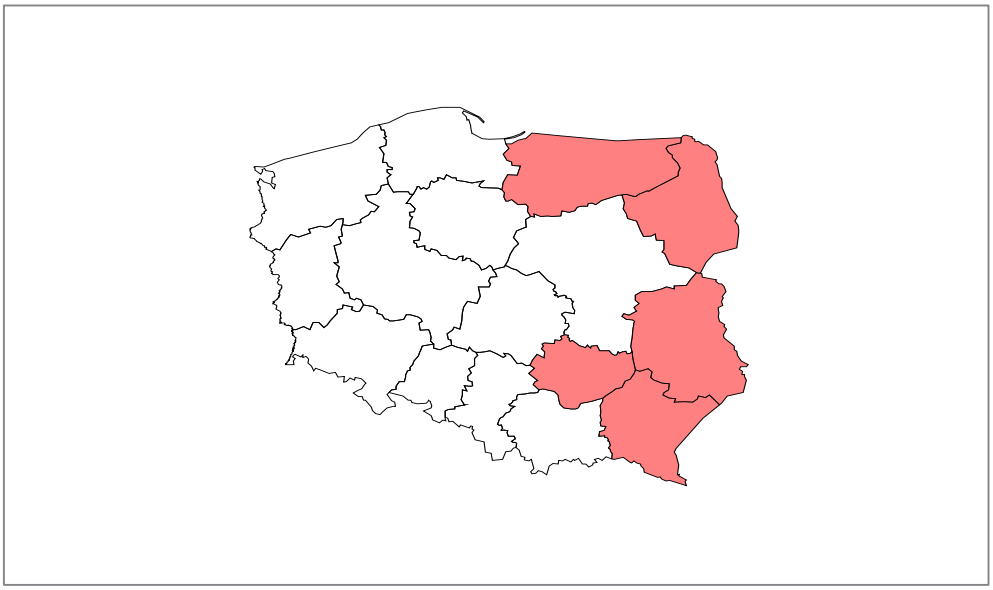
1.5 Poland

1.5.1 Introduction

Poland is the sixth-largest EU Member State by population, with 38 million inhabitants in 2015. The five lagging regions of Poland are in the east of the country, on or near the borders to Ukraine, Belarus, Lithuania and Kaliningrad Oblast (see Figure 0–1). They are Lubelskie (PL31), Podkarpackie (PL32), Świętokrzyskie (PL33), Podlaskie (PL34) and Warmińsko -Mazurskie (PL62). These areas consist of 21% of the total population of Poland and three cities with a population of over 200,000, although Lublin, the largest, has a population of only 350,000 (making it the 9th-largest city in the country).

The disparity in economic development between the lagging regions and the rest of Poland can be traced back to the partitions of Poland in the late 18th century, when the country was split between the Russian Empire, the Kingdom of Prussia and Habsburg Austria. The lagging regions lie in the areas that were claimed by Russia and Austria, in the east of Poland. This has led to cultural, political and economic differences between the west and east of the country (known as Polska "A" and "B" respectively). The east of Poland (typically defined as the area east of the Vistuala river) has seen slower economic growth than the west of the country for many years.

Figure 1.85: The NUTS2 regions of Poland

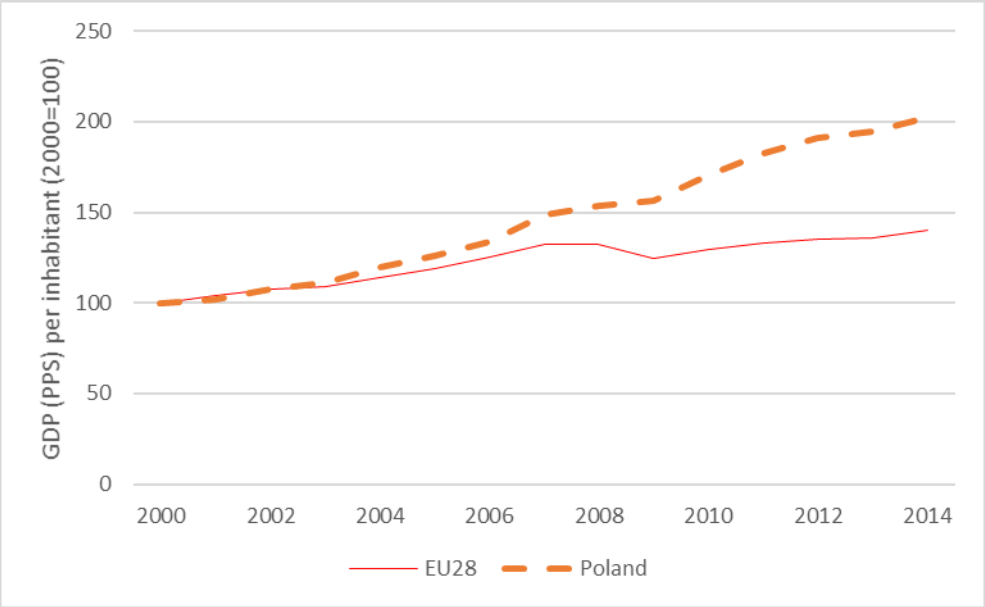


1.5.2 Fiscal and macroeconomic environment

GDP

GDP per capita growth in Poland has exceeded the EU average over time but especially since the financial crisis. Following the financial crisis GDP per capita contracted across the EU but continued to grow in Poland with the pace of growth exceeding the pace of economic expansion before the financial crisis (see Figure 1.86).

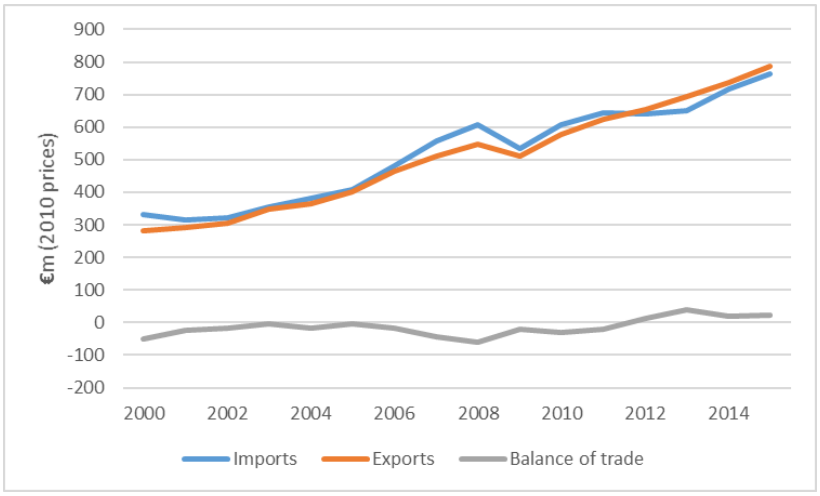
Figure 1.86: GDP per capita for Poland



Trade

Imports and exports in Poland have risen steadily throughout the 2000s and in recent years although there was a brief fall in 2009. While for much of the period since 2000 the country has run a small trade balance deficit, in recent years the country has returned to a small trade balance surplus (see Figure 1.87).

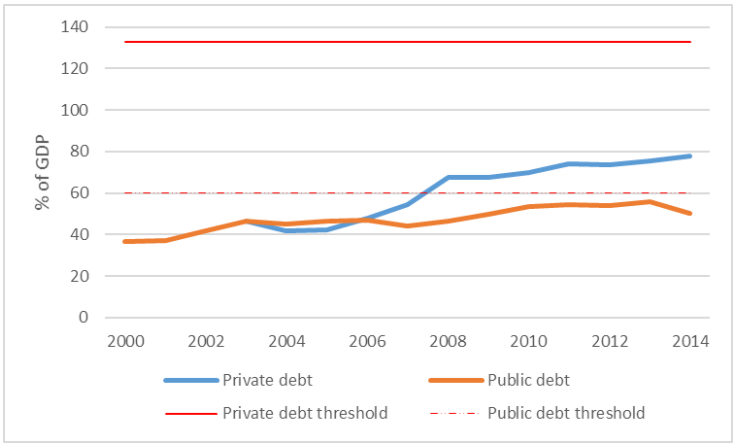
Figure 1.87: Imports and exports for Poland



Debt

One consequence of Poland's strong economic performance is that general government debt has been remained at a sustainable level. At no period over 2000-14 period did government debt (as a percentage of GDP) exceed the 60% macroeconomic imbalance procedure threshold (see Figure 1.88) although it has grown steadily over time. However, private debt levels have increased at faster pace, increasing from around 40% of GDP to around 70% after the financial crisis, and subsequently continuing to grow slowly. As of 2014, private debt levels are approaching 80% of GDP but remain substantially below the macroeconomic imbalance procedure threshold of 133%.

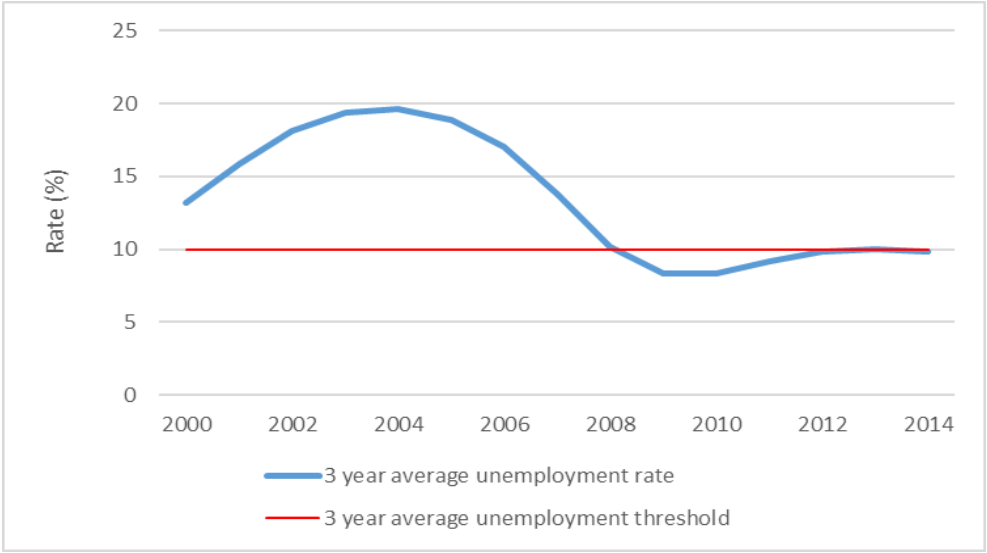
Figure 1.88: Private and public debt for Poland



Labour market

The unemployment rate in Poland increased substantially throughout the early 2000s to almost 20% although unemployment began to fall sharply from the middle of the decade and by the time of the financial crisis the unemployment rate had fallen below the macroeconomic imbalance procedure threshold of 10%. Poland's strong economic performance post-crisis helped to maintain the unemployment rate below the macroeconomic imbalance procedure threshold despite increasing somewhat. (see Figure 1.89).

Figure 1.89: 3-year average unemployment rate for Poland

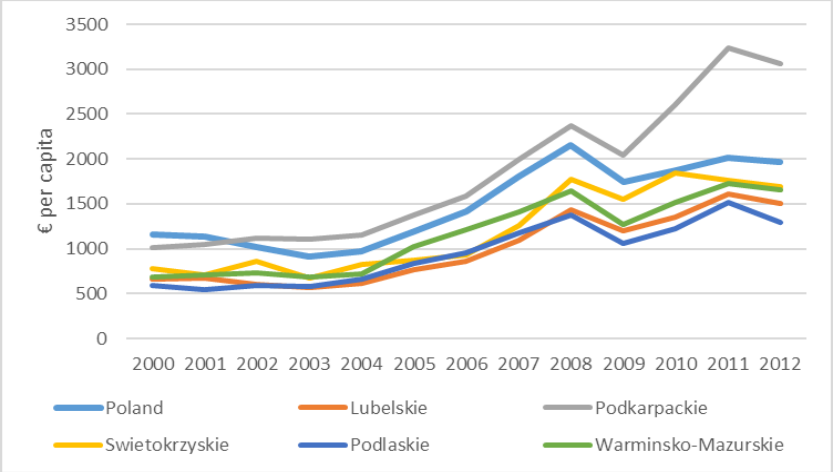


1.5.3 Regional structural issues

Investment

Investment is an important driver of future economic growth. In Poland, investment measured by gross fixed capital formation per capita has grown more rapidly in all the region of Poland. However, most of the lagging regions of Poland have experienced investment per capita below the national average with the exception of Podkarpackie. Nevertheless, investment has grown substantially in all regions despite over the 2000s although since the financial crisis, investment has not exceeded its 2008 peak in most regions or in Poland as a whole (see Figure 1.90).

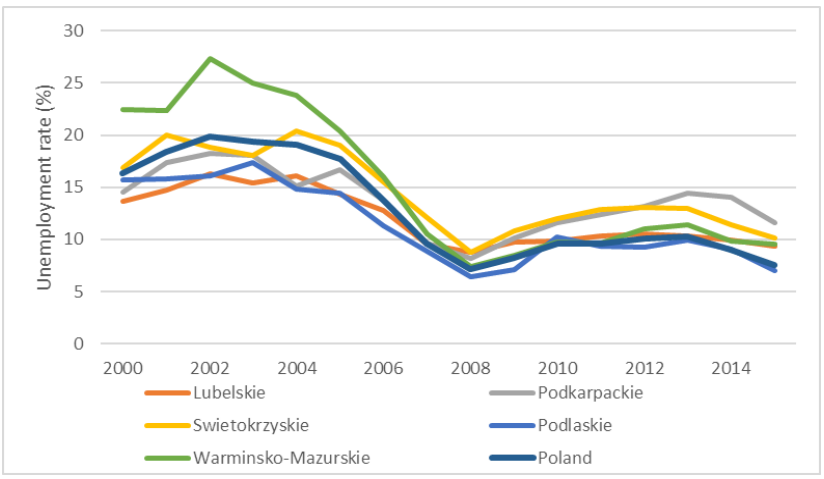
Figure 1.90: Regional gross fixed capital formation per capita in Poland



Labour market

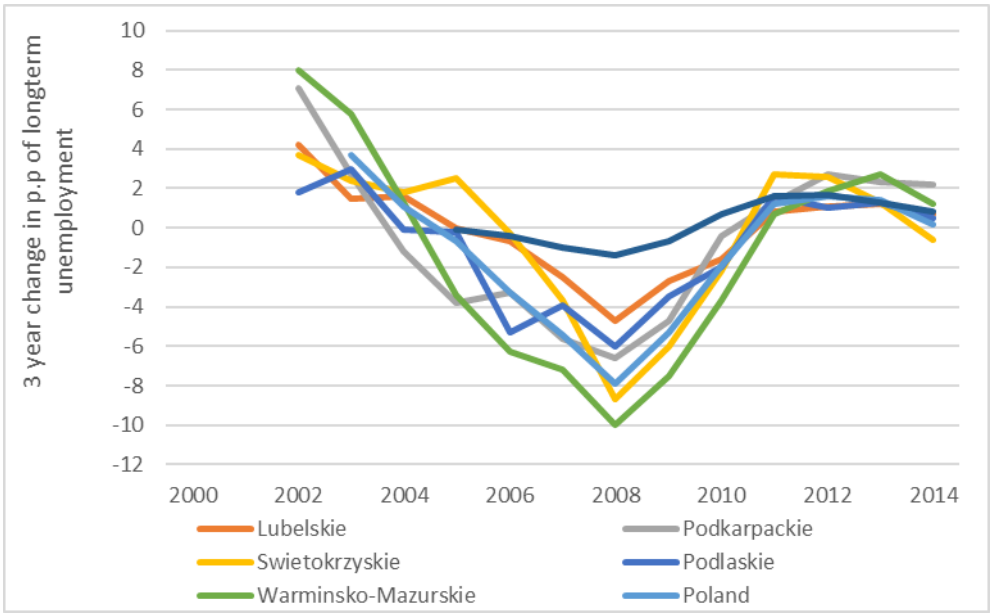
The labour market can be indicative of structural problems in regional and national economies and is an important economic measure by itself. Unemployment rates in the lagging regions of Poland fell substantially in the period before the financial crisis, in line with the trend seen across Poland as a whole (see Figure 1.91). While the lagging regions saw unemployment rates increase in the subsequent economic slowdown, they remained lower than they were in 2000, and rates started to decline again from 2013 onwards. However, the unemployment rate in the lagging regions exceed that of Poland particularly since the financial crisis in 2008 but not to the same extent as has been the case in the early 2000s.

Figure 1.91: Regional unemployment rate in Poland



Long-term unemployment rates give an indication of the extent of which unemployment is detrimental to human capital and skills with longer periods of unemployment increasing the potential for the loss or deterioration of labour market skills. Long-term unemployment changes in the lagging regions indicate a shift in the relative position of these regions in recent years from 2000-08 (see Figure 1.92). The percentage change of the long-term unemployment rate varies substantially across the lagging regions and while some regions (notably Warmińsko-Mazurskie) had rates of increase in long-term unemployment well above the Polish average, some (most substantially Lubelskie) had rates of decline below the average at least before the financial crisis. Across all the lagging regions, these rates declined in the mid-2000s until around 2011. However, since this period, long-term unemployment rates have increased more in the lagging regions than in Poland. This suggests that the lagging regions may have experienced a structural change in long-term unemployment rates following the financial crisis.

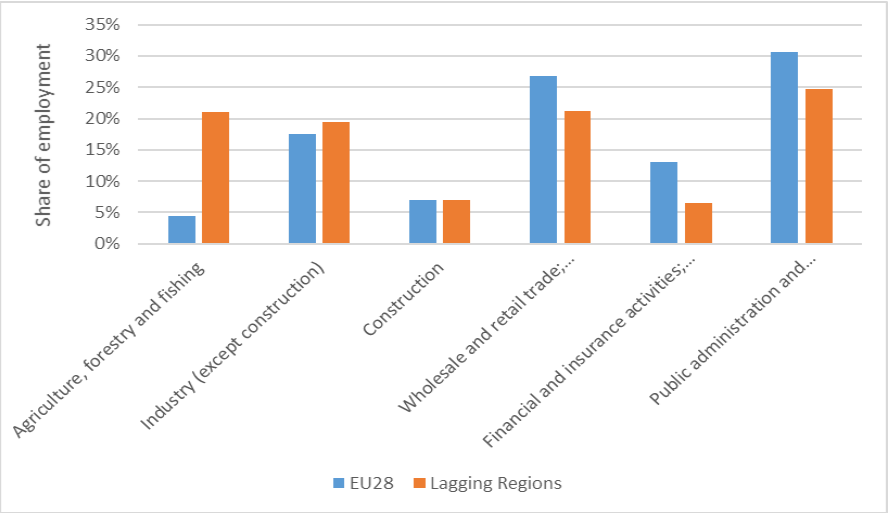
Figure 1.92: Regional changes in long-term unemployment rate in Poland



Economic structure and innovation

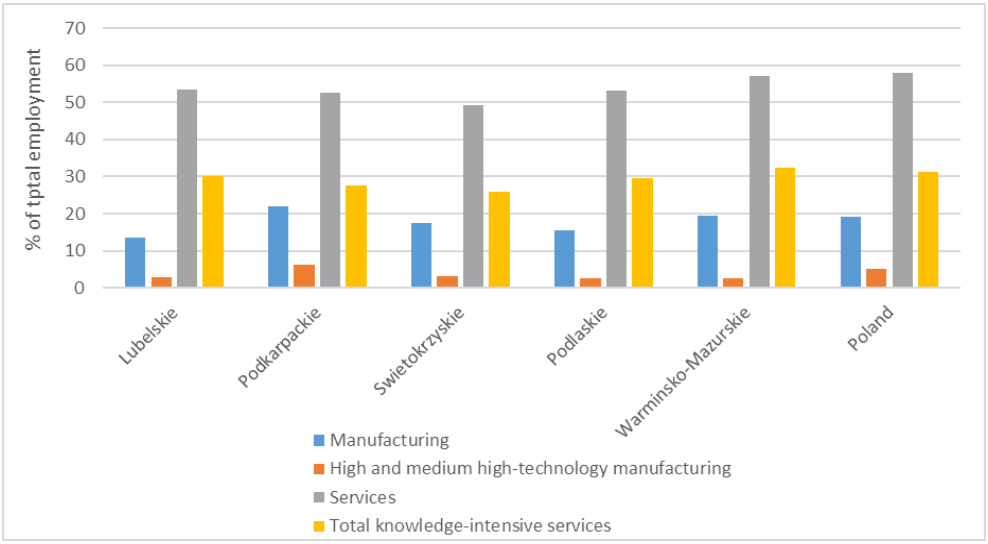
The lagging regions of Poland are over represented in the agricultural sector with over 20% of employment in these lagging regions dedicated to agriculture compared to less than 5% nationally (see Figure 1.93). The lagging regions also have a slightly larger industrial sector than the national average with the consequence that the service sectors are smaller. One implication of this is that the lagging regions are structured towards to low-skill low-productivity sectors.

Figure 1.93: Industry structure (share of employment) of lagging regions in Poland



The lagging regions of Poland show slightly lower than average proportions of services workers engaged in knowledge-intensive activities as well as slightly lower proportions of high and medium high-technology manufacturing (see Figure 1.94) in comparison to the Polish average. However, the differences are not large and do not seem to indicate a substantial difference in the share of technology and knowledge intensive activity between Poland and its lagging regions.

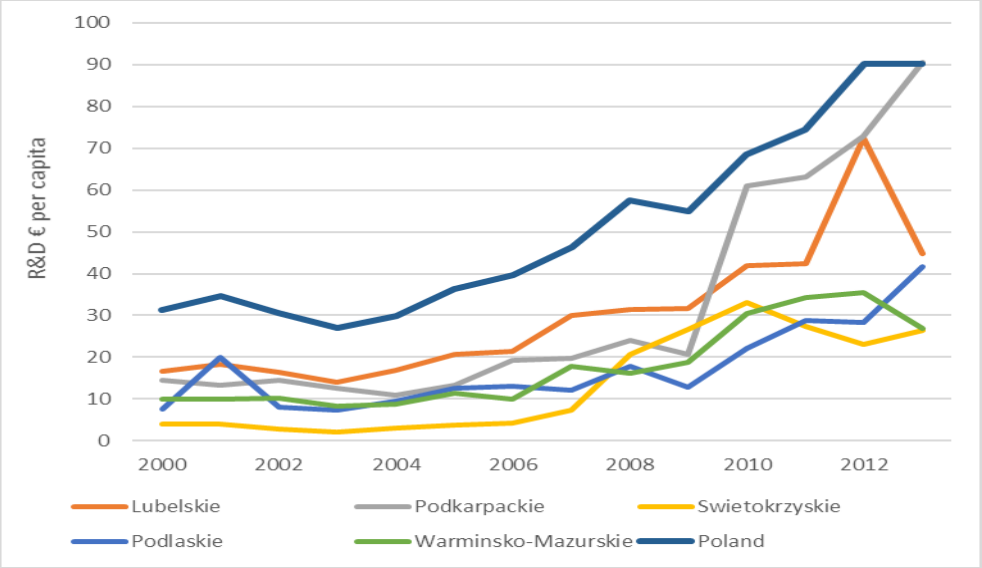
Figure 1.94: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing in the Polish lagging regions



However, when examining R&D expenditure as a measure of innovation input, the position of the lagging regions differs. R&D expenditure per capita in the lagging

regions are below the Polish average, and show little sign of convergence with the national average (see Figure 1.95) among most lagging regions except for Podkarpackie. The evidence presented by R&D expenditure per capita would seem to indicate future difficulties in developing future technology and knowledge led economic growth among the lagging regions.

Figure 1.95: R&D expenditure per inhabitant for Polish lagging regions



Institutions

Institutions affect economic growth through the effectiveness of policy-making. Poland ranks 56th out of 148 countries in the World Economic Forum Global Competitiveness Index[18] in terms of quality of institutions, although the country fares poorly in terms of government regulation (119th) and transparency (also 109th). Public trust in politicians is ranked at 104th which also indicates the difficulty facing institutions in Poland.

However, Poland scores much more highly in terms of quality of higher education and training; 37th out of 138, with the large proportion of tertiary education enrolments highlighted as a strength. On the other hand, Poland has only two universities ranked in the top 600 in the world[19], neither of which are located within the lagging regions.

[18] http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

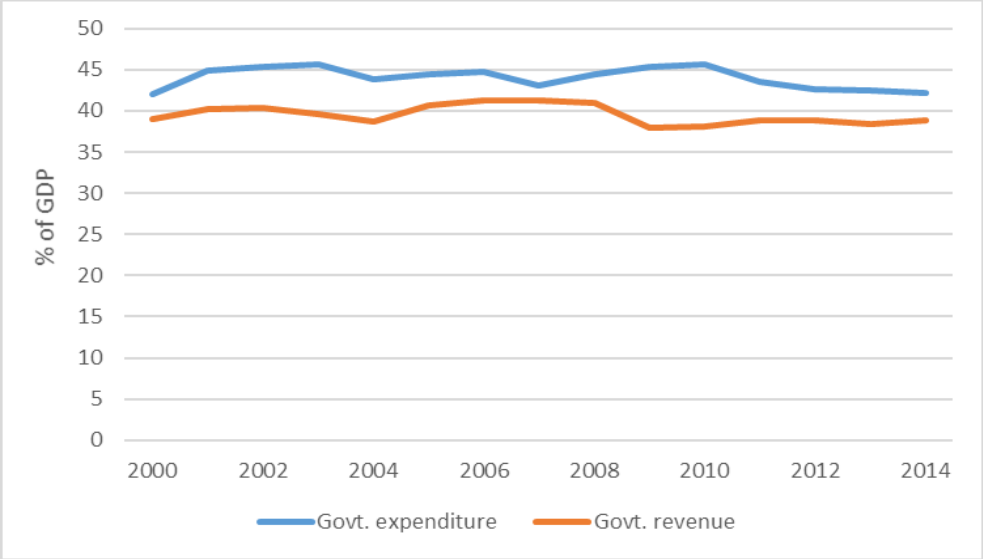
[19] See the QS university rankings here: http://www.topuniversities.com/qs-world-university-rankings

1.5.4 Stabilising and destabilising factors

Fiscal stimulus

Polish fiscal policy has been somewhat counter cyclical, reducing the gap between expenditure and revenue during periods of economic expansion and low unemployment and increasing the gap during recessionary periods to stimulate the economy. Before 2008, the size of its government deficit shrunk to less than 2%, but increased to 11% in 2011 as the macroeconomic effects of the financial crisis slowed private sector driven economic growth (see Figure 1.96). As a result, Poland avoided recession. However, Poland continues to run a government deficit, as it has done consistently since 2000 although the budget deficit has narrowed in recent years.

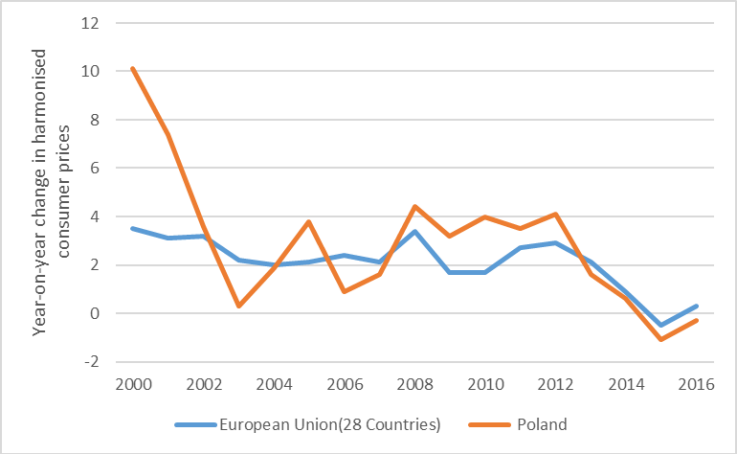
Figure 1.96: Government expenditure and revenue in Poland



Competitiveness

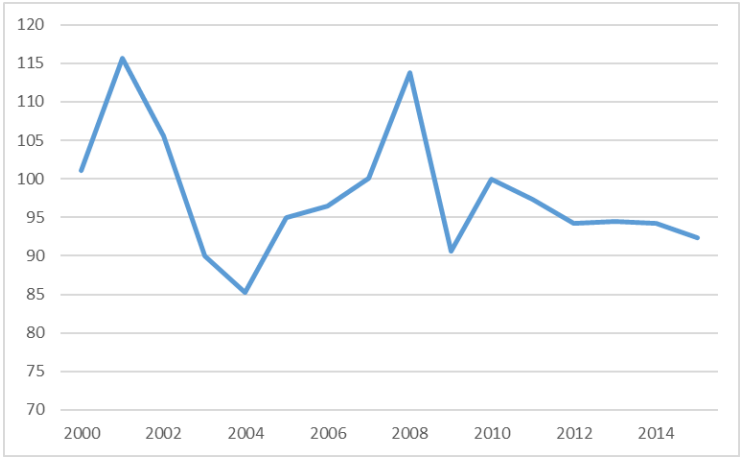
Poland has generally maintained its competitiveness throughout the 2000s. For instance, inflation in Poland has typically followed a similar path as in the EU although it is notable Poland has experienced periods prices below or above the EU average (see Figure 1.97). On the other hand, prices in Poland have more closely converged to the European average in recent years.

Figure 1.97: Harmonised consumer prices in Poland



The international competitiveness of the Polish economy is also dependent on the exchange rate. In the years before the financial crisis the Polish currency, the Zloty measured by the real effective exchange rate (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries), fluctuated widely which is likely partly a reflection of the price pressures identified in Figure 1.97. The Zloty weakened in 2008 (see Figure 1.98), which helped improve the competitiveness of Polish exports benefiting from a lower exchange rate. The stabilisation of the Zloty and prices in recent years has coincided with a growth of exports and a small trade surplus.

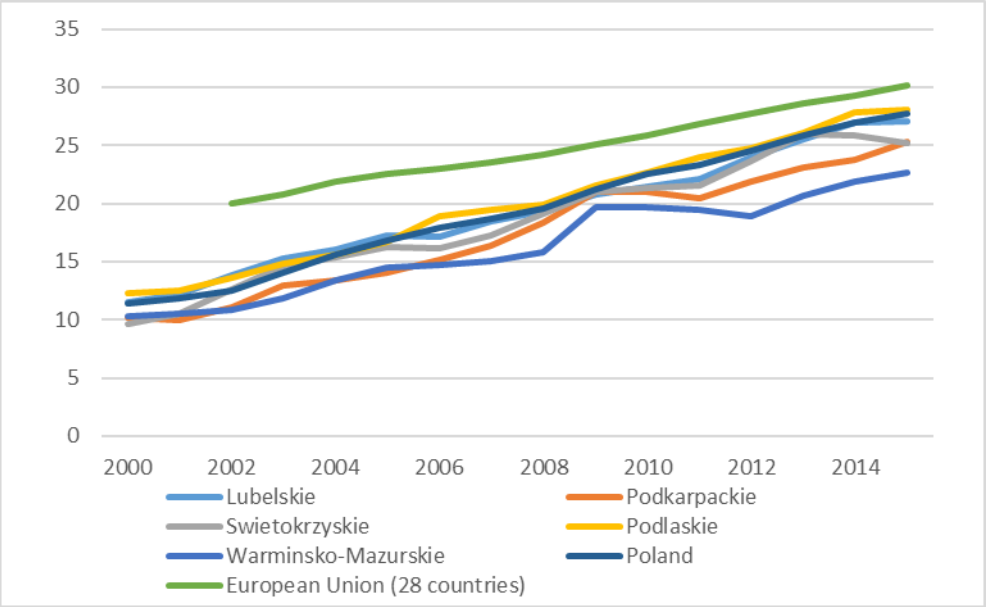
Figure 1.98: Real effective exchange rate for Poland



Another aspect of the competitiveness of the economy is the potential for human capital to increase productivity in the labour force. Human capital, proxied by tertiary education, can be seen to be making good progress in converging to the EU average throughout the 2000s and into the 2010s. However, while Poland and many of the lagging regions have been converging to the EU average, some lagging regions,

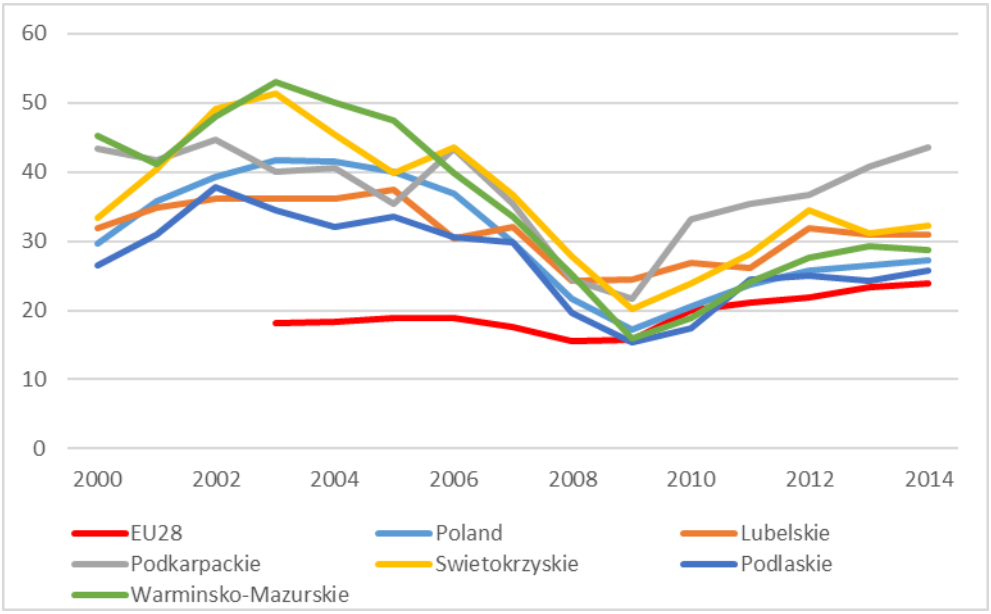
particularly Warmińsko-Mazurskie and Podkarpackie have not converged as strongly (see Figure 1.99). Nevertheless, all the lagging regions of Poland have at least followed the EU trajectory of increasing levels of tertiary education even where their performance relative to the EU has stabilised.

Figure 1.99: Tertiary education among those aged 25-64 in the Polish lagging regions



Related to the effectiveness of human capital to increase productivity, and thus competitiveness, is youth unemployment. A high level of youth unemployment indicates that graduates have less opportunities to apply skills and knowledge gained through education to economic activity the labour market. The period of high youth unemployment throughout the 2000s and across Poland and its lagging regions, was far in excess of the EU average, indicating substantial difficulties in the labour market and the risk of reducing the effectiveness of investments in education. Towards the end of the 2000s, youth unemployment in Poland, including in the lagging regions, had made strong progress in converging to the EU average. However, the financial crisis in 2008 resulted in higher youth unemployment rates again with the difference that, during this period, the lagging regions of Poland generally experienced rates of youth unemployment a good deal above the EU average while Poland experienced rate of youth unemployment more similar to developments in the EU average. This may indicate a structural change in the labour market among the lagging regions of Poland following the financial crisis.

Figure 1.100: Youth unemployment rates in the Polish lagging regions



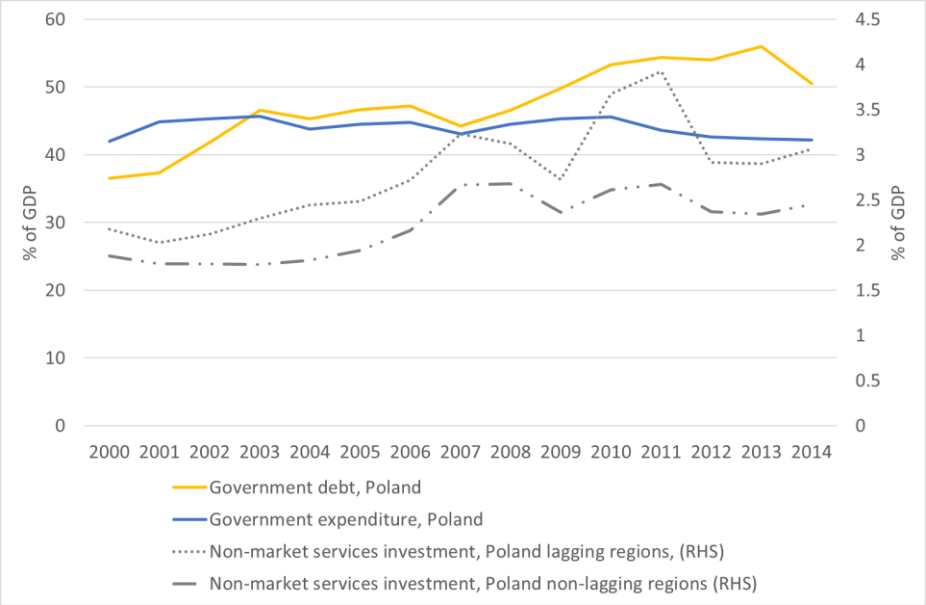
1.5.5 Transmission mechanisms

Public debt

Growth in Polish public debt in the years preceding the financial crisis was relatively slow and while the rate of growth accelerated post-crisis, the level of public debt remained low as a proportion of GDP (see Figure 1.101). This was at least in part due to constrained government expenditure; which remained a broadly consistent percentage of GDP throughout the 2000s. The Polish government pursued a counter-cyclical fiscal policy in the aftermath of the crisis, although as GDP did not fall this is not clear when expenditure is measured as a proportion of GDP. However, the economic stimulus is apparent in the increased non-market services[20] investment (a proxy of public investment) which occurred in 2010 and 2011. It is also notable that non-market services investment increased much more rapidly in the lagging regions than the non-lagging regions (and from a starting point of higher non-markets services investment as a % of GDP in the lagging regions) demonstrating efforts to develop lagging regions of Poland.

[20] 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 1.101: Public debt, expenditure and investment in Poland



Private debt

Private debt in Poland grew substantially through the 2000s, although growth was very volatile, from more than 25% pa in 2007 and 2009 to a slight decline in 2005 (see Figure 1.102). There is relatively little evidence that this debt was being used to finance private investment[21] (proxied by calculating investment less non-market services) in either the lagging or non-lagging regions. While there was a small spike in investment growth in 2007, it was substantially slower than the growth in private debt, and on other occasions (such as 2009) investment was stable while debt increased. This suggests that private debt was in fact being used for other purposes (such as to support current expenditure or cashflow) rather than for investment purposes.

[21] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

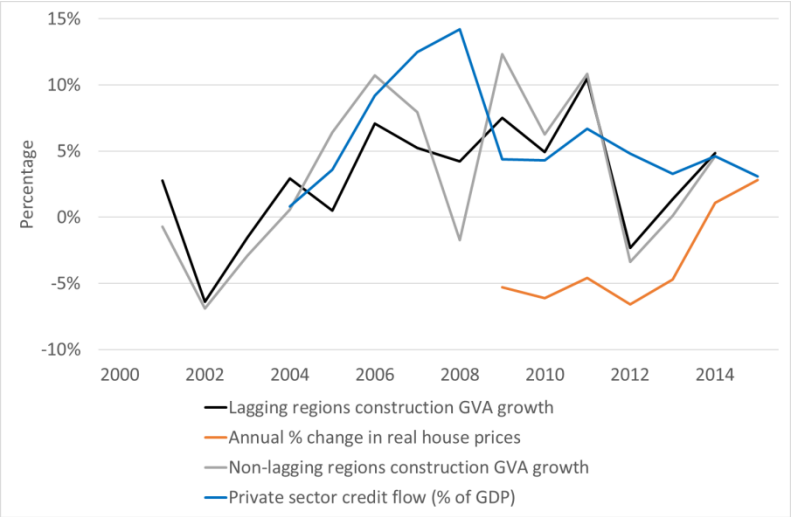
Figure 1.102: Private debt and investment in Poland

Private credit

Private sector credit in Poland has grown substantially since 2004, particularly before the financial crisis (see Figure 1.103). Over the same period, construction activity in both the lagging and non-lagging regions has grown steadily. It is notable that there was no decline in construction output in the lagging regions until 2012, while in the non-lagging regions there was a slight decrease in 2008 suggesting that any inflation of house prices which may have existed pre-crisis was centred on the non-lagging regions of Poland.

However, more recent data for Polish real house prices show that these fell by around 5% per year over 2009-13, before a modest recovery from 2014 onwards, suggesting that there was (at least at a national level) a correction in the housing market post-crisis.

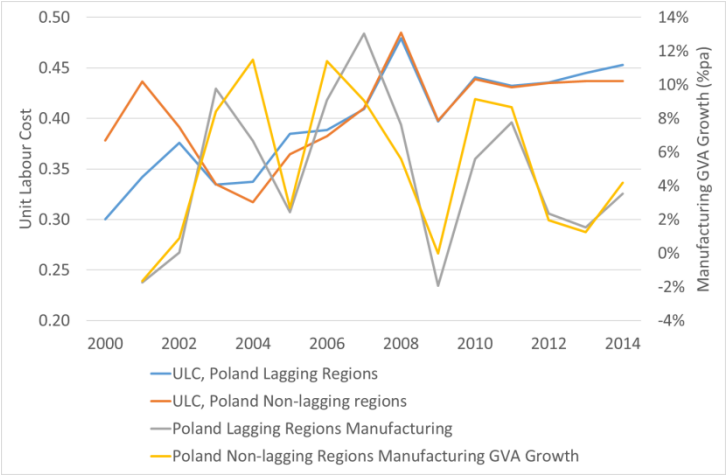
Figure 1.103: Private credit, house prices and construction GVA in Poland



Regional competitiveness

Unit labour costs provide a proxy of wage costs and competitiveness. Unit labour costs in the lagging and non-lagging regions of Poland are broadly similar throughout the period 2000-14 (see Figure 1.104). In the period 2003-08, unit labour costs rose steadily but moderated and stabilised in the aftermath of the financial crisis indicating Poland has maintained wage competitiveness in both the lagging and non-lagging regions. Manufacturing GVA (used as a proxy for output of the tradeable sector) grew strongly before the crisis, and the subsequent slowdown appears to be driven by macroeconomic trends, rather than movements in the unit labour costs.

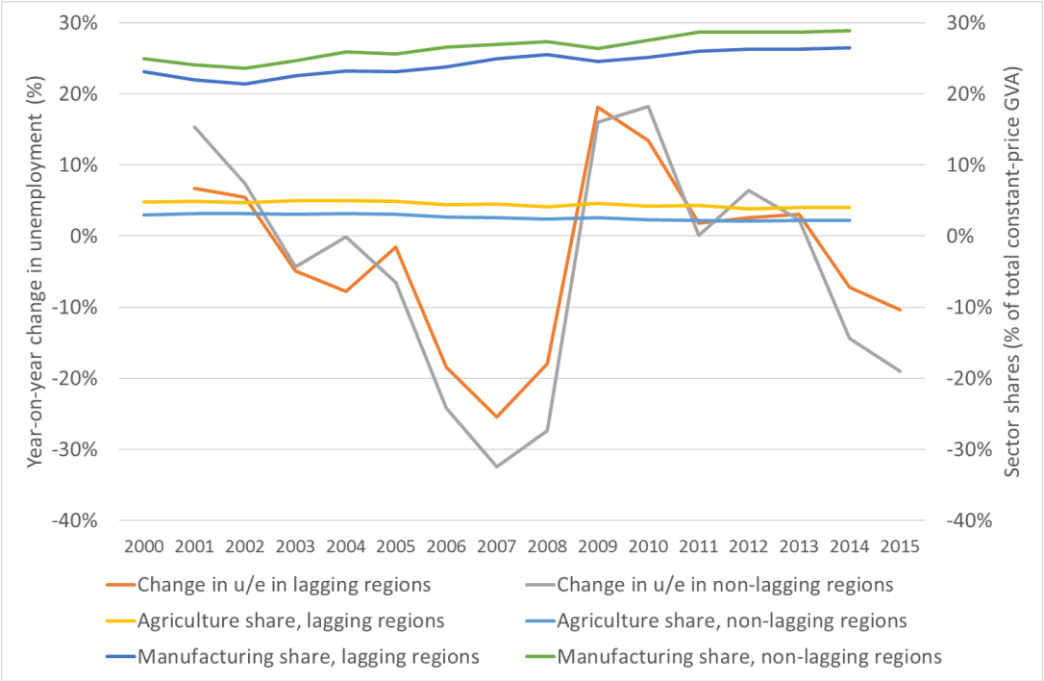
Figure 1.104: Unit labour cost and manufacturing GVA in Poland



Labour market resilience

In Poland, there is little difference in the economic structure between lagging and non-lagging regions; the lagging regions have a slightly larger agricultural sector but a slightly smaller manufacturing sector in comparison to the non-lagging regions. These minor differences are reflected in very similar movements in unemployment over the period 2000-14. Unemployment fell steadily over 2002-08, slightly more rapidly in the non-lagging regions than the lagging regions and while there was an increase in unemployment in the aftermath of the crisis, the downward trend returned in 2014 with some evidence that unemployment is declining more rapidly in the non-lagging regions than the lagging regions.

Figure 1.105: Unemployment vs sector share of output in Poland



1.5.6 Conclusions

Poland's lagging regions have performed well as Poland makes progress in economic growth and to a lesser degree an efficient labour market. Poland's macroeconomic performance has been supported by counter-cyclical fiscal policies while retaining competitiveness. On the other hand, the gap between the lagging and non-lagging regions in Poland will likely continue to widen even as the country continues to experience economic growth unless the lagging regions can develop and maintain the human capital required to attract investment and drive future economic growth at the same rate as the non-lagging regions.

Poland's lagging regions are comparable to the non-lagging regions in terms of wage competitiveness measured by unit labour costs. However, with respect to the human capital necessary for knowledge and technology led growth, Poland's lagging regions fall behind the non-lagging regions where the economic structure continues to differ

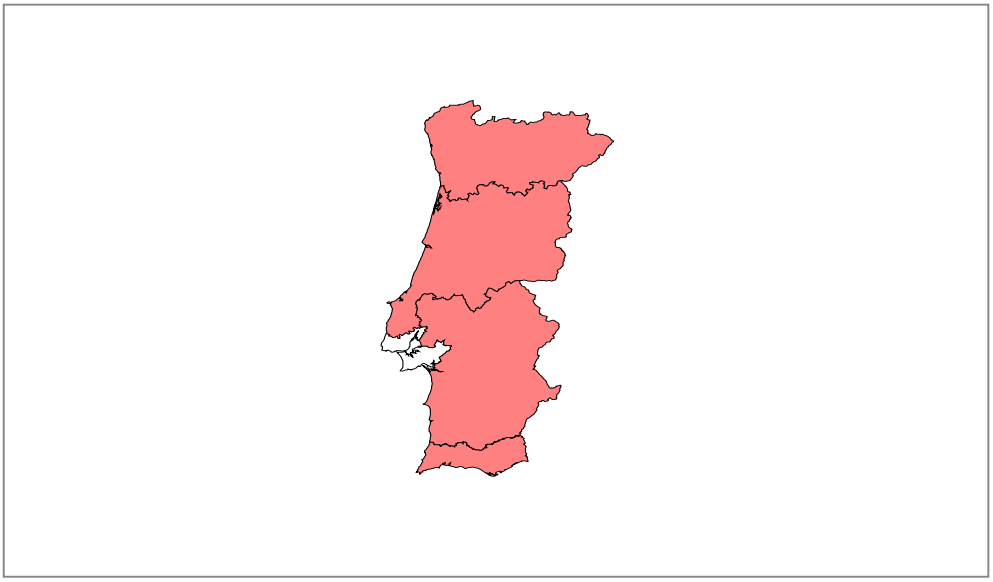
from the rest of the country in its focus on low skill low productivity sectors coupled with low investment in R&D expenditure. This is compounded in the labour market by higher unemployment rates among the lagging regions of Poland, including youth and long-term unemployment which exacerbate differentials in skills and education.

1.6 Portugal

1.6.1 Introduction

Portugal consists of 5 mainland regions: Norte, Centro, Alentejo (including Leziria do Tejo), Algarve, and the Metropolitan Area of Lisbon as well as the 2 autonomous island regions: Maderia and Acores. All of the mainland regions in Portugal have been classified as economically lagging regions except for the Metropolitan Area of Lisbon which is located to the west of the Centro and Alentejo and is home to the capital as well as the focal point of economic activity of the country (see Figure 1.106). As well as being the most populous region in the country, the capital has a relatively high GDP per capita of 35,014 (PPP, 2010) compared to the average of 25,237 (PPP, 2010) for the country as a whole in 2013[22] indicate an economic core focused on the capital surrounded by an economically lagging periphery.

Figure 1.106: The NUTS2 regions of Portugal



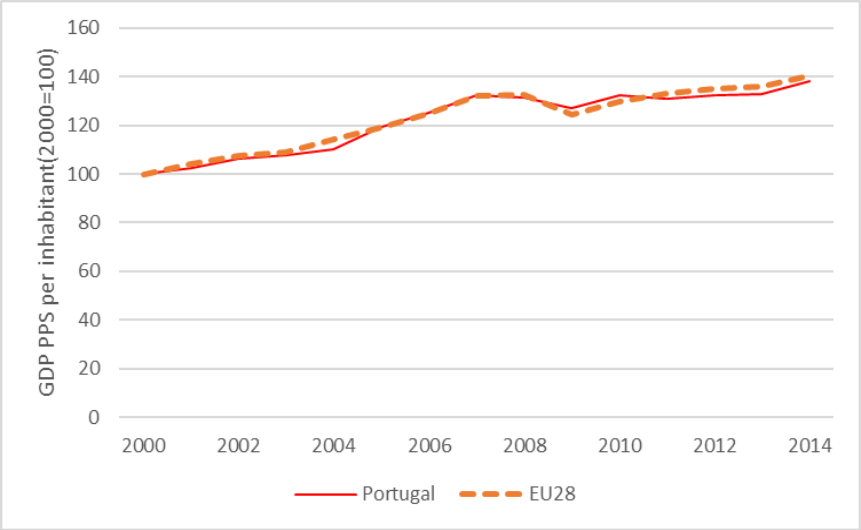
1.6.2 Fiscal and macroeconomic environment

GDP

Portugal experienced sustained growth in GDP per capita at the same rate as the EU average throughout the 2000s (see Figure 1.44). Following the financial crisis, the economy contracted, although not as much as the EU average. However, from 2010 onwards the economy has experienced little economic growth and has underperformed the EU average.

[22] http://stats.oecd.org/, accessed 2016

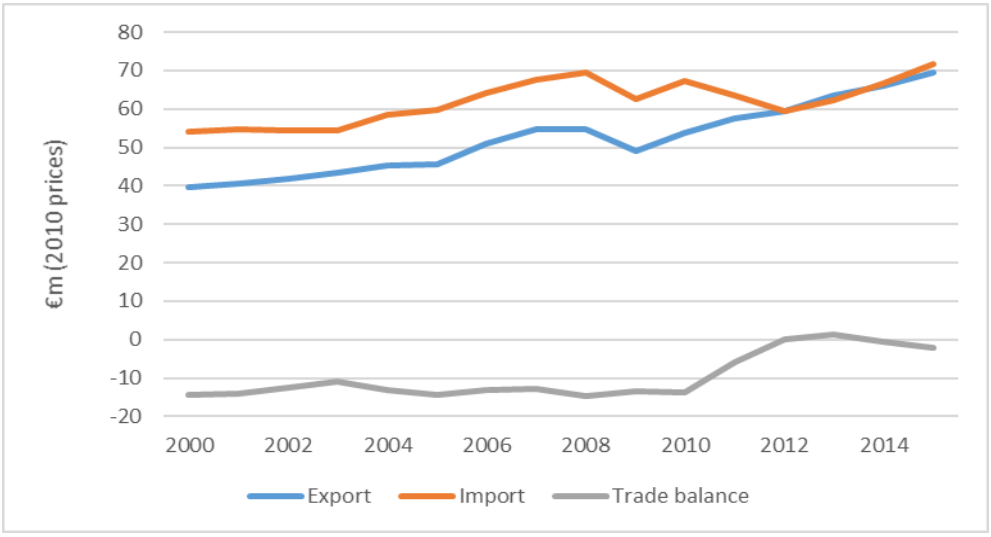
Figure 1.107: GDP per capita for Portugal



Trade

Portugal has experienced a trade balance deficit throughout much of the 2000s with the trade balance only becoming positive in 2012 (see Figure 1.108). However, imports have continued to grow after a brief contraction with the consequence that imports slightly exceed exports once again in 2014.

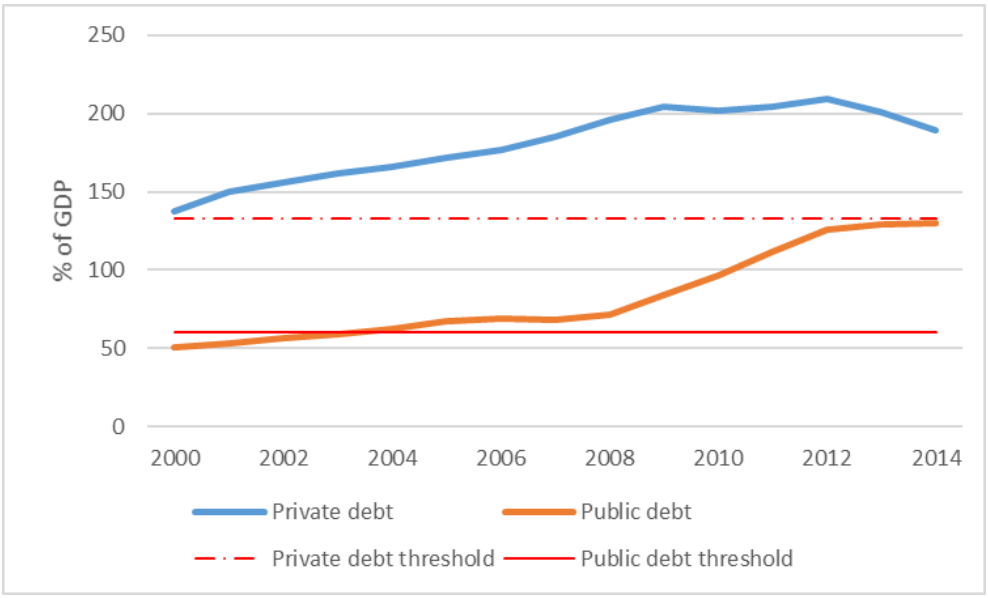
Figure 1.108: Imports and exports for Portugal



Debt

Portugal's public debt has grown throughout the 2000s but only incrementally increasing. However, public debt exceeded the macroeconomic imbalance procedure threshold of 60% in 2003 and following the financial crisis Portugal has experienced public debt increasing substantially, growing by 76% between 2008 and 2012, an average of 15% per year in that period (see Figure 1.109). After 2012, public continued to increase but at a much slower rate (an average growth of 2% growth per annum between 2012 and 2014).

Figure 1.109: Private and public debt for Portugal



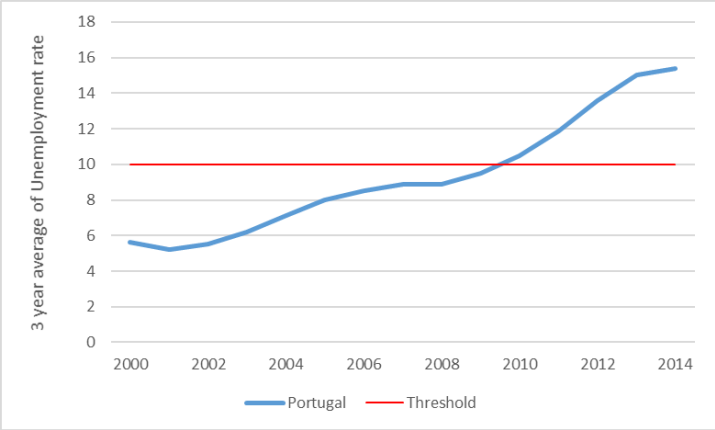
Conversely private debt has grown at a much lower rate although it is still substantially higher than public debt, reaching as high as over 200% of GDP in 2012 above the macroeconomic imbalance procedure threshold of 133%. Unlike public debt, which has continued to grow after 2012, there has been a decrease in private debt after 2012. However, this fall has been relatively small only dropping by 20p.p. since 2012. This decrease in both private and public debt likely results in reduced investment as lenders look to reduce the risk of their investments as contractions occur in credit markets[23].

Labour markets

The stagnant rate of economic growth in Portugal is reflected in the labour market which has experienced increasing levels of unemployment and has been exacerbated after 2008. In 2010, Portugal's 3-year average unemployment rate rose above the 10% MIP threshold (see Figure 1.110). Only in 2013 did growth in Portugal's rate of unemployment moderate albeit at a rate of 15%.

[23] Cingano, F., Manaresi, F., & Sette, E. (2013). "Does credit crunch investments down?. *New evidence on the real effects of the bank-lending channel*"http://www.federicocingano.eu/Credit_crunch_investments.pdf

Figure 1.110: 3-year unemployment rates for Portugal

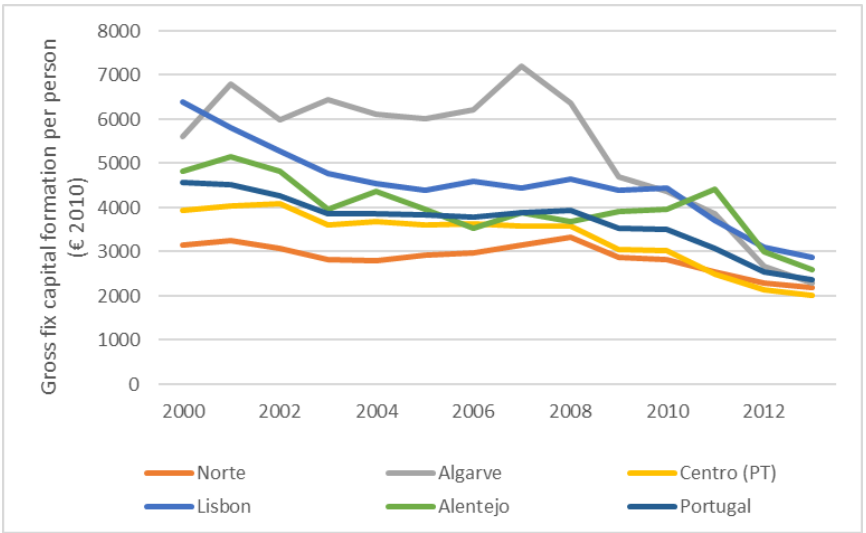


1.6.3 Presence of regional structure issues

Investment

Before 2009 much of the EU investment was focused around non-tradable sectors such as construction.[24] However since the financial crisis this sector has slowed, causing investment to stagnate. A confounding factor in Portugal's lack of investment is the high levels of private debt. High debt levels have led to a lower private capital formation over time due to the firms reducing investment to deleverage debt.

Figure 1.111: Regional gross fixed capital formation in Portugal



When looking at gross fixed capital formation in the regions it is becomes apparent that Algarve has experienced higher investment than other lagging regions and even

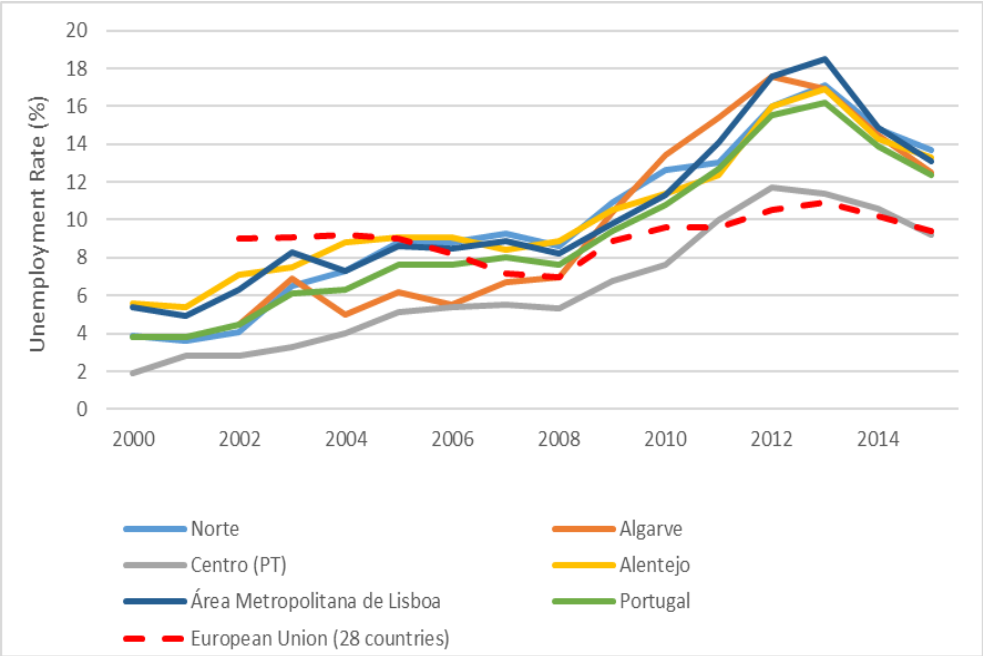
[24] http://ec.europa.eu/europe2020/pdf/csr2016/cr2016_portugal_en.pdf

Lisbon (see Figure 1.111) over much of the 2000s but has now fallen below other lagging regions. It can also be seen that investment per person is far lower in the Centro and Norte regions than for Portugal as a whole and that most of the lagging regions experience investment levels below that experienced by Lisbon.

Labour market

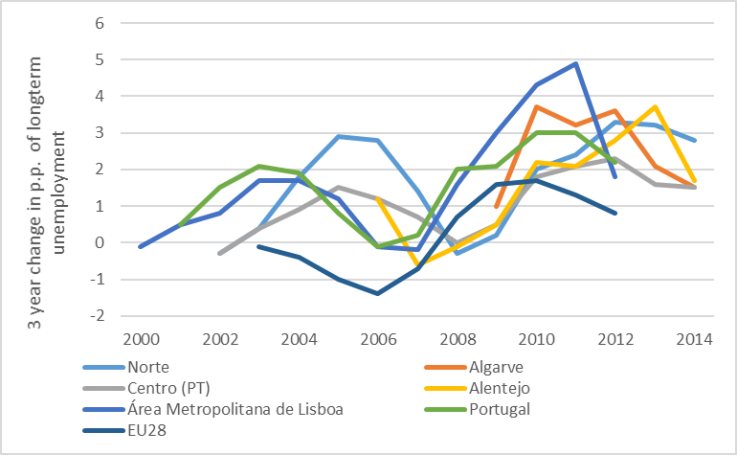
Portugal has experienced persistent increases in the rate of unemployment (see Figure 1.112) over time. Since 2009, each of Portugal's lagging regions have had higher rates of long term unemployment than the EU average which indicate an exacerbation of existing weaknesses in the labour market. However, for Centro the difference is marginal and both the difference with the EU and the rate itself are declining. Since 2013, all the lagging regions have seen a fall in their unemployment rates as the economy recovers somewhat.

Figure 1.112: Regional unemployment rates in Portugal



Long periods of unemployment can be particularly harmful to the economy as individuals tend to lose their skills over time if they are not applied in the workplace. Figure 1.113 demonstrates that long term unemployment has increased substantially in Portugal over the 2000s and early 2010s even during periods where long term unemployment fell on average across the EU. While most of the increases in long-term unemployment in Portugal have occurred in Lisbon, the Norte region has also experienced large increases in long term unemployment.

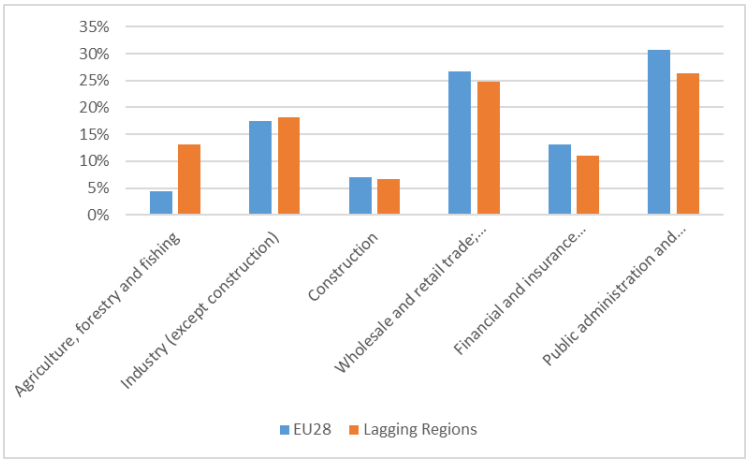
Figure 1.113: Regional changes in long-term unemployment rate in Portugal



Economic structure and innovation

The lagging regions of Portugal have a larger agricultural sector in comparison to the EU average in terms of employment. In contrast, the sectoral structure of the lagging regions of Portugal have an industry sector comparable to the EU average but a somewhat smaller services sector in wholesale and retail, financial and insurance and public administration. This indicates that industry structure in the lagging regions of Portugal is structurally balanced towards agriculture rather than industry and services which are more likely to experience economic growth from innovative activities and technological advancement.

Figure 1.114: Industry structure (share of employment) of lagging regions in Portugal, 2011



Services account for the largest share of regional employment in all regions with total knowledge intensive services consisting of the second largest share. However,

manufacturing varies substantially by region with high and medium high-technology manufacturing consisting of most of the employment in manufacturing in some regions such as Norte and Centro in comparison to other regions which have little employment in high and medium high-technology manufacturing (see Figure 1.115). The lagging regions also employ fewer in knowledge-intensive services than in Lisbon which indicates that the lagging regions are structurally leaning towards sectors less driven by knowledge led economic growth.

Figure 1.115: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing among Portuguese lagging regions, 2014

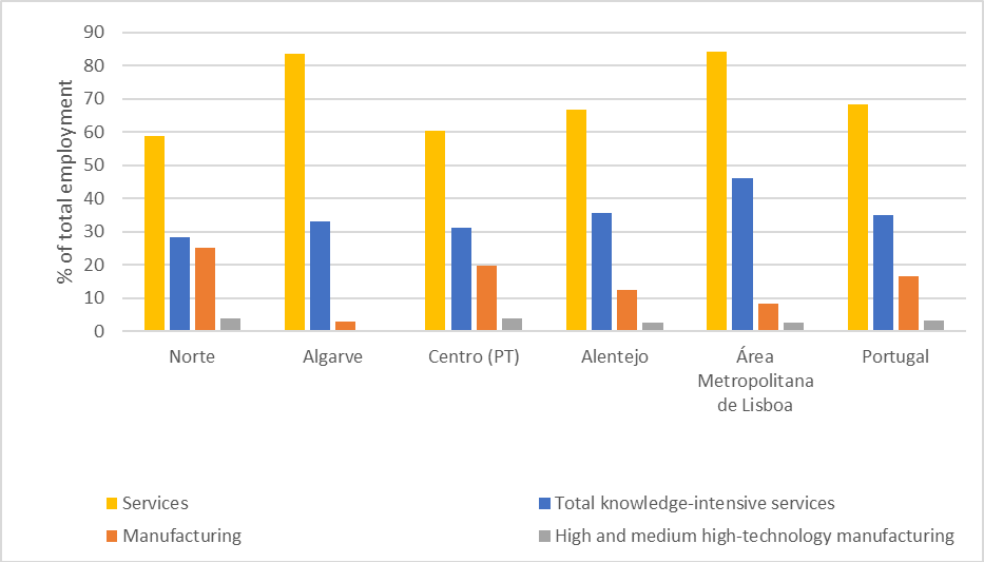
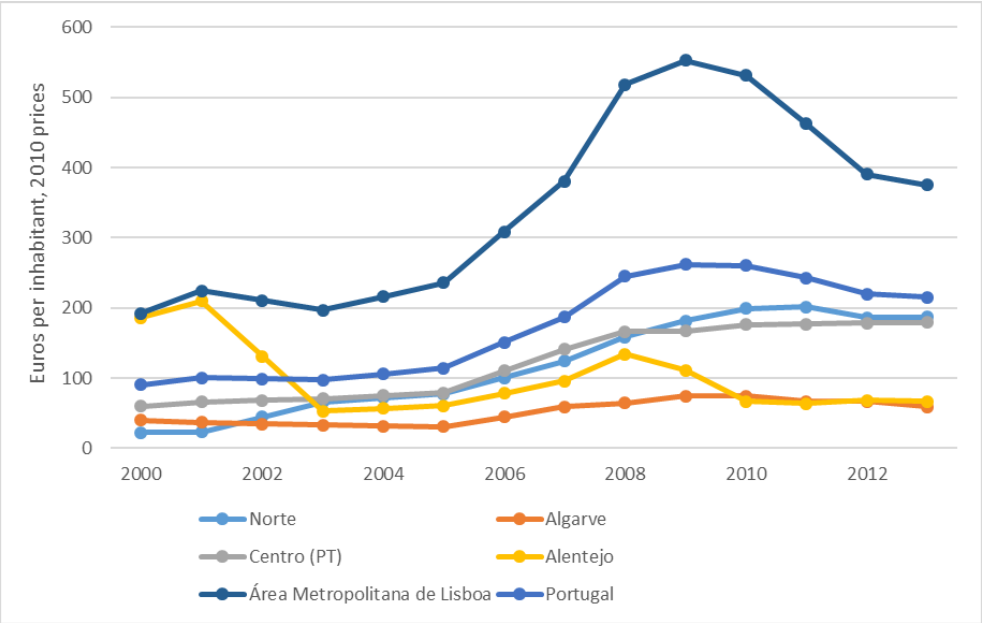


Figure 1.116 demonstrates that Portugal's lagging regions have had experienced sustained under-investment in R&D expenditure in comparison to Lisbon which experienced higher expenditure per inhabitant than all other regions. This lower R&D expenditure not only reflects the lack of investment in the regions but could also help to explain declining competitiveness as firms lack the ability to increase productivity through improved technologies and innovation. The lack of R&D expenditure is a contributing factor in the underdevelopment of Portugal's lagging regions and thus part of the explanation for the lack of economic resilience of the Portuguese lagging regions.

Figure 1.116: R&D expenditure per inhabitant for Portuguese lagging regions, in 2010 constant prices



Institutions

The institutional framework in Portugal is assessed as relatively weak in comparison to other countries according to international rankings by the World Economic Forum[25]. Portugal's institutions rank as 46th out of 148 with particularly low rankings of 132nd for the burden of government regulation and 122nd for the efficiency of the legal framework in settling disputes.

The quality of Portuguese universities when proxied by international rankings also indicate poor performance relative to other universities internationally. Currently there are only four Portuguese universities in the top 600 globally. Of these four, two are located in Lisbon with the University of Porto located in Norte and the University of Coimbra located in Centro, neither of which universities rank in the top 300[26].

[25] http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

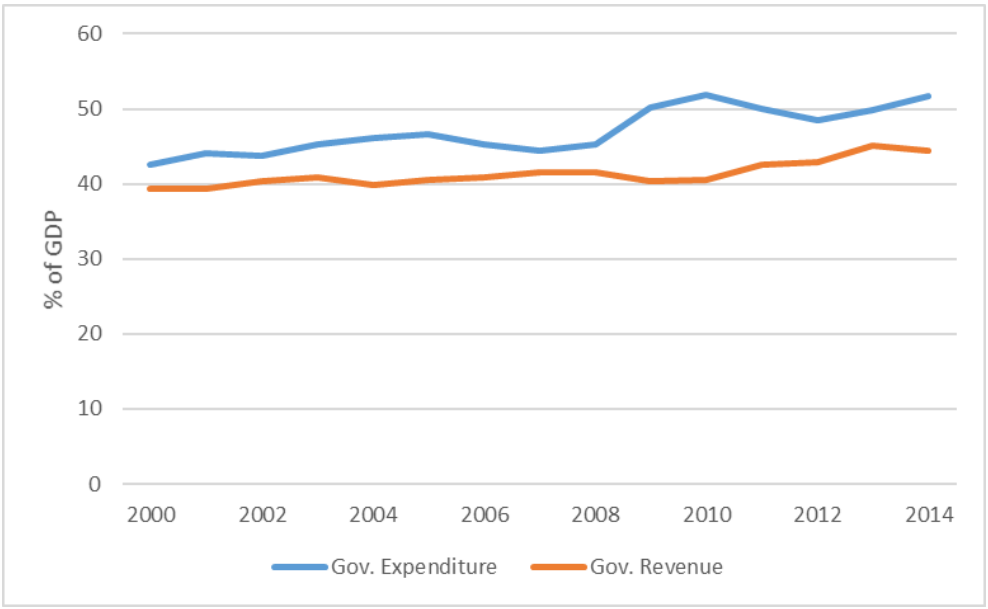
[26] Source: http://www.topuniversities.com/university-rankings/world-university rankings/2015#sorting=rank+region=+country=191+faculty=+stars=false+search=

1.6.4 Stabilising and destabilising factors

Fiscal stimulus

Portugal's membership of the Euro removes country-specific currency fluctuations which would occur during an asymmetric economic shock across the countries of the Eurozone. However, fiscal policy offers an alternative route to stabilise the economy through counter-cyclical policies which allow a country to dampen unsustainable economic growth while stimulating the economy during recessionary periods.

Figure 1.117: Government expenditure and revenue in Portugal

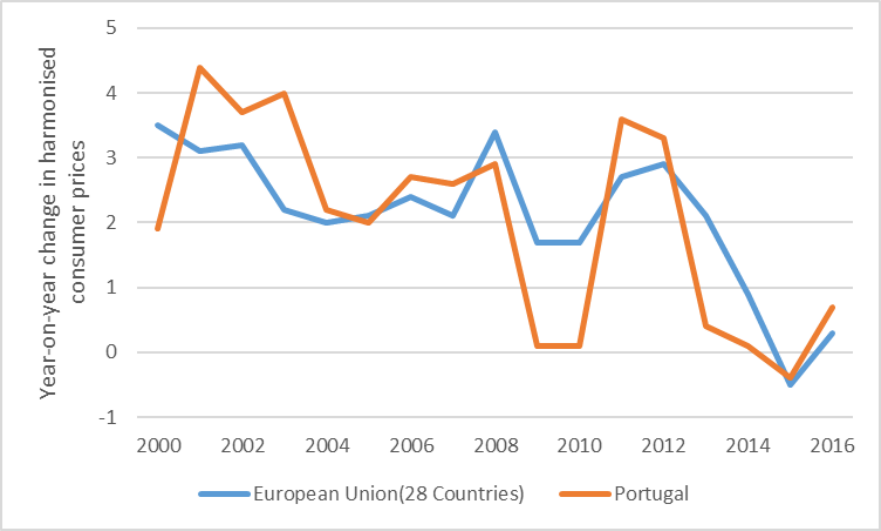


Throughout the 2000s, Portugal has maintained an expansionary fiscal policy with expenditure exceeding revenue. The difference between revenue and expenditure began to narrow in 2007 but then expanded once again to reach an even larger difference in 2010 (see Figure 1.117. This expansionary fiscal policy likely helped to counter the challenging economic circumstances in the period following the financial crisis in 2008. However, since 2009 Portugal increased taxes and lowered expenditure which likely contributed to the poor economic recovery in Portugal. These effects also may be driven by automatic fiscal stabilisers such as an increased in the numbers of unemployed people which increases government expenditure on unemployment assistance payments and also reduces revenue through lower tax receipts.

Competitiveness

The harmonised index of consumer prices shows that Portugal's consumer prices were very similar, on the whole, to prices throughout the EU (see Figure 1.118). However, the majority of the time before financial crisis in 2008 the Portuguese prices levels marginally exceed that of the EU indicating deteriorating competitiveness and after 2008 Portuguese prices have been generally lower, thus indicating improved competitiveness. This could be due to a stabilisation in costs or improving productivity.

Figure 1.118: Harmonized consumer prices in Portugal



When assessing the real effective exchange for Portugal, the evidence shows real effective exchange rates (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries) stabilised between 2003 until the financial crisis in 2008 when it began to fall (see Figure 1.119). The fall in the real effective exchange rate demonstrates a large improvement in the competitiveness of Portugal relative to non-Eurozone countries which is also reflected in the improved performance of Portuguese exports.

Figure 1.119: Real effective exchange rate for Portugal

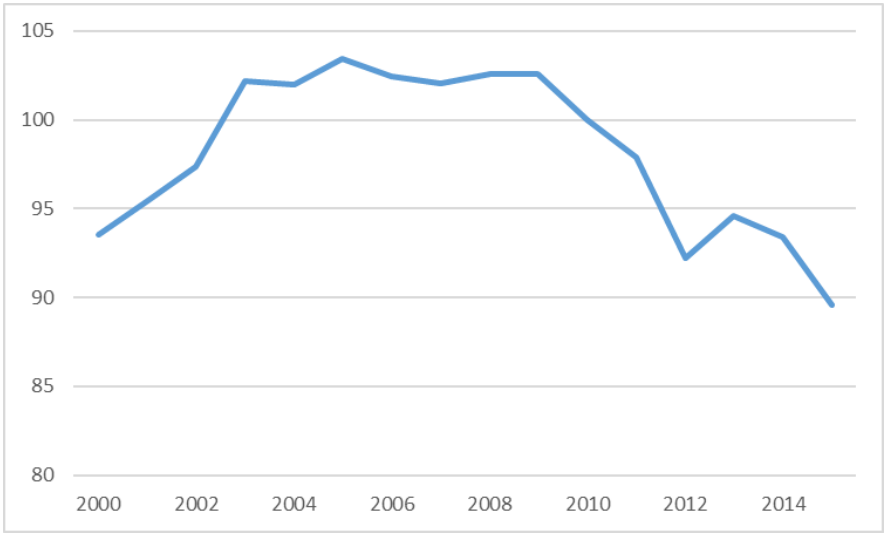
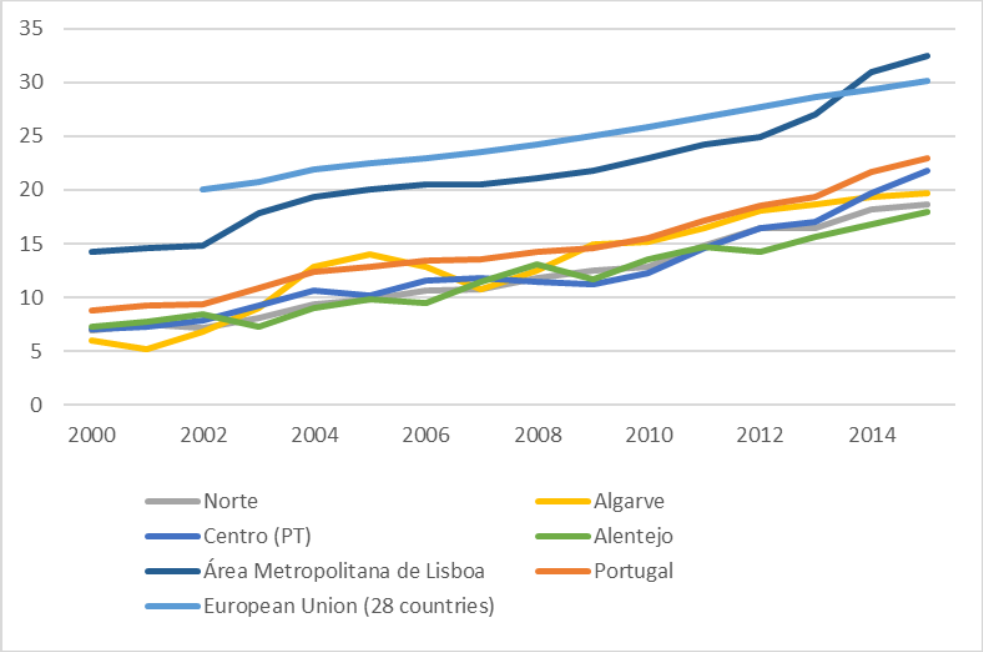


Figure 1.120 shows how each of the lagging regions have much lower education levels than not only in comparison to the EU average but also Lisbon. The gap in education levels among the lagging regions and the EU average has not narrowed for the entire period 2000-14 although absolute education levels have increased over time along the same trajectory as that of the EU. In contrast, Lisbon has begun to exceed the EU average since 2013.

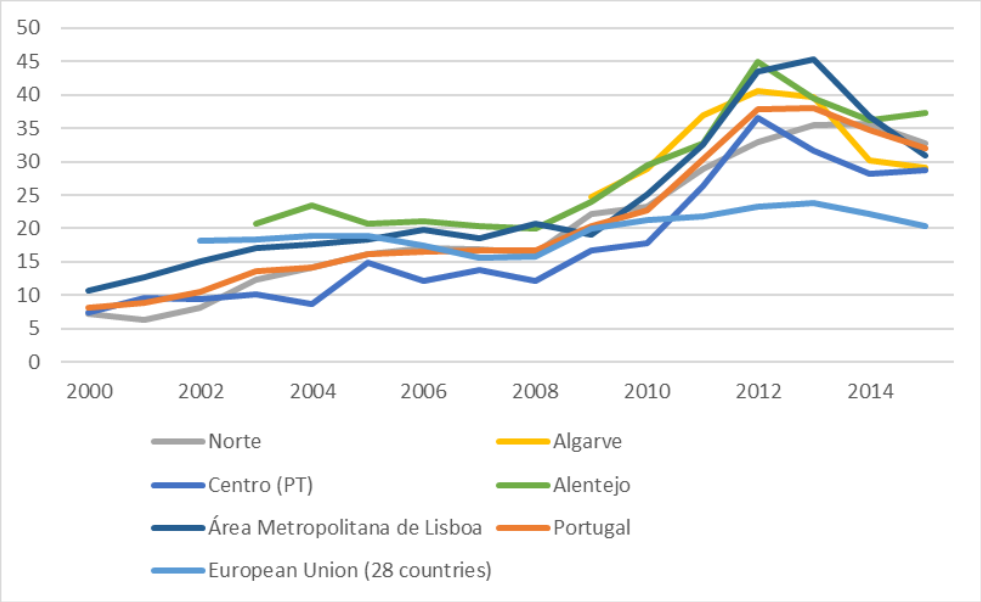
Figure 1.120: Tertiary education among those aged 25-64 in the Portuguese lagging regions



The lack of tertiary-level education compounds the challenges of lagging regions to attract and develop firms with the potential for growth. With lower levels of skilled employees, the lagging regions are also unable to compete in the high-value growing sectors.

Portugal has experienced high levels of youth unemployment (see Figure 1.121) which increased further far exceeding the EU average following the financial crisis in 2008 but have since started to fall while remaining above the EU average since 2010. Youth unemployment is particularly detrimental for long-term economic growth as human capital gained in the education system is not augmented in the labour market and deteriorates over time if not applied in the labour market. However, youth unemployment is comparatively lower in many of Portugal's lagging regions than in the capital Lisbon.

Figure 1.121: Youth unemployment rates for the Portuguese lagging regions



1.6.5 Transmission mechanisms

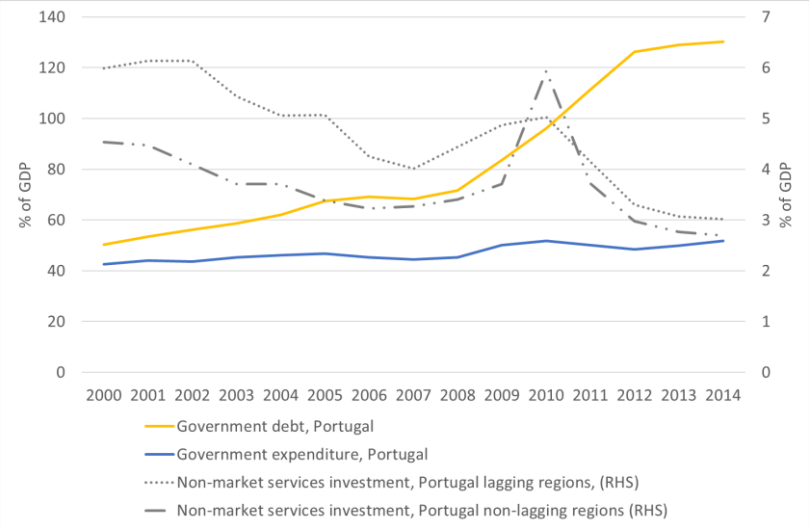
Public debt

Public debt-to-GDP in Portugal rose steadily in the 2000s, breaching the 60% macroeconomic imbalance procedure threshold in 2003 before accelerating rapidly after 2008 (see Figure 1.122). The accumulation of public debt-to-GDP slowed from 2012 but is still on an upward trajectory having reached over 130% in 2014. Elevated debt levels tend to increase the cost of debt financing and limit the government's scope for investment and thus facilitating economic growth.

As in most low growth Member States, Portugal's government expenditure-to-GDP was stable before the 2008 economic crisis but increased thereafter to over 50%. The severity of the crisis can further be seen in the collapse of non-market services[27] investment-to-GDP (a proxy for public investment) after 2010. Even though investment-to-GDP fell during 2000-06, both lagging and non-lagging regions were experiencing increasing investment relative to GDP before the 2010. As of 2014 investment had fallen to its lowest point – about 3 % – over the 2000-14 period. One likely effect of falling non-market services investment is lower expected potential for economic growth.

[27] 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

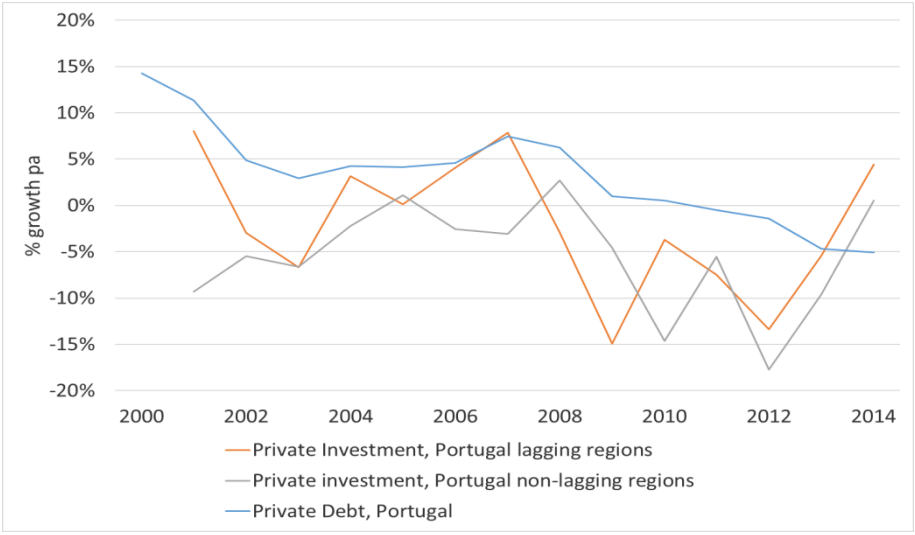
Figure 1.122: Public debt, expenditure and investment in Portugal



Private debt

There was an overall fall in the growth rate of private debt over the 2000-14 period (Figure 1.123). The major episodes include a gradual but sustained slowdown over 2000-03 from 14% to 3%, a 4% recovery that peaked in 2007 which was followed by another slowdown and subsequently a contraction. The negative growth after 2010 indicates private borrowers have been paying down debt, which in turn implies reduces consumption in favour of deleveraging with the consequence of reduced demand and ultimately economic growth.

Figure 1.123: Private debt and investment in Portugal



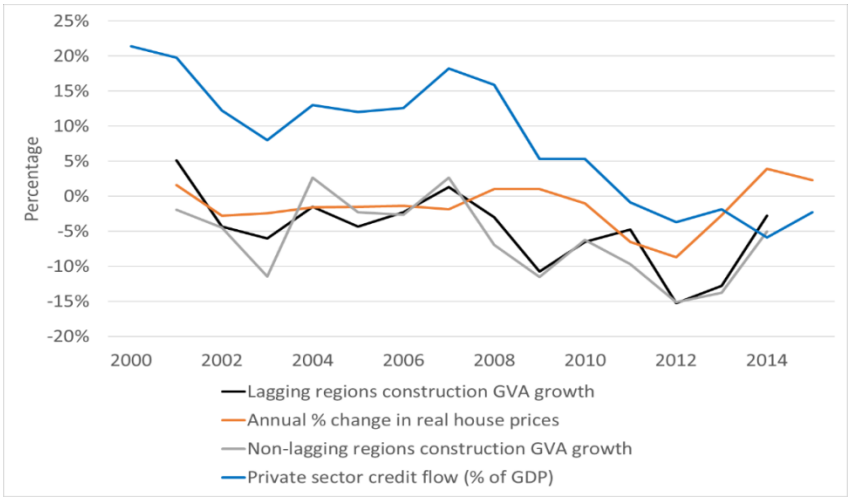
Private investment growth dynamics[28] (proxied by calculating investment except that in non-market services) are broadly similar across lagging and non-lagging regions with the former leading the latter. Private investment collapsed after 2007 but an improvement came after 2012 such that there was positive growth in private investment by 2014.

Private credit

Construction GVA growth is similar across lagging and non-lagging regions with the pre-2007 period experiencing many episodes of negative growth while the post-2007 period experiences only negative growth (see Figure 1.124). This is also reflected in the property market in which house prices experienced a large contraction following the financial crisis. Even before 2008, the Portuguese housing market had been in decline which is reflected in falling real house prices during 2002-07 but these declines worsened after 2010 before recovering in 2014.

[28] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

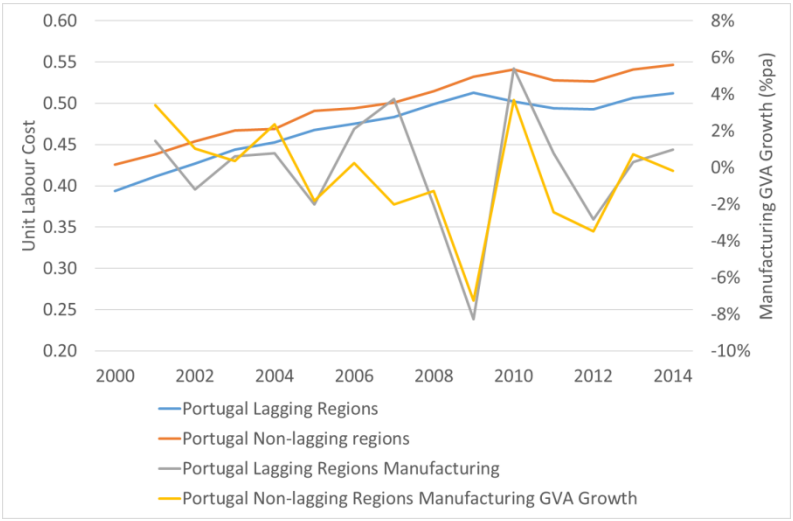
Figure 1.124: Private credit, house prices and construction GVA in Portugal



Regional competitiveness

Unit labour costs (ULC) give an indication of wage inflation and thus competitiveness. ULCs rose during the 2000s until the financial crisis in 2008 when they fell slightly before resuming an upward trend in 2012 (see Figure 1.125). Non-lagging regions had higher ULC than lagging regions throughout this period. The rise in ULC reduced competitiveness and likely contributed to the broad deterioration in manufacturing GVA highlighted by negative growth between 2005–09 and in 2011.

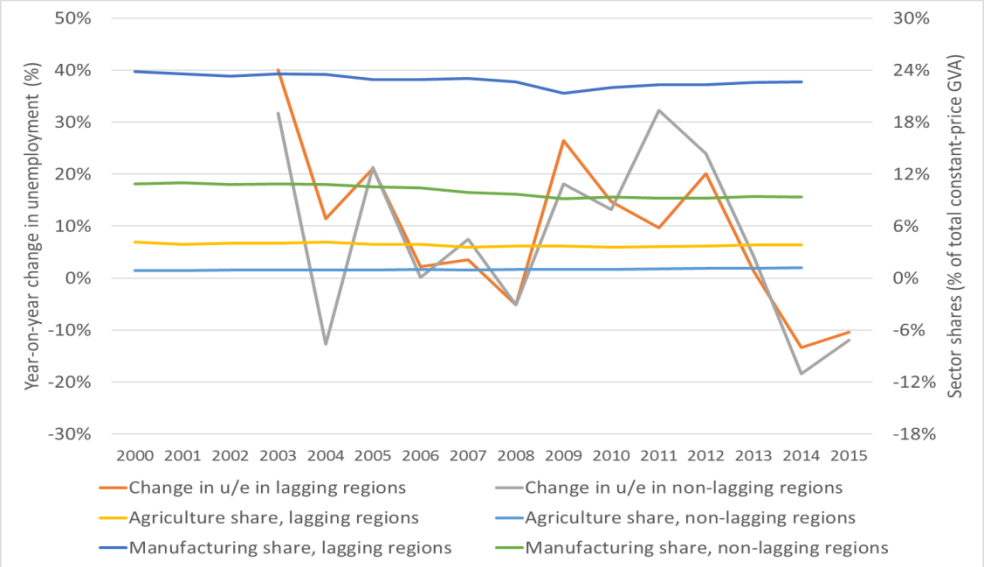
Figure 1.125: Unit labour cost and manufacturing GVA in Portugal



Labour market resilience

The shares of agriculture in either region's GVA changed little during 2000-15. One notable observation is that agriculture contributes a small share of GVA in both non-lagging (1%) and lagging regions (4%). In contrast, manufacturing's GVA share is still substantial at over 22% in lagging regions and just under 10% in non-lagging regions. Unemployment dynamics are broadly similar across lagging and non-lagging regions and are characterised by the two episodes before and after 2008. Labour markets were improving prior to 2008 before the financial crisis led to a prolonged deterioration in unemployment which only showed some signs of improvement in 2014.

Figure 1.126: Unemployment vs sector share of output in Portugal



1.6.6 Conclusions

From the analysis above it is clear that Portugal has had a number of underlying issues which were obscured by the success felt during the period of economic expansion in the early and mid-2000s. These issues ranged from poor skills and labour market performance, high public and private debt with low levels of investment and an industry structure focused on low skills low value industries. After the financial crisis in 2008, these structural issues became exacerbated in the lagging regions of the Portugal with only Lisbon countering the trend. Automatic stabilisers helped to alleviate the extent of the recession and adjustment in unit labour costs improved competitiveness helping to increase exports and reduce the trade balance deficit. However, when government reduced expenditure once gain the structural issues prevalent in Portugal's lagging regions resulted in further economic difficulties including a contraction in employment. Many of these problems in the lagging regions showed signs of improvement throughout years of economic expansion but following

the financial crisis a period of deleveraging, and as a result declining investment, has reduced the potential for economic growth.

1.7 Romania

1.7.1 Introduction

Economic developments in Romania are shaped by recent rapid changes in industrial structure towards the growth of the services sector and as a result of the transition to a market based economy[29]. The initial transitionary period in the nineties was a period of economic decline but stabilisation and growth occurred by then end of the decade. Agglomeration effects are evident because of industrial change with the capital Bucharest and also to a lesser degree the centre and west of the country benefiting from these effects. As a result, the gap in economic development with the rest of the country, which has persisted over time, has increased particularly in those areas where agriculture and mining have been the dominant economic activities. Developments in economic growth are also reflected in regional labour markets[30]. Regional unemployment disparities remained stable during the transition to a market economy in the early nineties. However, while regions with an industrial profile experienced job reallocations with job destruction and creation, regions with an agricultural profile primarily experienced job destruction. Housing availability is also an important determinant of migration flows between regions during this period in comparison to unemployment with a trend of migration from agricultural regions to industrial regions. Furthermore, industrial structural change has continued throughout the 2000s[31] including in the capital Bucharest which also experienced the best relative performance in terms of gross valued added.

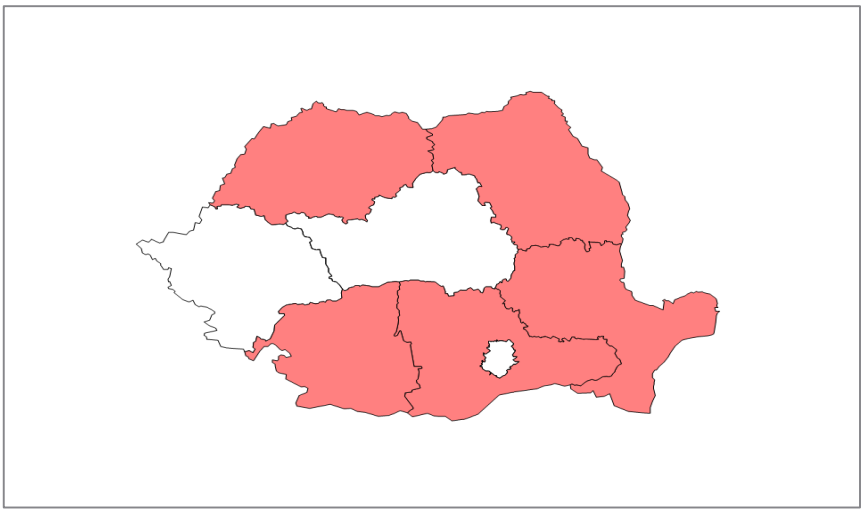
As has been the case in the past, the lagging regions of Romania are today found among the regions peripheral to the centre and west the country except for the capital Bucharest, which is in the south east of the country. The lagging regions include the following NUTS 2 regions; Nord-Vest, Nord-Est, Sud-Est, Sud- Multenia and Sud-Vest Oltenia (see Figure 1.127). These lagging regions make up approximately two thirds of Romania's population and 71% of the country's area. While the lagging regions are similar in size measured by area, Sud-Multenia and Nord-Est have larger populations of more than three million people, whereas Sud-Vest Oltenia has the smallest population at just above two million people.

[29] Benedek, J. and Kurko, I. (2011), 'Evolution and Characteristics of Territorial Economic Disparities in Romania', Club of Economics in Miskolc TMP Vol. 7., Nr. 1., pp. 5-15.

[30] Ella, K. and Traistaru, Iulia, (1998) 'Characteristics and trends of regional labour markets in transition economies: Empirical evidence from Romania', LICOS Discussion Paper, No. 72

[31] Chilan, M. N., (2012) 'Evolution of regional and sub regional disparities in Romania – a sectoral shift-share analysis', Romanian Journal of Economic Forecasting vol. 1, pp. 187-204

Figure 1.127: The NUTS2 regions of Romania

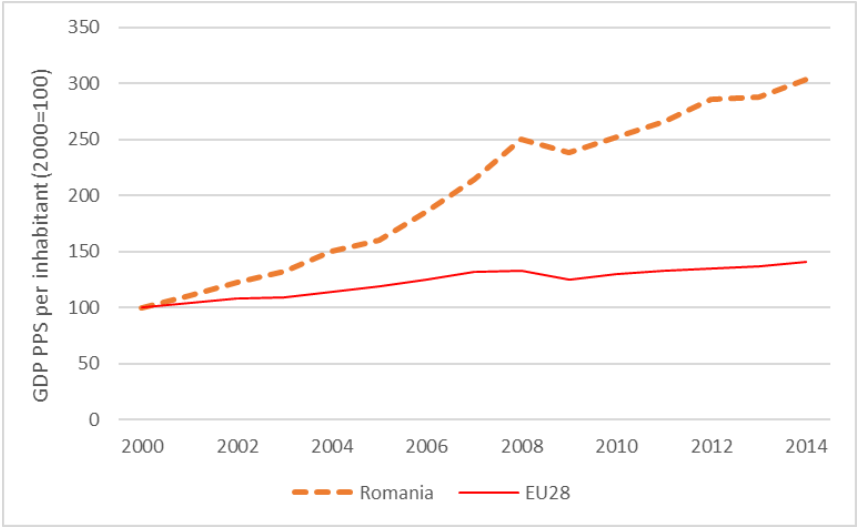


1.7.2 Fiscal and macroeconomic environment

GDP

After a period of economic contraction throughout most the 1990s, Romania's economy expanded until the financial crisis in 2008 when the economy entered recession once again (see Figure 1.128). However, 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.

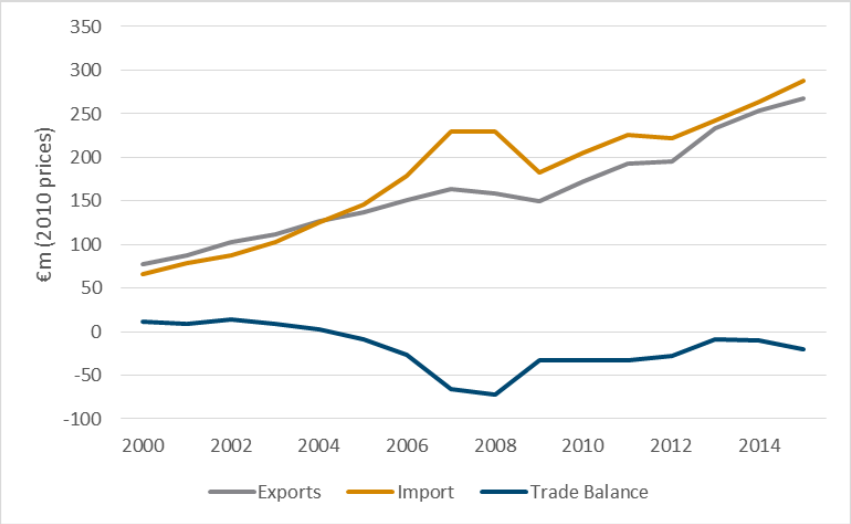
Figure 1.128: GDP per capita for Romania



Trade

In the period preceding the financial crisis, Romania's small trade balance surplus changed into a large trade balance deficit. In 2007 the real effective exchange rate reached a peak making imports relatively less costly than domestic products and increasing the cost of exports to the rest of the world. The result was a loss of competitiveness as imports increased faster than exports. The stabilising effect of the real effective exchange rate can be seen in how the gap between exports and imports has narrowed since 2007 (see Figure 1.129).

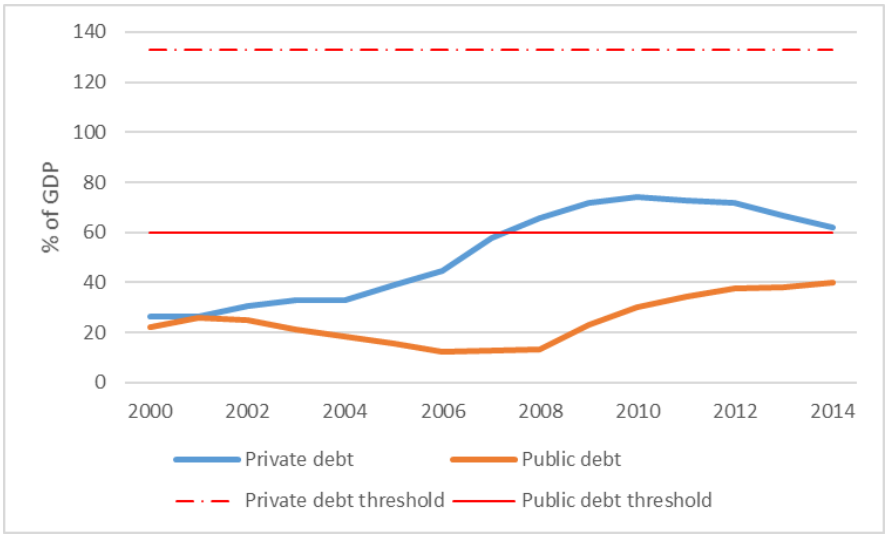
Figure 1.129: Imports and exports for Romania



Debt

Private credit flows increased before the financial crisis as credit became easier to obtain although flows have since stabilised and began to decrease in more recent years (See Figure 1.130). 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 unemployment, public debt has continued to trend upward although at a much slower pace which suggests stabilisation on current trends and remains a good deal below the macroeconomic imbalance procedure threshold of 60% of GDP.

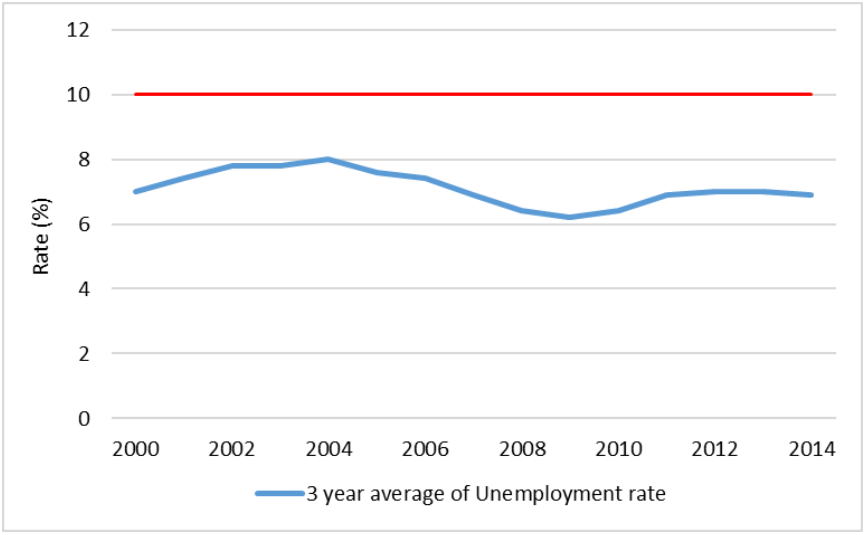
Figure 1.130: Public and private debt for Romania



Labour market

Changes in the economy during the 2000s resulted in an increase in the unemployment rate (See Figure 1.131). However, unemployment fell from the mid-2000s before rising once again following the financial crisis. Nevertheless, as the economy recovered the unemployment rate stabilised below peaks experienced previously in the pre-financial crisis period. The unemployment rate in Romania, while increasing somewhat in some periods has remained relatively low and far below the macroeconomic imbalance procedure threshold of 10%.

Figure 1.131: 3-year average unemployment rate for Romania

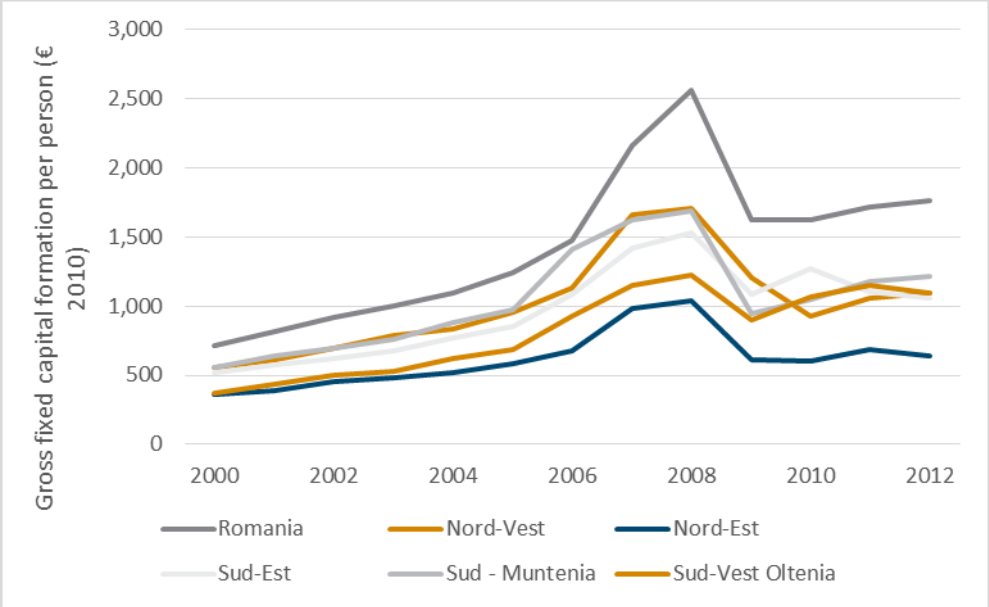


1.7.3 Regional structural issues

Investment

Regional investment per capita (measured by gross fixed capital formation) in the lagging regions of Romania falls behind the national average with the gap increasing since the financial crisis. While the lagging regions have tended to converge together but below the national average in recent years, the Nord-Est region has lagged further behind (See Figure 1.132).

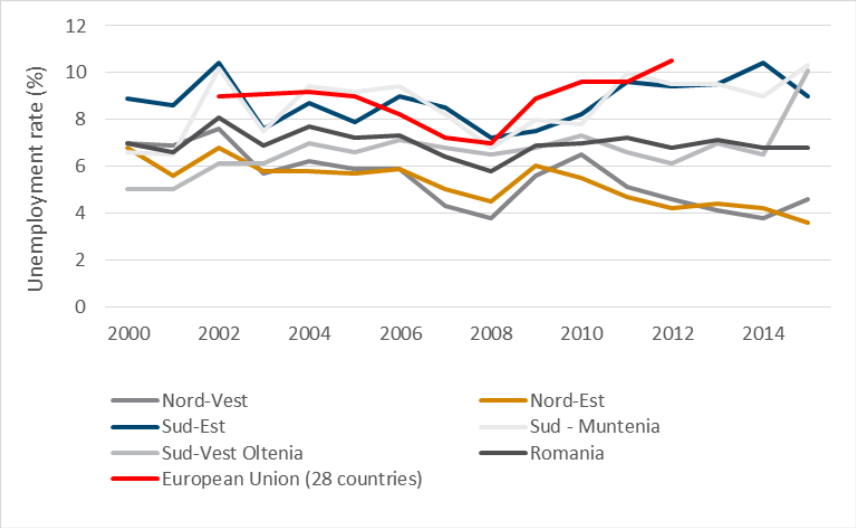
Figure 1.132: Regional gross fixed capital formation per capita in Romania



Labour market

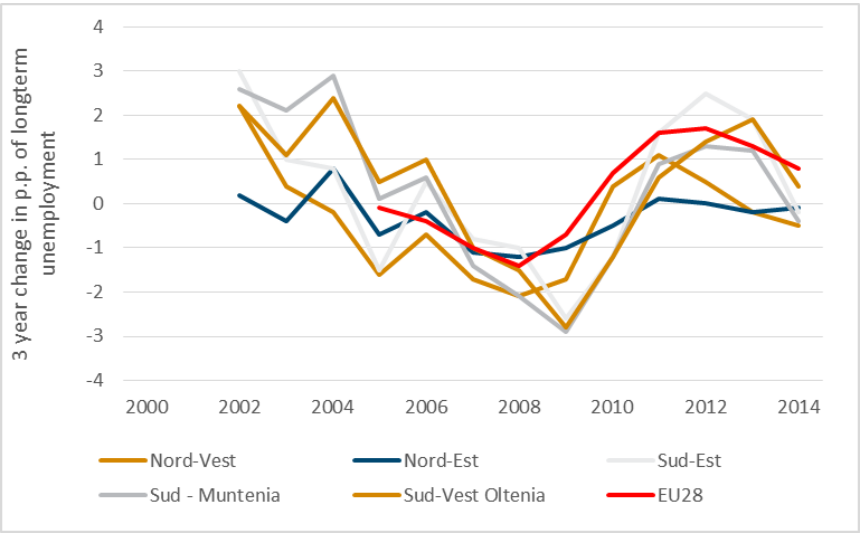
Unemployment rates in Romania have remained moderate mostly in the range of 6-8% on average. Despite strong economic growth in the period before the financial crisis, unemployment fell only slowly on a national basis and increased once again following the financial crisis. However, on a regional basis divergent trends are evident with the lagging regions in the south experiencing increases in unemployment with rates above the national average whereas regions in the north achieve unemployment rates below the national average and even approaching rates consistent with full employment (See Figure 1.133).

Figure 1.133: Regional unemployment rates in Romania



Extended periods of unemployment can prove harmful to human capital in the form of workplace skills. Romania experienced some growth in long term unemployment during the 2000s, primarily in the lagging regions to the south of the country while the lagging regions in the north but this growth was largely reversed in years preceding the financial crisis (see Figure 1.134). Following the financial crisis, long term unemployment increased once again in Romania mostly in line with the EU average. However, the lagging regions in the north of Romania performed better with little increase in the long-term unemployment.

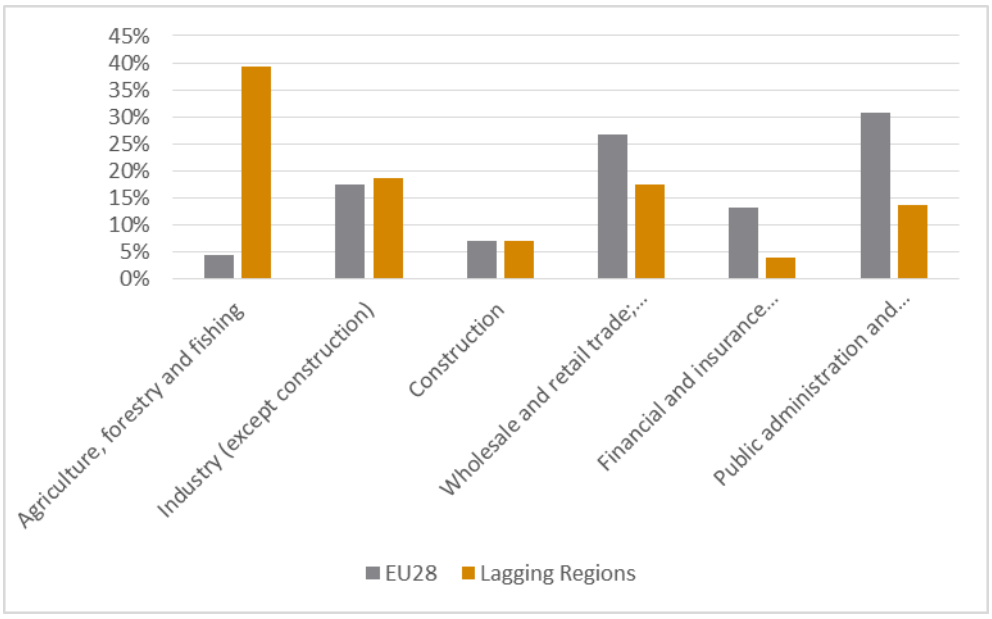
Figure 1.134: Regional changes in long-term unemployment rate in Romania



Economic structure and innovation

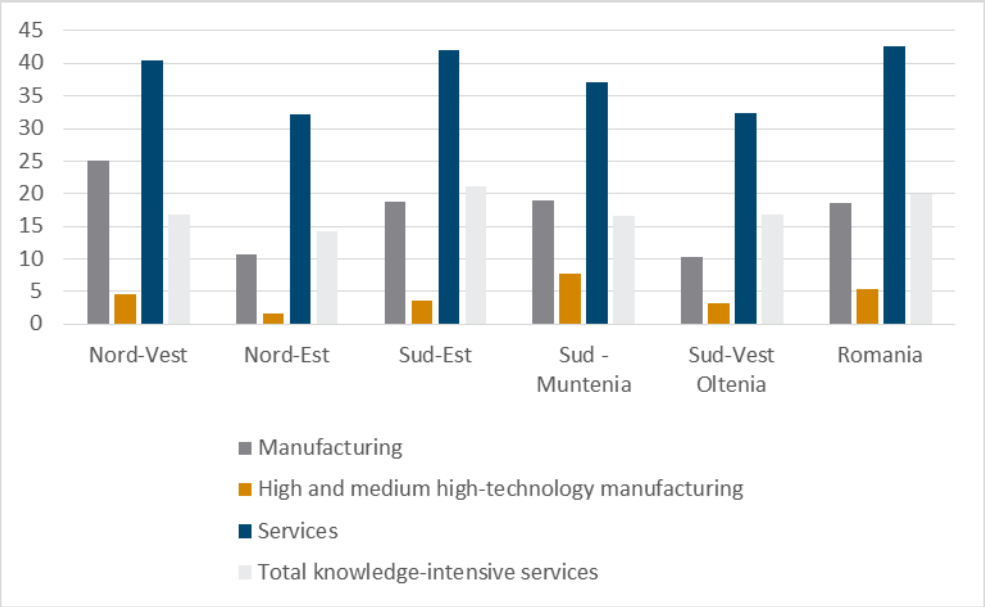
Romania has experienced rapid transition towards a market-based economy although its industrial structure is still characterised by a very large agricultural sector and smaller shares of services sectors. This industrial structure is even more pronounced in the lagging regions in Romania when compared the EU average. Among the lagging regions, the industry structure is heavily skewed towards agriculture but underrepresented in services, in particular knowledge services when compared to the EU (See Figure 1.135). On the hand, industry employs a slightly higher share of the population on average.

Figure 1.135: Industry structure (share of employment) of lagging regions in Romania, 2011



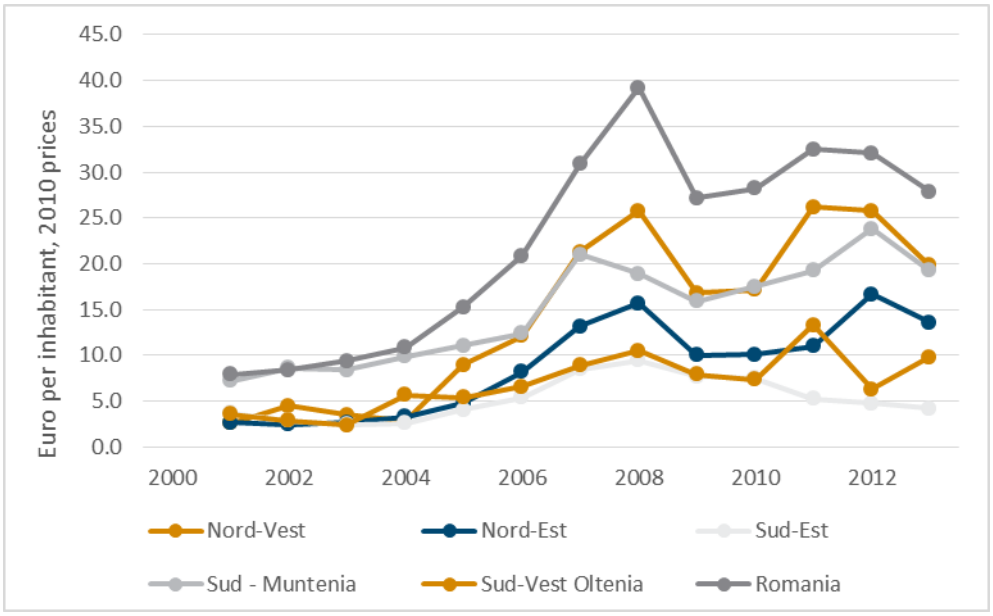
Breaking down industrial structure on a regional basis into services and manufacturing as well as the share of knowledge intensive services (KIS) and manufacturing gives a greater understanding of the share innovation-intensive activities (See Figure 1.136). For instance, the Nord-Vest region has a higher share of manufacturing than the national average but the share of high and medium high technology manufacturing (HTM) is below the national average. Conversely, the Sud-Multenia region has a similar share of manufacturing than the national average but an above average share of high and medium high-technology manufacturing. For the services sector, it is generally found that the share of knowledge-intensive services compared to the services sector is approximately proportionate to the national average across lagging regions.

Figure 1.136: Industry employment share of knowledge intensive services (KIS) and high and medium high-technology manufacturing (HTM) in Romanian lagging regions



Among the factors affecting economic growth is innovation input. Innovation input measured by R&D expenditure per inhabitant shows that all the lagging regions invest less in innovative activities than the national average (See Figure 1.137).

Figure 1.137: R&D expenditure per inhabitant for Romanian lagging regions



This divergent trend has increased over time with regions such as Sud-Est, Sud-Vest Oltenia and Sud-Multenia showing little change in R&D expenditure over time. Sud-

Multenia matched the national average in expenditure on R&D in the early 2000s but failed to increase its expenditure substantially along the lines of the national average. In contrast, the Nord-Vest region once lagged all other regions but has almost matched the national average. The Nord-Est region has also made some progress relative to other lagging regions but has not managed to close the gap with the national average.

Institutions

Intuitions play a key role in driving economic growth through effective policy making. According to the World Economic Forum competitiveness index[32], Romania is ranked only 92nd out of 148 countries across the world for the quality of its institutions. However, Romania ranks lower for the burden of government regulation is ranked at 122nd and with public trust in politicians ranked at only 120th. These rankings indicate key institutional and infrastructure issues with Romania's competitiveness.

Furthermore, none of Romania's universities are ranked in the top 600 in the world according to the QS university rankings[33] indicating the difficulties for the Romanian economy in leveraging high-quality university output in producing innovative output.

1.7.4 Stabilising and destabilising factors

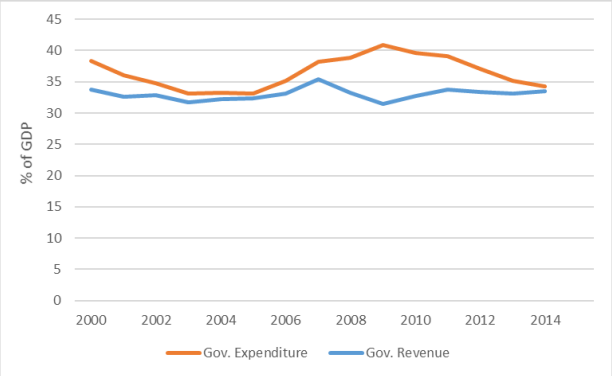
Fiscal stimulus

An examination of fiscal policy in Romania shows that the country has run consistent budget deficits with government expenditure exceeding government revenue although the gap did close during the mid-2000s only to expand once again in the period before the financial crisis (See Figure 1.138). This pro-cyclical policy fiscal policy tends to exacerbate economic contractions as if pursed over long periods of time government have less scope to increase deficit spending during economic downturns. However, the economy recovered in the aftermath of the financial crisis and has narrowed the deficit substantially since then.

[32] http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

[33] http://www.topuniversities.com/university-rankings/world-university-rankings/2015#sorting=rank+region=140+country=192+faculty=+stars=false+search=

Figure 1.138: Government expenditure and revenue in Romania

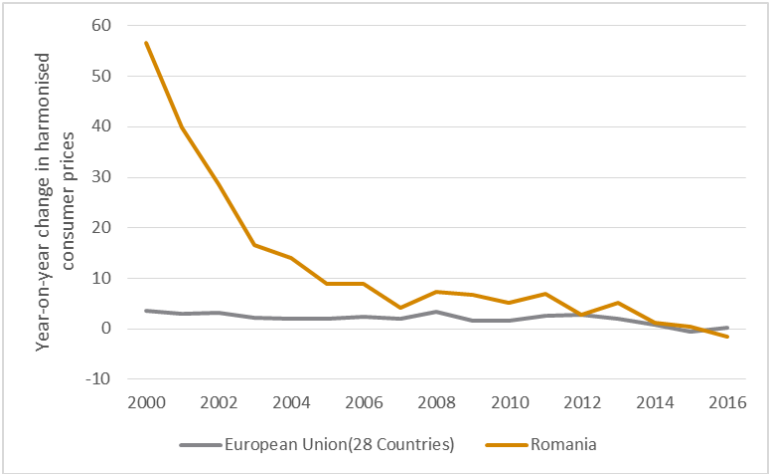


Competitiveness

Among the stabilising factors affecting the economy is monetary policy and flexible exchange rates. In the early 2000s, prices in Romania were growing at very high rates, far in excess of the EU average (see Figure 1.139). However, Romania has made progress in reducing inflation to EU levels. The consequence of the rapid growth in prices has been the deterioration in the competitiveness of the country, including relative to the EU member states.

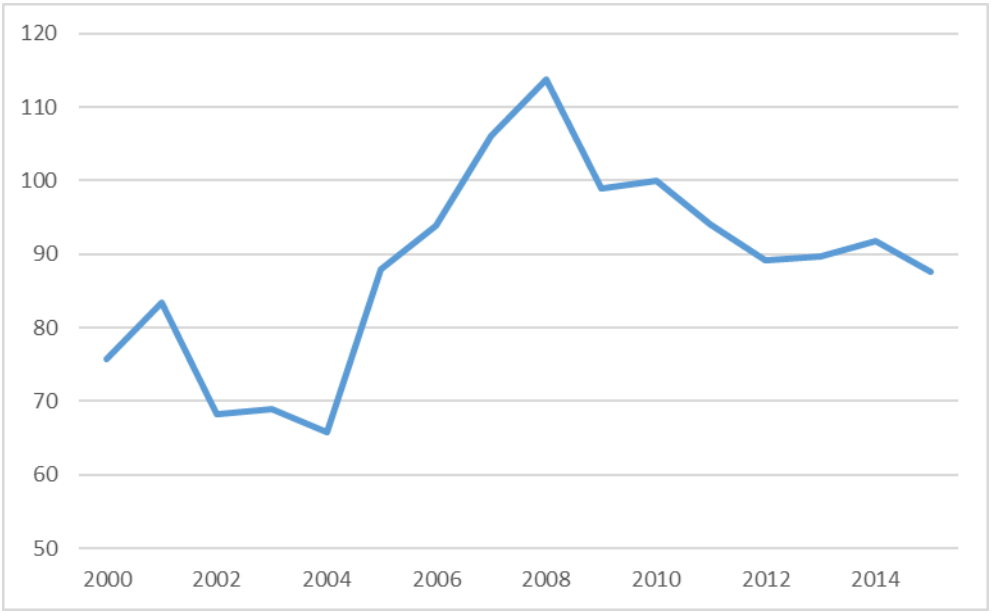
More recently in the last few years, Romania has been faced with combating deflation rather than inflation with prices falling and doing so below the EU average which has also experienced deflation. While a fall in prices relative to the EU would improve the relative competitiveness of Romania to other member states, deflation would risk depressing the economy further if consumers decided to delay purchases in anticipation of future prices falls.

Figure 1.139: Harmonised consumer prices in Romania



Concurrent with developments in inflation, the real effective exchange rate for Romania (based on unit labour costs, trade weighted and relative to 37 industrialised countries) demonstrates how Romania lost competitiveness through most of the 2000s before improving following the financial crisis in 2008 (See Figure 1.140). The decline in the real effective exchange rate acts as a stabilising factor for the balance of payments as it improves competitiveness by making exports less costly to trading countries while increasing the cost of imports. Some of the loss in competitiveness through the 2000s has been recovered through a fall in the real effective exchange rate since 2008.

Figure 1.140: Real effective exchange rate for Romania

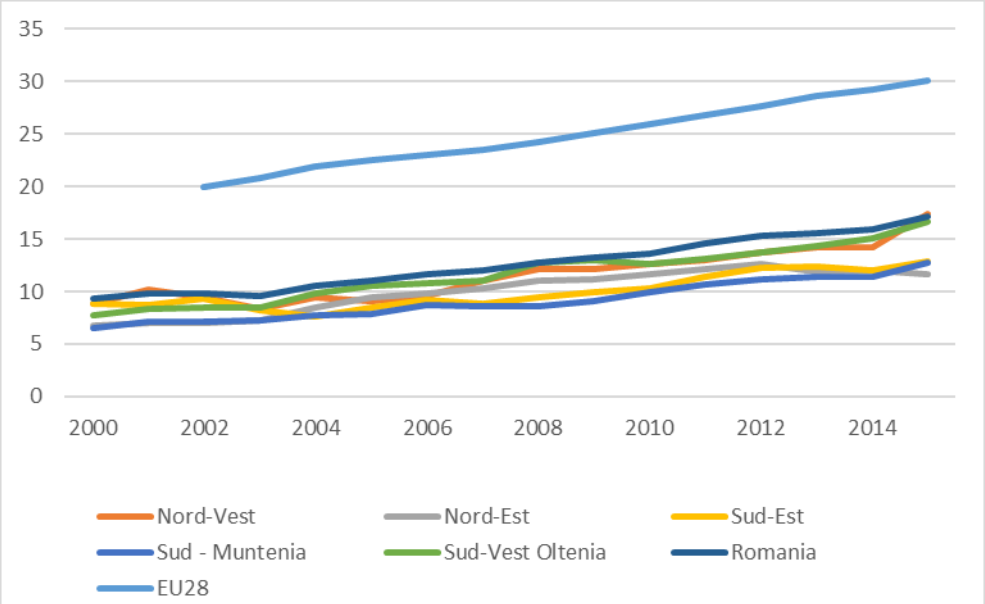


Investment in human capital is one way of increasing labour productivity and thus driving economic growth. A proxy of human capital can be found among the share of the population with tertiary education. The progress Romania has made in investing in human capital is evident in the growth of human capital both in Romania on average and among the lagging regions also a disparity with the EU average remains (see Figure 1.141). However, among the lagging regions some differences become evident. The level of human capital among all lagging regions fell behind national levels in the aftermath of the financial crisis but have since recovered somewhat.

The lagging regions broadly fit into two categories, the regions which have levels of human capital close to or at the national average, namely Nord-Vest and Sud-Vest Oltenia and the regions which lag the national average substantially. While the Nord-Vest region has performed at or near the national average, the Sud-Vest Oltenia region has experienced periods where it underperformed other lagging regions as well as periods when investment in human capital has reached and even exceeded the national average. In contrast to these regions, the remaining regions lag the national average substantially. The Nord-Est, Sud-Est and Sud-Multenia regions all underperform the national average in terms of human capital. The Sud-Multenia

region has underperformed all other regions over time but the Sud-Est region matched the national average in the early 2000s before falling behind other regions. In general, the lagging regions show an east-west disparity with regard to human capital with the western lagging regions demonstrating levels of human capital and the eastern regions showing less human capital development.

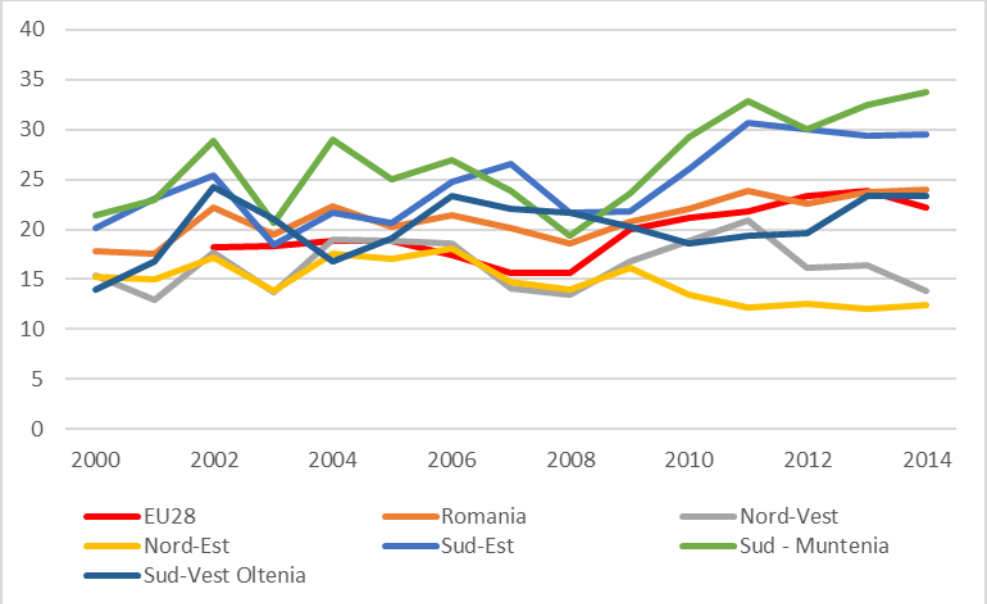
Figure 1.141: Tertiary education among those aged 25-64 in the Romanian lagging regions



Adverse developments in the labour market can reduce the effectiveness of investment in human capital as skills gained through education and work are lost in a process known as hysteresis. This is especially the case for youth and long-term unemployment where failure to enter the labour market following education or the loss of skills after a long period in unemployment reduces productivity and economic growth.

Changes in youth unemployment among the lagging regions show substantial deviation from the national average (See Figure 1.142). In general, youth unemployment saw both increases and decreases among lagging regions before the financial crisis with a divergence following the financial crisis in line with the EU average. Among the lagging regions youth unemployment has increased substantially in the south of Romania whereas in the north unemployment has decreased following the financial crisis. The high levels of youth unemployment in the south of Romania coupled with already low levels of human capital through lagging tertiary education attainment indicate substantial difficulties in both educational attainment as well as opportunities to apply knowledge gained through education in the labour market.

Figure 1.142: Youth unemployment rates in the Romanian lagging regions



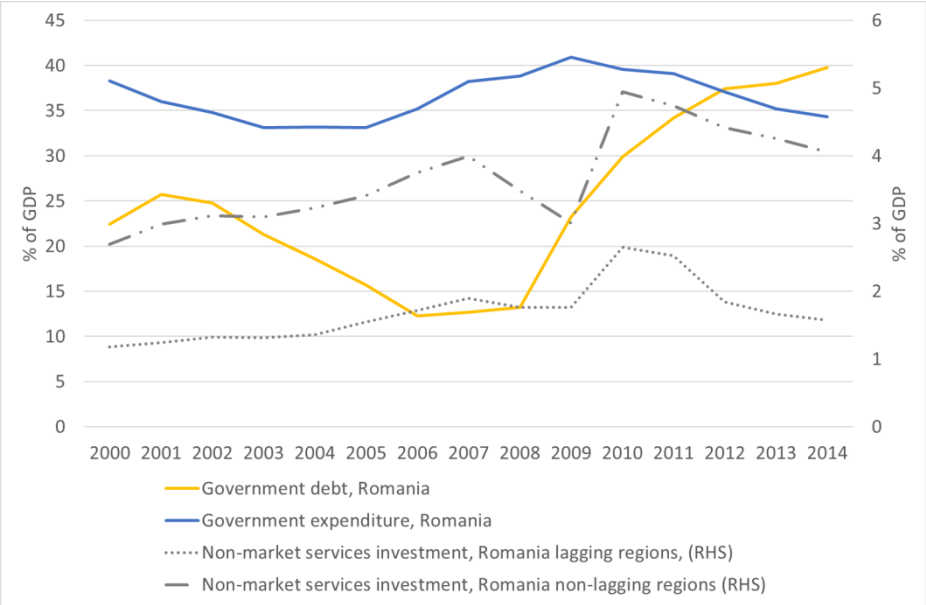
1.7.5 Transmission mechanisms

Public debt

Government debt as a share of GDP fell in the period before the economic crisis in 2008 but increased rapidly thereafter. In response to increased levels of government debt, government expenditure decreased but non-market services[34] investment (a proxy of public investment) increased in both lagging and non-lagging regions indicating the efforts to continue investment for long-term growth in favour over short-term counter cyclical policies. Nevertheless, a major difference exists in the public investment share of GDP between lagging and non-lagging regions despite similar trends in the share of GDP in all regions (see Figure 1.143).

[34] 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 1.143: Public debt, expenditure and investment in Romania

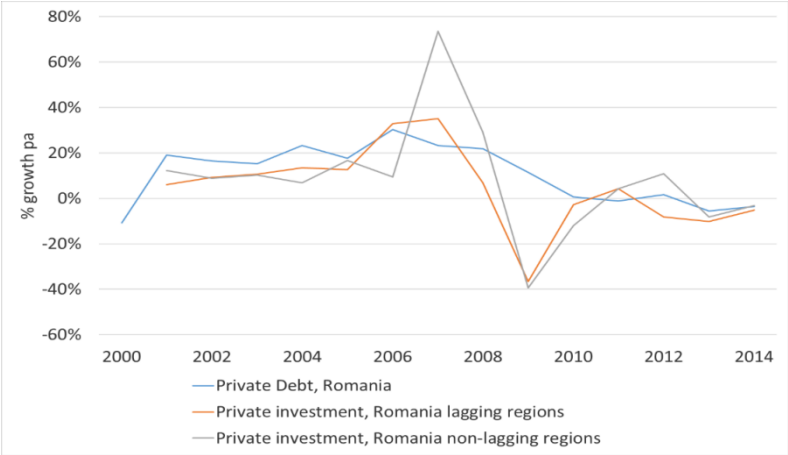


Private debt

Private debt in Romania grew strongly over time before the financial crisis with private investment growing at similar rates in both the lagging and non-lagging regions. Following the financial crisis, deleveraging of private debt occurred in Romania during an initial sharp contraction followed by lower rates of private investment[35] (proxied by calculating investment less non-market services) than was experienced prior to the financial crisis (see Figure 1.144). The trend was followed closely in both the lagging and non-lagging regions indicating little regional disparities in private investment because of deleveraging.

[35] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

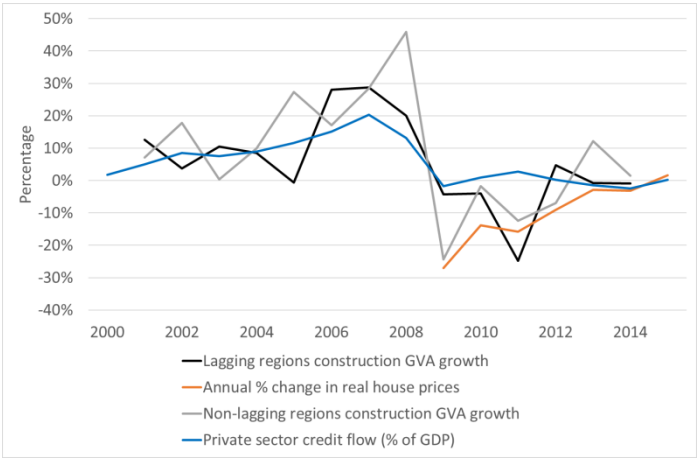
Figure 1.144: Private debt and investment in Romania



Private credit

Prior to 2008 construction GVA grew in both the lagging and non-lagging regions of Romania as private sector credit flow grew (see Figure 1.145). However, following the financial crisis, private credit stagnated and construction GVA contracted in both the lagging and non-lagging regions while house prices also contracted substantially by almost 30% in 2009. Only in 2014 did the construction sector show potential signs of recovery in both the lagging and non-lagging regions as well as in house prices.

Figure 1.145: Private credit, house prices and construction GVA in Romania

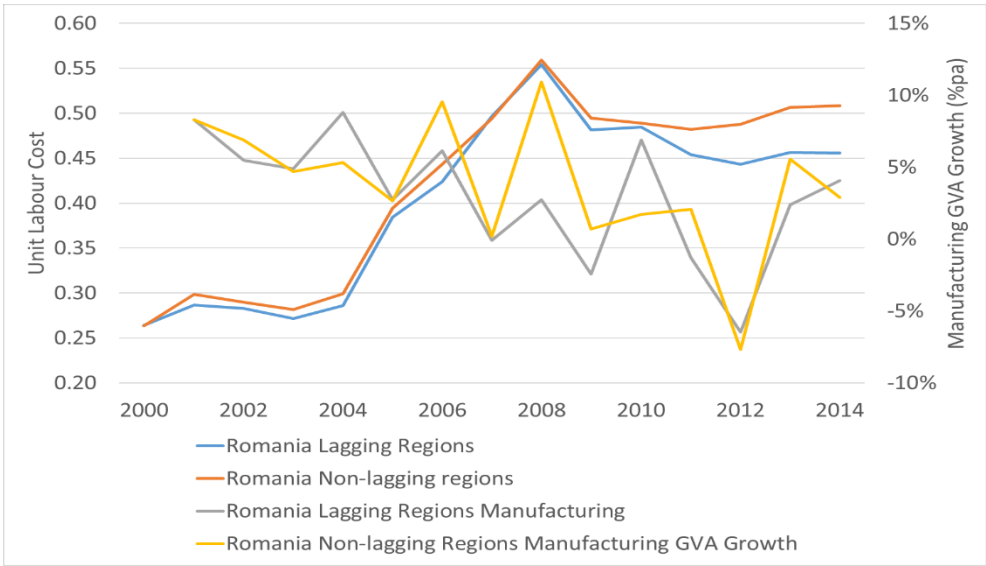


Regional competitiveness

A measure of regional competitiveness, unit labour costs does not show evidence of differential developments until the financial crisis in 2008 with both lagging and non-lagging regions experiencing increased unit labour costs in tandem (see Figure 1.146).

Following the financial crisis, unit labour costs have fallen in the lagging regions but not in the non-lagging regions. The effect of these developments in unit labour costs is difficult to ascertain over the period shown but manufacturing GVA growth in the lagging regions does seem to show some at least some evidence of outperforming non-lagging regions post-2008. In contrast, in the period prior to 2008 when unit labour costs, were comparable between lagging and non-lagging regions, manufacturing GVA in the non-lagging regions tended to outperform the lagging regions. These findings would seem to suggest that unit labour costs have adjusted to increase competitiveness in the lagging regions following the financial crisis with the consequence that manufacturing GVA growth has performed relatively better than in the non-lagging regions.

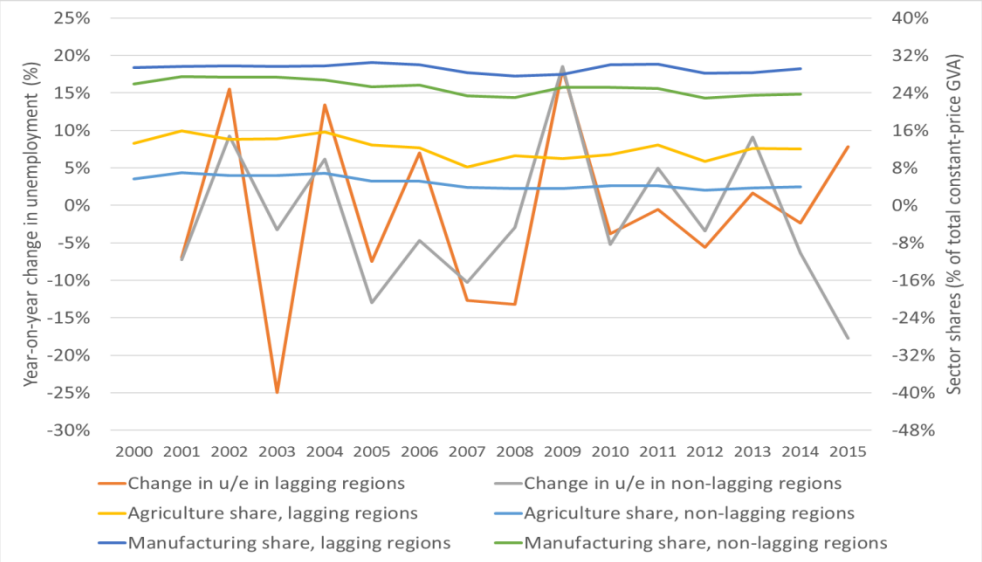
Figure 1.146: Unit labour cost and manufacturing GVA in Romania



Labour market resilience

An examination of labour market resilience in Romania does not seem to show differences between lagging and non-lagging regions (see Figure 1.147). Here the share of manufacturing and agriculture GVA are shown both over time and between lagging and non-lagging regions. Those regions where the share of GVA devoted to manufacturing increases relative to the agriculture sector are expected to have more resilient labour markets. Little change occurs in the share of output between sectors and between lagging and non-lagging regions to demonstrate a difference in labour market resilience and this is reflected in the lack of differences between unemployment rates in lagging and non-lagging regions.

Figure 1.147: Unemployment vs sector share of output in Romania



1.7.6 Conclusions

Regional inequality in Romania is complex with seemingly conflicting findings for economic performance and competitiveness. These findings can be partly explained by Romania deriving economic growth from convergence to the EU average level of economic development rather than innovation.

Romania also experienced uneven public investment along with a lack of regional public investment to counter disparities. In fact, public investment has tended to exacerbate existing disparities resulting in a mixed picture for the competitiveness and economic performance in the lagging regions of Romania.

For instance, human capital among the lagging regions is found to broadly follow an east-west distribution with lagging regions in the west of the country having levels of human capital closer to the national average than those in the east of the country. In contrast, public investment 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 country. These conflicting factors are reflected in innovative activities which are closest to the national average in regions closest to the capital but also, to a degree, in the west where levels of human capital are higher.

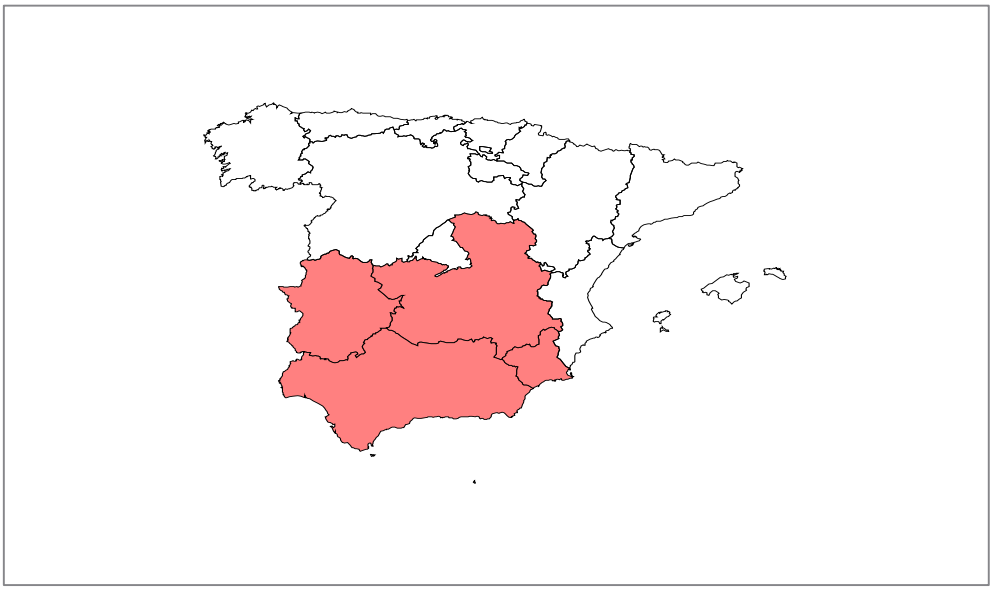
Furthermore, the labour market in Romania shows strong performance among the lagging regions in the north of the country, outperforming not only the lagging regions in the south of the country but also the national average. Nevertheless, the state of the labour market is not reflected in the level of economic development of the regions which shows all lagging regions underperforming the national average and more closely resembles the competitiveness of the regions rather than their level of economic development.

1.8 Spain

1.8.1 Introduction

Regional inequality has a long history in Spain and has proved persistent over time. Spain has seen increasing regional inequality in the economic development of its regions since the 19th and early 20th century with the emergence of poles of economic growth[36]. However, a degree of regional economic mobility also accompanied this inequality as the relative economic position of individual regions changed over time. Regional inequality experienced a decline in Spain in the 20th century coupled with the development of spatial clustering. However, this development of clustering ultimately resulted in regions in the north and east out-performing regions in the south and west. By the 1980s, regional economic divergence had resumed once again along the lines of the spatial distribution established in the previous part of the 20th century. This inequality along spatial lines has persisted to the present.

Figure 1.148: The NUTS2 regions of Spain



Today, the economically lagging regions of Spain are found in the south and west of the country consisting of the NUTS2 regions of Castile - La Mancha, Murcia, Andalucía and Extremadura and accounting for 43% of the land area of Spain (see Figure 1.148). These regions make up 28% of Spain's total population with Andalucía alone consisting of 18% or 8.3 million people and the other regions ranging between one and two million people.

Across key economic indicators such as GDP per capita, employment and unemployment rates, the lagging regions of Spain do not seem to exhibit substantially different performance over time compared to the national performance during the

[36] See 'A closer look at the long-term patterns regional income inequality in Spain: the poor stay poor (and stay together)', Daniel A. Tirado, Alfonso Díez-Minguela and Julio Martínez-Galarraga, available here: http://www.ivie.es/downloads/docs/wpasec/wpasec-2015-05.pdf

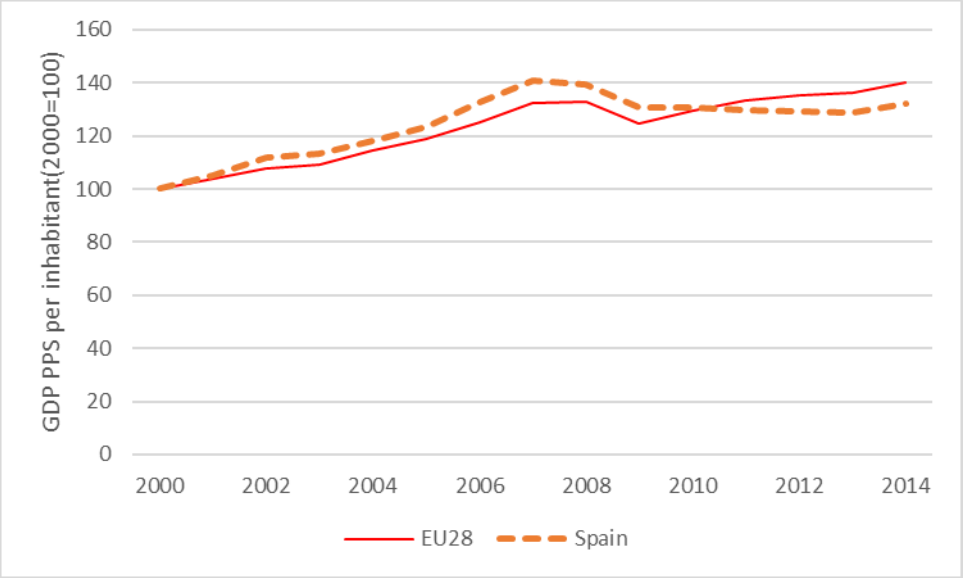
period before and following the economic crisis. The performance gap between the lagging regions and the country is evident primarily through the absolute levels of economic performance rather than changes over time.

1.8.2 Fiscal and macroeconomic environment

GDP

The Spanish economy has experienced strong growth during the last decade outperforming other members of the EU. However, part of that growth relied on a property boom driven by low interest rates. Following the financial 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 (see Figure 1.149).

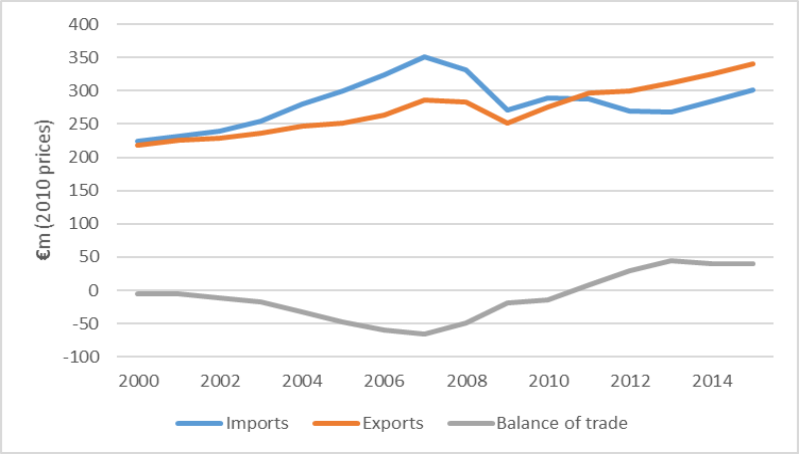
Figure 1.149: GDP per capita for Spain



Trade

Spanish exports grew over time in the period before the financial crisis (see Figure 1.150). However, Spanish imports grew substantially more over the same period resulting in deteriorating balance of trade. This trend reversed following the financial crisis, after which imports fell more than exports and growth in exports began to exceed imports beginning in 2010.

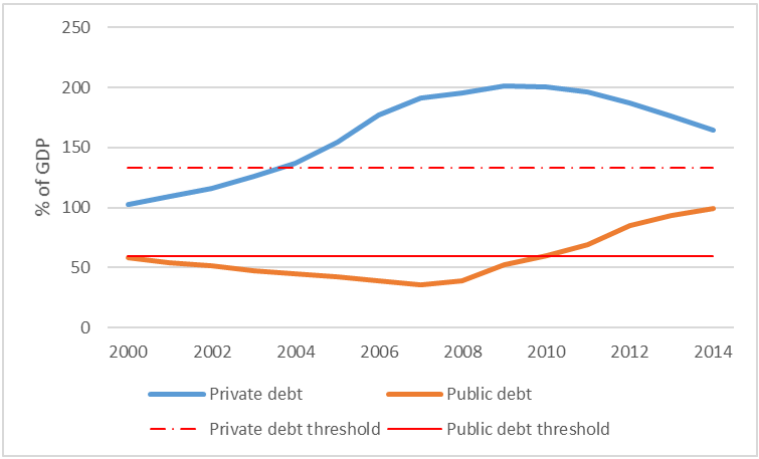
Figure 1.150: Imports and exports for Spain



Debt

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 has 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% but remaining above the macroeconomic imbalance procedure threshold of 133%. This still represents a private debt level above the normal range. In contrast, government debt has increased, from below 50% of GDP in 2008 to approximately 100% in 2014 and above the macroeconomic imbalance procedure (see Figure 1.151).

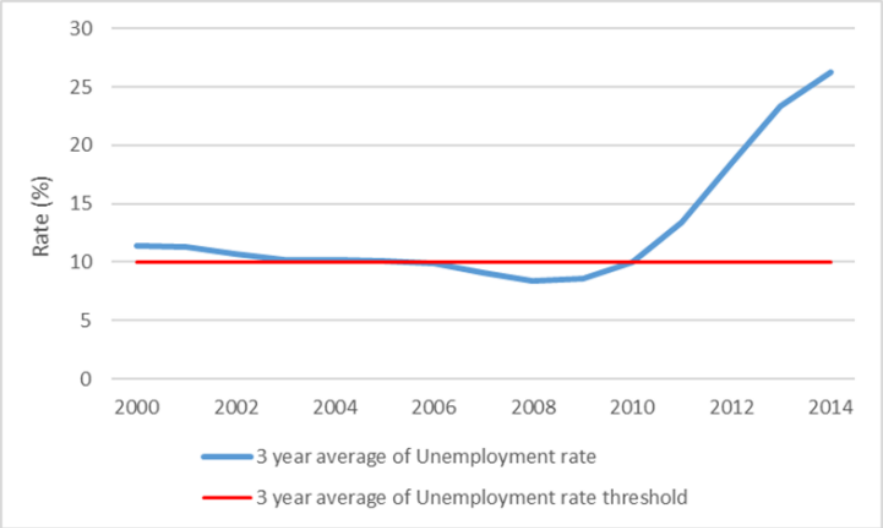
Figure 1.151: Private and public debt for Spain



Labour market

Coupled with the developments in GDP, the 3-year average of unemployment in Spain fell consistently from a high point of over 20% in 1995 to a figure of under 10% in 2007, before rapidly increasing from 2008 onwards following the financial crisis. Currently the 3-year average sits at a figure of around 25% have increased substantially since 2009 (see Figure 1.152).

Figure 1.152: 3-year average unemployment rate for Spain

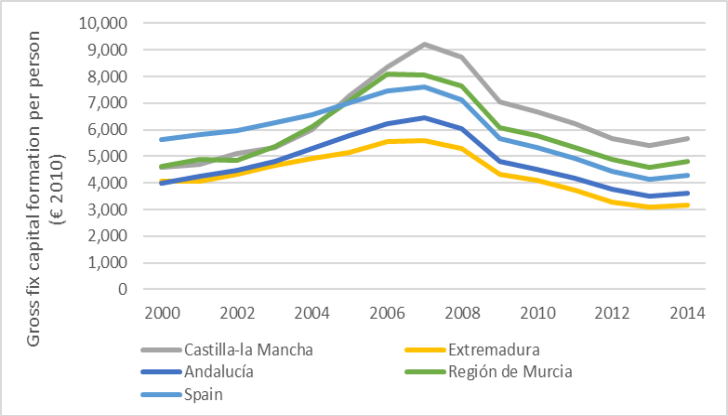


1.8.3 Regional structural issues

Investment

Investment, measured by gross fixed capital formation per capita (see Figure 1.153), has varied over both time and between the lagging regions in Spain. In the period before 2006, investment in the lagging regions fell behind that of Spain as a whole. However, after this point, Murcia and Castilla-la-Mancha both followed different trajectories than Andalucía and Extremadura which continued their performance relative to the national average. In contrast, investment in Murcia and Castilla-la-Mancha exceeded even the national average and maintained this performance thereafter indicating a positive sign for long-term economic growth in these regions. After the financial crisis, all the lagging regions and indeed Spain experienced a decline in investment per capita.

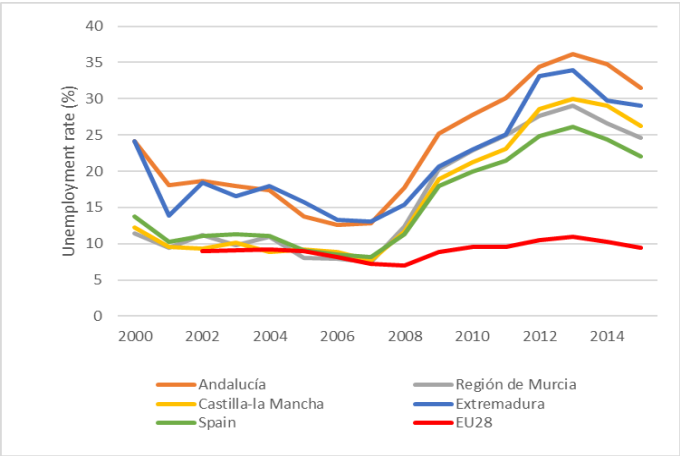
Figure 1.153: Regional gross fixed capital formation per capita in Spain



Labour market

Unemployment rates in Spain are very high even at the national level and in comparison to the EU average. These elevated rates of unemployment present a structural challenge to the economy. Both Andalucía and Extremadura stand out among the lagging regions for having unemployment rates substantially above the national average (see Figure 1.154). In contrast, Castilla-la Mancha and Murcia both have unemployment rates comparable to the national average although these regions have begun to decouple from the national average in more recent years beginning in 2008 and are becoming more pronounced as a recovery in unemployment rates occurs. This decoupling of unemployment rates suggests a potential structural change during the period and poses a challenge regional economic development.

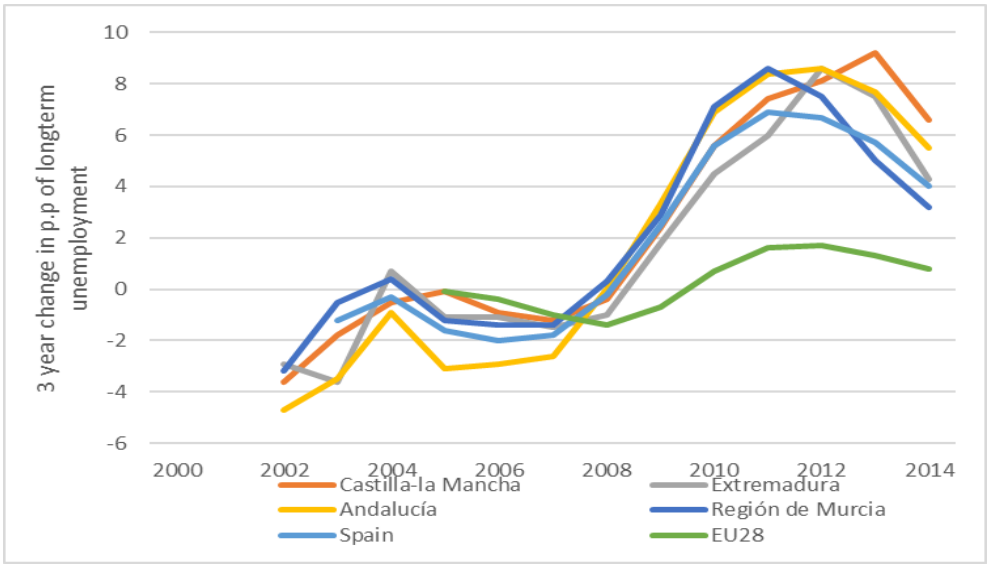
Figure 1.154: Regional unemployment rates in Spain



Structural issues in unemployment have persisted over time and may be partly attributed to the inflexibility of the Spanish labour market as well as low education attainment[37] (see Figure 1.155). While these issues are national problems, they may exacerbate local structural issues further. Labour market reforms in the mid 1990's have reduced the strictness of the labour market particularly for permanent contracts but the labour market remains inflexible and costly for employers. This structural inflexibility coupled with economic contraction has seen unemployment increase substantially. Temporary contracts have been reformed at a more gradual pace than permanent contracts but both have seen further reforms since 2010 indicating that structural issues in the labour market are lessening.

Long term unemployment can result in greater loss of human capital and skills through accumulated hysteresis effects and the rate of long-term unemployment in Spain far exceeds the EU average. The changes in long term unemployment rates of the lagging regions of Spain mostly follow the national average decreasing in the period before 2008 and increasing post 2008 with some evidence of the beginning of slowing deterioration in 2012. However, there seems to be some divergence in the timing of the rate of change in unemployment with Murcia leading the lagging regions and Castilla-La Mancha falling behind.

Figure 1.155: Regional changes in long-term unemployment rate in Spain

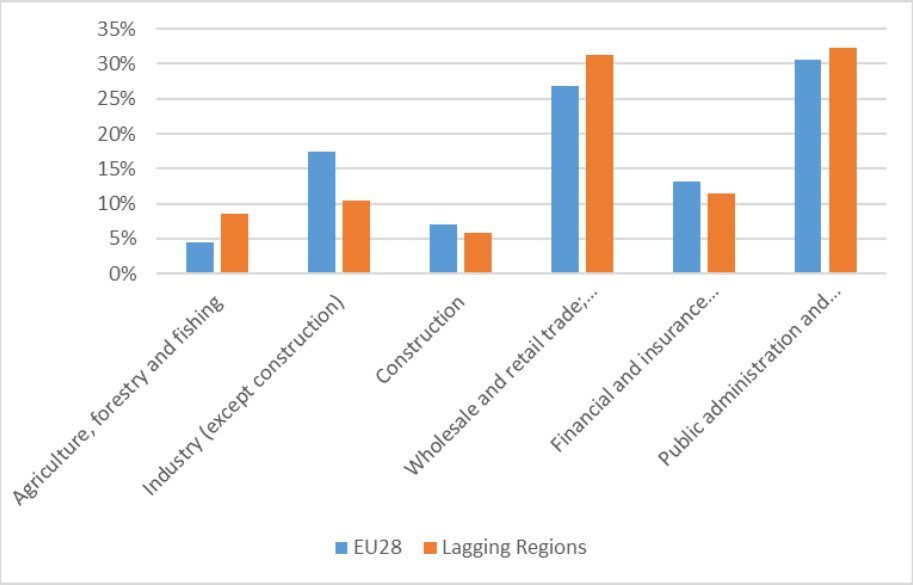


[37] Wolfl and Mora-Sanguinetti (2011), 'Reforming the labour market in Spain', OECD Economics Department Working Papers, No. 845, OECD Publishing

Economic structure and innovation

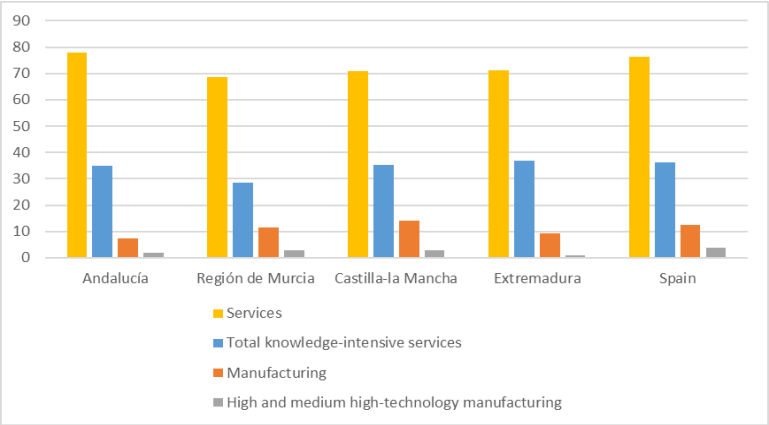
Structural issues in the economies of Spain's regions can be identified by examining investment and expenditure on activities to develop the local economy. A breakdown of industry structure (see Figure 1.156) among the aggregated figure for Spain's lagging regions shows Industry is less structurally represented than the EU average whereas agriculture, forestry and fishing consist of a larger share of the economy than the EU28. Industry is more likely to experience economic growth due to the nature of greater innovative activities in the sector. These structural differences pose challenges for the economic development of the regions in growing sectors.

Figure 1.156: Industry structure (share of employment) of lagging regions in Spain, 2011



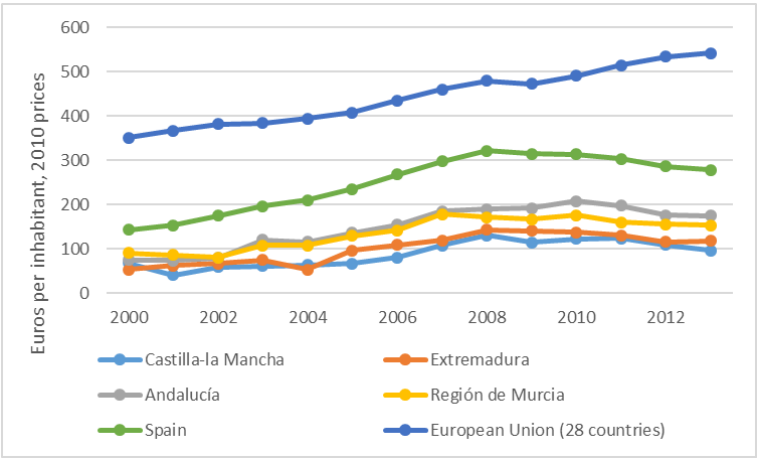
A more detailed breakdown of services and manufacturing by each of the lagging regions in Spain showing how much of the respective employment shares consist of knowledge intensive services and high-technology manufacturing. For services, Murcia stands out as a region with a low share of services employment and a low share of knowledge intensive services employment (see Figure 1.157). However, Murcia also has a relatively larger manufacturing sector compared to other lagging regions and with similar high and medium high-technology manufacturing employment to Castilla-La Mancha even with a slightly smaller manufacturing sector suggesting that high-technology manufacturing is the strength of Murcia. Andalucía has the largest services share of employment but the share of total knowledge intensive services is similar to both Castilla-La Mancha and Extremadura even though these regions have smaller services sectors indicating that this region may have potential to develop its services sector. Extremadura has a very low share of employment in high-technology manufacturing even when considering the size of its manufacturing sector suggesting that its manufacturing sector could be developed further.

Figure 1.157: Industry employment share of knowledge intensive services and high and medium high-technology manufacturing in the Spanish lagging regions, 2014



Expenditure on R&D is a key input helping to produce innovative output and thus drive economic growth. Low levels of expenditure on R&D may indicate structural problems hindering investment in economic growth R&D expenditure in the lagging regions falls behind the national average indicating poorer prospects for economic development and growth (see Figure 1.158). Generally, the lagging regions have followed the same trend as the national average with strong growth in R&D expenditure per inhabitant peaking in 2008 and falling somewhat thereafter but not substantially so. There has also been some evidence of divergence between regions and the national average with the gap between the lagging regions and the national average widening somewhat over time. Even within the lagging regions, Andalucía and Murcia have diverged somewhat from Extremadura and Castilla-la Mancha with the latter underperforming the former.

Figure 1.158: R&D expenditure per inhabitant for Spanish lagging regions



Institutions

With regard to structural institutional factors such as crime, corruption and the rule of law, the World Economic Forum[38] ranks Spain 32nd out of 138 countries for the perception of business costs associated with organised crime and 43rd for irregular payments and bribes but 16th for the reliability of police services to enforce law and order. In terms of government transparency, however, Spain is ranked only 60th. Similarly, public trust in politicians puts Spain ranked at 100th and the burden of government regulation at 113th. These issues impact on the competitiveness of the country imposing costs on investment and weakening the effectiveness of public institutions which may exacerbate the structural problems of Spain's lagging regions.

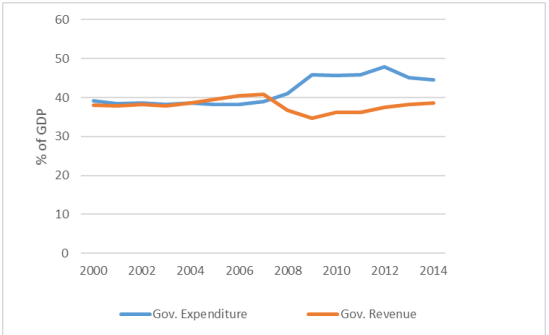
A potential source of the structural problems with innovation output in Spain's lagging regions is lack of top ranked universities. For instance, the lagging regions of Spain have only two universities in in ranked in the top 600 in world out of a total of 16 across Spain, both of which are in Andalucía[39]. The lack of local top-ranked universities limits both the potential for cooperative innovative activities with local industry and the human capital of potential local employees.

1.8.4 Stabilising and destabilising Factors

Fiscal stimulus

In the absence of national monetary policy to stimulate the economy, fiscal policy offers another potential avenue to smoothen the economic cycle. There is some evidence that Spanish government expenditure as a share of GDP has followed a counter cyclical pattern with government revenue as a share of GDP exceeding government expenditure during the period of strong economic growth. In the post 2008 period, these trends have switched as automatic stabilisers stimulate the declining economy. In more recent years the gap between revenue and expenditure has started to close once again as the economy has begun to recover.

Figure 1.159: Government expenditure and revenue in Spain



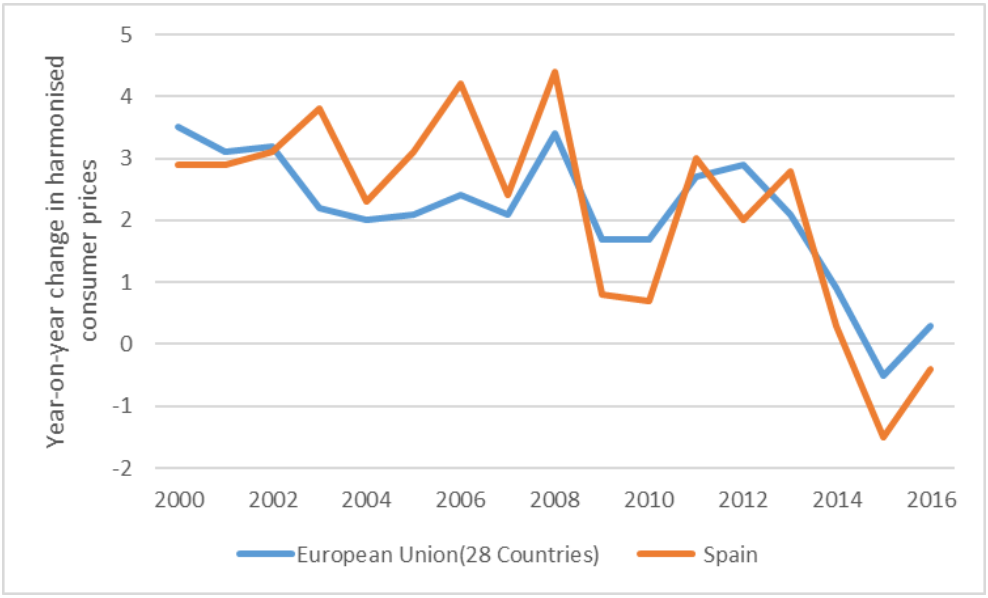
[38] http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf

[39] See the QS university rankings here: http://www.topuniversities.com/qs-world-university-rankings

Competitiveness

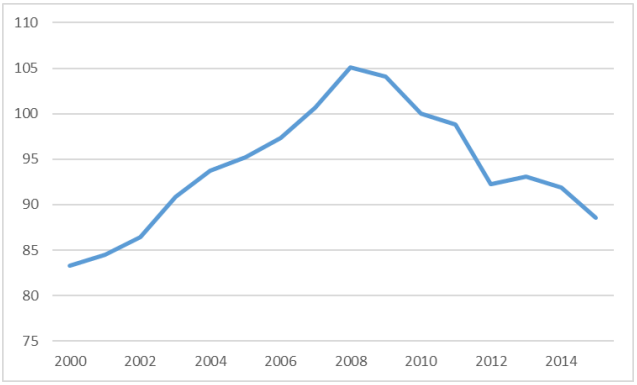
Harmonised consumer prices in Spain broadly followed the EU average although prices in Spain exceeded EU prices before the economic crisis and have begun to fall into deflation in more recent quarters falling below that of the EU (see Figure 1.160). The more recent fall in prices below the EU average imply a slight improvement in competitiveness relative to other EU countries after previous years of declining competitiveness. However, both Spanish and EU prices remain a good deal below the target rate of inflation of 2% indicating a risk of a deflationary spiral downwards whereby current demand is depressed by potential expectations of lower prices in the future and thus encouraging lower prices.

Figure 1.160: Harmonised consumer prices in Spain



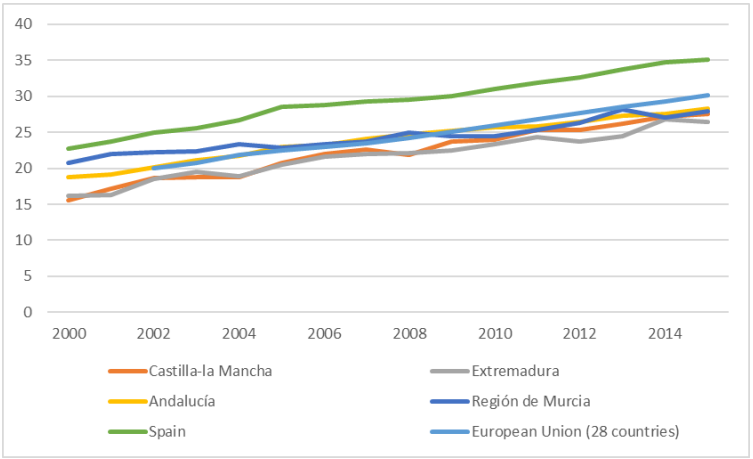
The developments in consumer prices in Spain including the loss of competitiveness in the period before the economic crisis are reflected in the real effective exchange rate (deflated using unit labour costs, trade weighted and relative to 37 industrialised countries). However, since the economic crisis, the real effective exchange rate for Spain shows evidence of a stabilising adjustment downward (see Figure 1.161). This adjustment in the real effective exchange rate makes Spain's imports more costly but also means that Spain's exports become less costly to importers from other countries and thus help to improve the Spanish balance of payments. More recent price developments within the Eurozone and Spain also imply that Spain's competitiveness within the Eurozone has improved as prices in Spain have fallen more than the Eurozone after previously exceeding the Eurozone average even after the economic crisis in 2008 for a period of time.

Figure 1.161: Real effective exchange rate for Spain



Investment in education has been identified in the literature as offering a potential way for decreasing regional economic inequality in Spain as regional differences in education and human capital can act as destabilising factors to the local economy. Tertiary education among those aged 25-64 is a reasonable proxy for human capital among lagging regions. The identified economically lagging regions do indeed also lag the national average in terms of human capital (see Figure 1.162) although closely match education levels in the EU28. However, the trend has been positive since 2000 with most regions continuing to increase the human capital among the 25-64 age group. Some regions such as Extremadura and Castilla – La Macha have made good progress. Others such as Murcia have made progress in increasing education levels but have also fallen behind relative the national average.

Figure 1.162: Tertiary education among those aged 25-64 in the Spanish lagging regions

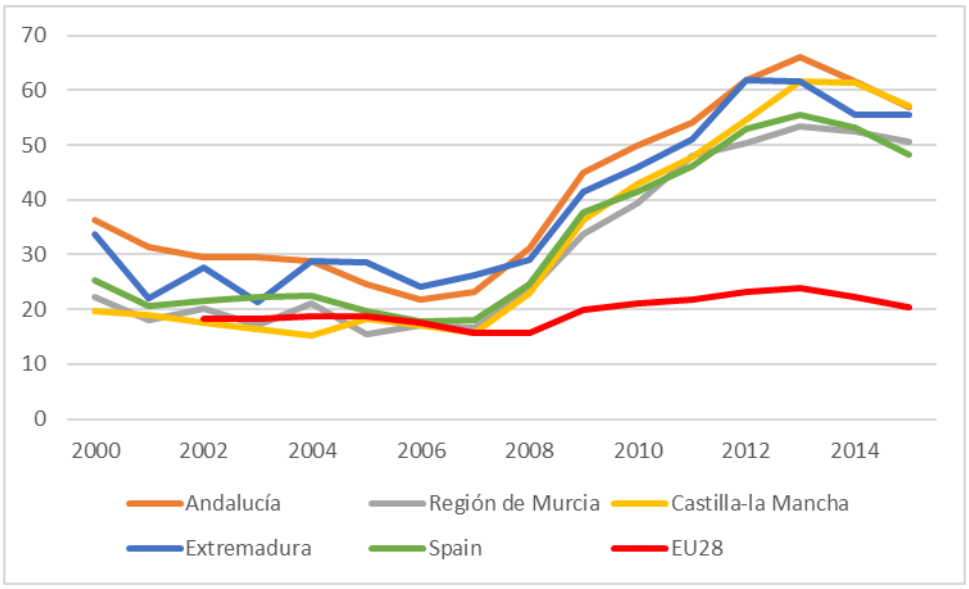


Unemployment results in the depreciation of human capital and skills through hysteresis effects such that skills and human capital deteriorate and depreciate respectively and thus destabilise the economy. This is of concern to the effective utilisation of those skills and human capital. As mentioned above, education levels

have been increasing both among lagging regions and nationally with some regions reaching national levels and bringing with them associated economic benefits to both individuals and regions. However, unemployment is also a persistent problem in Spain especially since the economic crisis which resulted in increasing levels of unemployment, particularly youth unemployment. Investment in education is therefore less effective than it otherwise would have been if human capital gained through education and training could have been retained, employed and augmented in the workplace. On the other hand, there is evidence to indicate that the return on education exceeds that of infrastructure in the poorest regions of Spain[40].

Youth unemployment in Spain far exceeds the EU average, especially since 2008. Developments in Spanish regional youth unemployment show that while Murcia follows the national average closely, Castilla-La Mancha falls behind other lagging regions and the national average to youth unemployment rates experienced by most poorly performing region Andalucía. This suggests structural problems in Castilla-La Mancha among youth unemployment which has failed to recover at the same rate as other regions and the nation despite previously experiencing youth unemployment rates below the national average in the period prior to 2008.

Figure 1.163: Youth unemployment rates in the Spanish lagging regions



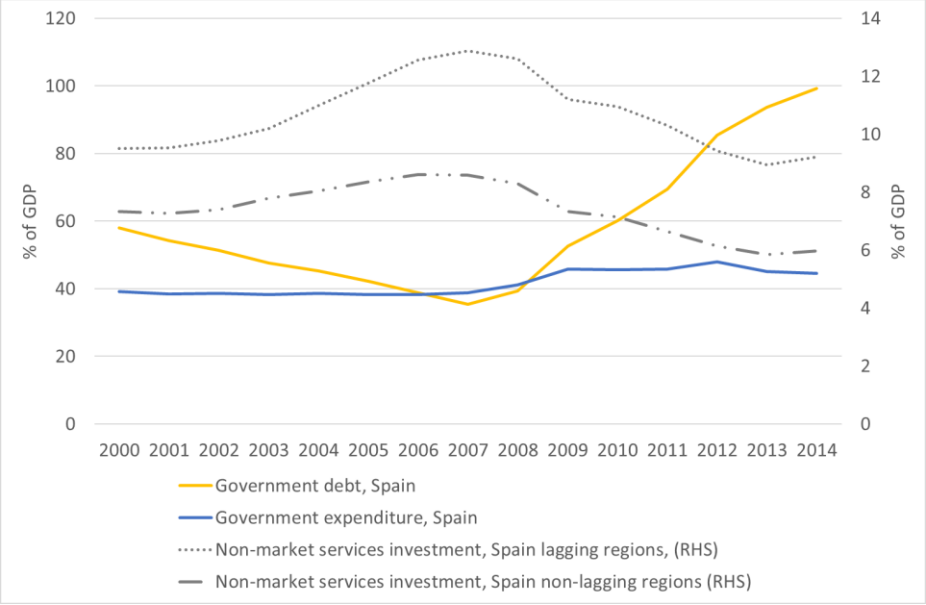
[40] See 'Human capital as a factor of growth and employment at the regional level. The case of Spain', Angel de la Fuente, Rafael Doménech and Juan Francisco Jimeno

1.8.5 Transmission mechanisms

Public debt

The ratio of public debt-to-GDP in Spain fell steadily from 58% in 2000 to 36% in 2007 (see Figure 1.164). This trend reversed after 2007 as Spain suffered from the economic crisis which resulted in the debt reaching over 99% of GDP, well above the 60% macroeconomic imbalance procedure upper threshold. Expenditure-to-GDP was below 40% but rose above 45% after 2008 as the government responded to the effects of the economic crisis. Non-market services[41] investment (a proxy of public investment) as a proportion of GDP has been higher in lagging regions compared to investment in non-lagging regions. In both lagging and non-lagging regions, investment rose through the first half of the 2000s before peaking in 2007. As of 2014 investment-to-GDP had fallen below 2000 values to 9 % in lagging regions and 6% in non-lagging regions.

Figure 1.164: Public debt, expenditure and investment in Spain



Private debt

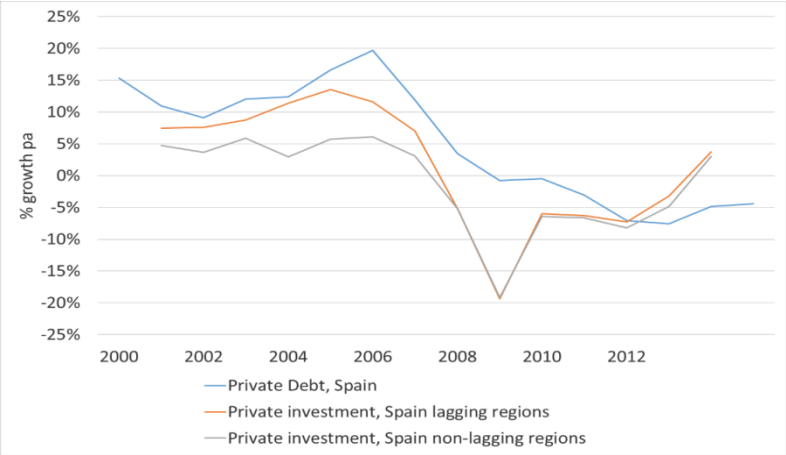
After sustained increases in private debt between 2002 and 2006, the rate of increase in private debt slowed after 2006 and has been contracting since 2009 as private borrowers paid down debt (see Figure 1.165). Private investment growth[42] (proxied by

[41] 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

[42] Private investment is proxied here as all NACE Rev 2 sections A to N except non-market services sectors sections O to U. The omission of non-market services may exclude some private investment in defence, education, human health and social work activities and other services sectors from the measure of private investment but offers a reasonable proxy for private investment.

calculating investment less non-market services) followed the same path, peaking at 14% in lagging regions (but only 6% in the non-lagging regions) in 2006 before contracting by 19%. After six years of negative growth, the growth of private investment turned positive 2014. This is encouraging given the importance of investment to future economic growth.

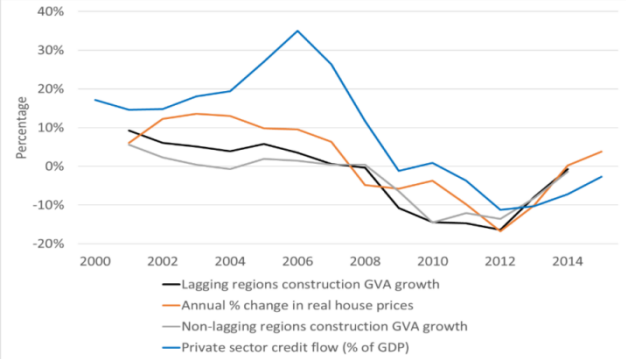
Figure 1.165: Private debt and investment in Spain



Private credit

Prior to 2007 construction GVA growth in lagging regions out-performed that in non-lagging regions but this was reversed after 2007 suggesting that construction in non-lagging regions was more resilient during the economic crisis (see Figure 1.145). Even before the economic crisis, construction GVA growth was slowing down in both lagging and non-lagging regions and contracted after 2008 when the Spanish property bubble burst. The deterioration reached a trough in 2012 with the current trend indicating a market that is improving.

Figure 1.166: Private credit, house prices and construction GVA in Spain

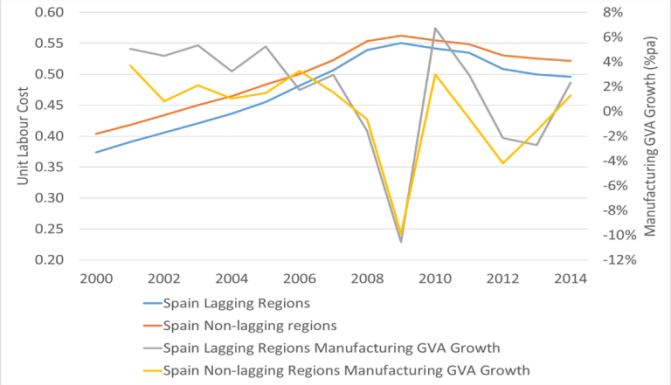


Real house prices grew during the property boom but started falling in 2008 as the economic crisis spread through the Spanish economy. After falling for six consecutive years, real house prices started rising in 2013. The evolution of private sector credit flow as a % of GDP mirrors that of private debt where a gradual increase occurs in successive years before a sharp slowdown in the ratio of credit-to-GDP in 2006.

Regional competitiveness

Unit labour costs (ULC), a measure of regional competitiveness, rose steadily from 2000 until 2009 since when they have fallen slightly (see Figure 1.167). Throughout this period, ULC were always higher in non-lagging than lagging regions indicating slightly greater labour cost competitiveness for the non-lagging regions. Their peak coincided with the high unemployment Spain experienced after 2008. While manufacturing GVA growth was higher in lagging than non-lagging regions prior to 2006, it collapsed similarly across both regions in 2009. The recovery of manufacturing has tended to be stronger in lagging as opposed to non-lagging regions and is likely driven by increasing competitiveness driven by the faster decline in ULCs in the lagging regions relative to non-lagging regions.

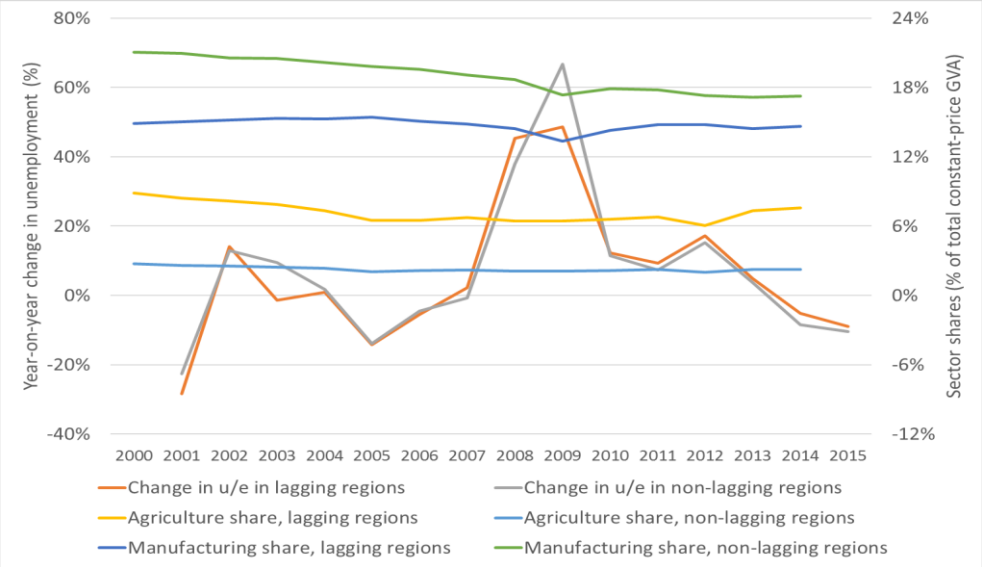
Figure 1.167: Unit labour cost and manufacturing GVA in Spain



Labour market resilience

Unemployment has mostly evolved similarly between lagging and non-lagging regions, rising during periods of economic slowdown and falling during expansions (see Figure 1.168). Except for a brief period in 2002, unemployment fell before 2008. The economic crisis triggered a spike in unemployment especially in non-lagging regions which peaked in 2009, with unemployment only falling 2014. The agriculture sector makes up a much smaller share of non-lagging regions GVA when compared to the manufacturing sector. In addition, even with a considerable manufacturing sector, GVA in lagging regions is still composed of a sizeable agriculture sector making these regions less resilient to economic changes.

Figure 1.168: Unemployment vs sector share of output in Spain



1.8.6 Conclusions

The findings from this report indicate that the lagging regions of Spain are disadvantaged by disparities in human capital and economic structure. As a result, these disparities in human capital and consequently innovative activities such as R&D expenditure have resulted in lagging economic growth and poor labour market opportunities, especially for young people. Unemployment interacts with education under-investment in lagging regions to amplify disparities. The result of these disparities is that key measures of economic performance such as GDP per capita and overall competitiveness underperform both the national and the EU regional average.

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