

Economic Challenges of Lagging Regions III: Recent Investment Trends and Needs

ROMAN RÖMISCH (COORDINATOR)
STEFAN JESTL

Stefan Jestl and Roman Römisch are Research Economists at the Vienna Institute for International Economic Studies (wiiw).

This report was produced as a part of the study 'Economic challenges of lagging regions' (Contract No. 2015.CE.16.BAT.053), funded by the Directorate-General for Regional and Urban Policy of the European Commission. It reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

The authors wish to thank the Economic Analysis Unit of the DG Regional and Urban Policy, in particular Blazej Gorgol, Lewis Dijkstra, Eric von Breska, Laura de-Dominicis, Moray Gilland, Paola Annoni, Alexandros Karvounis, Angel Catalina-Rubianes and Julien Genet for their useful comments.

The authors also wish to thank Ronald Hartwig and Loredana Sementini for the administrative support.

Abstract

This report focuses on investment in eight EU Member States and their lagging regions. Additionally, the analysis assesses the regional development strategies of the eight Member States and evaluates the main investment needs and complementary alternative support options of the lagging regions over the next ten years. The analysis is performed in two steps.

The first step identifies the investment needs of the lagging regions from the countries' own as well as from a European perspective. It analyses to what extent and in what form investments in the lagging regions have to be supported in order to satisfy the needs. The identification of investment needs is approached from two sides, a) the countries' own assessments of investment needs and b) a comparative analysis of the lagging regions with more prosperous EU-28 regions that had similar economic development characteristics as the (Southern) lagging regions. The second step analyses the main national and regional investment trends over the last 10-15 years, and covers different types of investment, depending on whether they are seen from a National Accounts, European or international perspective.

Keywords: regional economic development, EU, lagging regions, regional policy, economic challenges, investment, foreign direct investment, structural funds

JEL classification: E22, F21, R11, R38, R58

CONTENTS

1.	Project overview	1
2.	Introduction to Part III.....	6
3.	Analysis of investment needs in the lagging regions.....	7
3.1.	National investment strategies.....	7
3.2.	Summary.....	35
4.	Investment needs of lagging regions from a European perspective.....	38
4.1.	Competitiveness	41
4.2.	Accessibility	45
4.3.	Governance	50
4.4.	Skills and employment.....	52
4.5.	Research, development and technology.....	56
4.6.	Conclusions	59
5.	Analysis of main investment trends	60
5.1.	National accounts investment.....	60
5.2.	Recent investment trends at the national and regional level	61
5.3.	ERDF and Cohesion fund investment.....	66
5.4.	Foreign direct investment.....	71
5.5.	Conclusions in the light of the analysis of Part I and Part II.....	85

TABLES AND FIGURES

Table 3.1 / Greek lagging regions' OPs, total allocations and shares by TOs	11
Table 3.2 / Investment priorities as defined by the 'Agreements for the South', share in total (EUR million).....	13
Table 3.3 / Italian lagging regions' OPs, total allocations and shares by TOs (ERDF, ESF, CF)	15
Table 3.4 / Portuguese lagging regions' OPs, total allocations and shares by TOs	18
Table 3.5 / Expenditures from the Compensation Fund and the Complementary Fund, 2009-2015 (in thousand EUR)	21
Table 3.6 / Spanish lagging regions' OPs, total allocations and shares by TOs (ERDF and ESF).....	22
Table 3.7 / Funds allocated to priorities in the 'National Strategy for Regional Development 2012-2022' by financing source (EUR million*)	24
Table 3.8 / Funds allocated to priorities by regions in the 'National Strategy for Regional Development 2012-2022' (total in EUR million*, shares of priorities in total).....	25
Table 3.9 / Polish lagging regions' OPs, total allocations and shares by TOs	32
Table 3.10 / Regional investment priorities of the Romanian regions 2014-2020, share of priorities in total planned expenditures, total in EUR million	34
Table 3.11 / Summary table: National/regional policies towards lagging regions	37
Table 4.1 / Benchmark regions	40
Table 4.2 / Sectoral structure, 2014, share of sectors in total GVA or regions, in %	41
Table 4.3 / Productivity by sectors in the lagging regions, 2013	43
Table 4.4 / R&D expenditures 2013 and HRST 2015 in the lagging and benchmark regions	57
Table 5.1 / Shares of total and sector GFCF in regional GDP in %, period averages, population weighted averages of regions; Eastern lagging regions countries.....	64
Table 5.2 / Change in spending structure 2000-2006 to 2007-2013.....	70
Table 5.3 / Inward greenfield FDI projects by broad sectors, Southern lagging regions countries; FDI projects per 100,000 inhabitants*	83
Table 5.4 / Inward greenfield FDI projects by broad sectors, Eastern lagging regions countries; FDI projects per 100,000 inhabitants*	84
Figure 1.1 / Structure of the study, linkages and transmission mechanisms between tasks	4
Figure 3.1 / Greek government investment expenditures, by government sectors (EUR million).....	9
Figure 3.2 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Greece	10
Figure 3.3 / Italian government investment expenditures, by government sectors (EUR million).....	12
Figure 3.4 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Italy	15
Figure 3.5 / Portuguese government investment expenditures, by government sectors (EUR million) ...	16
Figure 3.6 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Portugal	18
Figure 3.7 / Spanish government investment expenditures, by government sectors (EUR million)	20
Figure 3.8 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Spain	21
Figure 3.9 / Bulgarian government investment expenditures, by government sectors (EUR million)	23

Figure 3.10 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions OPs and thematic objectives (EUR million), Bulgaria.....	26
Figure 3.11 / Hungarian government investment expenditures, by government sectors (EUR million) ...	27
Figure 3.12 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Hungary.....	28
Figure 3.13 / Polish government investment expenditures, by government sectors (EUR million)	29
Figure 3.14 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Poland	31
Figure 3.15 / Romanian government investment expenditures, by government sectors (EUR million)....	33
Figure 3.16 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Romania.....	34
Figure 4.1 / Regional RXAs 2011 in high and medium tech goods (left graph), medium low and low tech good (right graph), Southern lagging regions	42
Figure 4.2 / Regional RXAs 2011 in high and medium tech goods (left graph), medium low and low tech good (right graph), Eastern lagging regions	42
Figure 4.3 / Correlation RXAs and productivity levels Southern lagging regions (RXAs high/medium high tech: left graph; RXAs medium low/low tech: right graph).....	43
Figure 4.4 / Correlation RXAs and productivity levels Eastern lagging regions (RXAs high/medium high tech: left graph; RXAs medium low/low tech: right graph).....	44
Figure 4.5 / Accessibility indicators Southern lagging regions (left graph external accessibility, right graph internal accessibility)	46
Figure 4.6 / Accessibility indicators Eastern lagging regions (left graph external accessibility, right graph internal accessibility)	47
Figure 4.7 / Correlation of external and internal accessibility and productivity levels, Southern lagging regions	47
Figure 4.8 / Correlation of external and internal accessibility and productivity levels, Eastern lagging regions	48
Figure 4.9 / Quality of governance in the low growth (left graph) and low income (right graph) regions, 2013.....	50
Figure 4.10 / Correlation between quality of governance and productivity levels (left graph) and growth (right graph), Southern lagging regions, 2013	51
Figure 4.11 / Correlation between quality of governance and productivity levels (left graph) and growth (right graph), Eastern lagging regions, 2013	51
Figure 4.12 / Share of skill groups in total employment, 2015 (population aged 25-64 years), average over lagging regions	52
Figure 4.13 / Correlation of share of highly skilled employed (in total employment), productivity levels 2013 and productivity growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions.....	53
Figure 4.14 / Correlation of share of medium skilled employed (in total employment), productivity levels 2013 and growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions.....	54
Figure 4.15 / Correlation of share of low skilled employed (in total employment), productivity levels 2013 and growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions.....	55
Figure 4.16 / Employment rates by skill levels, population aged 25-64 years	56

Figure 4.17 / Correlation of R&D and HRST with productivity levels 2013 and growth 2000-2013, Southern lagging regions; HRST: left side, R&D: right side.....	57
Figure 4.18 / Correlation of R&D and HRST with productivity levels 2013 and growth 2000-2013, Eastern lagging regions; HRST: left side, R&D: right side.....	58
Figure 5.1 / Gross fixed capital formation, in % of GDP, Southern lagging regions countries	62
Figure 5.2 / Gross fixed capital formation, in % of GDP, Eastern lagging regions countries	62
Figure 5.3 / Structure of ERDF/CF expenditures 2007-2013 (in % of total expenditures), population weighted averages over regions, Southern lagging regions countries	68
Figure 5.4 / Structure of ERDF/CF expenditures 2007-2013 (in % of total expenditures), population weighted averages over regions, Eastern lagging regions countries.....	68
Figure 5.5 / FDI inflows in % of total EU28 FDI inflows, 4 Southern EU lagging regions countries	72
Figure 5.6 / FDI inflows in % of total EU28 FDI inflows, 4 Eastern EU lagging regions countries	73
Figure 5.7 / FDI outflows in % of total EU28 FDI outflows, 4 Southern EU lagging regions countries.....	74
Figure 5.8 / FDI outflows in % of total EU28 FDI outflows, 4 Eastern EU lagging regions countries.....	74
Figure 5.9 / FDI inflows in % of GDP	76
Figure 5.10 / FDI outflows in % of GDP	76
Figure 5.11 / Inward FDI stocks by economic sectors, in % of total FDI (Total = 100), Southern EU lagging regions countries	79
Figure 5.12 / Inward FDI stocks by economic sectors, in % of total FDI (Total = 100), Eastern EU lagging regions countries	80
Figure 5.13 / Number of greenfield FDI projects 2003-2015 per 100,000 inhabitants*, by type of regions, Southern lagging regions countries.....	82
Figure 5.14 / Number of greenfield FDI projects 2003-2015 per 100,000 inhabitants*, by type of regions, Eastern lagging regions countries	82

1. Project overview

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

The focus of the study is the economic challenges of lagging regions in the EU-28. In this respect, regions – in general – are defined according to the NUTS 2 level of regions¹. As far as lagging regions are concerned, there are two specific types:

- › Low growth regions, i.e. those NUTS 2 regions that did not converge to the EU average GDP per head at PPS between the years 2000 and 2013. This group covers almost all the less developed and transition regions in Greece, Italy, Spain and Portugal.
- › Low income regions, i.e. those NUTS 2 regions with a GDP per head in PPS below 50% of the EU average in 2013. This group covers several less developed regions of Bulgaria, Hungary, Poland and Romania.²

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

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

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

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

¹ Defined according to the 2013 NUTS classification.

² According to this definition there are 46 NUTS 2 lagging regions in the EU (see Annex II in *wiiw Research Report No. 421*).

For this, the study is structured in four Parts:

- (I) An analysis of the fiscal and macroeconomic environment for each of the eight Member States containing lagging regions
- (II) An analysis of the main structural reforms carried out in the eight Member States
- (III) An analysis of the main investment trends in the eight countries and the lagging regions
- (IV) Three case studies to provide an in-depth analysis of lagging regions, aimed at identifying their development opportunities and comparative advantages

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

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

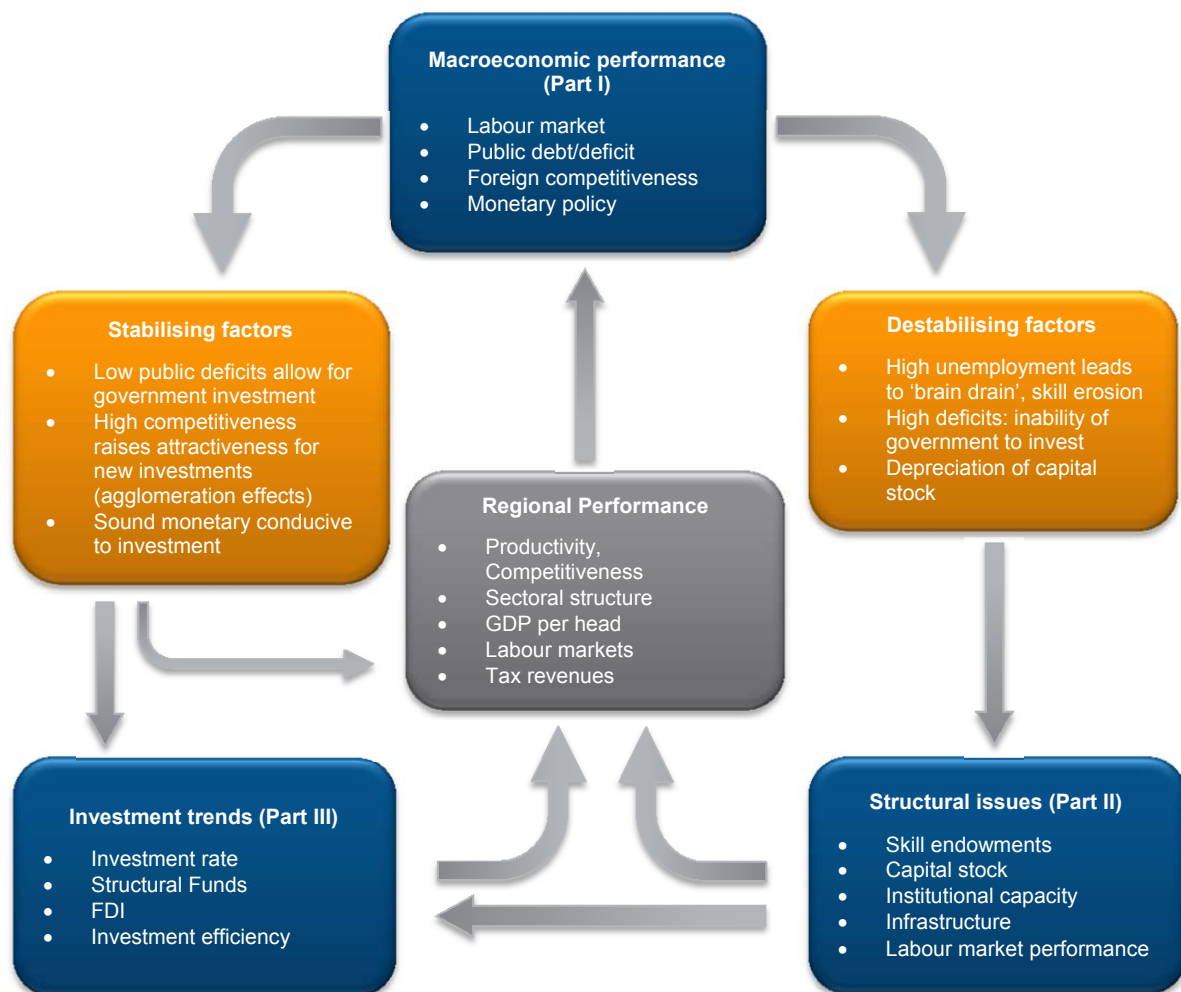
- › **Part I** analyses the fiscal and macroeconomic environment in the lagging regions and the relevant Member States, as a sound and sustainable macroeconomic framework is a necessary, but by itself not a sufficient precondition for investment and growth in the regions. The first task therefore
 - 1) presents a range of indicators which represent the fiscal and macroeconomic environment, drawing on the most recent economic governance reports, and covering sufficiently long time periods to capture current trends;
 - 2) discusses the relationship between these indicators and the narrative that emerges with respect to the current status and development path of the macroeconomic environment;
 - 3) further analyses investment activity, and demonstrates how the macroeconomic situation influences what investment takes place, where it occurs (across the regions) and how this relates to the development of regional export capacity and competitiveness;
 - 4) summarises the principal macroeconomic policy challenges that are affecting the lagging regions and what this implies for the national and regional government.
- › **Part II** focuses on structural reforms and governance issues in the lagging regions and the respective Member States. The analysis is broken down to address six questions:
 - 1) What have been the main structural reforms carried out over the recent past which are relevant for the ESI Funds?
 - 2) What has been their effect on the countries concerned but most especially on the lagging regions within them?

- 3) Which remaining structural reforms need to be implemented which are relevant for the performance of lagging regions in the eight countries?
 - 4) Which governance issues affect the performance of the programmes cofinanced by the ESI Funds?
 - 5) How does the implementation of structural reforms affect the investment decisions of enterprises located both within these Member States and regions and outside?
 - 6) How are the investment decisions affected by the quality of governance?
- › **Part III** analyses recent investment trends in the lagging regions, regional development strategies and future investment requirements. The analysis is broken down into three parts:
- 1) A detailed analysis of regional investment trends, focusing on investment as recorded by the National Accounts, ERDF and Cohesion Fund investment for the periods 2000-2006 and 2007-2013 and foreign direct investment.
 - 2) An assessment of the effects of these investments on regional GDP, employment and productivity growth in the lagging regions, as well as an analysis of their opportunity costs.
 - 3) An analysis of investment needs and investment support policies in lagging regions.
- › **Part IV** includes three case studies on lagging regions, namely a) the Romanian Nord-Est region (RO21), representing a predominantly rural, low income region; b) the Portuguese Norte region (PT11), representing a low growth region specialised in manufacturing; and c) the Italian Campania (ITF3), representing a low growth urban region specialised in services activities. Each case study analyses the region's comparative advantages and development opportunities, the constraints on exploiting these opportunities as well as the potential consequences that may arise if these development opportunities are realised.

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

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

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



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

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

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

As far as the impacts of the macroeconomic environment on investment trends are concerned, the structure indicates that both, stabilising and destabilising factors may affect the size and structure of investment. A sound macroeconomic performance stabilises expectations, providing a secure environment for investment, while low or sustainable public (and private) debt levels facilitate the financing of public (and private) investment via banks or the capital market. Interest rates may be conducive to investment if low (though this is only a necessary, not sufficient condition), yet if misaligned may distort the relative prices of capital and lead to investment bubbles³.

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

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

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

This report is Part III, 'Recent Investment Trends and Needs'.

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

2. Introduction to Part III

Part III centres on investment in each of the eight Member States, and their lagging regions. Additionally, the analysis assesses the regional development strategies of the eight Member States and evaluates the main investment needs and complementary alternative support options of the lagging regions over the next 10 years (including the complementarity between public and private investments, taking also into account the complementarity with the EFSI initiative).

For this, the analysis in Part III is performed in two steps.

1. The first step identifies the investment needs of the lagging regions from the countries' own perspective and from a European perspective and analyses to what extent and in what form investments in the lagging regions need to be supported in order to satisfy the needs. The identification of investment needs is approached from two sides, namely a) the countries' own assessments of investment needs and b) a comparative analysis of the lagging regions with more prosperous EU28 regions that had similar economic development characteristics as the (Southern) lagging regions.
2. The second step analyses the main national and regional investment trends over the last 10-15 years, and covers different types of investment, depending on whether they are seen from a National Accounts, European or international perspective. Thus the analysis will include investment as recorded in the National Accounts, investments from the ERDF and the Cohesion Funds, as well as foreign direct investment.

Step 1 combines desk research and descriptive analysis to identify investment needs and potential support measures. The analysis of investment needs builds on the conclusions in Part I and Part II, as these already hint towards what investments are needed to overcome certain structural deficits in the lagging regions or macroeconomic imbalances in the respective countries.

Step 2 is a largely descriptive analysis of investment trends, which per se does not provide any explanation of why investment developed as it did in the eight countries and the respective lagging regions. Such (potential) explanations will be provided by linking Step 2 (of Part III) to the conclusions of Part I and Part II that should be indicative of how the macroeconomic environment as well as structural reforms may have contributed to investment development.

As an addendum, the results as well as the data collected in Step 2 will be the basis for an exploratory econometric analysis, testing the impact of investment on regional economic performance. This analysis focuses, on the one hand, on the question to what extent investment was conducive to economic development and, on the other hand, on whether a different structure or a different geographical distribution of investment could have generated higher returns at the national level and for the lagging regions. The results of the econometric analysis are provided in a separate annex⁴.

⁴ See *wiiw Research Report No. 426*, 'Online Annex – Economic Challenges of Lagging Regions: Annex II – Economic Analysis and Supplementary Tables'.

3. Analysis of investment needs in the lagging regions

The analysis of investment needs is split into two parts. The first part analyses the investment needs and investment strategies from the perspective of each country. The second part analyses the investment needs of the lagging regions on a comparative basis, using selected EU regions that had similar economic characteristics as the Southern lagging regions in the year 2000, but showed a better economic performance thereafter, as benchmarks.

3.1. NATIONAL INVESTMENT STRATEGIES

This section provides a brief overview of current national and regional investment strategies in the eight lagging regions countries. For this, the analysis covers the countries' and regions' strategies supported by ESI Funds in the period 2014-2020 as well as national or regional policies that exist in addition to Structural Funds intervention, though in most cases ESI Funds represent the major (financial) part of regional policies in the countries. The analysis also investigates the countries' overall needs and whether in each country special strategies for the lagging regions exist and what particular strategies are chosen to support them. The main sources of information for this step are: a) for the analysis of ESIF strategies: the (financial) information provided in the countries' Partnership Agreements (PAs) and Operational Programmes (OPs) and b) for the additional national and regional strategies: national sources such as the information provided by the responsible ministries, agencies and secondary literature from the OECD and the EU Commission. The analysis is done on a country by country basis, covering first the low growth regions countries, followed by the low income regions countries.

Greece

In the year 2011 the Greek regional structure underwent a significant change on the basis of the 'Kallikrates Programme' to decentralise administration and strengthen self-government and thus to increase their effectiveness, efficiency, accountability and transparency⁵. According to this programme the former municipalities, communities and prefectural administrations have been merged into 13 administrative regions (corresponding to the NUTS 2 regions) that constitute second-level local authorities and 325 municipalities that constitute first-level local authorities.

Both, the municipalities and regions are self-governing regional entities, with the municipalities being responsible for the management and administration of, inter alia, local development, environment, employment and education issues. The regions' main responsibility is the planning and implementation of regional policies within the framework of their competencies, including inter alia economic development, energy, employment, tourism, transport etc. As part of this planning, each region has to prepare a five-year operational programme, with the current programmes running from 2015 to 2019.

⁵ See Council of Europe (2013), Structure and Operation of Local and Regional Democracy – Greece, Situation in 2012.

These programmes⁶ are generally strongly aligned with EU Structural Funds (and thus are similar to the regional OPs in Greece).

The financing of the municipalities' and regions' operations is partly based on transfers from the central government. Thus, out of the central budget the municipalities receive a share of the personal and corporate income tax revenues (20% of the total tax revenues), the value added tax (12% of the revenues), and the property tax (50% of revenues), with one third of the income tax revenues being earmarked to finance the municipalities' investments. The municipalities also have their own tax revenues and fees (e.g. for water or energy supply) that serve mainly to cover the provision of specific services.

The regions receive a share of the income tax (2.40% of the total tax revenues) and the value added tax (4% of the revenues) mainly to cover their current expenses. To finance their regional operational programmes, the regions are dependent on the allocations made from central funds upon the decision of the ministries for finance and the interior⁷. The main sources for this are, on the one hand, EU Structural funds and, on the other hand, the Greek Public Investment Programme (PIP), which is the main national tool for development policy. In 2016⁸ the budget for the PIP was EUR 6.75 billion, with the largest share being allocated to economic development and infrastructure (i.e. funds are allocated to the respective ministries), receiving around EUR 2 billion each. However, most of the PIP budget consists of funds co-financed by EU structural funds and only around EUR 700 million (i.e. around 10% of the total PIP budget) are genuine Greek contributions⁹.

Thus the impression is – although there is no clear evidence for it as data is hard to obtain – that, while regions are responsible for designing and implementing their own development strategies, the allocations from central funds and especially EU Structural funds are decided by the central government, thus limiting the room to manoeuvre for the regions. Moreover, an inspection of a sample of genuine regional operational programmes¹⁰ indicates that these are heavily influenced both, in their structure and investment priorities as well as in their financing by EU Structural funds.

Furthermore, despite the recent decentralisation efforts, the figure below, showing investment expenditures by government sectors, suggests that, at least currently, Greece has a highly centralised structure. Thus, on average, from 2008 to 2015, around 80% of general government investment came from the central government and only around 19% from local governments. The figure also illustrates the crisis-related sharp drop in government investments over time, which assumingly makes Cohesion policy investments in Greece even more important.

In addition to the regional operational programmes and the PIP, there exist minor initiatives, such as the ETEAN fund (National Fund for Entrepreneurship and Development) supporting especially innovative

⁶ Many of them are available on the websites of the regional administrations, however, only in Greek language. See e.g. <http://www.pkm.gov.gr/default.aspx?lang=el-GR&page=506> for the Central Macedonia Regional Operational Programme.

⁷ See Council of Europe (2013), Structure and Operation of Local and Regional Democracy – Greece, Situation in 2012.

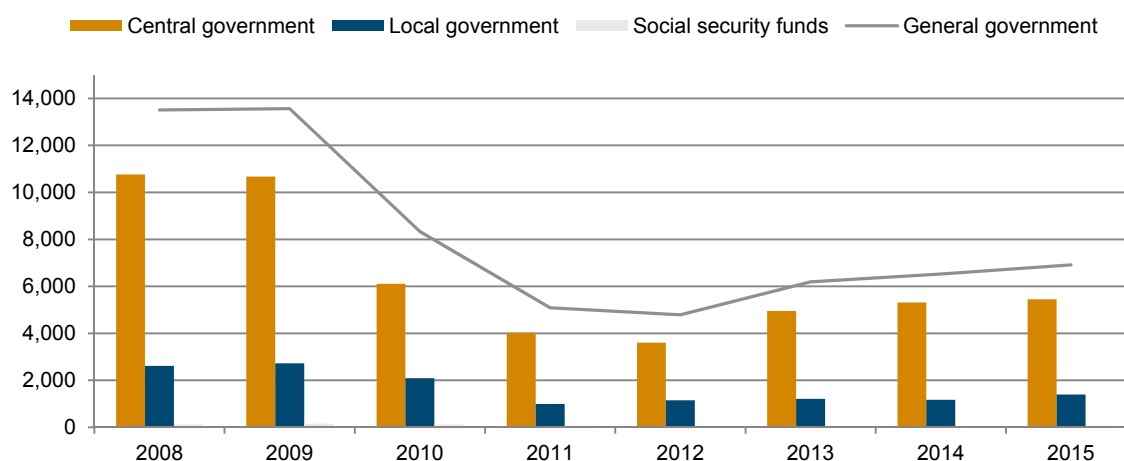
⁸ See Greek Ministry of Finance: http://www.minfin.gr/sites/default/files/financial_files/PDE%202016.pdf

⁹ See Greek Ministry of Finance, *ibid.*

¹⁰ Not many of them could be found online, for an example see e.g. for Epirus: http://www.php.gov.gr/images/stories/epixeirisiako_programma_2015-2019.pdf

SMEs, though without a distinctive spatial focus and co-financed by EU funds. An additional major tool for national investment seems to be the 'New Development Law 4399/2016', the national strategic investment law ('Creation of a Development-Friendly Environment for Strategic and Private Investments', 4146/2013), and the Fast Track Law ('Acceleration and Transparency of Implementation of Strategic Investments', 3894/2010¹¹), which shall provide inter alia faster administration of private investment, tax incentives and residence permits for investors (depending on size and quality of investments). Amongst those, the 'New Development Law 4399/2016', supporting mainly manufacturing industry and partly tourism investments, differentiates between less developed and more developed regions in Greece, especially in the rates (% of investment costs) at which investments are supported (i.e. support rates are higher for less developed regions).

Figure 3.1 / Greek government investment expenditures, by government sectors (EUR million)



Source: Eurostat.

All this suggests that national regional investment policies and strategies are highly aligned with as well as highly dependent (in terms of financing) on EU Structural policies. At first sight, this is not necessarily corroborated by estimates of the share of ESI Funds investment in total government investment¹², the latter being defined as gross fixed capital formation plus capital transfers received. It shows that ESI Funds only account for 20% (in the years 2011-2013) to 30% (in the years 2014-2016) of government investment. However, these shares disguise the actual importance of ESI Funds, as Greece received massive capital transfers over the last years to stabilise the economy and the financial system, thus 'artificially' expanding the size of government investment. Adjusting for these shocks in capital transfers, the share of EU Structural funds investment in Greek government investment is at least 50%, but presumably even higher. Taking further into account, that around 20% to 30% of Greek government investment is related to the provision of general services, defence or public safety, and only 70% to 80%

¹¹

http://www.enterprisegreece.gov.gr/files/FT/2014/kwdikopoiisi_Nomou/FT_%CE%9A%CE%A9%CE%94%CE%99%CE%9A%20N%203894_N4072_N4146_%CE%9D%204242_4262_en.pdf

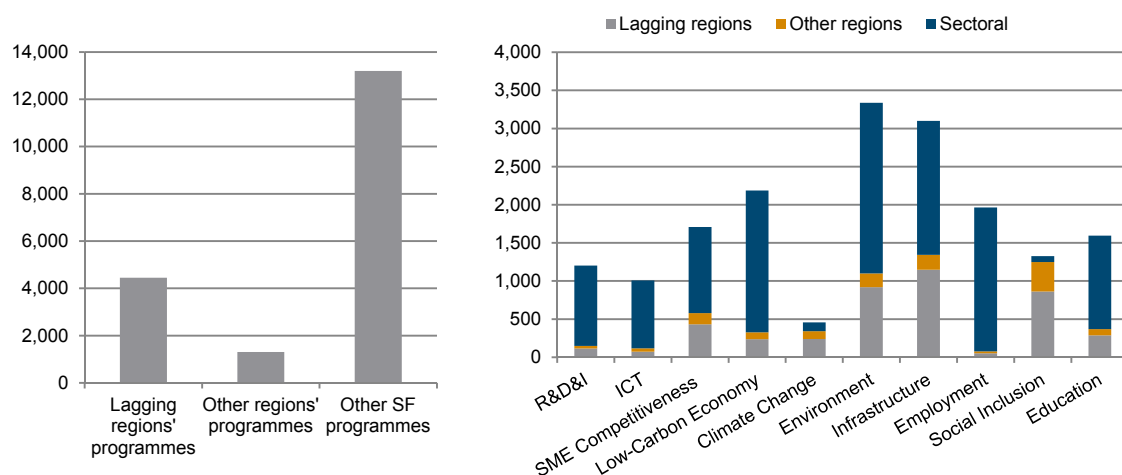
¹² The source of these estimates is DG Regio.

related in one way or another to economic and social development¹³, it can be assumed that indeed ESIF resources are elementary for Greek government investment policies.

Given the high importance of EU Structural policy for Greece, the following paragraphs summarise the investment strategies as outlined in the programming documents. The Greek PA defines the country's investment needs at a general economic development level, on the basis of the thematic objectives (TOs) as set out in the Common Provision regulation (EU Regulation 1303/2013) and also includes investment needs for disadvantaged areas. Overall the impression is that the definition of investment needs in Greece puts a strong focus on economic development, on the upgrading of the economy and its sectors as well as on the generation of jobs. This is e.g. illustrated by the general economic needs that inter alia include structural reforms to enter a sustainable growth path in the medium run, job creation, competitiveness, export capacity etc.

Also, in the case of many of the investment needs raised under thematic objectives not directly addressing economic development issues, references are made with respect to their potential to stimulate growth and/or employment in the economy. A recurrent feature regarding economic and sectoral development is the emphasis on the primary sector (agriculture, fisheries) and the related food processing industry as well as tourism, which are the most important sectors in the Greek economy – at least in terms of the production of tradable goods and services. Thus, a main point of the strategy is to make existing sectors more internationally competitive, while a diversification, also to higher value added goods and sectors, is not directly addressed.

Figure 3.2 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Greece



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

The country and regional investment needs in Greece are operationalised in 20 Operational Programmes (without cross-border cooperation programmes), split into 7 national OPs and 13 regional OPs (one for each region). As such, Greek ESIF strategies address both, directly as well as indirectly,

¹³ The source of these data is Eurostat Government Expenditures according to the Classification of the Functions of Government – COFOG. These data will be shown in the summary table at the end of this part.

the lagging regions investment needs. Looking at the actual numbers in terms of allocations made from the ESI Funds (here: ERDF, ESF and CF), though, shows that Greece follows much more a sectoral approach than a regional approach (see Figure 3.2).

These numbers show that over the period 2014-2020, around EUR 20 billion (including both EU and national contributions) are allocated to Greek OPs in total. Thereof, around EUR 4.5 bn (i.e. 23.5% of the total) are allocated to the lagging regions' OPs, 7% to other regional OPs and 70% to sectoral OPs. Regarding the distribution of allocations across TOs, the highest amount of allocations are made to environment as well as transport and energy infrastructure (over EUR 3 bn each), as well as the promotion of a low-carbon economy and employment (EUR 2 bn each). By comparison, allocations to R&D, SME competitiveness, education or ICT technologies are relatively smaller and amount to around EUR 1 bn to 1.7 bn. Thus, in contrast to the main needs specified in the Greek Partnership Agreement, a relatively low share of ESI Funds are allocated to the aim of stimulating growth and employment, while relatively high shares of funds are allocated to infrastructure and environmental investments.

Analysing the lagging regions' OPs in more detail, Table 3.1 shows the allocations made to the individual OPs and the distribution across TOs. The allocations to the regional OPs range between about EUR 956 million for the Central Macedonia region to EUR 190 million for the Continental Greece region. Notwithstanding some major differences in the regions' investment strategies, common features across the regional OPs are the high importance of environmental, transport and energy infrastructure and social inclusion investments, while competitiveness of SMEs, education as well as research and innovation receive much less (financial) attention.

Table 3.1 / Greek lagging regions' OPs, total allocations and shares by TOs

	TOTAL (EUR mn)	Research & Innovation	Information & Communication Technologies	Competitiveness of SMEs	Low-Carbon Economy	Climate Change Adaptation & Risk Prevention	Environment Protection & Resource Efficiency	Network Infrastructures in Transport and Energy	Sustainable & Quality Employment	Social Inclusion	Educational & Vocational Training	Technical Assistance
Central Macedonia	964.9	2.4	1.2	10.8	3.4	7.7	12.5	37.2	1.3	18.6	3.2	1.8
Eastern Macedonia-Thrace	507.7	2.8	0.8	10.3	7.3	2.9	22.0	21.2	1.0	19.5	10.4	1.8
Western Greece	491.0	2.4	1.2	10.7	3.5	5.7	23.0	26.8	1.3	18.9	4.8	1.8
Crete	434.9	2.7	2.2	6.9	5.9	5.3	32.0	16.2	1.2	20.2	6.0	1.3
Thessaly	401.1	2.8	0.8	11.8	4.4	3.1	17.5	32.5	1.3	20.8	3.1	1.8
Western Macedonia	330.7	3.1	3.1	9.4	8.3	7.4	18.5	16.3	0.5	13.5	18.1	1.8
Epirus	325.9	3.1	2.8	7.6	7.7	5.5	26.9	22.8	1.0	15.9	4.9	1.8
North Aegean	301.7	2.1	2.1	9.1	6.6	5.0	30.2	19.9	0.8	16.7	5.6	1.8
Peloponnesus	270.3	2.2	1.2	11.8	2.8	2.3	16.4	27.1	1.9	27.0	5.5	1.8
Ionian Islands	226.9	2.0	2.2	6.3	5.4	4.5	29.4	15.6	1.1	22.3	9.5	1.8
Continental Greece	190.1	2.9	2.9	8.7	7.7	6.9	6.9	27.8	1.6	26.3	6.5	1.8

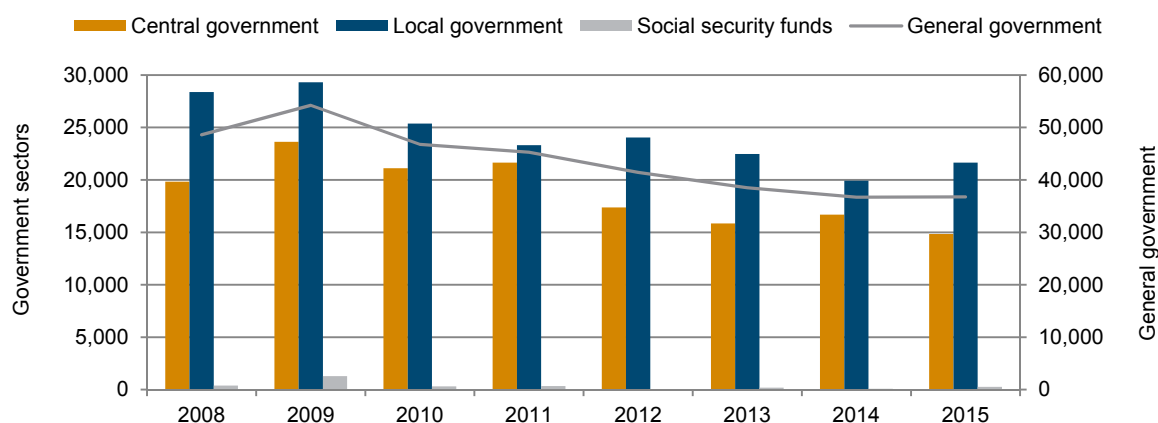
Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Italy

Italy has a very distinct yet complex regional structure, as the country is divided into 20 regions (corresponding to the NUTS 2 regions), 107 provinces and 8094 municipalities. By the Italian constitution (Art. 114) all three entities (and also including metropolitan cities) are autonomous entities having their own statutes, powers and functions¹⁴. They also have legal competencies in those areas that are not explicitly in the competence of the State (e.g. foreign policy, defence), notably in the field of EU policy-making. However, the distribution of legal competencies between the state and local authorities is far from clear cut and a potential source of conflicts, as e.g. *'much of the legislation governing the structure and functioning of local government derives from the State rather than the individual regions, although there is a built-in uncertainty about, for instance, what actually constitutes "fundamental functions" for this purpose'*¹⁵. The regional entities also have a strong administrative function (based on the principles of subsidiarity) and are entitled to have revenue and expenditure autonomy (constrained by a balanced budget requirement) as well as independent financial resources. In this system of fiscal federalism local authorities collect revenues from their own resources (taxes etc.) and receive a share of national tax revenues, including a system of equalisation, to compensate especially the lagging regions in the South for their lower capacity to generate own revenues (compared to the Northern regions)¹⁶.

Overall the Italian regions show a high degree of autonomy, which is also corroborated by Figure 3.3 that shows Italian government investment expenditures split by government sectors. According to the data, local governments (including the regions) spent on average around 55% of general government investment expenditures in 2008-2015, with particularly high shares at the begin and the end of the period, when local government investments accounted for more than 58% of general government investment.

Figure 3.3 / Italian government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

¹⁴ See: Council of Europe (2013), Local and regional democracy in Italy, CG(24)8FINAL; <https://wcd.coe.int/ViewDoc.jsp?p=&id=2041485&direct=true>

¹⁵ Council of Europe (2013), par. 25.

¹⁶ However, it is not clear whether this system has been implemented so far.

As far as regional development policies are concerned, the main tool at the national/regional level, especially for Southern Italy, is the Italian cohesion policy, which has virtually become the only source of funding for investment in regional development¹⁷. The overall funds available for the national cohesion policy are around EUR 98 billion up to the year 2023¹⁸, with EU Structural funds accounting for EUR 51.8 bn (thereof EUR 31.7 bn from EU Structural funds and EUR 20.1 bn from national co-financing), EUR 7.4 bn come from complementary programmes, and around EUR 38.9 bn from the national Fund for Development and Cohesion (Fondo per lo Sviluppo e la Coesione, which replaced the Fondi per le aree sottoutilizzate).

As part of the Italian investment and development policy, and especially for the Southern lagging regions, Italy has established the 'Masterplan for the South' that has a strong focus on industrial policy, aiming at strengthening the lagging regions' productive base and thus fostering their economic development. For this, the 'Masterplan for the South' focuses, in particular, on the support of a) the economic and productive environment (including agriculture); b) education, employment and social inclusion; c) infrastructure; d) environment; and e) governance. It is financed from combined sources of EU Structural funds (including co-financing) and the Fund for Development and Cohesion, with the funds from the latter being split 80%-20% between the Southern and the Central/Northern regions.

Table 3.2 / Investment priorities as defined by the 'Agreements for the South', share in total (EUR million)

	Abruzzo	Basilicata	Calabria	Campania	Molise	Puglia	Sardegna	Sicilia
Infrastructure	40.9	48.0	13.0	36.8	40.3	15.1	46.1	32.6
Environment	31.7	24.9	33.7	24.0	31.2	29.3	25.1	43.9
Economic development	10.4	11.1	13.5	31.7	10.4	24.2	12.5	16.8
Tourism	16.9	8.0	6.0	4.7	15.0	7.9	4.0	4.7
Employment						19.9		
Social infrastructure		7.3					12.1	
Security/Governance			1.9	0.2			0.2	2.1
Education, training			18.5	2.7	3.2			
Health			13.4					
Fondo rotativo progettazione		0.7						
Other						3.7		
Total (EUR million)	1,505	3,829	4,934	9,558	728	5,740	2,905	5,746

Note: Total amounts include funds from all sources, i.e. national and EU-cofinancing.

Source: Agreements for the South for each region, own calculations.

To ensure the functioning of the 'Masterplan for the South', the Italian central government introduced so-called 'Agreements for the South' ('Patti per il Sud') that define for each Southern region the specific investment priorities, the main interventions, implementation, financing, and mutual responsibilities of the

¹⁷ Ministero dell'Economia e delle Finanze (2015), Economic and Financial Document 2015 – Section III The National Reform Programme, p.65;
http://www.dt.tesoro.it/modules/documenti_en/analisi_programmazione/documenti_programmatici/NRP_2015_ON-LINE.pdf

¹⁸ See <http://www.governo.it/articolo/masterplan-il-mezzogiorno-linee-guida/2069>

central and regional government. These agreements between the central government and each region were signed in 2016. Table 3.2 summarises the investment priorities of the regions according to the agreements, also indicating the financial allocation to each region.

It shows that the national regional strategies focus on infrastructure (around 40% of total funds are allocated to this area across the regions, except Puglia and Calabria) and environmental investment. Common to all lagging regions is also the funding of economic development, though with different emphasis (strong focus in Campania and Puglia, weak focus elsewhere) as well as explicitly tourism. Other investment areas are defined according to the regions' specific needs, e.g. employment in Puglia, social infrastructure in Basilicata and Sardegna or investment into health infrastructure in Calabria.

In addition to the 'Masterplan for the South', a notable regional policy element, especially with respect to the South Italian regions, is represented by the regional investment incentives¹⁹ that allow state support for greenfield investments, the expansion, diversification or change of existing production²⁰. The maximum aid intensity in the Southern regions of Campania, Apulia, Basilicata, Calabria and Sicilia is 25% for large companies, 35% for medium-sized companies and 45% for SMEs (for Northern regions, and only in specific areas within them, the maximum aid intensity is 25%).

Overall, although the national strategies are co-financed by EU Structural funds, national policies and strategies are highly important in Italy. This is also indicated by the fact that, according to DG Regio, the share of EU Structural funds in total government investment expenditures (including capital transfers) accounts for around 18% (in the period 2011-2013) to 13% (in the period 2014-2016). Thus, in a way, EU regional policy in Italy is complementary to national policy. The following paragraphs analyse EU Structural policy in Italy in some more detail.

In the aftermath of the economic crisis and a prolonged period of slow or even negative economic growth, which inter alia have deepened the notorious disparities between Northern/Central Italy and the South, an analysis of the Italian Partnership Agreement reveals two main motives of the Italian strategy with respect to ESI Funds: a) the need to get the economy back on a sustainable path of economic growth and b) the need to reinforce attempts to strengthen and upgrade the economies of the Southern regions and thus to reduce within-country disparities. Accordingly, many of the investment needs raised in the Italian PA address, directly or indirectly, both issues across the various thematic objectives.

To put these goals into operation, Italy has a highly detailed strategy with respect to the distribution of ESIF across the regions. Out of the total of 75 Italian OPs for the period 2014-2020, there are 15 national OPs and 60 regional OPs (three for each region, one ERDF, one ESF and one rural development OP, except for Molise that has a combined ERDF/ESF regional OP).

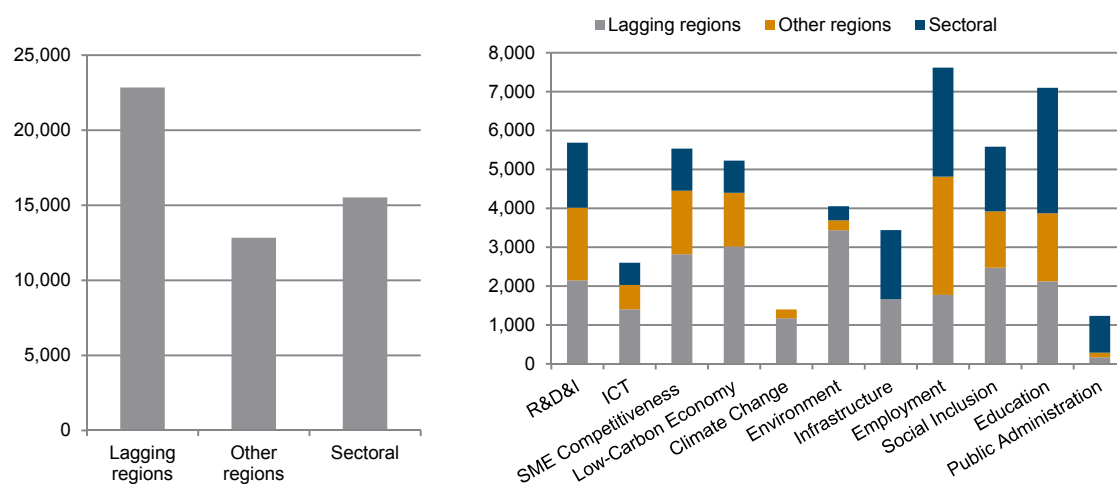
Figure 3.4 shows the allocation of ESI funding for the lagging regions' OPs (aggregated over all OPs), other regions' OPs and sectoral OPs. Out of the EUR 51 billion that Italy receives in total (from the ERDF, ESF and CF) around EUR 23 bn (i.e. 45%) are allocated to the lagging regions' OPs, about EUR 13 bn to other regional OPs and EUR 15.5 bn to sectoral OPs. The data also indicate that Italy in total as well as the regions put great emphasis on competitiveness, economic development and building

¹⁹ These incentives follow the 'Guidelines on regional State aid for 2014-2020' (EU Commission, 2013, 2013/C 209/01).

²⁰ See Invest in Italy (2015), Doing Business in Italy, http://www.investinitaly.com/pdf/en/news/doing_business_in_italy.pdf

a basis for sustainable growth, as the highest amounts of funding go into employment, education (over EUR 7 bn each), R&D, SME competitiveness, low-carbon economy as well as social inclusion (over EUR 5 bn each). In turn, allocations are lower for ICT, environment and transport and energy infrastructure.

Figure 3.4 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Italy



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Table 3.3 / Italian lagging regions' OPs, total allocations and shares by TOs (ERDF, ESF, CF)

	TOTAL (EUR mn)	Research & Innovation	Information & Communication Technologies	Competitiveness of SMEs	Low-Carbon Economy	Climate Change Adaptation & Risk Prevention	Environment & Resource Efficiency	Infrastructures in Transport and Energy	Sustainable & Quality Employment	Social Inclusion	Educational & Vocational Training	Efficient Public Administration	Technical Assistance
Puglia	7,121.0	9.4	3.8	15.7	6.1	4.7	16.3	6.5	7.6	15.2	10.6	0.8	3.2
Sicilia	5,378.0	8.5	6.4	12.4	21.0	5.5	9.2	12.7	6.2	7.1	7.9	0.6	2.5
Campania	4,950.7	10.4	7.1	8.0	12.9	7.5	21.9	4.5	7.1	9.4	8.2	0.5	2.5
Calabria	2,379.0	8.8	7.1	7.8	19.7	3.9	13.6	9.4	7.1	9.1	9.8	0.7	2.9
Sardegna	1,375.8	9.4	9.5	15.5	10.9	4.1	11.9		12.4	10.2	11.3	1.1	3.7
Basilicata	1,115.7	8.6	8.8	12.4	12.0		14.9	6.0	10.7	12.0	9.4	1.2	4.0
Abruzzo	374.0	12.0	7.5	17.4	10.4	6.7	5.5		17.1	8.8	9.5	1.1	3.9
Molise	153.6	15.2	7.6	21.4	13.1		9.0		15.3	8.0	6.2	0.3	4.0

Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Focusing on the lagging regions' OPs in more detail, Table 3.3 shows the total allocation out of the ERDF, ESF and CF to the OPs as well as the distribution of funds across TOs. In the regional OPs there are some minor differences across regions in the distribution of funds according to thematic objectives, but generally, the regions' investment strategies focus on SME competitiveness, environment, social inclusion and research and innovation, which together have a share of 50% to 60% in total planned investments. Thus, in a way the EU programmes are complementary to the national programmes, which,

as shown above, have a much stronger focus on infrastructure, while e.g. EU programmes focus much more on R&D, social inclusion and also employment.

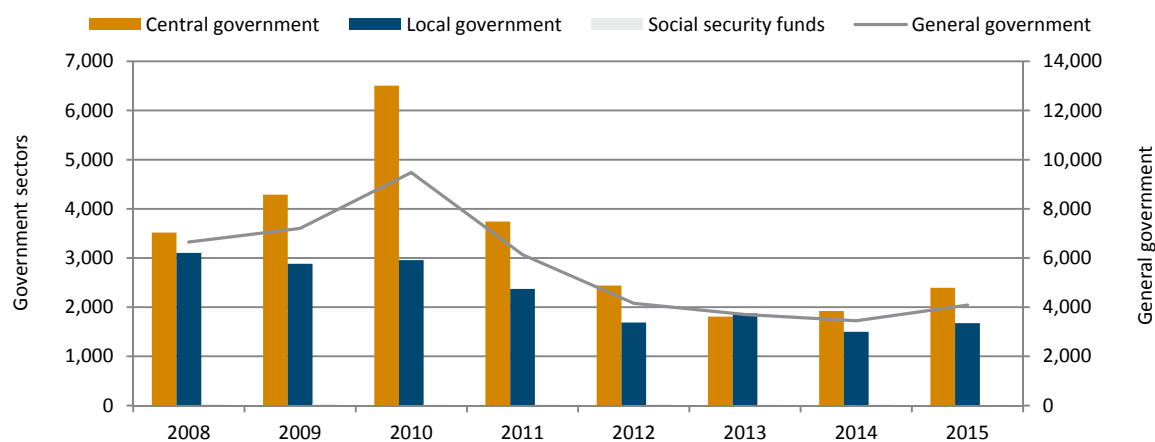
Portugal

Portugal is formally divided into 2 autonomous regions (i.e. Azores and Madeira) and 23 administrative regions, two of which have the status of a 'metropolitan area' (*área metropolitana*), i.e. Lisbon and Porto, and the other 21 being intermunicipal communities (*comunidade intermunicipal*), which are correspondent to the Portuguese NUTS 3 regions. The administrative regions are further divided into 308 municipalities (*município*), which in turn are divided into parishes (*freguesia*)²¹.

Despite this complex regional structure, Portugal can be regarded as a highly centralised state, as the administrative regions seem to have no major own competencies for decision-making, but rather are involved in the planning and the management of economic, social and environment development as well as in the coordination of the municipalities within their territory. The municipalities, in turn, seem to have a wider range of competencies, especially in the provision of services (e.g. energy, education, transport, economic development), and they can also levy local taxes.

Accordingly, the Portuguese NUTS 2 regions have no administrative relevance, despite being used for statistical and EU Cohesion policy purposes. The main national tool for the development of the NUTS 2 regions are the '*Comissões de Coordenação e Desenvolvimento Regional*' (CCRD) that have been established by the central government in each of the 5 continental NUTS 2 regions as well as the islands. The purpose of the CCRDs, which are decentralised bodies of the Ministry of Planning and Infrastructure and the Ministry of Environment²², is to implement environmental as well as regional development policies, especially EU Structural funds in their respective region.

Figure 3.5 / Portuguese government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

²¹ See the Law on the establishment of the legal framework for local authorities, Lei n.º 75/2013; http://www.anmp.pt/files/djur/2013/Lei75_2013_12_Set_2013AlteracIM.pdf

²² See e.g. for the Centre region: <http://www.ccdrc.pt/>

This rather centralised organisation of the state is not fully reflected in terms of the distribution of government investments across government sectors (see Figure 3.5). It shows that over the period 2008-2015, the share of central and local governments in total general government investment tended to vary greatly. In the post-crisis years 2009-2012, central government investments were (partly much) higher than local investments, while in the most recent years, mainly due to a decline in central government investments, local and central government investment expenditures were approximately equal.

As far as national/regional development policies are concerned, there is little to be found in Portugal. In fact, *'[F]rom a domestic policy perspective, a national spatial planning strategy approved by parliament 2007 is the closest there is to national regional policy'*²³. This 'Programa Nacional da Política de Ordenamento do Território' (PNPOT) has been revised in 2014 and was subsequently replaced by the 'New Action Programme 2014-2020'²⁴ focusing on improving governance, administration and actors' cooperation in the implementation of EU Cohesion policies. Apart from this, Portugal has no major national or regional policies addressing the needs of its lagging regions, and thus relies to a considerable extent on EU Cohesion policy in this respect, which represents a high proportion of public investment in this field. According to DG Regio estimates, the share of EU Structural funds in total government investment in Portugal is around 72% to 76% (in the periods 2011-2013 and 2014-2016), which indeed suggests that national regional policies are substituted by EU regional policy.

Given the negative social consequences and asymmetric regional impact of the economic crisis and the subsequent austerity policy in Portugal, the general purpose of Structural funds investments in the period 2014-2020 is the promotion of growth and employment, aiming also at reducing poverty and correcting the still existing external imbalances. Accordingly, the investment strategy outlined in the Portuguese PA is organised in four thematic areas: a) competitiveness and internationalisation, b) social inclusion and employment, c) human capital, and d) sustainability and resource efficiency. All four areas, directly or indirectly, address issues of competitiveness and employment. Thus, under the thematic area competitiveness and internationalisation, the main goals are inter alia upgrading the pattern of specialisation from low to more and knowledge-intensive production, and strengthening R&D, with complementary goals in the human capital thematic area, e.g. bringing average qualification levels to EU standards, reduce the mismatch between the supply and demand for certain skills etc. Taking into account the strong regional differences in Portugal as well as the absence of convergence in the country, each of the four thematic areas is also supposed to have a distinct territorial approach taking into account the strengths and weaknesses of the individual regions.

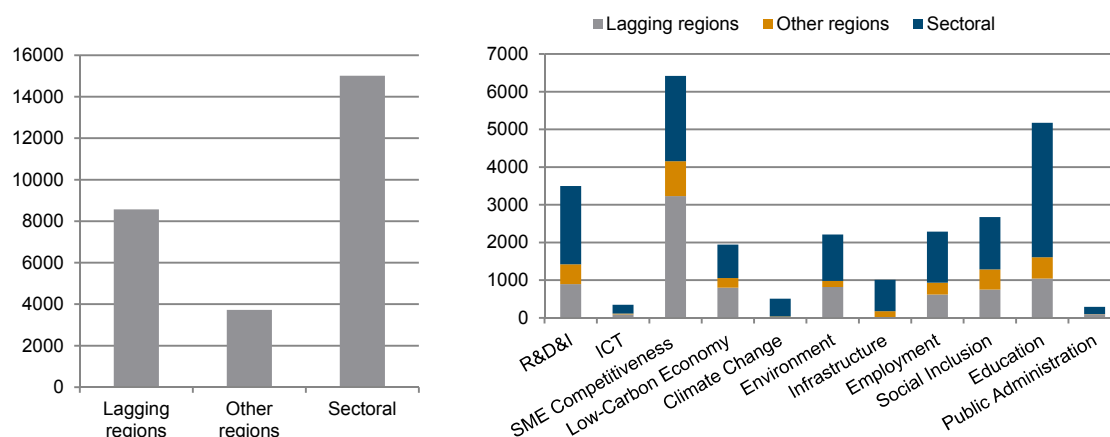
These overall goals are operationalised in Portugal's ESIF strategy 2014-2020 by 16 OPs in total, of which 9 are explicit regional OPs covering each region of the country (including the two outermost regions Azores and Madeira). Thus, four of the regional OPs address directly the Portuguese lagging regions. Figure 3.6 illustrates the distribution of total allocations to lagging regions' OPs, other regional OPs and sectoral OPs.

²³ EPRC and Euroreg (2010), The objective of economic and social cohesion in the economic policies of member states, Final Report, Part II country reports.

²⁴

http://www.dgterritorio.pt/ordenamento_e_cidades/ordenamento_do_territorio/pnpot/novo_programa_de_acao_2014_2020_do_pnpot/

Figure 3.6 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Portugal



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Around EUR 27 billion out of the ERDF, ESF and CF are allocated to Portugal in total in the period 2014-2020. Of these, about EUR 8.5 bn (i.e. 31.4%) are allocated specifically to the lagging regions' OPs, EUR 3.7 bn to other regional OPs, and around EUR 15 bn (55%) to sectoral OPs. Thus, overall the distribution of total available funds is approximately balanced between regional and sectoral OPs. The distribution of funds shows a clear focus on competitiveness and growth. Around EUR 6 bn of the total are allocated to the support of SME competitiveness, another EUR 5.2 bn to education and training and EUR 3.5 bn to R&D. Thus, around 55% of total allocations are made in these three TOs alone, while infrastructure or environmental TOs receive considerable less funding.

The strong focus on competitiveness and growth is also reflected in the individual lagging regions' OPs (see Table 3.4). All four lagging regions focus heavily on the competitiveness of SMEs, followed by education, environment, low-carbon economy and research and innovation.

Table 3.4 / Portuguese lagging regions' OPs, total allocations and shares by TOs

TOTAL (EUR mn)	Research & Innovation	Information & Communication Technologies	Competitiveness of SMEs	Low-Carbon Economy	Environment & Resource Efficiency	Sustainable & Quality Employment	Social Inclusion	Educational & Vocational Training	Efficient Public Administration	Technical Assistance	
Alentejo	1,312.1	6.5	0.6	35.0	11.5	12.9	7.4	11.2	11.8	0.4	2.7
Algarve	447.6	13.9	2.7	31.9	5.6	7.0	12.9	12.2	8.8	2.2	2.8
Centro	2,642.9	8.4	1.3	39.3	7.4	11.6	8.2	7.5	12.8	1.1	2.4
Norte	4,165.6	12.7	0.9	38.2	10.4	7.5	5.9	8.5	12.3	1.2	2.4

Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Spain

The regional structure of Spain is, as in the case of Italy, highly complex and characterised by a high level of autonomy of the administrative levels below the central government. In fact, Spain is one of the most decentralised countries in Europe, with the state being territorially organised into autonomous communities (identical with the NUTS 2 regions), provinces and municipalities²⁵. In total, there exist 17 autonomous communities as well as 2 autonomous municipalities (Ceuta and Melilla) that have more limited competences than autonomous communities, but more competences than other municipalities. In addition there are also 8,117 municipalities and 50 provinces²⁶.

The powers of the Spanish autonomous communities are quite extensive and include inter alia that each community has its own president, parliament, public administration and court of justice. However, the extent of the power and thus 'independence' from the central state tends to vary across communities (despite attempts of harmonisation), partly based on the historically and culturally shaped regional identity (e.g. Catalonia, Basque country or Galicia). The competences of the communities include, amongst others, the areas a) territorial development, b) economy and economic development, c) agriculture, d) social policies, e) environment, f) health, g) education etc.²⁷ These competences are either shared with the central government or sole competences of the autonomous communities.

The autonomous communities are, in principle, also independent in terms of their budget expenditures²⁸, though in the aftermath of the financial crisis the central government tightened its control over the autonomous communities, as they were partly responsible for the high Spanish deficits after the crisis²⁹. Hence the central government forced fiscal consolidation upon the communities; in case of non-compliance, their budget would have been taken over by the central government. At the same time, the central government also established the 'Fondo de liquidez autonómico', which provides assistance to communities in financial problems³⁰.

Thus, despite these constraints, spending autonomy is still high in the autonomous communities. Yet, they are much more constrained on the revenue side, as they receive resources not only from their own taxes but predominantly also from totally or partially devolved state taxes (e.g. personal and corporate income tax, value added tax etc.) as well as from the Interterritorial Compensation Fund.

The high degree of (spending) autonomy is illustrated in the figure below, showing government investment expenditures split by the government sectors: central government, state government (i.e. autonomous communities or NUTS 2 regions) and other local government layers. It shows that, despite declining investment of all government sectors in the period 2008-2015, the share of the central government in total (general) government investment was relatively stable at around 30%, while the

²⁵ Apart from these regional or local government bodies, there exist also other local government bodies such as mancomunidades (municipal associations), comarcas (counties), metropolitan areas, EATIM – territorial entities smaller than municipalities/intra municipal (entidades de ambito territorial inferior al municipio) etc.

²⁶ See Council of Europe (2013), Local and regional democracy in Spain, CG(24)6FINAL.

²⁷ Smith, A. and Heywood, P. (2000), Regional Government in France and Spain, University College London; <http://www.ucl.ac.uk/political-science/publications/unit-publications/64.pdf>

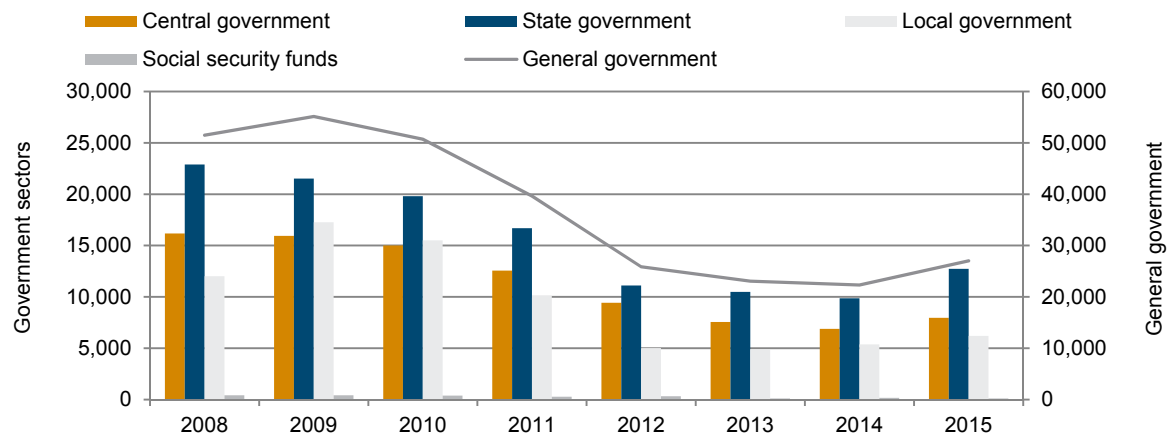
²⁸ See Smith and Heywood (2000), op. cit.

²⁹ <http://bruegel.org/2016/04/are-regions-causing-the-deficit-overshooting-in-spain/>

³⁰ See Council of Europe (2013), op. cit.

share of the autonomous regions was around 45%. In addition, the local governments account on average for 25% of total government investment, so that, in sum, 70% of total government investments were undertaken at the regional or sub-regional level in Spain.

Figure 3.7 / Spanish government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

Accordingly, Spanish national regional policy is of relatively low importance given the strong autonomous status of the regions. It operates mainly through three different measures, the Interterritorial Compensation Fund (Fondo de Compensación Interterritorial) for less developed regions, central government transfers to the regions, and specific investment benefits for the less developed and transition regions (e.g., non-refundable subsidies, subsidies for the repayment of loans, reductions in the employers' social security contributions). These benefits can amount to as much as 25% of total investment made in Extremadura and up to 15% in Andalucía and Castilla-La Mancha.

The Interterritorial Compensation Fund (Fondo de Compensación Interterritorial) is also the main tool to deliver national Spanish regional development policy, by providing transfers to the economically weaker regions. Apart from the four lagging regions Andalucía, Castilla La Mancha, Extremadura and Murcia, a number of other regions (autonomous communities) receive transfers through these funds, namely: Galicia, Asturias, Cantabria, Castilla-León, Comunidad Valenciana, Islas Canarias, Ceuta and Melilla. The Interterritorial Compensation Fund is split into two sub-funds, the Compensation Fund and the Complementary Fund, both of which finance investments targeting economic development of the regions. The financial transfers of these funds to the lagging regions are illustrated in Table 3.5.

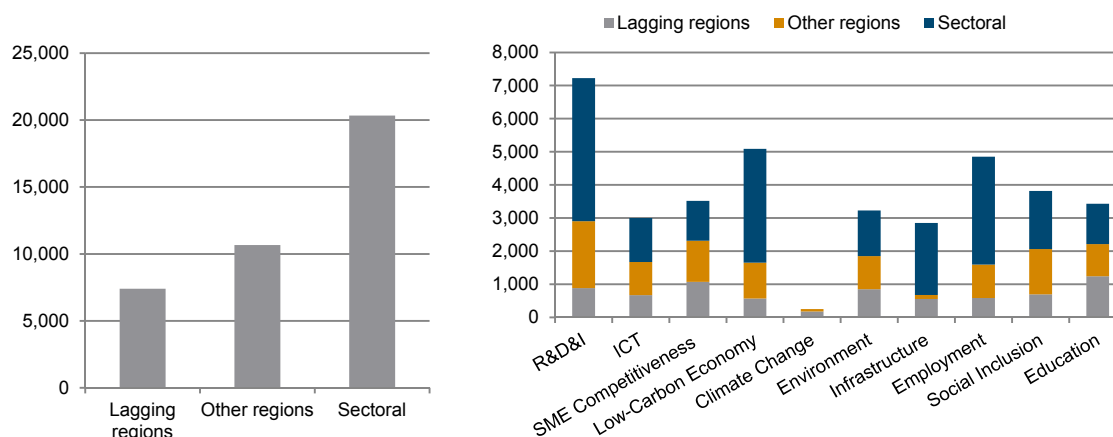
The table indicates that national support to the regions through the Compensation Fund and the Complementary Fund was reduced dramatically in the aftermath of the crisis, with transfers in 2014 and 2015 being only one third of those in 2009. Thus, Spanish austerity policy has had a substantial impact on national regional policies, as the lowering of transfers reduces the room to manoeuvre especially for the Spanish lagging regions. In principle, this increases the importance of ESIF interventions in Spain, yet, as DG Region data indicates, ESI Funds investment account only for around 14-18% (in the period 2011-2016) of total government investment. Hence, as in Italy, ESI Funds investment seems to be of a complementary nature to national and regional investments in Spain.

Table 3.5 / Expenditures from the Compensation Fund and the Complementary Fund, 2009-2015 (in thousand EUR)

	2009	2010	2011	2012	2013	2014	2015
Fondo Complementary							
Andalucía	119,524	109,221	68,750	59,213	51,144	39,835	40,115
Castilla La Mancha	28,487	26,913	17,299	13,667	11,550	9,428	9,266
Extremadura	23,976	20,536	12,235	10,256	8,606	6,724	6,653
Murcia	15,453	14,879	9,718	8,297	7,178	5,221	5,411
Fondo de Compensación							
Andalucía	358,607	327,697	206,270	177,657	153,448	119,516	120,357
Castilla La Mancha	85,471	80,748	51,902	41,005	34,653	28,288	27,801
Extremadura	71,935	61,613	36,709	30,771	25,821	20,174	19,962
Murcia	46,364	44,641	29,156	24,893	21,537	15,665	16,234
Total							
Andalucía	478,131	436,918	275,020	236,870	204,592	159,350	160,472
Castilla La Mancha	113,958	107,661	69,200	54,672	46,202	37,716	37,067
Extremadura	95,911	82,148	48,945	41,027	34,427	26,898	26,615
Murcia	61,817	59,521	38,873	33,189	28,716	20,886	21,645

Source: Spanish Ministry of Finance and Civil Service.

As far as the Spanish strategy with respect to ESI Funds is concerned, the main challenge (as highlighted in the Spanish PA) is the need to increase productivity and competitiveness and to promote employment in a framework of fiscal consolidation and credit restriction. Thus, it is crucial for Spain to support measures that increase productivity and employment, boost private investment and develop sectors with high growth potential. In this context, the development of human capital capacities, access to finance by SMEs and the creation of a business environment conducive to innovation emerge as general priorities. Equally important is the improvement of the quality of education and vocational training, to combat the high level of early school leaving and the mismatch between the large number of students in higher education and the skills that are demanded in the productive sectors.

Figure 3.8 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Spain

Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

The general ESIF strategy of Spain is put into operation via an elaborate structure of regional and national OPs. Thus, Spain has three individual OPs for each of its regions (one ERDF OP, one ESF OP and a rural development OP) and a number of sectoral OPs. The split between regional OPs (separated in OPs of the lagging regions and other regions' OPs) and sectoral OPs is illustrated in Figure 3.8. The total commitments (from the ERDF and ESF) in Spain for the period amount to around EUR 38 billion. Out of these, around 47% are allocated to the regional OPs (19% to lagging regions' OPs, 28% to other regions' OPs), and 53% to sectoral OPs, thus showing an almost even split between specific regional investment programmes and programmes of a more (geographically) general nature. The main investment priorities in Spain are R&D (more than EUR 7 bn), followed by the support of a low-carbon economy and employment (around EUR 5 bn each). Around EUR 3 to 3.8 bn are allocated to each of the following: SME support, ICT, environment, infrastructure, social inclusion and education; only climate change (as well as technical assistance) receive significantly less resources.

Looking at the lagging regions' OPs in some more detail (see Table 3.6), it shows that the regions tend to differ to some extent in their investment priorities. Common to all regional OPs is the focus on SME competitiveness and the environment (though Castilla-La Mancha and Murcia invest proportionately more in environment than Extremadura and Andalucia). Research and innovation, ICT and sustainable employment receive approximately the same attention in all lagging regions. The main differences are found in education and low-carbon economy, transport as well as energy infrastructure, which is a focus of investment in Extremadura but not elsewhere.

Table 3.6 / Spanish lagging regions' OPs, total allocations and shares by TOs (ERDF and ESF)

	TOTAL (EUR mn)	Research & Innovation	Information & Communication Technologies	Competitiveness of SMEs	Low-Carbon Economy	Climate Change Adaptation & Risk Prevention	Environment & Resource Efficiency	Infrastructures in Transport and Energy	Sustainable & Quality Employment	Social Inclusion	Educational & Vocational Training	Technical Assistance
Andalucía	4,828.6	11.1	7.1	15.1	9.2	3.7	10.5	9.4	5.6	9.8	16.8	1.5
Extremadura	1,180.7	11.6	13.3	9.1	3.6		7.1	8.8	10.8	11.5	23.8	0.3
Castilla-La Mancha	906.4	15.0	14.2	17.9	5.9		17.2		13.5	5.8	9.2	1.3
Murcia	483.4	15.2	8.3	14.4	5.8		21.3		12.5	6.3	13.1	3.1

Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Bulgaria

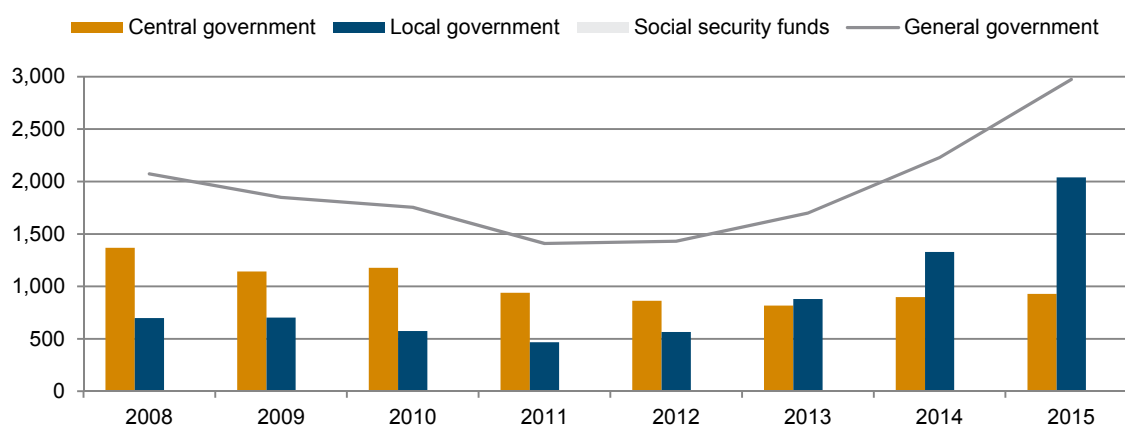
Bulgaria is divided into 28 regions (*oblast*), corresponding to the NUTS 3 regions, and 264 municipalities (*obshini*), the latter being independent legal entities with their own budgets. They are also the main administrative and territorial units in charge of local self-government. The oblasti are not autonomous regions and are administratively located between the central government and the municipalities, being responsible for regional policies and implementing state governance³¹. Bulgaria is further divided into

³¹ See Council of Europe (2011), Local and regional democracy in Bulgaria, CG(21)14; <https://wcd.coe.int/ViewDoc.jsp?p=&id=1844369&Site=COE&direct=true>

6 planning regions that correspond to the NUTS 2 regions for the purposes of regional planning, statistics and the coordination of EU policies. The planning regions have no administrative structures or financial resources³². Over the last years, Bulgaria implemented its 'Decentralisation Strategy 2006-2015' aiming at improving local government. The main objectives of this strategy were a) a transfer of powers and resources from the central government to municipalities to strengthen local government, b) to optimise the functional competences of the governor and the territorial units of the central government for the coordination of sectoral policies at regional level, and c) to develop local government of the municipalities by improving their managerial and financial autonomy³³.

This decentralisation policy also led to shifts in the structure of government investment expenditures (see Figure 3.9 below) in the period 2008-2015. While at the begin of the period around two thirds of government investment was due to investment activities of the central government, the role of local government investment became more and more important from 2012 onwards. In fact, in 2015 local government investments accounted for around two thirds of total government investment expenditures (combined with a strong increase in aggregate and local government investment), indicating that Bulgaria shifted from a highly centralised to a highly decentralised system (at least in terms of government investments).

Figure 3.9 / Bulgarian government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

Apart from the decentralisation strategy, the main tools for Bulgaria's regional development approach and policies are the 'National concept for spatial development 2013-2025'³⁴ and the 'National Strategy for Regional Development 2012-2022'³⁵. Both aim at achieving a balanced and sustainable development of the Bulgarian regions and reducing intra- and inter-regional disparities. The latter sets out four main strategic objectives for regional development: economic, social and territorial cohesion as well as balanced regional development. Each of these objectives is further divided into two or more priorities

³² See Council of Europe (2011), op. cit., par. 37.

³³ See Ministry for Regional development, <http://www.mrrb.government.bg/?controller=articles&id=4218>

³⁴ http://www.bgregio.eu/media/Programirane/NKPR_28012013_Last_en.pdf

³⁵ <http://www.mrrb.government.bg/docs/27e40e053f2f7a7321ea7c1220824221.doc>

and each priority is further split into several 'specific objectives'. The national strategy is strongly aligned with EU Cohesion policy, which is also the main funding source (covering around 75% of total investments). Other sources are contributions from the central government (mostly co-financing), local budgets, public funds as well as the EIB and EBRD. The distribution of funding by priorities and sources is illustrated in Table 3.7.

Table 3.7 / Funds allocated to priorities in the 'National Strategy for Regional Development 2012-2022' by financing source (EUR million*)

EUR	Total	EU contribution	National contribution	Other instruments
P 1.1 Regional economic development	491.9	391.1	100.7	
P 1.2 Sustainable tourism	314.4	252.1	62.4	
P 1.3 Environmental infrastructure	2,724.2	1,942.9	781.3	
P 2.1 Access to education, health, social and cultural services, sports infrastructure	515.4	410.6	104.8	
P 2.2 Spatial labour mobility	26.3	21.7	4.6	
P 2.3 Capacity development	208.6	172.3	36.3	
P 3.1 Cross-border cooperation.	210.7	173.8	36.8	
P 3.2 Interregional and transnational cooperation	81.8	69.5	12.3	
P 4.1 Urban development	1,564.6	1,238.6	326.0	
P 4.2 Connectivity of regions	1,915.3	1,608.0	307.3	
P 4.3 Quality of life in rural areas	338.0	260.8	77.2	
ESF	83.9	71.1	12.8	
EMFF	143.2	107.4	35.8	
Total other sources (EIB, EBRD etc.)	481.6			481.6
TOTAL	9,099.9	6,720.0	1,898.2	481.6

Note: *Exchange rate used NCU/EUR = 1.9558

Source: National Strategy for Regional Development 2012-2022, own calculations.

The 'National Strategy for Regional Development 2012-2022' also gives some indication on the strategies for development of the individual (NUTS 2) regions. Judging by the distribution of funds across regions (as indicated in the strategy), the priorities and investment strategies for the regions are highly similar (see Table 3.8). The main investment areas are environmental and transport infrastructure, followed by urban development. Economic aspects like economic development or tourism, governance aspects etc. receive relatively little attention however. Thus, the main difference between the regional strategies is the absolute amount of resources available. Overall therefore, the regional strategies seem to follow a general sectoral approach, with some regional components, rather than being strategies addressing specifically the needs of individual regions.

The high alignment of the Bulgarian national strategies with EU Structural funds in terms of financing is also corroborated by the high share of ESI Funds in total government investment in Bulgaria (around 50% to 80% in the period 2011-2016 according to DG Regio estimates). The strong influence of ESI Funds regarding investment priorities is shown by a somewhat more detailed analysis of the Bulgarian ESIF-related strategy.

Table 3.8 / Funds allocated to priorities by regions in the ‘National Strategy for Regional Development 2012-2022’ (total in EUR million*, shares of priorities in total)

	North-West	North-Central	North-East	South-East	South-Central	South-West
P 1.1 Regional economic development	5.9	5.9	5.9	5.8	5.9	5.9
P 1.2 Sustainable tourism	3.7	3.8	3.7	3.8	3.8	3.7
P 1.3 Environmental infrastructure	32.5	32.5	32.5	32.5	32.5	32.5
P 2.1 Access to education, health, social and cultural services, sports infrastructure	6.1	6.2	6.1	6.1	6.2	6.1
P 2.2 Spatial labour mobility	0.3	0.3	0.3	0.3	3.2	0.3
P 2.3 Capacity development	2.5	2.5	2.5	2.5	2.5	2.5
P 3.1 Cross-border cooperation.	2.5	2.5	2.5	2.5	2.5	2.5
P 3.2 Interregional and transnational cooperation	1.0	1.0	1.0	1.0	1.0	1.0
P 4.1 Urban development	18.6	18.6	18.6	18.6	18.6	18.7
P 4.2 Connectivity of regions	22.8	22.8	22.8	22.9	22.8	22.8
P 4.3 Quality of life in rural areas	4.0	4.0	4.0	4.0	4.0	4.0
TOTAL (in EUR million)	1193.5	1213.1	902.2	1006.3	2084.0	1992.1

Note: *Exchange rate used NCU/EUR = 1.9558

Source: National Strategy for Regional Development 2012-2022, own calculations

In general, Bulgaria’s investment needs and priorities are heavily influenced by its anaemic growth performance of the last couple of years, structural bottlenecks (e.g. skills mismatches) preventing longer-term sustainable growth, a decline in the working-age population, low productivity and high energy intensity as well as inefficient public services. Tackling these and other issues is at the centre of the Bulgarian ESIF strategy as outlined in the PA³⁶. Thus, the Bulgarian strategy focuses on four main priorities:

- 1) Education, employment, social inclusion and healthcare for inclusive growth
- 2) Scientific research, innovation and investment for smart growth
- 3) Connectivity and green economy for sustainable growth
- 4) Good governance and access to quality administrative services (horizontal objective)

A recurrent topic in the Bulgarian PA³⁷ is the need to catch up to European standards, e.g. in terms of R&D, entrepreneurship and business environment, health, education and many other aspects. Regional cohesion within the country is considered to be problematic, given the increasing gap in development between the capital city region and all other regions; however, region-specific strategies are more or less absent. Rather, Bulgaria’s strategy follows a sectoral approach, supporting specific areas under the four main priorities above, with little differentiation across regions.

This sectoral approach is also visible in the structure of the Bulgarian Operational Programmes. In total Bulgaria has 10 OPs, of which 9 are sectoral OPs and one is an integrated regional OP. Thus, in terms of the programming architecture, Bulgaria has (as indicated in the analysis of national programmes) no

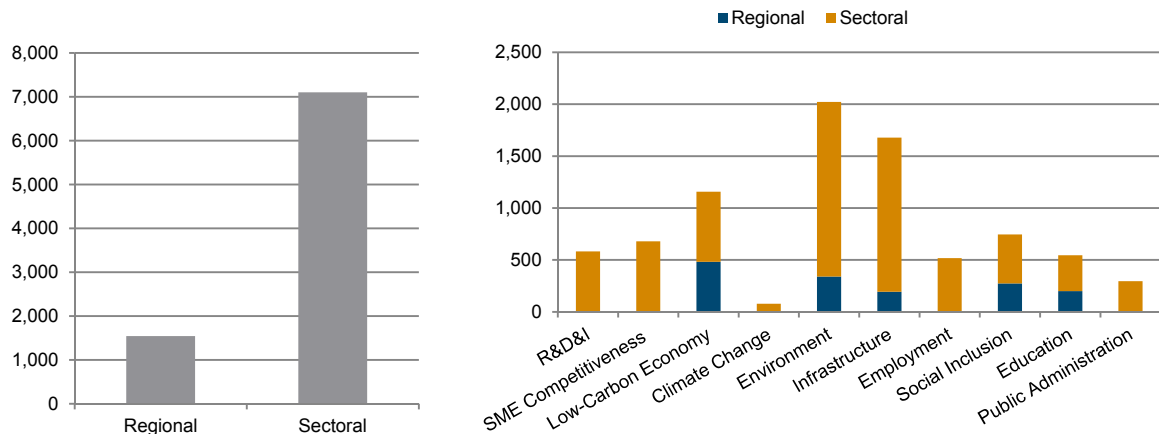
³⁶ See also EU Commission (2015), Investing in jobs and growth – maximising the contribution of European Structural and Investment Funds, ANNEX II: Country fiches, COM(2015) 639 final Annex 2.

³⁷ <http://www.eufunds.bg/en/programming-period-2014-2020/operational-programmes-2014-2020/partnership-agreement/item/13781-partnership-agreement>

specific regional focus but rather has adopted a more sectoral approach. The financial priorities of the Bulgarian OPs are summarised in Figure 3.10.

In total around EUR 8.6 billion (from the ERDF, ESF and CF) are allocated to the Bulgarian OPs, of which around 82% are allocated to sectoral OPs and 18% to the integrated regional OP. The main financial focus of the Bulgarian ESIF strategy is on environment and transport and energy infrastructure, which together absorb around 43% of the total funds (or EUR 3.7 billion). Correspondingly, allocations to other objectives, and especially those targeting economic development and an upgrading of the economy, are much lower. Interestingly, the integrated regional OP has a much narrower focus, supporting only investments in the low-carbon economy, environment, infrastructure, social inclusion and education objectives.

Figure 3.10 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions OPs and thematic objectives (EUR million), Bulgaria



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

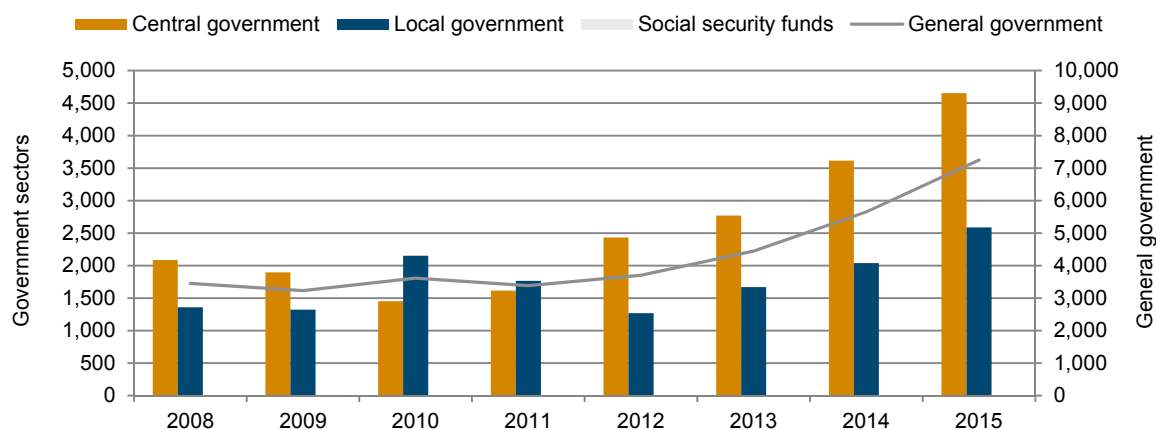
Hungary

The territory of Hungary is divided into 7 planning regions, i.e. NUTS 2 regions, 19 counties (including 23 county towns), i.e. NUTS 3 regions, and over 3100 municipalities. The Hungarian planning or NUTS 2 regions were set up mainly for statistical reasons and have no administrative authority. Although deeply rooted in Hungarian history, the role of the 19 counties in regional administration is minor and up to 2011 the main competencies were in the areas of health, educations, economic development and spatial planning as well as environment. Traditionally, the municipalities were more important in this respect, having been responsible for a wide range of public services. Both, municipalities and counties have their own budgets, with revenues coming from own resources and taxes, shares in national taxes as well as transfers from the central government.

The changes in the legal environment at the begin of 2012 brought a significant reduction of both the municipalities and counties' responsibilities (e.g. in health and education services) as well as budgets (e.g. the shares in national taxes were reduced) in favour of the central state, which centralised or rationalised a number of local functions in order to get public debt (which was partly caused by local

administrations) under control³⁸. The strong centralisation process is also shown by the distribution of investment expenditures by government sectors (Figure 3.11), where, especially since 2012, central government investment accounted for around two thirds of total government investment expenditures.

Figure 3.11 / Hungarian government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

Despite the high degree of centralisation in Hungary, there is an explicit regional development policy outlined in the strategic document 'National Development 2030 – National Development and Regional Development Concept'³⁹. Furthermore, each planning (NUTS 2) regions has its own regional development agency⁴⁰ having some responsibilities in regional economic development and planning. However, their current status is questionable: although they were responsible for the respective regional operational programmes in the period 2007-2013 (within the integrated regional OP), regional development tasks and the creation of development plans are now in the responsibility of the 19 counties (NUTS 3 regions). Accordingly, each of the 19 counties has set up its own 'County and regional development concept'⁴¹, laying down the main investment needs and strategies⁴². These concepts generally also include the financing of the planned projects and operations, with the financial resources coming almost exclusively from EU Structural funds.

This strong reliance on ESI Funds is a general feature of the Hungarian development programmes, as they are in fact the only major resource for the investments envisaged in these programmes. This is corroborated by DG Regio estimates suggesting that ESIF-related investment accounts for around 60% to 80% of total government investment in the period 2011-2016.

³⁸ Council of Europe (2013), Local and regional democracy in Hungary, CG(25)7 final; <https://wcd.coe.int/ViewDoc.jsp?p=&id=2113213&Site=COE&direct=true>

³⁹ <https://www.nth.gov.hu/hu/media/download/321>

⁴⁰ For example for North Hungary: <http://www.norda.hu/en/agency/>

⁴¹ For a list see e.g. <http://regionalispolitika.kormany.hu/teruleti-tervezesi-dokumentumok>; not all links are working, though.

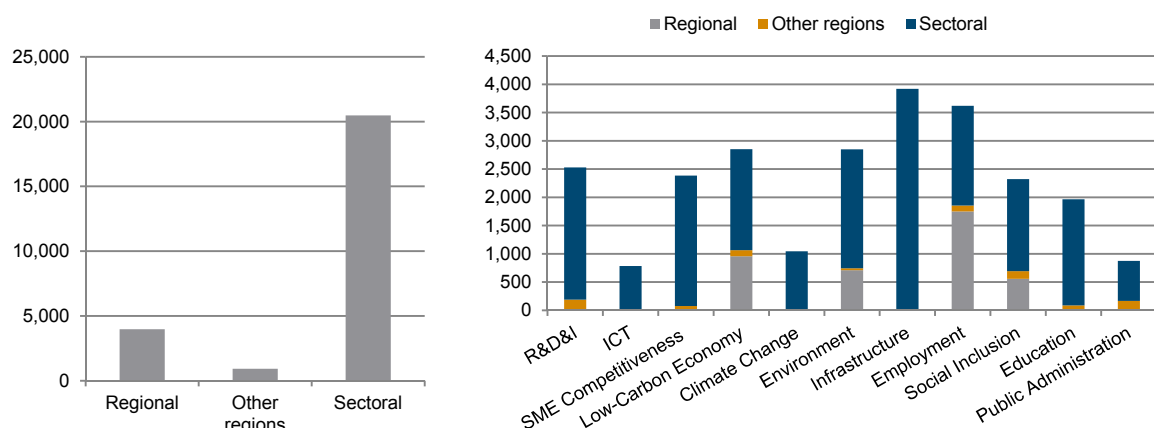
⁴² For example for Baranya county see: <http://baranya.hu/onkormanyzat/teruletfeljesztési-koncepcio/>

Reviewing the Hungarian PA⁴³ gives the impression that the main focus of the Hungarian development and ESIF strategy is economic growth, employment and competitiveness of the country, and while a territorial or regional focus exists, it seems to be of a secondary nature. This is also indicated by the fact that the Hungarian ESIF strategy is aligned with the 'National Development 2030' concept and the five main development priorities set in this document: a) improvements in the competitiveness and internationalisation of the economy, b) increase in employment, c) energy and resource efficiency, d) social and demographic challenges, and e) local and regional development to promote economic growth

The Hungarian ESIF strategy is operationalised in 9 OPs: 7 sectoral OPs, one OP for the Central Hungary (Budapest) region, and one integrated regional OP. The distribution of financial resources across these OPs is shown in Figure 3.12. In total, Hungary's total allocations from the ERDF, ESF and CF amount to around EUR 25.4 billion. Of these around 81% are allocated to the sectoral OPs, 16% to the integrated regional OP and around 4% to the Central Hungary OP.

The financial focus of the Hungarian strategy by individual objectives is on transport infrastructure and employment, with financial allocations being EUR 3.9 bn and 3.6 bn respectively. However, seen as a package and aggregating the OPs relevant to economic development and employment (i.e. R&D, ICT, SMEs, employment and education) it shows that Hungary invests around 44% of the total funds in these areas, with other objectives also contributing either directly or indirectly to this aim. Notably, the integrated regional OP focuses exclusively on the objectives low-carbon economy, environment, employment and social inclusion. By contrast, infrastructure as well as those objectives relevant to the upgrading of the economy and economic growth, like research and innovation, SME competitiveness as well as education, are exclusively subject to sectoral OPs, thus showing once again the strongly centralised character of Hungary's (regional) development policy.

Figure 3.12 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Hungary



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

⁴³ <https://www.palyazat.gov.hu/download.php?objectId=52032>

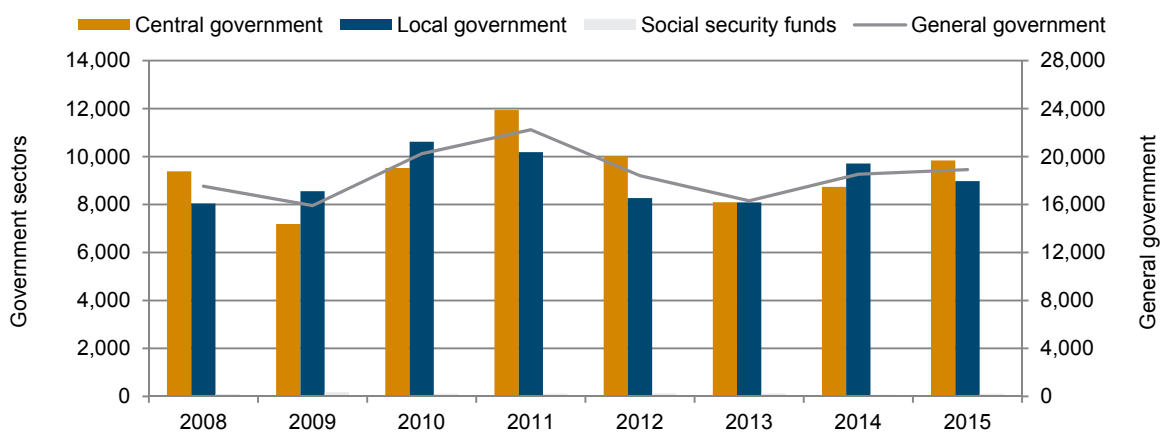
Poland

Poland is administratively divided into 16 voivodeships (i.e. NUTS 2 regions), 380 powiats (counties, i.e. NUTS 4 level; the NUTS 3 level regions consist of groups of powiats) and 3737 gminas (communes or municipalities, thereof: 2478 gminas, 611 urban parts of urban-rural gminas, 611 rural parts of urban-rural gminas, as well as 18 quarters of Warszawa, and 19 representations of another four cities)⁴⁴. The powiats and gminas constitute genuine local self-government entities with their own responsibilities in the provision of public services like infrastructure, health, and education. The activities or tasks of powiats and gminas are of a complementary nature, as, in a nutshell, the gminas provide basic services while powiats more advanced services⁴⁵.

By contrast, the 16 voivodeships have a dual system of public administration, with one part consisting of the voivodeship parliament (sejmik), which is directly elected by the respective voivodeship's population. In turn, the sejmik elects the voivodeship marshal, who heads the voivodeship board, which is the main executive organ in the region. The other part consists of a voivodeship governor (voivod), who is appointed by the prime minister and is the government's representative in the region and a supervisory body for the local self-government units⁴⁶. In the context of regional development, one main task of the sejmik is the passing of the voivodships' development strategies prepared by the marshal's office⁴⁷.

Overall, the Polish regions and other local government levels are important actors as far as government investment is concerned. This is indicated by Figure 3.13 below, showing that general government investments in Poland are approximately equally distributed across central and local governments.

Figure 3.13 / Polish government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

⁴⁴ Source: Central Statistical Office Poland: <http://stat.gov.pl/en/regional-statistics/classification-of-territorial-units/nomenclature-of-territorial-units-for-statistical-purposes-nts/the-history-of-the-nts-classification/>

⁴⁵ See: Akademie für Raumforschung und Landesplanung, Leibniz-Forum für Raumwissenschaften: <https://www.arl-net.de/commin/poland/23-supra-local-and-local-level>

⁴⁶ See: Akademie für Raumforschung und Landesplanung, Leibniz-Forum für Raumwissenschaften: <https://www.arl-net.de/commin/poland/22-regional-level-voivodeship>

⁴⁷ See e.g. Podlaskie Voivodeship Development Strategy 2020: <http://strategia.wrotapodlasia.pl/pl/strategia/var/resources/154/248/22/1310strategia2020wwwen.pdf>

The voivodeships as well as each voivodeship's development strategy are also the main tool of regional policy in Poland. These individual strategies are based on national strategic documents such as the 'Long-term national development strategy 2030' and the 'National development strategy 2020'⁴⁸, which in turn are the basis for the Polish 'National strategy for regional development 2010-2020'⁴⁹. Besides being the basis for the voivodeships' development strategies, the latter is also the fundament for supra-regional strategies, like the 'Strategy for Eastern Poland 2020'⁵⁰.

The overall goals of the 'National strategy for regional development 2010-2020' are a) to increase the competitiveness of the regions (in terms of developing the potentials of the biggest cities and the surrounding municipalities), b) to eliminate inequalities between different areas of the country, and c) an efficient policy management. Subsequently, the 'Strategy for Eastern Poland 2020' defines the 'Increase in labour productivity in all sectors of the economy in Eastern Poland' as its main objective. This is split into 3 strategic areas: 'Innovation', 'Labour resources and quality of human capital' and 'Transport and power infrastructure', which are further splits into 'strategic lines of action'.

In addition to the (supra-)regional development strategies, Poland has also introduced 'contracts'⁵¹ between the central government and the regions (voivodeships), in which inter alia investment needs and priorities of the regions, the mutual responsibilities of the regions and the central government as well as financing issues are defined.

In addition to these specific regional development programmes, Poland also offers investment grants and tax reliefs for firms operating in Special Economic Zones (SEZ). These SEZ are distributed over the whole country, however, the aid intensity varies depending on the level of economic development of the regions. Thus, aid intensities are highest (up to 50% of eligible investment costs for large firms) in the Eastern Polish regions (35% in Świętokrzyskie)⁵².

Overall, regional development policy in Poland is highly elaborated. It is at the same time, however, also highly aligned to EU Structural funds in both, the definition of investment priorities as well as regarding financial resources as EU Structural funds are the main source of finance for all Polish regional development activities⁵³. Thus, according to DG Regio estimates, around 54-60% of government investment is financed by EU Structural funds in Poland (in the period 2011-2016).

Analysing Poland's strategy with respect to ESI Funds in some more detail⁵⁴ shows that, although Poland was one of the few countries having been less affected by the economic crisis of 2009, it still has a number of development needs, such as structural changes towards higher value added sectors, a mismatch between the supply of and demand for skills, infrastructure bottlenecks etc. that lower the country's growth potential. In this respect the main objectives of Poland's ESIF strategy is to enhance

⁴⁸ <http://www.mr.gov.pl/strony/zadania/polityka-rozwoju-kraju/zarzadzanie-rozwojem-kraju/strategia-rozwoju-kraju/>

⁴⁹ <http://www.mr.gov.pl/strony/zadania/polityka-rozwoju-kraju/zarzadzanie-rozwojem-kraju/krajowa-strategia-rozwoju-regionalnego/>

⁵⁰ http://www.mr.gov.pl/media/3374/Strategy_of_Eastern_Poland_screen.pdf

⁵¹ <http://www.mr.gov.pl/strony/zadania/polityka-rozwoju-kraju/zarzadzanie-rozwojem-kraju/kontrakty-wojewodzkie/>

⁵² See: KPMG (2014), 20 years of Special Economic Zones in Poland; http://www.paiz.gov.pl/files/?id_plik=24349

⁵³ EPRC and Euroreg (2010), The Objective of Economic and Social Cohesion in the Economic Policies of Member States, Final Report, Part II country reports.

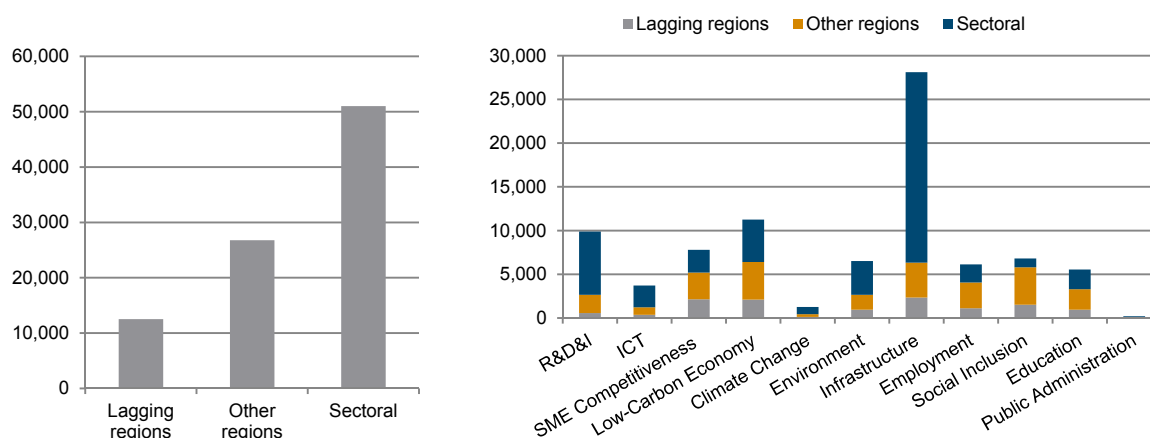
⁵⁴ https://www.funduszeuropejskie.gov.pl/media/9498/Partnership_Agreement.pdf

the competitiveness of the economy, improving social and territorial cohesion and increasing effectiveness and efficiency of state administration. Poland is also the only of the four lagging regions countries that has an explicit and elaborated strategy towards its lagging regions, acknowledging that EU cohesion policy contributes not only to reducing the gap between Poland and the EU, but also to reducing disparities within the country⁵⁵.

The Polish national and regional specific ESIF strategy is operationalised in 24 OPs, thereof 7 sectoral OPs, 16 regional OPs (one for each voivodeship) and one OP especially for the development of Eastern Poland. The financial allocations to the OPs are indicated in Table 3.9, dividing the OPs into OPs of lagging regions (including the OP for Eastern Poland), OPs of other regions and sectoral OPs.

In the period 2014-2020, Poland's total allocations from the ERDF, ESF and CF amount to over EUR 90 billion. Around 56% of these funds are allocated to sectoral OPs, 14% to the lagging regions' OPs and 30% to the other regions' OPs (see Figure 3.14). Around one third of the total funds are assigned to infrastructure development (mainly financed by sectoral OPs), and another third to the objectives addressing competitiveness and employment (including education). Around EUR 11 billion are allocated to the low-carbon economy objective and thus to measures increasing the energy efficiency, the implementation of environmentally friendly production technologies or the support of renewable energies. Moreover, more than EUR 6 billion are allocated to pursuing environmental protection as well as social inclusion.

Figure 3.14 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Poland



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations,

Looking at the lagging regions' OPs in more detail, Table 3.9 below indicates that the development strategies of those regions tend to be mostly similar. Thus, the regions put special emphasis on increasing the competitiveness of their SMEs, the shift to a low-carbon economy (the Lubelskie regions more than others), transport and energy infrastructure (especially Podkarpackie and Podlaskie) as well as social inclusion. By comparison, R&D, ICT or the adaptation to climate change are (financially) less

⁵⁵ According to Polish estimates, without EU cohesion policy internal disparities, measured in GDP per capita, would be about 1.6 p.p. higher in 2015 (source: Partnership Agreement Poland).

important objectives. The OP for the development of Eastern Poland has a high concentration of allocations on selected objectives, basically focusing only on competitiveness, infrastructure development and the change to a low-carbon economy.

Table 3.9 / Polish lagging regions' OPs, total allocations and shares by TOs

	TOTAL (mn. Euro)	Research & Innovation	Information & Communication Technologies	Competitiveness of SMEs	Low-Carbon Economy	Climate Change Adaptation & Risk Prevention	Environment, & Resource Efficiency	Infrastructures in Transport and Energy	Sustainable & Quality Employment	Social Inclusion	Educational & Vocational Training	Technical Assistance
Development of Eastern Poland	2,352.9			36.0	22.0			40.3				1.7
Lubelskie	2,624.7	4.5	3.2	13.1	18.4	2.0	8.1	12.1	11.4	17.3	6.7	3.1
Podkarpackie	2,487.4	5.0	3.8	12.7	14.1	0.9	8.3	16.8	11.7	14.7	8.8	3.3
Podlaskie	1,424.2	7.1	3.3	12.2	14.9		5.5	17.2	8.1	14.7	13.7	3.3
Warmińsko-Mazurskie	2,033.3	5.5	4.4	13.1	15.5	1.0	12.6	11.4	10.5	13.0	9.7	3.4
Świętokrzyskie	1,605.4	7.0	2.5	11.8	14.1	1.5	12.2	11.4	12.0	14.3	9.5	3.7

Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Romania

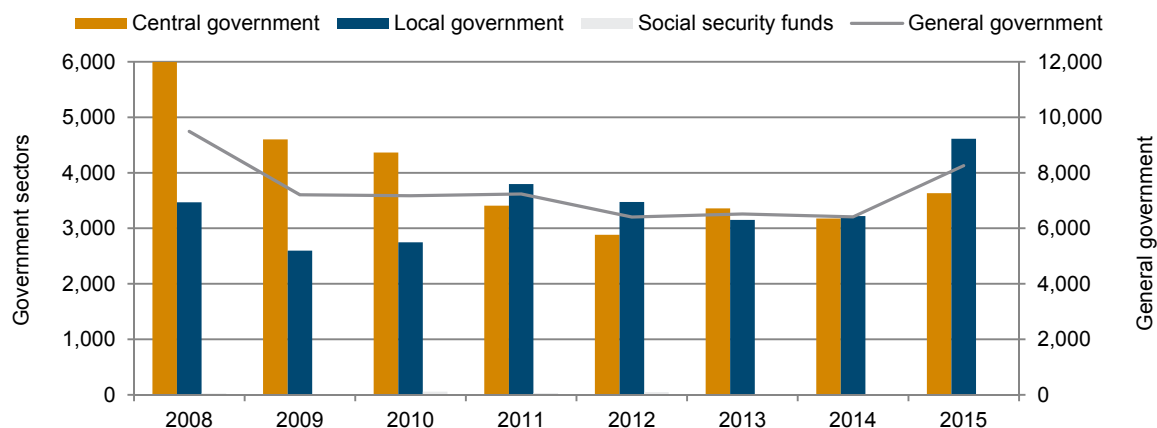
Romania's territory is divided into 41 counties (judete) excluding the capital city Bucharest, and furthermore into 2858 communes (comune) and 320 towns (orașe), of which 103 are, depending on their importance, designated municipalities (municipii). Both, the counties as well as the communes (or cities and municipalities), have their own set of responsibilities; in the case of the latter these refer mainly to the provision of public services, while the counties are inter alia also responsible for economic development. For this, these administrative entities also have their own budgets. Romania is further divided into eight larger planning regions (corresponding to the NUTS 2 regions – except Bucharest and Ilfov), which however have no administrative status or responsibilities⁵⁶. As in Bulgaria, they are mainly set up for statistical purposes and serve to manage EU Structural funds. To manage the planning regions the central government has set up a regional development agency as well as a regional development council for each region⁵⁷ that are inter alia responsible for managing and planning regional development programmes.

Nevertheless, Romanian regions, especially the counties, are important actors as far as investments are concerned as indicated in Figure 3.15. Thus, especially since 2011, local government investment expenditures were approximately the same as central government investments; in 2015, local government investment was even higher than central government investment. The figure also suggests a certain decentralisation process in government investment decisions, though this may be more due to a strong decrease in central government investment in the aftermath of the economic crisis.

⁵⁶ See: Council of Europe (2011), Local and regional democracy in Romania, CG(20)9; <https://wcd.coe.int/ViewDoc.jsp?p=&id=1756725&Site=COE&direct=true>

⁵⁷ See for example for the Nord-Vest region: <http://www.nord-vest.ro/>

Figure 3.15 / Romanian government investment expenditures, by government sectors (EUR million)



Source: Eurostat, own calculations.

As far as national regional development strategies in Romania are concerned, they have been more or less replaced by EU regional policy⁵⁸. Thus, any national strategy is strongly aligned with EU policies (see also EPRC and Euroreg, 2010⁵⁹). Still, within EU Cohesion policy, each region is responsible for developing its own regional development strategy, identifying inter alia the investment needs of and an investment strategy for the respective regions.

The global objective of Romania's regional development strategy based on the ESI Funds is to reduce the economic and social development disparities between Romania and other EU Member States⁶⁰. In order to achieve the economic growth aspirations reflected in the global objective, Romania has to tackle, according to its own definition, five development challenges: a) the competitiveness and local development challenge, b) the people and society challenge, c) the infrastructure challenge, d) the resources challenge, and e) the administration and government challenge.

This multitude of investment needs and priorities are approached via 9 Romanian OPs, i.e. eight sectoral OPs and one integrated regional OP. The total allocation to these OPs from the ERDF, ESF and CF is about EUR 27.5 billion (see Figure 3.16), with almost 30% being devoted to the integrated regional OP and 70% to the sectoral OPs. Despite the need for economic development and convergence to the EU, the vast majority of ESI Funds are allocated to infrastructure, environmental and low-carbon economy objectives, receiving in total around 60% of available funds. By comparison, objectives related to growth and employment (including education) account for only around 24% of available funds.

Although the basic set-up of Romania's ESIF strategy suggests a rather sectoral approach to regional development, given the high priority of sectoral OPs, the analysis of the regional development strategies done by the NUTS 2 planning regions suggests that in fact, Romania's policy might have a strong and

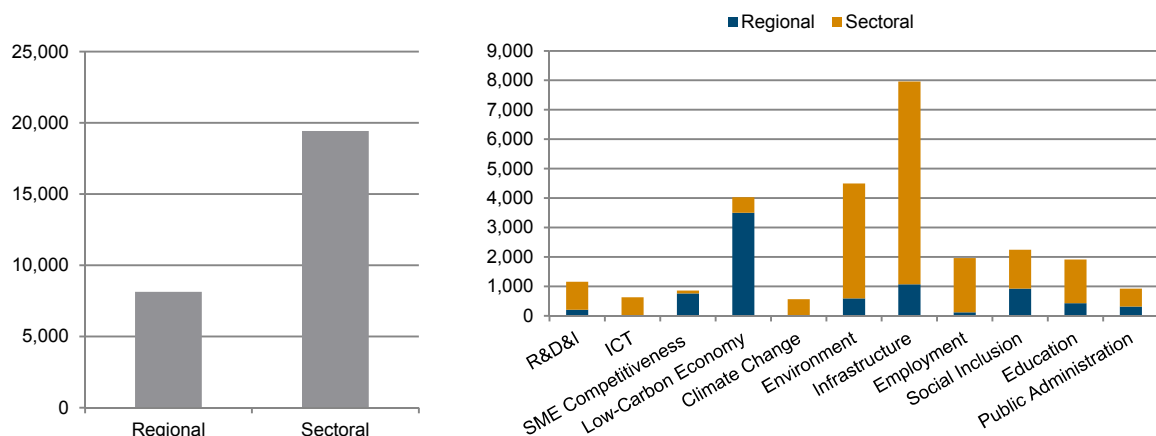
⁵⁸ See also <http://www.mdrap.ro/dezvoltare-regionala/politica-de-dezvoltare-regionala>

⁵⁹ EPRC and Euroreg (2010), The Objective of Economic and Social Cohesion in the Economic Policies of Member States, Final Report, Part II country reports.

⁶⁰ See: http://www.fonduri-ue.ro/files/documente-relevante/acord/Acord_de_Parteneriat_2014-2020_EN.pdf

differentiated regional perspective. In this respect, Table 3.10 summarises the investment priorities and strategies for a number of NUTS 2 regions, according to the respective planning documents of each region⁶¹. It shows that the regions chose highly individual investment strategies according to their specific needs, e.g. Sud-Vest Oltenia invests heavily in infrastructure, while Nord-Vest concentrates on competitiveness, infrastructure, environment and quality of life.

Figure 3.16 / Distribution of ESIF allocations (ERDF, ESF, CF) between sectoral, lagging and other regions' OPs and thematic objectives (EUR million), Romania



Source: EU Commission, European Structural and Investment Funds data (as of October 2016), own calculations.

Table 3.10 / Regional investment priorities of the Romanian regions 2014-2020, share of priorities in total planned expenditures, total in EUR million

	Sud-Vest Oltenia	Nord Vest	Sud-Muntenia	Sud-Est
Competitiveness	4.0	21.0	7.7	7.0
Regional infrastructure	66.7	21.0	37.9	30.1
Tourism	13.8	.	.	6.0
Rural Development	5.8	.	15.7	7.5
Human resources	.	.	2.3	3.3
Environment	9.3	32.4	27.4	4.5
Quality of life	.	25.5	.	.
Urban development	.	.	6.0	30.1
Health	.	.	3.0	.
Energy	.	.	.	4.5
Smart specialisation	.	.	.	4.5
Territorial Cooperation	.	.	.	2.4
Total in EUR mn	3,918.8	5,567.8	10,954.9	6,648.0

Source: Regional development strategies for the regions Sud-Est⁶², Sud-Muntenia⁶³, Nord-Vest⁶⁴ and Sud-Vest Oltenia⁶⁵. The strategy for Nord-Est⁶⁶ could not be accessed.

⁶¹ The numbers also contain funding through the EARDF and FIGG.

⁶² http://www.adrse.ro/Documente/Planificare/PDR/2014/PDR.Sud_Est_2014.pdf

⁶³ <http://www.adrmuntenia.ro/imagini/upload/pdrtartie2015.pdf>

⁶⁴ http://www.nord-vest.ro/Document_Files/Planul-de-dezvoltare-regionala-2014-2020/00001724/7r238_PDR_2014_2020.pdf

3.2. SUMMARY

This section analysed the regional investment strategies in the eight lagging regions countries. The focus was on a) whether or not the countries have specific national strategies addressing the development needs of their lagging regions, b) to what extent these national strategies are dependent on EU Cohesion policy in terms of setting investment priorities and financing, c) the independence of regions to conduct their own investment policies, and d) the actual investment priorities in the lagging regions.

The analysis has shown that the eight lagging regions countries have highly heterogeneous approaches towards their lagging regions. Amongst all eight countries, Spain has the most federal structure, with its regions enjoying a high degree of autonomy with respect to adjusting their policies to their investment needs, even despite centrally imposed budget constraints. Italy is second in terms of regional independence in policy-making, given the basically highly federal structure of the country, even though fiscal federalism seems still to be developing. Furthermore, Italian regions face some constraints in their own investment policies, as the 'Pacts for the South' between the regional and central governments provide a binding framework regarding investment priorities to be set and the financing of investments.

In contrast to Italy and Spain, the other six countries tend to be more centralised, though to varying degrees. In Portugal, Poland, Romania and, given recent developments, also in Bulgaria, local governments tend to have a share in aggregate government investment (around 50%), indicating at least some potential for autonomous investment decisions. Yet, in none of these countries, potentially except Poland, it is the NUTS 2 regions that are of importance in this respect, as in Bulgaria, Portugal and Romania they are merely planning regions without much further competencies. In these countries, it is the lower level regions (NUTS 3) or even the municipalities that have some autonomous competencies, which seem to be mostly concentrated on the provision of services. Hence, it is difficult to assess to what extent investment decisions taken by these governance units are based on encompassing regional strategies and in how far they contribute to the development of the regions they are located in.

Greece and Hungary seems to be the most centralised states. Although, as in the other countries, NUTS 2 regions are 'only' planning regions and lower level regions have more competencies, much of the government investment activities are conducted by the central state, leaving only little room to manoeuvre for the regions.

There is some correspondence between the level of the regions' autonomy and national policies regarding regional development. Of all eight countries, Italy has, by tradition, the most elaborated national strategy for regional development, with a strong focus on its lagging regions in the South. This not only shows up in the organisational approach Italy takes, as its national regional policy is highly institutionalised, but also in the amount of financing that is provided from own (i.e. non-EU) resources in the pursuit to strengthen growth in the lagging regions. Following Italy, Spain is the second country with a genuine national regional policy.

⁶⁵ <http://www.adroltenia.ro/download/1364/>

⁶⁶ http://www.inforegionordest.ro/documente/adrnorddest/buletin/pdr_nord_est_2007_2013.pdf

In contrast to Italy, Spanish regional policy is, because of the high degree of autonomy of the regions, less programmatic, in the sense that national policies do not seem to interfere with regions in terms of setting investment priorities. Rather, Spanish policy operates mainly through re-distribution of funds from more developed to less developed regions, thus assisting the economically weaker regions financially (though because of the crisis this support decreased significantly).

Among the remaining countries, Greece is the only one with an own national regional policy, which operates mainly through the centrally funded Public Investment Programme. Compared to Italy and Spain, the size of the Greek national policy is small in financial terms (as a considerable share of the PIP seems to be funded through ESI Funds), thus making Greece much more dependent on EU Cohesion policy than the other two countries. For the remaining five countries (Portugal and the four Eastern lagging regions countries) it is fair to say that there are no major national regional policies in place.

Accordingly, for most of the eight lagging regions countries, EU Cohesion policy is the main tool for regional policy, both, in terms of defining the policies strategically as well as in terms of financing. Within EU Cohesion policy, the eight countries differ in the focus they put on regional development, especially with respect to the development of the lagging regions. Judging by the financial allocations made, Italy has the strongest focus of all countries, devoting a significant amount and share of its ESI Funds to the lagging regions. Although this is partly because of the lagging regions' status as less developed regions (while other Italian regions are more developed regions), Italy put a lot of emphasis on developing region-specific OPs that specifically address the regions' needs and, in the case of Italy, also seem to be complementary to the national regional policy. Spain's, Poland's and Portugal's ESIF strategies also have a strong regional focus, with Poland not only having separate OPs for all its regions but an additional OP specifically for Eastern Poland, taking account of the specific development needs there. At first glance, Romania's ESIF strategy seems to be more sectorally than regionally oriented as much of the ESI Funds are allocated to sectoral OPs without taking account of the regions' needs. However, regional planning documents in Romania suggest that EU Cohesion policy may be quite differentiated in terms of investment priorities across Romanian regions.

In the remaining three countries Bulgaria, Greece and Hungary, the ESIF-related strategy is much more a sectoral strategy than a strategy specific to the individual regions' needs. Although Greece has specific regional OPs, the funds allocated to them are low compared to sectoral OPs, while Bulgaria and Hungary only have integrated regional OPs, and also the national planning documents suggest that investment priorities are set according to a central rather than a specific regional plan.

Common to all eight countries is the explicitly stated need of economic development, upgrading of the economy, the increase of competitiveness, employment etc. In this respect it is interesting that not in all countries the main focus of their (regional) development strategies is on competitiveness and employment. Out of the eight countries, five made these points the main aim of their strategies, i.e. Italy, Portugal, Spain, Hungary and Poland. By contrast, Greece, Bulgaria and Romania prioritise investment in the environment and in transport and energy infrastructure. These findings are summarised in Table 3.11.

Table 3.11 / Summary table: National/regional policies towards lagging regions

	Centralised	Importance of national regional policy towards lagging regions	Importance of EU regional policy towards lagging regions	Importance of ESIF investment in government investment	Investment focus
Greece	High	Medium	Medium	High	Environment, infrastructure
Italy	Low	High	High	Low	Competitiveness, growth, employment
Portugal	High	Low	Medium	High	Competitiveness, growth, employment
Spain	Low	Medium	Medium	Low	Competitiveness, growth, employment
Bulgaria	High	Low	Low	High	Environment, infrastructure
Hungary	Medium	Low	Low	High	Competitiveness, growth, employment
Poland	Medium	Low	High	High	Competitiveness, growth, employment
Romania	Medium	Low	Medium	High	Environment, infrastructure

4. Investment needs of lagging regions from a European perspective

The analysis of Part I⁶⁷ and Part II⁶⁸ provided important insights on main obstacles to investment in the lagging regions from the macroeconomic and structural imbalances point of view. At the same time, some of the obstacles to investment that were addressed in that analysis are by themselves potential targets of Cohesion policy investment. To illustrate this, the main findings of Part I and Part II with respect to potential investment needs are summarised below.

The analysis of Part I highlighted a number of structural issues that potentially constitute areas to invest for EU Regional policy. With respect to the low income regions, Part I identified the following points:

- › The economic development of the low income regions is highly path dependent and influenced by their peripheral geographic location – within their countries but also with respect to access to Western markets. Partly because of that, levels of investment and infrastructure have been historically low, as both tended to be concentrated around the capital city or in regions closer to Western EU Member States.
- › The low income regions are, as a tendency, less heavily populated than the EU average, exacerbated by large-scale emigration, particularly in Poland and Romania. Although there are also more urbanised low income regions, these tend to be more reliant on labour-intensive industry. This points to a comparatively lower degree of agglomeration economies being present in the low income regions, which reduces those regions' general attractiveness for investment compared to other regions within their country.
- › The sectoral structure in most of the low income regions shows a significant overrepresentation of agriculture, low tech industry and non-tradable services. Thus, not only is their export base relatively low compared to other regions, but they also seem to specialise in the production of more low value added goods and services. By contrast, medium or high tech industries or knowledge-intensive services are less developed in the low income regions.
- › The labour supply in the low income regions tends to have a relatively high proportion of low skilled workers also because educational attainment and human capital levels are generally lower than in other regions of the respective country.
- › Innovation activities, partly because of relatively low investment levels and an economic environment which is less conducive to innovation if compared to more prosperous and urbanised regions in the countries, are, as a tendency, low in the lagging regions.

⁶⁷ 'Economic Challenges of Lagging Regions I: Fiscal and Macroeconomic Environment', *wiiw Research Report* No. 421.

⁶⁸ 'Economic Challenges of Lagging Regions II: Recent Structural Reforms, Outstanding Needs and Governance Issues', *wiiw Research Report* No. 422.

Regarding the low growth regions, Part I found the following structural issues:

- › Low growth regions are generally located at the EU periphery, including the southernmost regions within the EU, and the geographically most isolated from the central economic mass of the European Union. This peripheral location is partly not sufficiently offset by their transport infrastructure.
- › The skill structure in the low growth regions tends to be less favourable for growth than in other regions in the respective countries. Thus, educational attainment levels, especially with respect to tertiary education, are comparatively lower. The adverse skill structure is partially aggravated by high levels of long-term unemployment and youth unemployment, leading to a constant erosion of skills, as well as by structural rigidities in the labour markets.
- › Many of the low income regions have low levels of investment, especially after the economic crisis, as high public and private debt levels led to a strong reduction in public and private investment. This also limits the regions' ability to invest in innovation or high skill, high tech activities and thus their growth potential.
- › Generally, the low income regions tend to have a relatively low level of (external) competitiveness, partly because of their pattern of sectoral specialisation, low levels of productivity and comparatively high wage levels, or an adverse institutional or regulatory environment that lowers the attractiveness for investment.

By analysing the extent of structural imbalances, Part II arrived, inter alia, at the following results, which provide indications of potential fields of investment in the lagging regions.

- › The scarcity of financial resources tends to remain a structural barrier to investment, especially in many of the low growth regions, and to a lesser extent in the low income regions. This is particularly the case for financing of SMEs (e.g. in Spain).
- › All lagging regions are marked by high levels of unemployment, and many of them show relatively high rates of youth unemployment and long-term unemployment. Although this is partly due to structural barriers to employment, it also indicates a lack of a sufficient number of jobs. This is also reflected in a relatively high level of temporary employment and low female labour market participation (especially in the low income regions).
- › Many of the lagging regions are characterised by an unfavourable skill structure, with a relatively high share of low educated population and low shares of population with completed upper secondary or tertiary education. The adverse skill endowments are partly nourished by high rates of early school drop-outs and low participation rates in continuing training in education. In many of the lagging regions this leads to a situation where there is a mismatch in the skills on offer by the labour force and skills demanded by the economy; e.g., for the Hungarian lagging regions a shortage of high skilled workers is reported. Additionally, the lagging skill structure is not conducive to attracting or engaging in higher value added activities.

- › The lagging regions' capacity for R&D and innovation as well as engaging in high tech activities is limited, as indicated by relatively low R&D employment and expenditures, making an upgrading of their economy and raising productivity and income levels more difficult.
- › For many lagging regions, barriers to entrepreneurship, e.g. due to an adverse business regulatory environment, are considered to be relatively high and seem to limit investment in those regions. Additionally, most lagging regions are challenged by a number of governance issues, such as corruption, a lack of predictability and stability of legislation, the existence of an informal economy, relatively low government effectiveness, political stability and quality of regulations.

Summarising the results of both, Part I and Part II, they indicate a number of potential investment priorities for both the low growth and low income regions.

- › Competitiveness, sectoral structure (direct reference in Part I, indirect in Part II – high unemployment rates)
 - Peripheral location – accessibility, transport infrastructure (especially in low income regions) (Part I)
 - Skills and employment (both Part I and Part II)
 - R&D (both Part I and Part II)
 - Governance

This section will analyse the investment needs derived from Part I and Part II in some more detail using suitable indicators for each of the above investment needs. Thereby, the potential investment needs of the lagging regions will be determined on the basis of a comparison between their economic characteristics and development and the characteristics of a group of benchmark regions in the EU15 that in the year 2000 shared similar levels of economic development with the low growth regions, but performed better economically in the period 2000-2011. The set of benchmark regions is based on a similar analysis of DG Regio⁶⁹ and includes the regions shown in Table 4.1.

Table 4.1 / Benchmark regions

NUTS 2 code	Region	NUTS 2 code	Region
BE35	Prov. Namur	FR30	Nord - Pas-de-Calais
DE40	Brandenburg	FR83	Corse
DE80	Mecklenburg-Vorpommern	FI1D	Pohjois- ja Itä-Suomi
DEB2	Trier	UKC2	Northumberland and Tyne and Wear
DED2	Dresden	UKD1	Cumbria
DED4	Chemnitz	UKD7	Merseyside
DED5	Leipzig	UKE1	East Yorkshire and Northern Lincolnshire
DEE0	Sachsen-Anhalt	UKE3	South Yorkshire
DEG0	Thüringen	UKF1	Derbyshire and Nottinghamshire
ES11	Galicia	UKF3	Lincolnshire
ES12	Principado de Asturias	UKK3	Cornwall and Isles of Scilly
ES13	Cantabria	UKK4	Devon
ES41	Castilla y León		

Source: DG Regio.

⁶⁹ In contrast to the DG Regio group, this group excludes the Outer London region (UKI2) as well as the outermost regions mainly for data reasons.

4.1. COMPETITIVENESS

Starting with the sectoral structure of the lagging regions, Table 4.2 shows the share of aggregate sectors in the regions' total GVA in 2014. It illustrates that, compared to the benchmark regions, the Southern lagging regions' export base in terms of GVA in industry and especially manufacturing industry as well as tradable services is low. Thus, manufacturing industry shares in total GVA in the lagging regions range between 9% and 13%, while in the benchmark regions the average share is around 16%. Also, the lagging regions' share of tradable services is, with the exception of the Italian regions, on average lower than in the benchmark regions, though the differences are much lower than in the industry case. In turn, agriculture is much more important in the lagging regions, especially in Greece and Spain, than in the benchmark regions, and similarly so for non-tradable services.

By contrast, the Eastern lagging regions' economies rely relatively heavily on both aggregate as well as manufacturing industry, with the shares in GVA being 4 to over 10 percentage points higher than in the benchmark regions. However, in turn, tradable services are much less developed and less important in the Eastern lagging regions economies (just as non-tradable services), while agriculture (still) generates a relatively high amount of the regions' total GVA (up to 9.5%).

Table 4.2 / Sectoral structure, 2014, share of sectors in total GVA or regions, in %

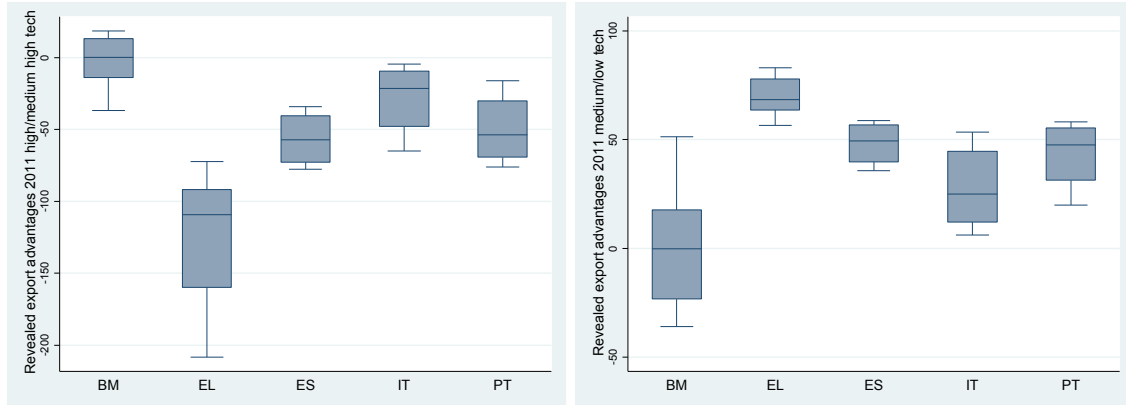
	Agriculture	Industry	Manufacturing	Construction	Tradable services	Non-tradable services
EL	6.9	17.1	10.1	3.8	20.9	51.3
ES	6.6	16.8	11.4	6.5	19.6	50.5
IT	4.4	14.1	9.3	5.7	24.3	51.5
PT	4.6	18.6	13.3	4.8	21.6	50.4
BG	9.2	29.2	19.6	5.1	19.7	36.8
HU	9.6	28.7	23.4	5.0	15.7	41.0
PL	5.5	24.3	.	7.7	13.0	49.4
RO	8.5	32.2	26.8	8.0	16.5	34.8
Benchmark	2.1	20.2	15.9	6.7	22.3	48.7

Source: Eurostat, own calculations.

Thus, the export base of the Southern lagging regions seems to be less developed in both, industry and tradable services, than that of the benchmark regions, while the Eastern lagging regions show some catching up potential in tradable services. Furthermore, the analysis of regional revealed export advantages (RXAs – see figures below⁷⁰) shows that all Southern lagging regions and most Eastern lagging regions (except the Hungarian regions and the Romanian Sud-Muntenia and Sud-Vest Oltenia regions) are specialised in trade with medium low and low technology intensive goods and show partly strong disadvantages (e.g. Greece and Bulgaria) in trade with high and medium high tech goods. By comparison, revealed export advantages in the benchmark regions are much more balanced, with slight advantages in exporting either high tech or lower tech goods.

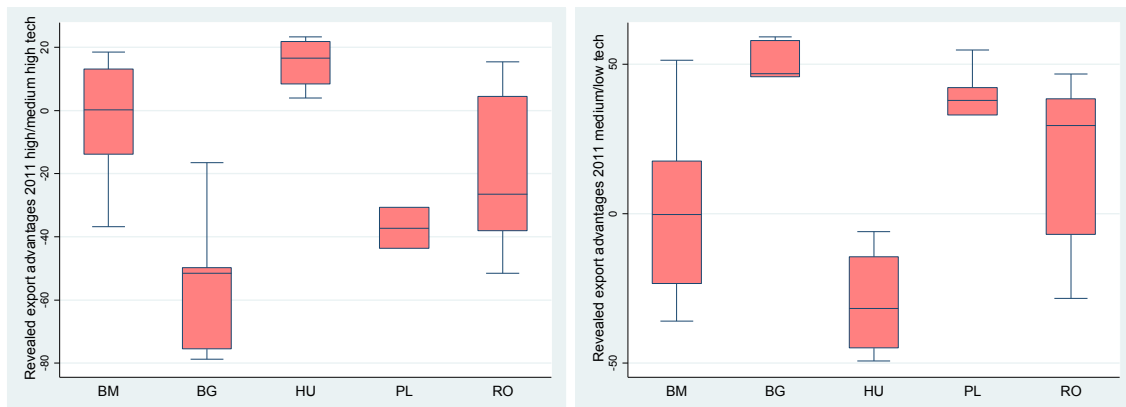
⁷⁰ The regional foreign trade data are taken from: Cordes, A., Römisch, R. et al. (2016), Identifying Revealed Comparative Advantages in an EU Regional Context, *wiiw Research Report* No. 412, July.

Figure 4.1 / Regional RXAs 2011 in high and medium tech goods (left graph), medium low and low tech good (right graph), Southern lagging regions



Source: wiiw, own calculations.

Figure 4.2 / Regional RXAs 2011 in high and medium tech goods (left graph), medium low and low tech good (right graph), Eastern lagging regions



Source: wiiw, own calculations.

Thus, the economic and/or export structure seems to be less favourable for the generation of income and economic development than in the benchmark regions, and suggesting a relatively low degree of competitiveness of the lagging regions in this respect. The low levels of the lagging regions' competitiveness are further illustrated by their low levels of aggregate and sectoral productivity (see Table 4.3). Compared to the benchmark regions, productivity in the lagging regions is almost in any sector considerably lower than in the benchmark regions, most notably in agriculture and manufacturing industry. The exceptions to this are partly tradable and non-tradable services in the Greek (only tradable sector), Spanish and Italian lagging regions, where productivity levels are at par with or even higher than the average productivity levels in the benchmark regions.

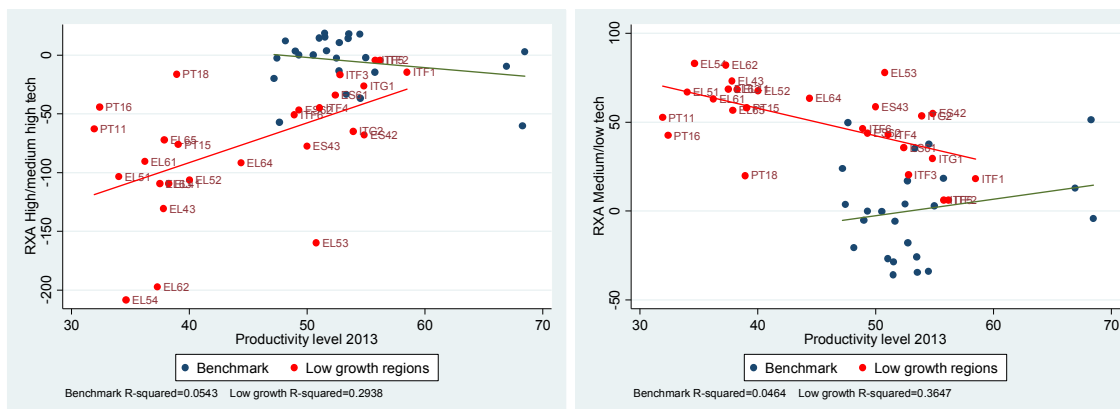
Table 4.3 / Productivity by sectors in the lagging regions, 2013

Productivity	Agriculture	Industry	Manufacturing	Construction	Tradable services	Non-tradable services	Total
EL	5.8	26.6	19.0	14.4	53.3	14.3	16.6
ES	17.7	35.9	27.7	26.4	52.7	23.1	27.4
IT	10.2	31.6	23.2	21.3	59.2	25.2	27.7
PT	6.5	19.8	14.6	11.6	38.6	15.3	16.8
BG	1.9	6.4	4.8	4.9	16.1	4.2	4.9
HU	7.4	13.2	12.0	7.7	25.7	8.4	10.3
PL	2.4	9.4	.	7.6	14.9	8.1	7.5
RO	2.1	9.3	9.3	7.0	24.5	6.3	6.4
Benchmark	22.3	38.1	34.3	23.6	53.0	25.1	30.2

Source: Eurostat, own calculations.

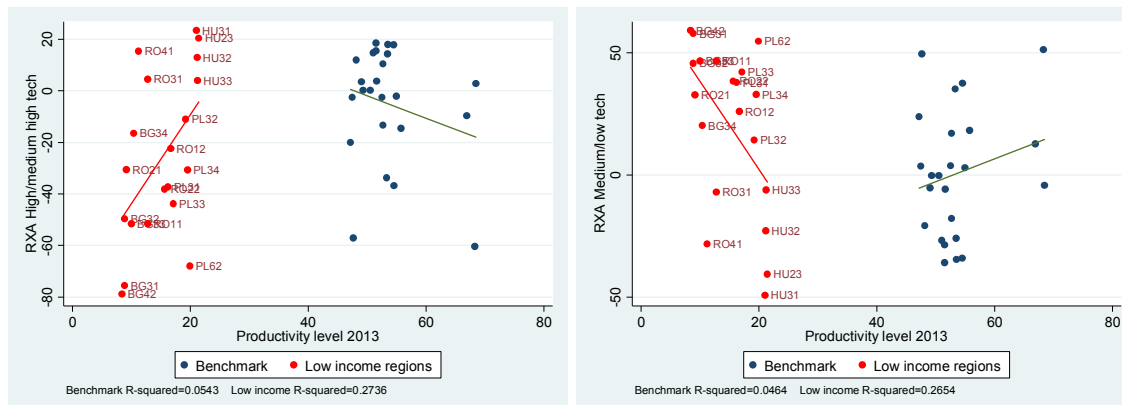
The comparison with the benchmark regions suggests that there is a need for the lagging regions to upgrade both, their sectoral as well as export structure, in order to overcome the low growth path in the case of the Southern lagging regions, or to enter a sustainable path of convergence in the case of the Eastern lagging regions. The merits of upgrading are also illustrated by the figures below, which show the correlation between revealed export advantages and (aggregate) productivity levels in the lagging and the benchmark regions. In both, the low growth and the low income lagging regions, those regions with a technologically more advanced export structure tend to have higher levels of productivity, with the top performing regions among the low growth regions even reaching productivity levels similar to or higher than in the benchmark regions. Interestingly enough, there is no correlation of export advantages and productivity levels in the benchmark regions, due to the fact that their export structure tends to be very similar and at the same time relatively balanced (in terms of RXAs) between high and low technology goods.

Figure 4.3 / Correlation RXAs and productivity levels Southern lagging regions (RXAs high/medium high tech: left graph; RXAs medium low/low tech: right graph)



Source: Eurostat, wiiw.

Figure 4.4 / Correlation RXAs and productivity levels Eastern lagging regions (RXAs high/medium high tech: left graph; RXAs medium low/low tech: right graph)



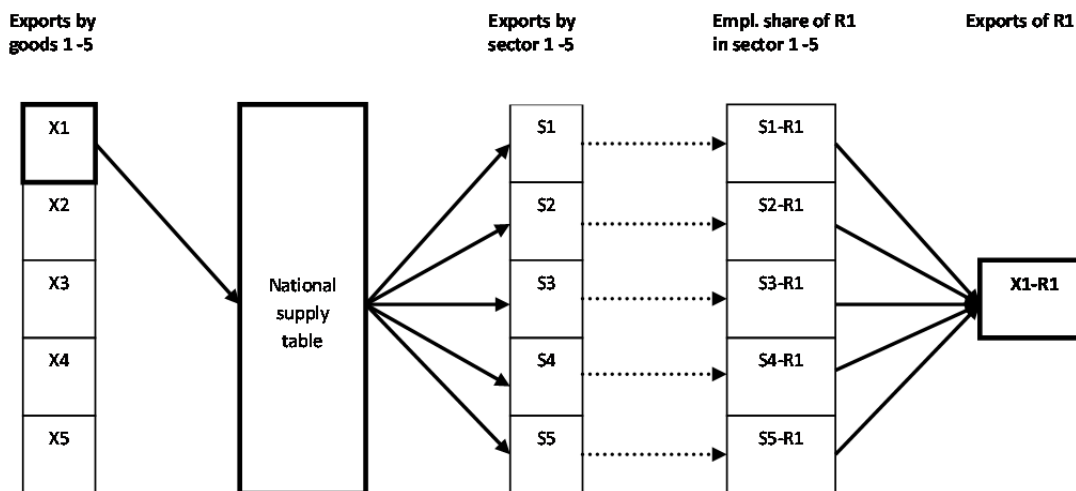
Source: Eurostat, wiiw.

REVEALED COMPARATIVE EXPORT ADVANTAGES (RXAS) AT THE REGIONAL LEVEL

Regional RXAs are based on estimates of regional foreign trade exports of goods. These estimates are based on a) foreign trade data at the national level, b) national supply and use tables to identify the domestic producers and recipients of the traded goods, and c) regional employment and productivity data, which in combination allow allocating national foreign trade to the individual regions. The fundamental idea behind the estimation of exports is that the regions' employment share in total country employment in a certain sector corresponds to the regions' output share in the same sector. As a consequence, this allows allocating the national output in each sector to the individual regions and, since exports are part of the output, they can also be allocated to the regions.

The scheme below illustrates the method to estimate regional exports in a non-technical way. It starts on the left, showing actual exports as recorded in the trade statistics. At this stage exports are recorded by products. However, to estimate regional exports it is essential to allocate the exported products to the sectors where they are produced first. Hence, for each product the respective national supply matrix is used to calculate the share of each sector in the production of the respective good. (For simplicity reasons, in the scheme below this is shown for one good only.) The implicit assumption is that the structure of total production, i.e. production for domestic use and exports, is identical to the production of exports. As a result of this procedure, exports by sectors can be estimated. In a second step, to regionalise exports, regional employment data by sector and adjusted for differences in regional productivity levels are used to derive the shares of each region in the respective sectors. Finally this allows estimating the export of each sector by regions.

Regionalisation of national exports scheme



Based on these estimates, the Revealed Export Advantage (RXA) indicates in which industries a region realises an export advantage or export disadvantage. More precisely, the RXA compares the export share of a certain industry in all manufacturing exports in a given region with the global export shares of this industry in the global exports in manufacturing goods. The RXA, thus, indicates whether the significance of a certain industry in a region's total manufacturing exports is higher or lower compared to the significance the industry has in global manufacturing exports. Therefore, a positive RXA value indicates that the region realises comparatively higher export market shares in this specific industry than it does in total manufacturing. Formally, the RXA of a certain industry i in year t can be expressed as follows:

$$RXA_{ir} = \ln\left[\frac{X_{irt}}{X_{rt}} / \left(\frac{X_{it}}{X_t}\right)\right] * 100$$

where X_{irt} denotes the export volume X in region r and industry i in year t , X_{rt} denotes the total export volume in region r in year t , X_{it} denotes the total global export volume of a certain industry i in year t , and finally, X_t denotes the total global export volume across all manufacturing industries in year t ⁷¹.

4.2. ACCESSIBILITY

Many of the lagging regions are peripheral regions, often with a high share of rural population and a certain lack of urban centres. These locational characteristics are considered to be comparative disadvantages, exerting negative effects on the regions' economic development, as they make those regions less attractive for investment, reduce the extent to which they can benefit from agglomeration economies and make the access to European markets more difficult and time consuming. Thus, increasing the accessibility of the regions, via improving their external and internal transport infrastructure, is considered to be one element to stimulate their economic development. However, given the large amounts of funding that have been and still have to be invested in infrastructure in the lagging

⁷¹ For details on the estimation of regional foreign trade data see: Cordes, A., Römisch, R. et.al. (2016), Identifying Revealed Comparative Advantages in an EU Regional Context, *wiiw Research Report* No. 412, July.

regions, some criticism has been raised whether the focus on this investment area may have been too strong.

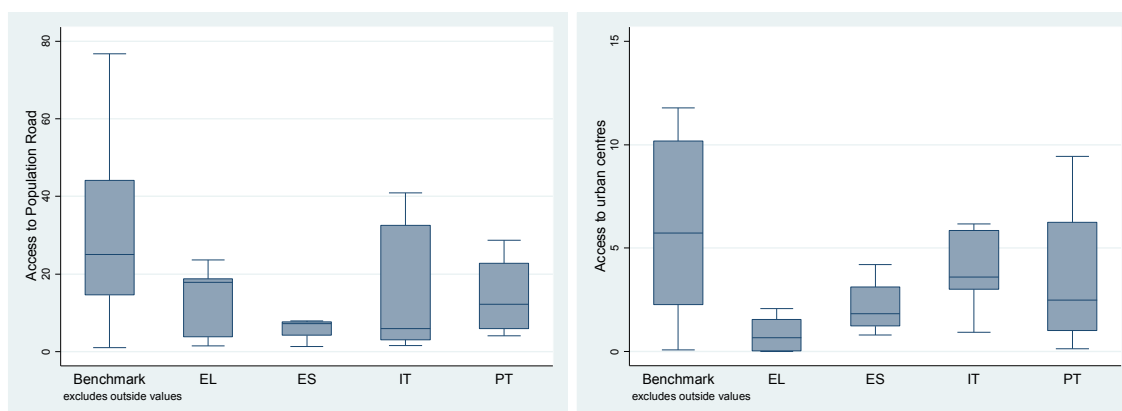
Against this background, this section briefly analyses the extent of the regions' internal and external accessibility, by comparing them to the respective situation in the benchmark regions. The analysis uses two basic measures for accessibility. Firstly, external accessibility is measured in terms of the number of people (in million persons) that can be reached by roads within 5 hours' travel time. This measure is a proxy for the potential market that is easily accessible to each lagging region. To take into account differences in the size of the domestic population (and hence market) of each lagging region (using the assumption that smaller regions need smaller markets for their goods and services than big regions), the external accessibility measure is taken relative to the population of each lagging region.

The second measure is a proxy for internal accessibility, using the number of cities of more than 50,000 inhabitants that can be reached within 60 minutes' car travel time. The data source for both variables is the ESPON TRACC project and the data refer to the year 2011.

Figures 4.5 illustrate the differences in external and internal accessibility between the low growth and low income lagging regions and the benchmark regions. They show that, on average, accessibility of the lagging regions is lower than that of the benchmark regions, both, in terms of the number of people that can be reached by car within 5 hours as well as the number of bigger cities in the vicinity of the regions. In the Southern lagging regions, this is especially evident for the Greek and Spanish regions, while in the case of the Eastern lagging regions, more or less all regions are characterised by comparatively low external and internal accessibility. Italy and Portugal are slightly more differentiated as some regions (e.g. Molise in Italy) have both external and internal accessibility levels comparable to those of the benchmark regions.

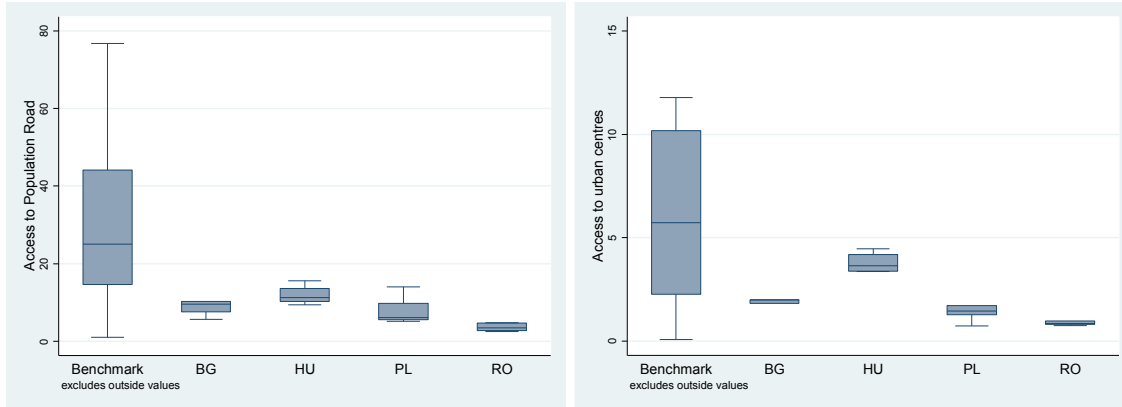
It is worth noting that there exists a significant variance in terms of accessibility within the benchmark regions, as this group contains both, regions that are highly accessible and regions with low accessibility.

Figure 4.5 / Accessibility indicators Southern lagging regions (left graph external accessibility, right graph internal accessibility)



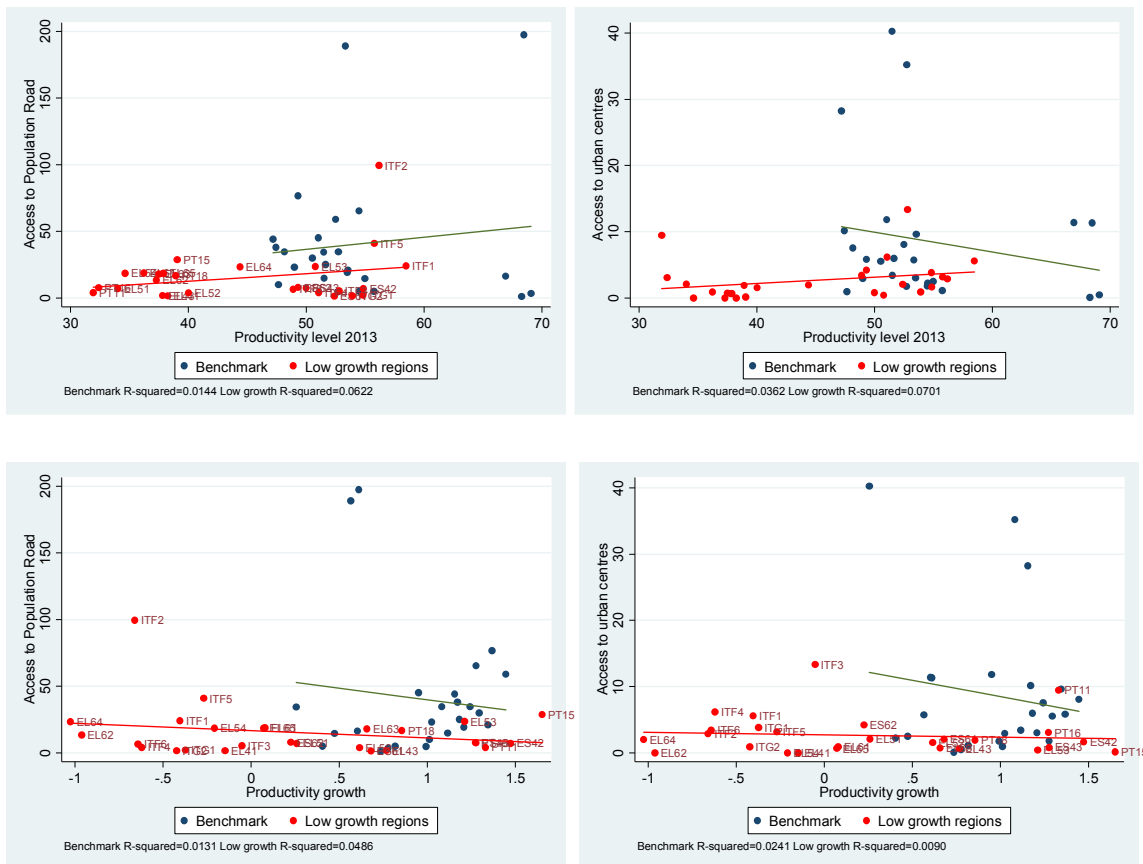
Source: ESPON TRACC project, own calculations.

Figure 4.6 / Accessibility indicators Eastern lagging regions (left graph external accessibility, right graph internal accessibility)



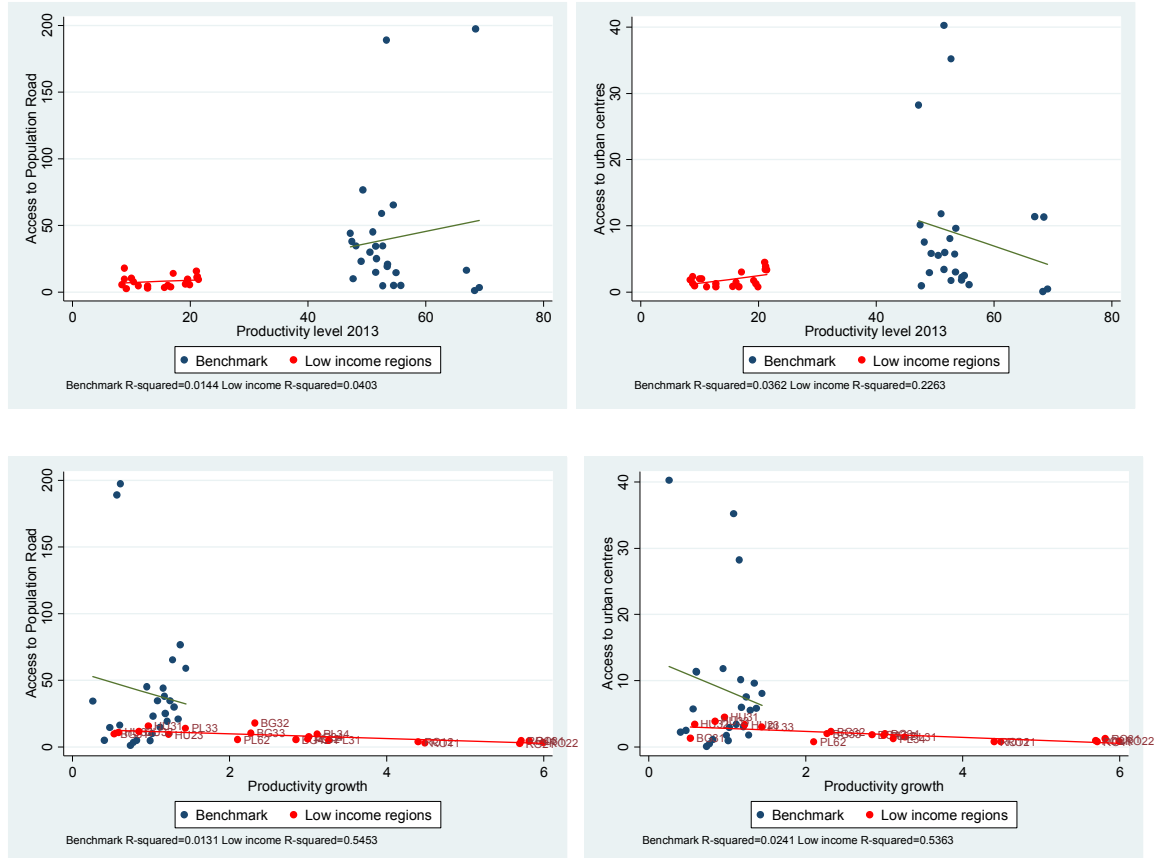
Source: ESPON TRACC project, own calculations.

Figure 4.7 / Correlation of external and internal accessibility and productivity levels, Southern lagging regions



Source: ESPON TRACC project, own calculations.

Figure 4.8 / Correlation of external and internal accessibility and productivity levels, Eastern lagging regions



Source: ESPON TRACC project, own calculations.

Figures 4.7 and 4.8 correlate external and internal accessibility with productivity levels and growth in the Southern as well as Eastern lagging regions, to provide some information on whether accessibility is related to the economic performance of the regions. The figures suggest that for both, the low growth and the low income lagging regions, there is a small positive correlation between both forms of accessibility and productivity levels, suggesting that regions with a better inside and outside connection benefit from this economically. By contrast, such a correlation is not detectable for the benchmark regions. The accessibility distribution of benchmark regions indicates that both highly and less accessible regions tend to show a similar economic performance. Moreover, some of the benchmark regions have accessibility levels comparable to the least accessible low income and low growth regions, questioning the importance of accessibility for economic development. This is also corroborated by the missing correlation between accessibility and productivity growth, in the benchmark as well as in both the Southern and Eastern lagging regions.

BENCHMARK REGIONS' ACCESSIBILITY PUZZLE

The analysis has shown a wide variation of accessibility levels across the benchmark regions while productivity growth rates tend to be rather similar. This is to some extent surprising, as according to economic theory regions with higher levels of accessibility are assumed to benefit economically more from agglomeration advantages than less accessible regions. If economic theory holds, the question is whether the less accessible benchmark regions have certain distinct characteristics that a) differentiate them from the more accessible regions and b) constitute a comparative advantage that compensates for their relative remoteness.

To analyse this briefly, the table below shows the correlation of the benchmark regions' external and internal accessibility with a number of growth factors used in the analysis in this section. In this table a negative correlation coefficient indicates that the more remote benchmark regions have comparative advantages with respect to the specific growth factors, while a positive correlation indicates an advantage of the more accessible benchmark regions.

	External accessibility	Internal accessibility
RXA high/medium high tech 2000	-0.4665	0.0159
High skilled employment	-0.4444	0.0923
High skilled population	-0.3864	0.1019
Low skilled population	-0.2526	0.0402
Low skilled employment	-0.2239	-0.0079
Agriculture (share in GVA)	-0.2174	-0.5567
Productivity level 2013	-0.1936	-0.1838
Productivity level 2000	-0.1627	-0.0876
Human resources in science and technology	-0.1613	0.3437
Business services (share in GVA)	-0.0681	0.2559
RXA high/medium high tech 2011	0.0016	0.3128
Productivity growth 2000-2013	0.0195	-0.1719
RXA low/medium low tech 2011	0.0267	-0.3215
R&D expenditures	0.2673	0.148
Medium skilled population	0.3149	-0.0623
Medium skilled employment	0.3271	-0.0309
Governance	0.3302	0.1699
RXA low/medium low tech 2000	0.3751	0.0471
Manufacturing (share in GVA)	0.4156	0.0508

Especially with respect to external accessibility, the correlations suggest that the more remote benchmark regions tend to compensate their disadvantageous geographical location with a more sophisticated production structure, marked by relatively large shares of highly educated employment and population and (at least in the year 2000) higher revealed export advantages in high and medium high tech goods (this advantage vanished in 2011, though). By contrast, the benchmark regions with high accessibility tend to have higher shares in manufacturing and correspondingly also higher shares of medium skilled employment.

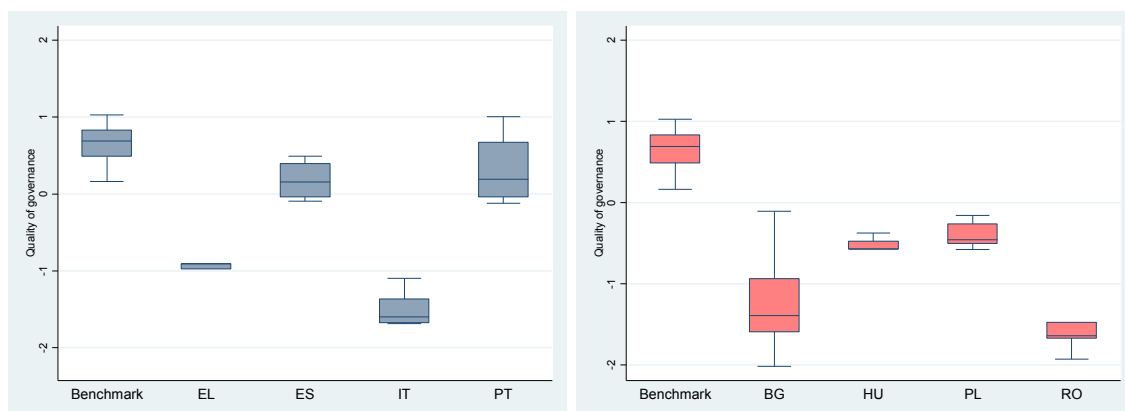
An additional factor not shown is country-specific effects. The benchmark regions with high accessibility are predominantly German and UK regions, while the more remote regions are mostly the Spanish, French and the one Finnish region (Åland). Thus, in addition to the regions' characteristics, the differences in accessibility and their likely effects on productivity growth may have also been compensated by differences in the aggregate performance of the respective country and the spillovers thereof on the benchmark regions.

4.3. GOVERNANCE

Recent literature⁷² suggests a strong correlation between the quality of governance in the countries and regions and their level of economic development as well as their economic performance. At the same time, the analysis of Part II has shown that all lagging regions countries have comparatively low levels of governance; this implies potential obstacles to investment, as ineffective governments, a rigid business environment, an unstable legal environment, and extensive corruption reduce the countries' and regions' attractiveness for investments. This section briefly analyses the quality of governance in the lagging regions and compares it to the governance quality in the benchmark regions. For this the analysis uses the latest regional quality of governance data for 2013 published by the Gothenburg Quality of Government Institute⁷³.

Comparing the lagging regions with the benchmark regions, Figure 4.9 shows significant differences in the quality of governance between the benchmark and the lagging regions, but in the case of the Southern countries also between the lagging regions. Thus, quality of governance is perceived to be low in all Greek and Italian, as well as in all Eastern lagging regions. Only Portuguese and Spanish lagging regions show governance quality being close to that of the benchmark regions.

Figure 4.9 / Quality of governance in the low growth (left graph) and low income (right graph) regions, 2013



Source: Gothenburg Quality of Government Institute, own calculations.

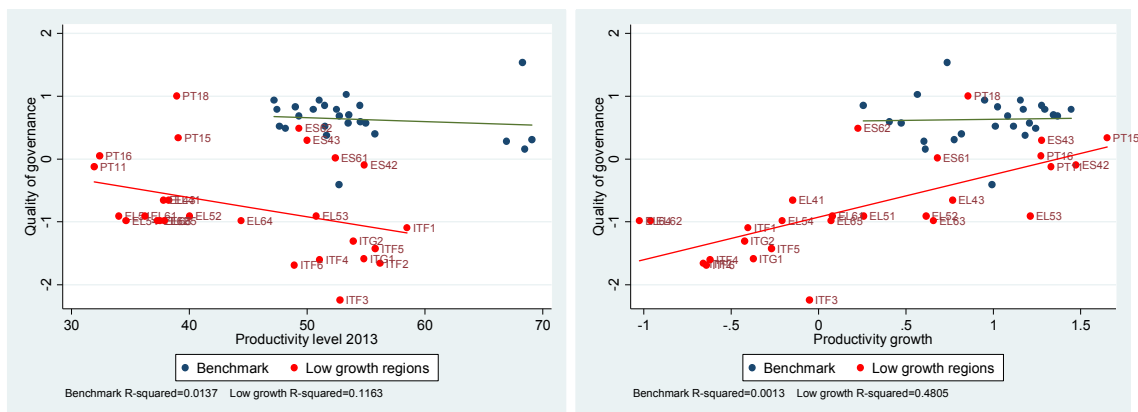
The following set of figures correlate the regions' quality of governance with their productivity levels and their real productivity growth (annual average growth rates for the period 2000-2013). They show some differences in trends between the low growth and the low income regions. In the low growth regions in the South high levels of productivity (in 2013) are associated with low levels of governance, which is mainly due to the Italian regions that have comparatively high levels of productivity but low levels of governance. As far as productivity growth is concerned, it is relatively strongly correlated with higher quality of governance in the low growth regions, thus indicating that governance may indeed be an important determinant of growth in those regions.

⁷² See e.g. Charron, N., Lapuente, V. and Dijkstra, L. (2012), Regional Governance Matters: A Study on Regional Variation in Quality of Government within the EU, DG Regio Working Paper 01/2012.

⁷³ <http://qog.pol.gu.se/data>

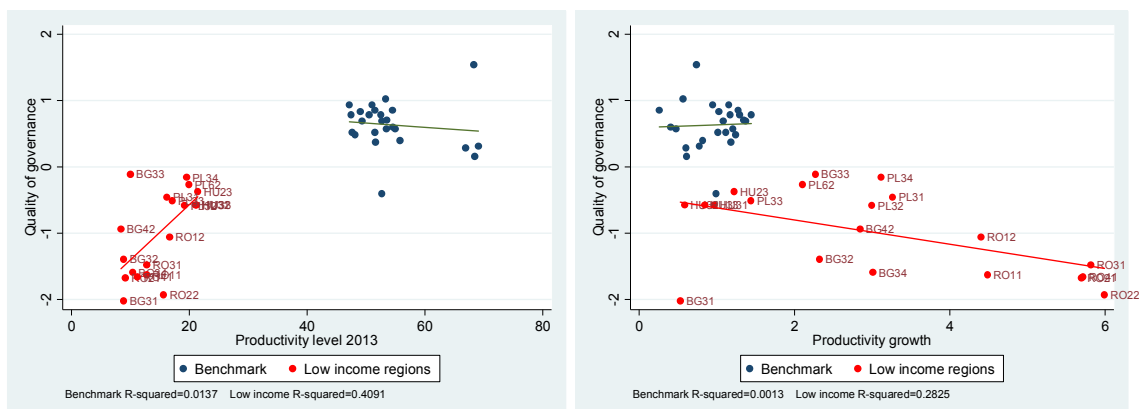
The low income regions in the East show exactly the opposite. High levels of governance are strongly correlated with high productivity levels, suggesting that the relatively stable environment especially in Hungary and Poland was in the past conducive to the regions' development. Yet, productivity growth is negatively correlated with governance (due to the catching up of Romanian regions). This indicates that, at least in the short run, governance is not particularly important for growth, as other location factors like low wage levels outweigh the negative governance effects for (especially foreign) investors, driving the economic development in those regions. In the longer run, however, the example of the low growth regions indicates that governance may become an issue for a sustainable growth path in the low income regions.

Figure 4.10 / Correlation between quality of governance and productivity levels (left graph) and growth (right graph), Southern lagging regions, 2013



Source: Gothenburg Quality of Government Institute, own calculations.

Figure 4.11 / Correlation between quality of governance and productivity levels (left graph) and growth (right graph), Eastern lagging regions, 2013



Source: Gothenburg Quality of Government Institute, own calculations.

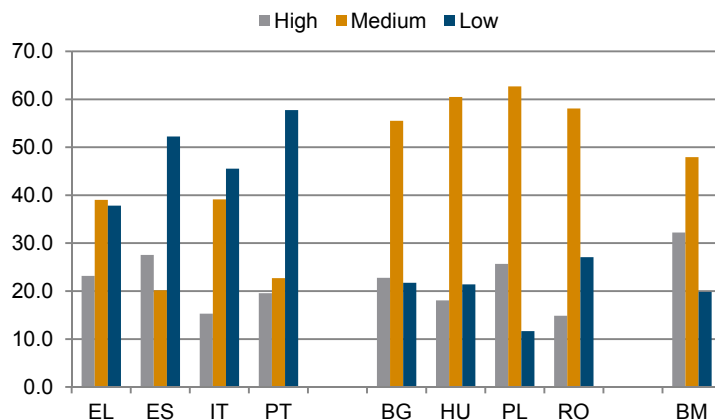
4.4. SKILLS AND EMPLOYMENT

The analysis in Part I and Part II highlighted the unfavourable skill structure in the lagging regions, being an obstacle to both economic development and investment. Figure 4.12 briefly summarises the skill structure in the lagging regions. Common to all low growth regions is the high share of employed (and also population) with low skill levels, with a share in total employment of above 50% in Spain and Portugal and around 40% in Greece and Italy. Correspondingly, the share of employed with high or medium skills is, compared to the benchmark regions, low, especially so the share of employed with upper secondary education (i.e. medium skilled) in Spain and Portugal, and the share of highly skilled in Italy and Portugal.

The low income regions in turn show a comparatively high share of medium educated employment, while the share of low educated is approximately the same as in the benchmark regions on average (with the small exception of Romania); correspondingly, the share of highly skilled in total employment is lower in all Eastern lagging regions compared to the benchmark regions, especially in the Romanian regions.

Overall, the lagging regions' employment structure reflects and is linked to their pattern of sectoral specialisation. The low growth regions are, compared to the benchmark regions, over-proportionally specialised in non-tradable services, which in many instances are the main source of employment for low educated (in addition to agriculture). Also, the share of manufacturing industry is low throughout low growth regions, which to some extent reflects the low share of employed with completed secondary education. By contrast, the high share of medium educated in the low income regions is most likely related to the strong position of industry, while the relative underdevelopment of tradable services may be reflected in the low share of employed with completed tertiary education.

Figure 4.12 / Share of skill groups in total employment, 2015 (population aged 25-64 years), average over lagging regions

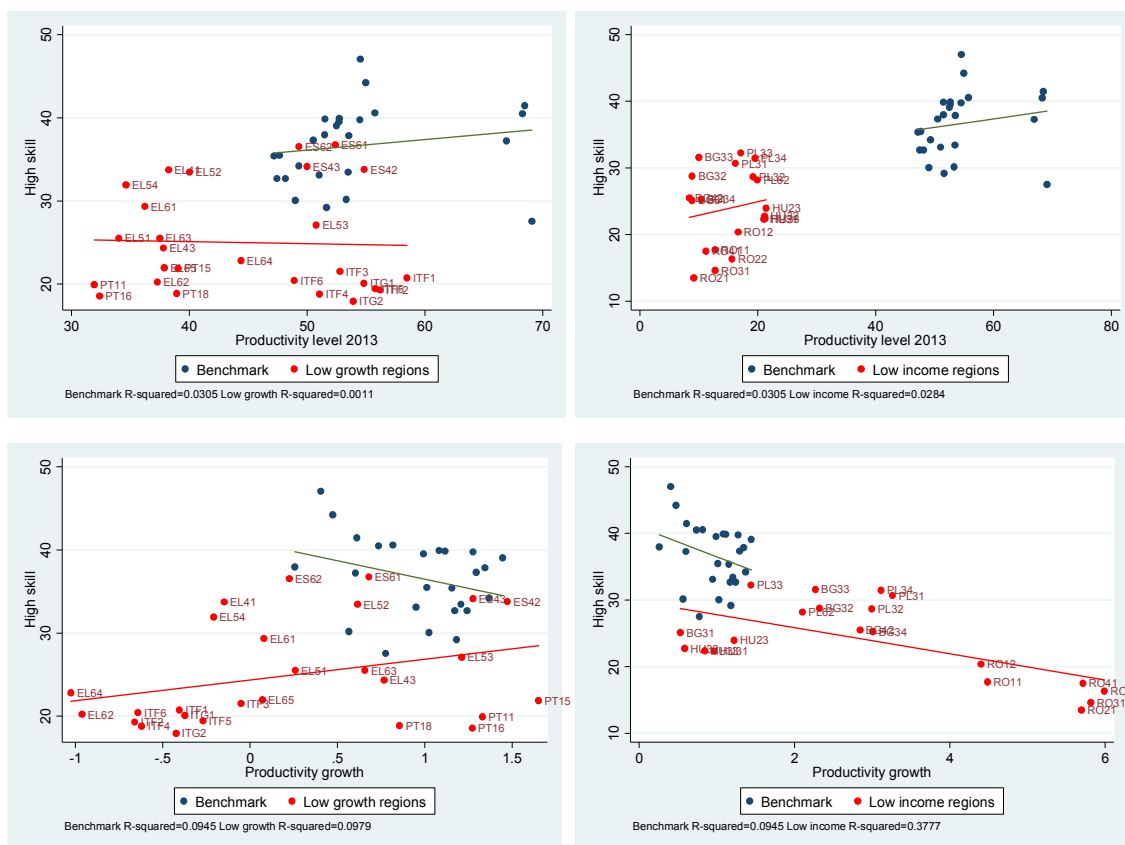


Note: High skill refers to the ISCED groups 5-8, i.e. completed tertiary education; medium skill: ISCED 4-5, i.e. upper secondary and post-secondary non-tertiary education; low skill: ISCED 0-2, i.e. less than primary, primary and lower secondary education.

Source: Eurostat.

Relating the lagging regions' skill levels to their level and growth of productivity (see Figure 4.13 for highly skilled, Figure 4.14 for medium skilled, Figure 4.15 for low skilled) provides some puzzling insights for the low growth regions. Usually, the expectation is that higher skill levels of employment are correlated with higher levels of productivity in the regions. The figures below indicate that this only holds for a subgroup of low growth regions, i.e. mostly for Greek and Portuguese regions, while Spanish and Italian regions show, despite significant differences in the skill structure, productivity levels comparable to those of many benchmark regions.

Figure 4.13 / Correlation of share of highly skilled employed (in total employment), productivity levels 2013 and productivity growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions



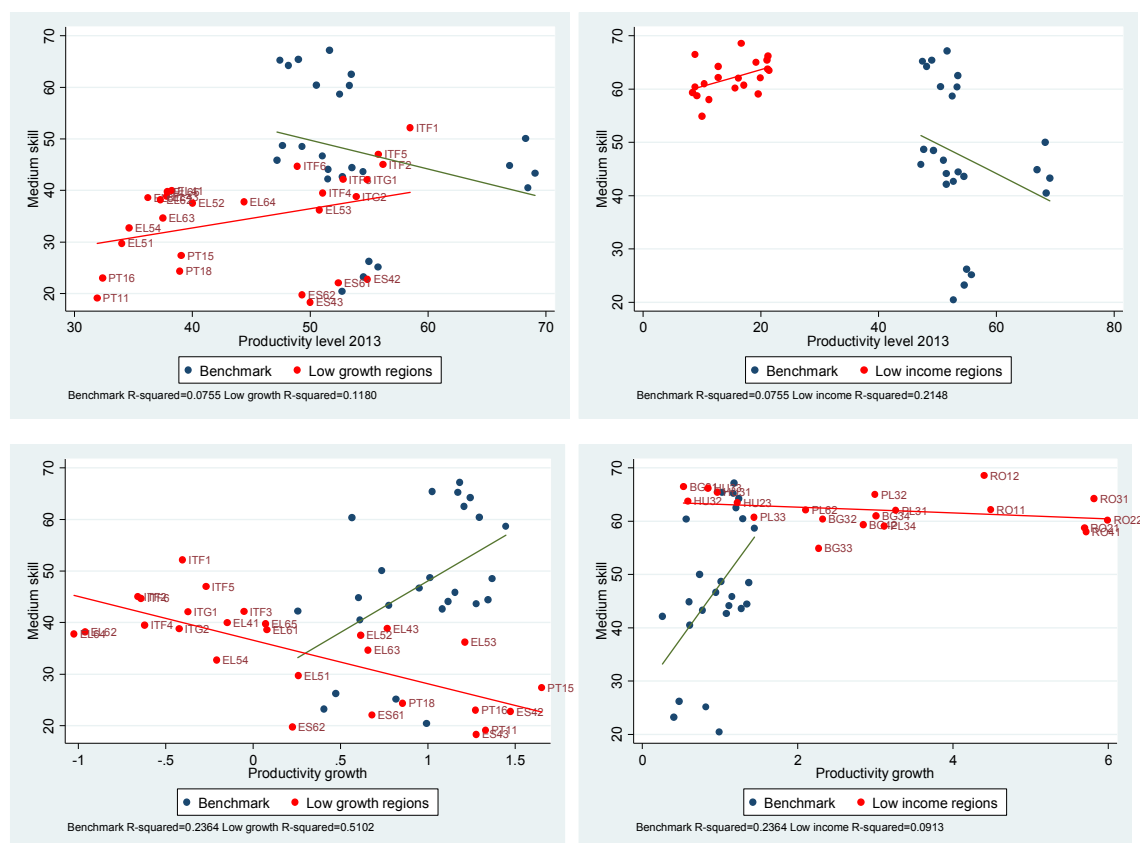
Source: Eurostat.

This is partly explained by the sectoral structure of those lagging regions in which most of the gross value added produced comes from either tradeable or non-tradable services, with both sectors showing productivity levels that are comparable to those of the benchmark regions. This also hints towards the large economic potential that skill upgrading could have in the Italian and Spanish regions (combined with a renaissance of industry employment) on productivity and general economic development. For the Greek and Portuguese regions, in turn, the correlation of skill structure and productivity levels (in comparison with the benchmark regions) is more obvious, suggesting that the necessary shifts in the sectoral structure (from agriculture and non-tradable services to manufacturing industry and tradable services) need to be accompanied by the development of the necessary skills to support these activities.

As far as the low income regions are concerned, the correlation between the skill structure and productivity levels show the general need to catch up in productivity rather than some deficits in skills (in comparison to the benchmark regions). Still, also in the low income regions, skills need to be developed (especially with respect to tertiary education) to provide the labour supply for tradable services and higher value added production in manufacturing industry to steadily increase their productivity and general economic development.

The analysis of the correlation between the skill structure and productivity growth (shown in the lower parts of each figure) delivers at first sight counter-intuitive results. Thus, usual expectations are that a higher share of high skilled employed should be correlated with higher productivity growth. This is not the case, either in the low growth or the benchmark regions (i.e. the correlations are very weak). In the low income regions, the correlation between the high skill share and productivity growth is even negative.

Figure 4.14 / Correlation of share of medium skilled employed (in total employment), productivity levels 2013 and growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions

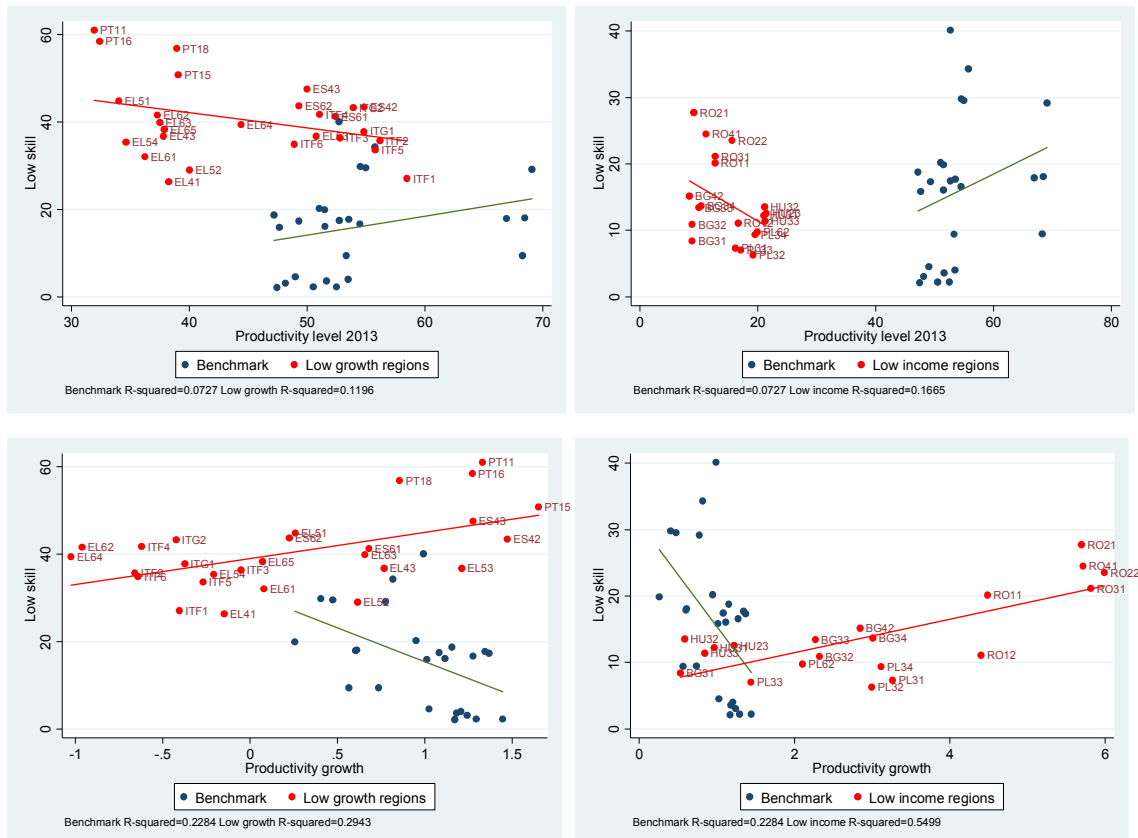


Source: Eurostat.

Instead, in the benchmark regions, it is the share of medium educated employment that is positively correlated with productivity growth, which might indicate differences in the strength of the manufacturing sector in these regions. By contrast, in both low growth regions, the medium skill share is negatively associated with productivity growth (but not in the low income regions). Correspondingly, the low skill

share in employment is positively correlated with productivity growth in the low growth and also the low income regions, while negatively correlated in the benchmark group.

Figure 4.15 / Correlation of share of low skilled employed (in total employment), productivity levels 2013 and growth 2000-2013; left graph: Southern lagging regions, right graph: Eastern lagging regions



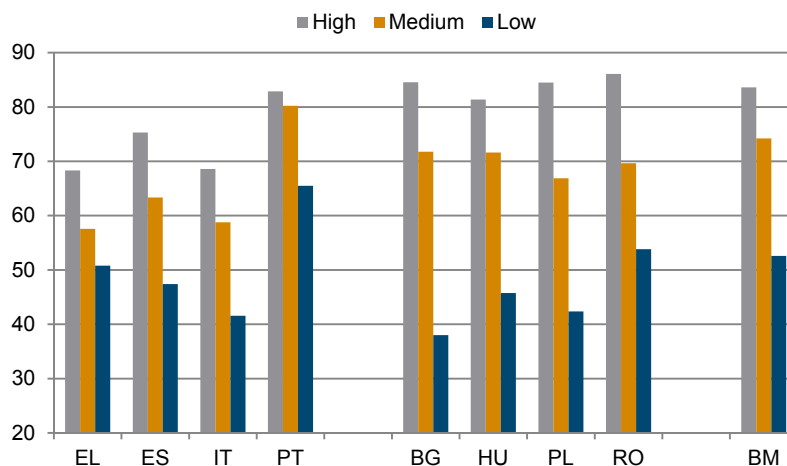
Source: Eurostat.

Thus, only in the benchmark regions does the correlation of the skill structure and productivity growth follow more or less general expectations. The negative correlation of medium skills and positive correlation of low skills with productivity growth in the low growth regions is mainly due to strong country effects, as both Greek and Italian regions (having a higher share of medium skilled than Portuguese and Spanish regions, which have a higher share of low educated employment) were heavily affected by the sluggish performance of their respective country. In the low income regions, the positive correlation between low skills and productivity growth, as well as the corresponding negative correlation with high skills, are due to the Romanian and partly Bulgarian regions. Though these regions may have also benefited from country effects, they are also on a convergence path (combined with low initial productivity levels), so that for the low income regions the peculiar correlation pattern regarding skills and productivity growth may well be a consequence of convergence. The example of the benchmark regions shows, however, that over the longer run, a shift in the skill structure may be necessary to keep productivity growth sustainable once a certain point of convergence is reached.

The distribution of employment by skills is also indicative of the labour market performance of the skill groups, if employment rates by skills are analysed. This is done in Figure 4.16. It shows that in the low growth regions in the South (except the Portuguese regions) the labour market performance of every skill group is significantly worse than in the benchmark regions, indicating a general need for the creation of jobs, in addition to potential structural changes, but potentially in conflict with the need to increase those regions' productivity levels.

In the low income regions in the East, employment rates for the highly and medium skilled are approximately at the level of the benchmark regions. However, there is a strong gap in the employment rates of people with only basic schooling (except Romania, which may be due to low skilled people finding employment in agriculture). Most likely this is related to the relative underdevelopment of the services sectors in those regions, which are commonly assumed to have a relatively high potential to absorb low skilled labour.

Figure 4.16 / Employment rates by skill levels, population aged 25-64 years



Source: Eurostat, own calculations.

4.5. RESEARCH, DEVELOPMENT AND TECHNOLOGY

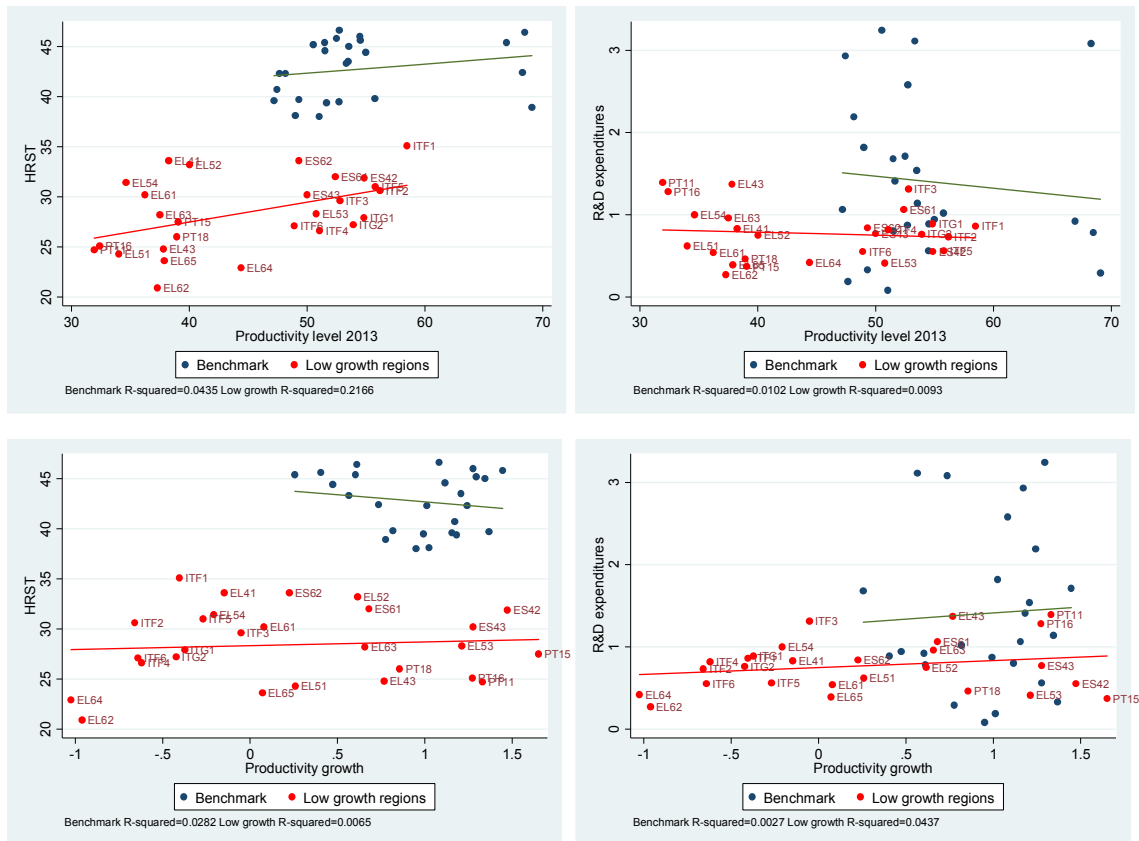
This section briefly comments on the differences in R&D and technology between the lagging regions and the benchmark regions. To measure this, two indicators are used: a) R&D expenditures in % of GDP and b) the share of human resources in science and technology (HRST) in total employment. Both indicators are taken from Eurostat. Table 4.4 shows the average differences in both indicators between the low growth and the low income regions on the one hand and the benchmark regions on the other. From the table it is evident that, on average, both types of lagging regions perform significantly worse than the benchmark regions in innovation and technology indicators. Interestingly, Hungarian, Polish and Bulgarian regions (the latter only with respect to HRST) show similar levels of R&D and technology as the low growth regions, partly even surpassing them, despite their lower level of economic development.

Table 4.4 / R&D expenditures 2013 and HRST 2015 in the lagging and benchmark regions

	R&D expenditures	HRST
EL	0.69	28.2
ES	0.81	33.4
IT	0.81	29.6
PT	0.88	28.5
BG	0.21	30.4
HU	1.00	28.5
PL	0.62	35.8
RO	0.22	22.5
BM	1.41	44.6

Source: Eurostat.

Figure 4.17 / Correlation of R&D and HRST with productivity levels 2013 and growth 2000-2013, Southern lagging regions; HRST: left side, R&D: right side



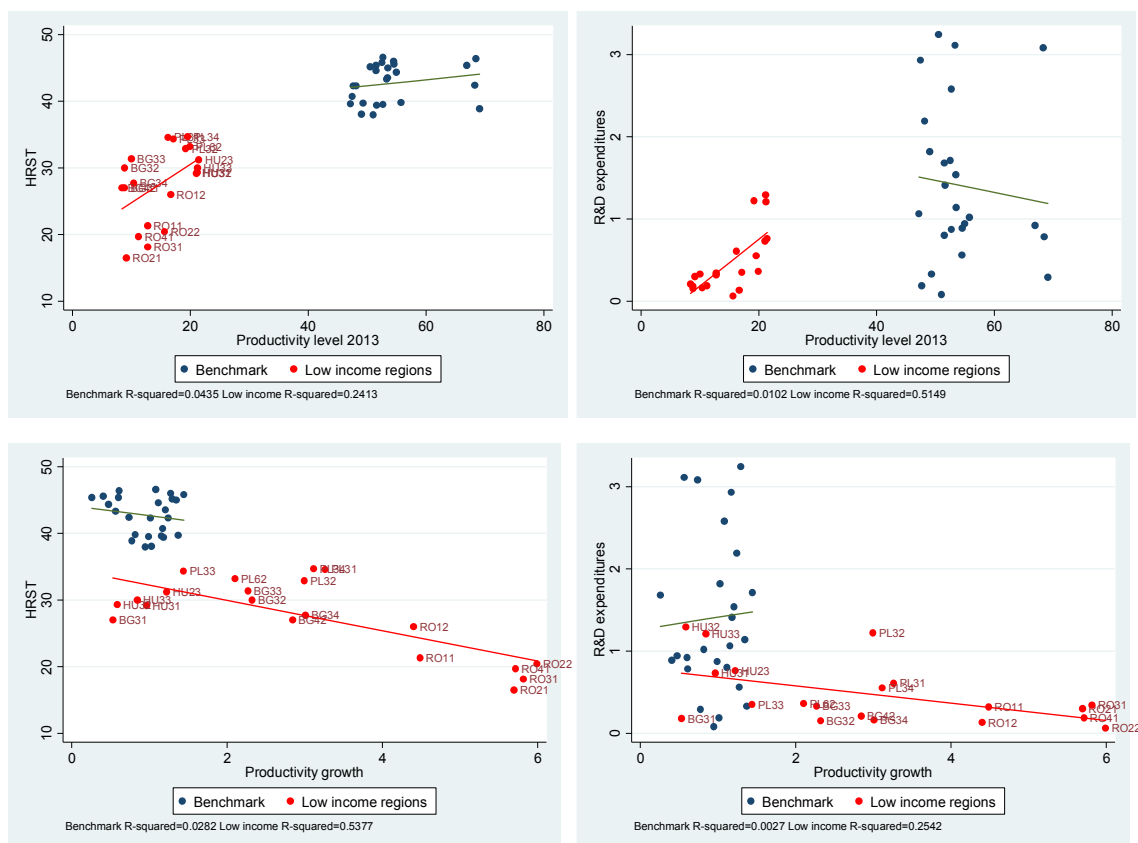
Source: Eurostat, own calculations.

The correlations of the HRST indicators with productivity levels and growth (see Figures 4.17 and 4.18) show a similar story as the correlation of high skills and productivity. Thus, on the one hand, Italian and Spanish regions have similar productivity levels and growth rates as the benchmark regions, despite a lower share of people employed in science and technology fields. This again shows the potential of those lagging regions as, given that productivity and the use of technology are correlated, a shift towards higher- or more technology-intensive production could increase productivity in Italian and Spanish regions beyond the levels of the core of benchmark regions. For the lagging regions in Greece and

Portugal, as well as for the low income regions, the correlation suggests that upgrading their economies (in terms of structure and value added content of the goods produced) is a key factor to catch up with more developed regions.

The correlation of R&D expenditures with productivity levels and growth is of interest in so far as it shows quite a large variance in R&D expenditures among the benchmark regions. Thus, there are regions with particularly high R&D rates but also regions with very low rates and very high productivity levels and growth rates at the same time.

Figure 4.18 / Correlation of R&D and HRST with productivity levels 2013 and growth 2000-2013, Eastern lagging regions; HRST: left side, R&D: right side



Source: Eurostat, own calculations.

This puts into question whether increasing R&D efforts in the lagging regions is a precondition for higher growth or a sustainable growth path, as there are other regions that managed to grow with comparable R&D rates. It may be argued in this respect that the lagging regions are on average more likely to be technology followers than leaders, so that the main effort should be to increase their capacity to absorb existing technology rather than to create it. However, this capacity is very much linked to the quality of human resources so that the development of those is key for the regions' economic development.

4.6. CONCLUSIONS

The key message emanating from this section is that the lagging regions need to strengthen their domestic export base, i.e. enhance the production of tradable goods and also services. Especially for the Southern lagging regions the analysis has shown that, in comparison to the benchmark regions, the lagging regions' manufacturing base is not only underdeveloped (in terms of share in total production), but also specialised in less technology-intensive industries with less potential for growth at the industry as well as at the aggregate regional level. Although for some Eastern lagging regions the situation in this respect looks more optimistic, as some of the regions (especially in Hungary) have a quite well developed export base in terms of shares in production and technology (mostly due to FDI), their main problem is the large gap in productivity levels to more advanced regions, which has to be overcome without getting stuck. Thus, also for the Eastern lagging regions a constant improvement of their economic base is a necessity for sustainable growth and catching up.

At the same time the analysis has shown that improving the export base of the lagging regions cannot occur in isolation. The comparison with the benchmark regions suggests that a well-developed tradable sector is invariably linked to an adequate supply with skills, a stable and solid governance structure and constant efforts to upgrade the produced goods and services by investing in R&D and employment of highly skilled labour. In all these areas the lagging regions show deficits if compared to the benchmark regions. Thus, it seems to be a necessity that the development of the tradable sector in the lagging regions goes *pari passu* with the improvement of the skill structure, governance, increasing R&D efforts or at least acquiring the skills to adopt up-to-date technologies.

Interestingly enough, the analysis has shown that the remoteness of the lagging regions is not necessarily a reason for low economic performance as some of the benchmark regions are equally remote, yet showed a better economic performance over the last years. In this respect, the analysis suggests that these remote benchmark regions compensated their geographic disadvantages by a relatively skill- and technology-intensive economy, which makes investing in skills and technology as well as an upgrading of existing production an even more important issue in the lagging regions.

It seems likely that this process of upgrading of the lagging regions' economies cannot proceed quickly, as the development of more competitive and technology-intensive industries or the upgrading of existing production will progress gradually, the more so as the necessary skills and structures to support these activities need to be developed again. This calls for a long-run policy perspective regarding the development of the lagging regions, as without policy support they are likely to remain stuck in their current development.

In this respect, as analysed in the previous part, the national and European regional policies adopted in many of the lagging regions countries give rise to some optimism, at least for five of the eight countries. Italy, Portugal, Spain, Hungary and Poland have put a lot of emphasis on the economic development of their (lagging) regions, by focusing domestic (Italy) and European regional policies on competitiveness, technology and labour market issues, thus directly addressing the investment needs identified in this part of the analysis. Given the extent of their development needs, it seems likely that this focus (including an adequate financial support) needs to be maintained for a prolonged period of time to lead the lagging regions to a sustainable growth path comparable to more developed European regions. This holds even more for the lagging regions in those countries with a lower policy focus on competitiveness and employment.

5. Analysis of main investment trends

The analysis of main investment trends over the last 10-15 years is split into three parts, analysing investment from the National Accounts, the Cohesion policy and the international perspective. Thus, the analysis covers a) investment as defined in the System of National Accounts, b) investment by the ESI Funds, focusing on the ERDF and the Cohesion Fund, and c) foreign direct investment, all at the country and regional NUTS 2 or NUTS 3 levels.

5.1. NATIONAL ACCOUNTS INVESTMENT

For the analysis, national accounts investment is defined as gross fixed capital formation (GFCF) according to the European System of Accounts 2010 (ESA 2010). By definition, GFCF 'consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are produced assets used in production for more than one year.⁷⁴ As such, GFCF includes inter alia dwellings, other buildings and structures, machinery and equipment, cultivated biological resources, R&D, computer software and databases as well as intellectual property rights.

The analysis of GFCF is performed both at the national as well as the regional level, covering the years 2000 to 2014 for the national level and 2000 to 2012 for the regional level. The data sources for the analysis are Eurostat national accounts data as well as the Cambridge Econometrics regional database.

As far as country-level analysis is concerned, GFCF data are highly detailed and allow analysing aggregate investment trends (shares in GDP, growth), as well as investment trends by asset types, economic sectors and institutional sectors (government, companies, households). In detail, the country-level analysis covers:

- › Aggregate investment (GFCF)
- › Investment by asset types, taking into account GFCF in:
 - › Buildings (dwellings and other buildings and structures)
 - › Transport equipment
 - › Intellectual products and biological resources⁷⁵
 - › Other machinery and ICT
- › Investment by industry sectors, using generally NACE Rev. 2 one-digit sectors. Where possible though, manufacturing industry investment was split into investment of high, medium high, medium

⁷⁴ Eurostat (2013), European System of Accounts 2010, pp. 73 ff.

⁷⁵ Because of the small size of 'Cultivated biological resources' GFCF, they have been merged with 'Intellectual property products' to keep presentation of results manageable.

low and low technology intensive sectors. Furthermore, the services sectors' investments are aggregated into two sectors: a) Business services investment and b) Other services investment (including other market services and public services investment)

› Investment by institutional sectors:

- Enterprises (financial and non-financial)
- Households
- Government

At the regional level, GFCF data are much more problematic. A check of Eurostat data (mid of March 2016) has shown that data for Spain and Germany are completely missing, while for other countries (e.g. Italy) only a selected number of years are available (for Italy 2010-2013), thus not allowing a consistent and longer-term analysis. Therefore, for the analysis regional GFCF data from Cambridge Econometrics has been used, which, with only minor adjustments (e.g. adjusting the base year for constant price series), is consistent with Eurostat data.

Additionally, in contrast to country data, regional investment data only allows analysing aggregate investment as well as investment by 3 economic sectors (agriculture, industry, services). There is no information on investment by asset types or institutional sectors from Eurostat or Cambridge Econometrics. To fill these gaps (especially with respect to institutional sectors) attempts are made to collect such data from national sources.

Checks have shown that regional government and private investment data availability differs across countries. As far as the online availability is concerned, the Polish statistical office (Local Data Bank) offers both government and private investment data, the Bulgarian statistical office has information on total and private capital expenditures, from which public capital expenditures should follow, and in the Hungarian statistical office capital formation by local governments is available, but this covers only one third of total general government investment. For all other countries no information on public investments is available.

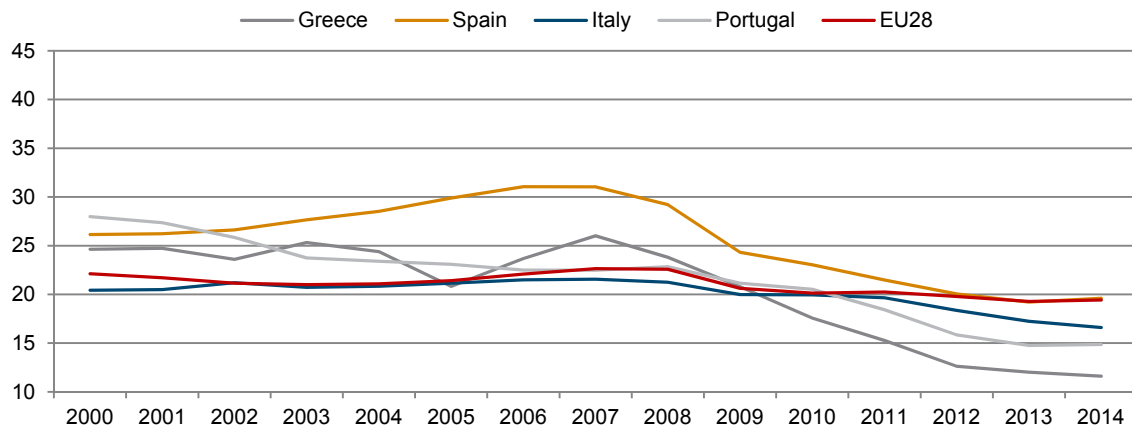
5.2. RECENT INVESTMENT TRENDS AT THE NATIONAL AND REGIONAL LEVEL

The remainder of this step contains an analysis of country and regional trends in GFCF over the years 2000-2012 (2014). To keep the presentation of the results manageable, the analysis focuses on the most important stylised facts emerging from the data. Prior to the economic and financial crisis, aggregate investment rates (i.e. gross fixed capital formation, GFCF, in per cent of GDP) in the lagging regions countries on average tended to be higher than the EU average investment rate (around 22%). Investment rates were particularly high in Spain (over 30% in 2006 and 2007) and, immediately before the crisis, also in Romania and Bulgaria. By contrast, in Italy and Poland, aggregate investment rates before the crisis were somewhat lower than the EU average.

The high pre-crisis investment rates in Spain were due to a moderate but continuous yearly increase, while in Romania and Bulgaria investment rates surged within three years starting from 2005 to levels far above 30%. In Italy and Greece pre-crisis investment rates from 2000 to 2008 were relatively stable,

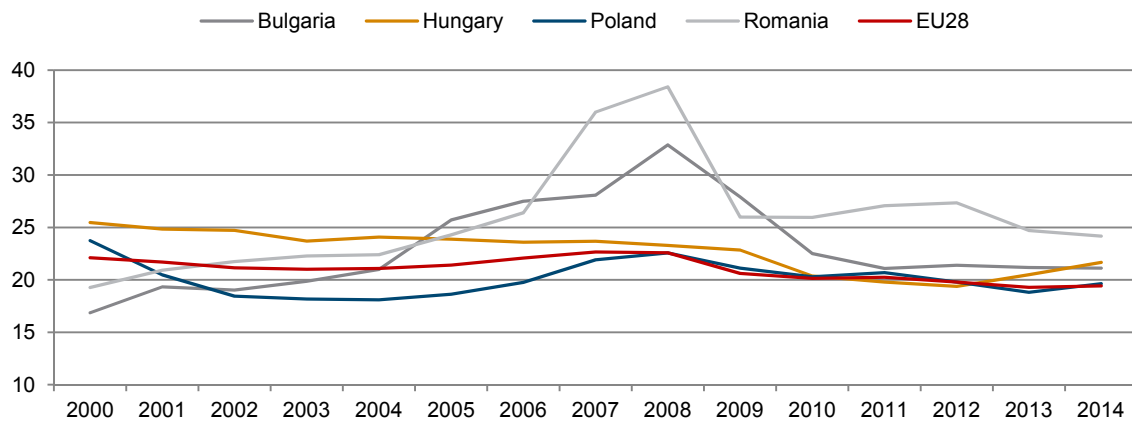
while in Portugal and Hungary investment rates showed a continuous decline, though both countries stayed above the EU28 average over the whole period 2000-2008. Poland's investment rate developed in a U-shaped before the crisis, with a strong decline in the early 2000s and some recovery until 2008.

Figure 5.1 / Gross fixed capital formation, in % of GDP, Southern lagging regions countries



Source: Eurostat.

Figure 5.2 / Gross fixed capital formation, in % of GDP, Eastern lagging regions countries



Source: Eurostat.

During the crisis years 2009-2011, investment dropped sharply in all eight countries, especially in Spain, Bulgaria and Romania, i.e. those countries with high pre-crisis increases in investment rates, as well as in Greece. In the aftermath of the crisis (2012-2014) investment rates continued to decline in all four Southern EU countries, while in the Eastern EU countries investment rates stabilised, though at a lower level than before the crisis.

Data show that the high pre-crisis investment rates in Spain, Romania and Bulgaria were the consequence of strong investment activities of the enterprise sector and, only in Spain, also the household sector. The macroeconomic analysis of Part I suggests that the large share of these investments were debt-financed as the private debt to GDP ratio in all countries increased strongly

before the crisis. The sudden stop of GDP growth caused by the economic and financial crisis left the expectations regarding the returns of these investments unfulfilled. This led to a private debt overhang followed by a strong deleveraging process in those countries. As a consequence, enterprise investment rates dropped significantly in all three countries (and by much more than in the other lagging regions countries) just as household investment in Spain. The result of this was a sharp drop in aggregate investment in Spain (fuelled by an additional drop in government investment), while in Bulgaria and Romania the decline in the investment rates was cushioned by an increase in household investment rates and a less dramatic drop in government investment rates.

During the crisis investment rates also dropped strongly in Greece, largely because of strong reductions in household investment and additional declines in enterprise and government investment rates. These trends continued also after the global crisis because of the Greek debt crisis. Interestingly enough, Greece is the only country among the eight lagging regions countries where pre-crisis investment rates of enterprises were lower than household investment rates. Some of the potential structural reasons for this were highlighted in Part II and include, inter alia, high corporate tax rates, difficulties in access to finance, a restrictive business environment as well as high barriers to entrepreneurship.

In the other lagging regions countries, the drops in investment rates were more moderate. In both, Italy and Portugal, investment rates of all three sectors (enterprises, households and government) fell because of the crisis, though in Portugal more strongly than in Italy, while in Hungary both enterprise and government investment rates remained fairly stable. Only household investment dropped by a larger rate, especially in the post-crisis period, due to a deleveraging process of the household sector to reduce the accumulated debt of the pre-crisis period. Amongst the eight countries, Poland was the only country where the aggregate investment rate stayed more or less stable before and after the crisis. Although enterprise investment rates decreased mildly, this reduction was mitigated by an expansionary investment policy of the government sector (potentially enabled by a continuously low public debt to GDP ratio) and stable household investment rates.

These developments at the national level were generally mirrored at the regional level, as both the investment rates of lagging regions as well as of the more competitive regions tended to decline *pari passu* with the national average investment rates. The main differences between the Southern and Eastern lagging regions countries lie in the investment rate of the lagging regions themselves. Before the crisis, investment rates in the lagging regions in all countries except Poland were generally higher (up to 10 percentage points) than the EU average investment rate. However, after the crisis, investment rates in the Southern lagging regions dropped below EU average levels, while they stayed above the average in the Eastern lagging regions, except the Polish regions, which had slightly below-average investment rates.

Notably, in the Southern countries investment rates in the lagging regions tend to be either higher (in Greece and Spain as well as Italy before the crisis) or equal to the investment rates in the more competitive regions (in Italy after the crisis and Portugal). By contrast, in the Eastern countries, especially in Bulgaria and Romania, investment rates in the more competitive regions were much higher than in the lagging regions (by five to ten percentage points) and thus also much higher than in the EU on average. In Poland investment rates of more competitive regions were only slightly higher than those of the lagging regions, while only in Hungary the rates were approximately equal across both types of regions.

Table 5.1 / Shares of total and sector GFCF in regional GDP in %, period averages, population weighted averages of regions; Eastern lagging regions countries

		2000-2003			2004-2008			2009-2012		
		Country	lagging regions	Other regions	Country	lagging regions	Other regions	Country	lagging regions	Other regions
Bulgaria	Agriculture	0.1	0.2	0.0	0.6	1.0	0.2	1.3	2.5	0.1
	Industry	15.0	11.4	21.2	15.5	14.2	17.1	7.4	10.0	4.2
	Services	3.6	4.4	2.3	10.9	8.1	14.2	14.5	8.2	21.1
	Total GFCF	18.8	16.0	23.6	27.0	23.3	31.5	23.2	20.7	25.4
Hungary	Agriculture	1.4	2.5	1.0	0.8	1.6	0.6	0.8	1.6	0.6
	Industry	7.9	8.7	8.5	7.5	8.6	8.1	6.4	7.6	7.3
	Services	15.4	14.7	15.4	15.4	16.8	14.5	13.4	16.1	12.6
	Total GFCF	24.7	25.8	24.8	23.7	27.0	23.2	20.6	25.3	20.4
Poland	Agriculture	1.0	1.6	1.0	1.2	2.1	1.1	1.4	2.6	1.2
	Industry	6.5	5.6	6.7	6.6	6.2	6.9	6.7	6.1	7.0
	Services	12.7	9.6	12.6	12.4	11.1	12.3	12.4	10.9	12.6
	Total GFCF	20.2	16.7	20.2	20.2	19.4	20.3	20.5	19.7	20.8
Romania	Agriculture	1.5	1.5	1.6	1.1	1.2	1.3	0.8	0.8	1.3
	Industry	10.9	10.7	11.1	16.7	14.7	18.9	15.0	11.9	18.9
	Services	8.6	5.1	14.1	11.7	9.0	14.8	10.7	9.8	11.6
	Total GFCF	21.1	17.4	26.8	29.5	24.9	35.0	26.6	22.4	31.8
EU28	Agriculture	0.6			0.5			0.5		
	Industry	4.6			4.3			3.7		
	Services	16.3			17.1			16.0		
	Total GFCF	21.5			21.9			20.2		

Source: Cambridge Econometric, Eurostat, own calculations.

Another difference in investment between the Southern and Eastern lagging regions countries is its sectoral structure. In general, Eastern lagging regions countries tended to have a higher proportion of investment in industry (manufacturing industry including mining and energy) than the EU on average and the Southern lagging regions countries. Especially, Greece had a particularly low investment rate in the manufacturing sector (in comparison with the other seven countries) at about 1.1% to 1.5% of GDP over the whole period, with main investments going to the medium low and low technology sectors⁷⁶. Also, in Spain and Portugal industry and especially manufacturing industry investment rates were comparatively low (though at around the EU average), but continuously declined from the year 2000 to around 2% of GDP after the crisis. As in Greece, manufacturing investment in Portugal is concentrated in the lower technology sectors (no detailed information is available for Spain). In Italy, manufacturing investment rates were relatively high compared to the other Southern EU countries and declined only slightly over the period 2000-2014 (from 3.8% to 3.3%). Manufacturing investment was relatively evenly distributed across sectors by technology, except for the high technology intensive sector, where investment rates were slightly lower.

Instead of manufacturing investment, investment in the Southern lagging regions countries was mainly concentrated in the business services sector, especially in Greece, Portugal and Spain, but less so in Italy. In the first three countries pre-crisis business services investment rates were around 10-12%, thus

⁷⁶ Detailed statistics on this as well as the aggregation scheme of manufacturing sectors by technology sectors are given in the Annex tables to Task3.

accounting for slightly less than half of total investment. During and after the economic crisis, these rates fell dramatically to around 5-7%. In Italy, investment in business services was more stable over the whole period, at around 7-8% of GDP.

By contrast, manufacturing industry investment rates tended to be high in Hungary and Romania and also resistant to the crisis. In Hungary, the manufacturing investment rate was around 5% before and during the crisis and increased in the post-crisis period to 6.1%. As far as the structure is concerned, manufacturing investment goes particularly into the medium high and medium low technology sectors, but a sizeable amount also into the high tech areas. Romania is a similar case, except that manufacturing investment rates were even higher at around 10-12% over the whole period, with even more investment going to the high and medium high technology intensive sectors. In Poland manufacturing investment rates are approximately the size of Italy's, also showing a similar decline over time. Bulgaria has the lowest manufacturing investment rates among the four Eastern EU countries, with investment also being more affected by the crisis. Additionally, in contrast to the other Eastern countries, the main focus of industry investment is on the medium low and low technology sectors as well as on the mining and energy sector.

In turn, business services investment rates were, compared to the other countries, very low in Bulgaria (about 4%) and Romania (2%). In Poland and Hungary, investment rates were slightly higher at around 5-6% before as well as after the crisis.

These differences in the sectoral structure of investment were also visible in the regions of the eight countries. For example, in Greece, in both the lagging and more competitive regions, investment predominantly went into the services sector, while investment rates in agriculture and industry were very low, particularly immediately before and during the crisis. Moreover, in the lagging regions investment in agriculture was equal (before the crisis) or even higher (during the crisis) than investment in industry, quite in contrast to the other regions as well as the EU average.

In Spain services accounted for the highest share of investment in both types of regions, though investment in industry was overall comparable to the EU average, at least before the crisis. In the period 2000-2003 the industry investment rate was around 4% (of GDP) in the lagging regions and a bit higher (i.e. 5.1%) in the other regions, while in 2004-2008 these rates were approximately equal in both types of regions (approximately 4.7%). During and after the crisis, industry investment rates almost halved in all Spanish regions, thus being currently around 1.5 percentage points below the EU average.

In Italy investment rates in industry were well above the EU28 average over the whole period 2000-2012, in both, the lagging and other regions. The case was similar in Portugal, though structurally lagging regions invested more into industry than the other regions, while services investment rates were higher in the other regions.

In Bulgaria and Romania, regional industry investment rates were generally high (and much higher than the EU average) before the crisis. Yet, in Bulgaria during the economic crisis, industry investment rates dropped significantly in the more competitive regions (by 13 percentage points) and more moderately in the lagging regions (by 4 percentage points). By contrast, in Romania, these rates were much more stable. Overall, in both countries aggregate investment rates tend to be higher in the more competitive

regions, due to higher investment rates in the services sector, which are much below the EU average in the lagging regions of both countries.

In Hungarian and Polish regions, industry investment rates were much above the EU average before as well as after the crisis (despite a small decline in industry investment rates) both in the lagging as well as in the more competitive regions. Services investment rates tended to be lower than the EU average throughout the Polish regions as well as the more competitive Hungarian regions, but not the lagging regions, where services investment was at the same level as in the EU on average.

These differences in the sectoral structure between the Southern and Eastern lagging regions are furthermore reflected in the investment rates by asset types. Thus, corresponding to (manufacturing industry investment) investments in machinery and ICT are approximately at the level of the EU average of 4-5% in the Southern lagging regions countries (except for Greece and Portugal after the crisis), while in the Eastern lagging regions countries investment rates in these assets are generally higher than the EU average (by 1 to 3 percentage points), even after some decline due to the crisis.

Still, in all eight countries as well as in the EU28 on average, investment in buildings is by far the most important investment asset, accounting for around 50% or more of total investment. It is also the investment asset that reacted the most strongly to the economic crisis. This can be observed in all countries, but especially in Spain, where during the housing bubble GFCF in building increased to around 20% of GDP and dropped to 10% after the crisis. In all eight countries investment in intellectual products (biological resources are only marginal everywhere) are below the EU28 average, especially in Greece and the Eastern lagging regions countries, where the investment rate is only half the EU28 investment rate in intellectual products (of around 3.5% throughout the whole period). Investment in transport equipment tends to be slightly more important in the Eastern lagging regions countries than in the Southern ones and the EU on average, foremost in Bulgaria and Romania, though during the crisis transport investment declined significantly in Bulgaria.

5.3. ERDF AND COHESION FUND INVESTMENT

This section focuses on Cohesion policy investments in the eight countries and their lagging regions. For the purpose of the analysis, Cohesion policy investments are defined as the (cumulative) expenditures of the European Regional Development Fund (ERDF) and Cohesion Fund (CF) in the EU regions. This definition results purely from data availability aspects and thus excludes expenditures from other funds such as the European Social Fund.

The data source for the analysis is the recently published DG Regio database⁷⁷ on cumulative expenditures and allocations to selected projects of both ERDF and CF programmes under the Convergence, Regional Competitiveness and Employment (RCE) as well as the European Territorial Cooperation⁷⁸ (ETC) Objectives for the period 2007-2013. Additionally, use was made of the DG Regio

⁷⁷ http://ec.europa.eu/regional_policy/en/policy/evaluations/data-for-research/

⁷⁸ Only Cross-Border Cooperation Programmes are included.

consolidated database on the cumulative ERDF and CF expenditures and allocations for the period 2000-2013⁷⁹.

The analysis focuses on the size and structure of expenditures in the period 2007-2013 as well as on the changes against the period 2000-2006. Hence, the analysis presented here covers the ERDF and CF (cumulative) expenditures for the period 2000-2013.

A main issue when combining 2000-2006 and 2007-2013 ERDF and CF data is the differences in the priority codes between the 2000-2006 and the 2007-2013 programming periods. While in the 2000-2006 period there were 20 main thematic areas⁸⁰, the 2007-2013 period is characterised by 86 priority themes⁸¹. To arrive at a common set of priority groups, the analysis follows the methodology developed in the DG Regio study 'Geography of Expenditure'⁸². This study consolidates the 20 2000-2006 as well as the 86 2007-2013 spending priorities into 12 harmonised priorities. For the analysis in this study these 12 priorities were further aggregated into four groups: a) 'Productive investment', b) 'Infrastructure', c) 'Environment' and d) 'Other'.

In the financing period 2007-2013, total ERDF and CF expenditures in the EU28 amounted to around 1.6% of the EU's average yearly GDP⁸³ (up to the year 2014, later expenditures are not considered). By comparison, in the Eastern lagging regions ERDF and CF expenditures amounted to 5.7% of yearly average GDP in Romania, 11.5% in Bulgaria, 12.2% in Poland and 18.2% in Hungary. In the Southern lagging regions countries expenditures were around 1% of GDP in Italy, 2% in Spain, 6.3% in Greece and 6.9% in Portugal.

In the EU28 around 48% of total ERDF/CF expenditures went into infrastructure investment, 26% were allocated to 'productive investment' and about 23% to environmental investment. In general, the Eastern lagging regions countries spent a lower than average share of their ERDF/CF expenditures on 'productive investment' (around 15-20%) and put more emphasis on environmental investment (Bulgaria, Hungary and Romania) or infrastructure investment (Poland). In the Southern lagging regions countries, Greece spent also less than average on 'productive investment' (22% of total ERDF/CF expenditures) and concentrated its expenditures on infrastructure. By contrast, Italy and Portugal allocated a considerably higher share of their ERDF/CF expenditures to 'productive investment' (around 33-36%) and much less to infrastructure. Spain's expenditure structure was approximately equal to the EU average.

Still, these country averages disguise a significant heterogeneity at the regional level. For example, in Greece, Italy and Spain the more competitive regions tended to invest a much larger proportion of their ERDF/CF expenditures into 'productive investment' than the lagging regions, which in turn had a stronger focus on infrastructure investments. Only in Portugal did the lagging regions invest a higher share of their ERDF/CF money than the more competitive Portuguese regions in 'productive investment'.

⁷⁹ http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/expost2013/wp13_db_nuts2_cs_v1.xlsx

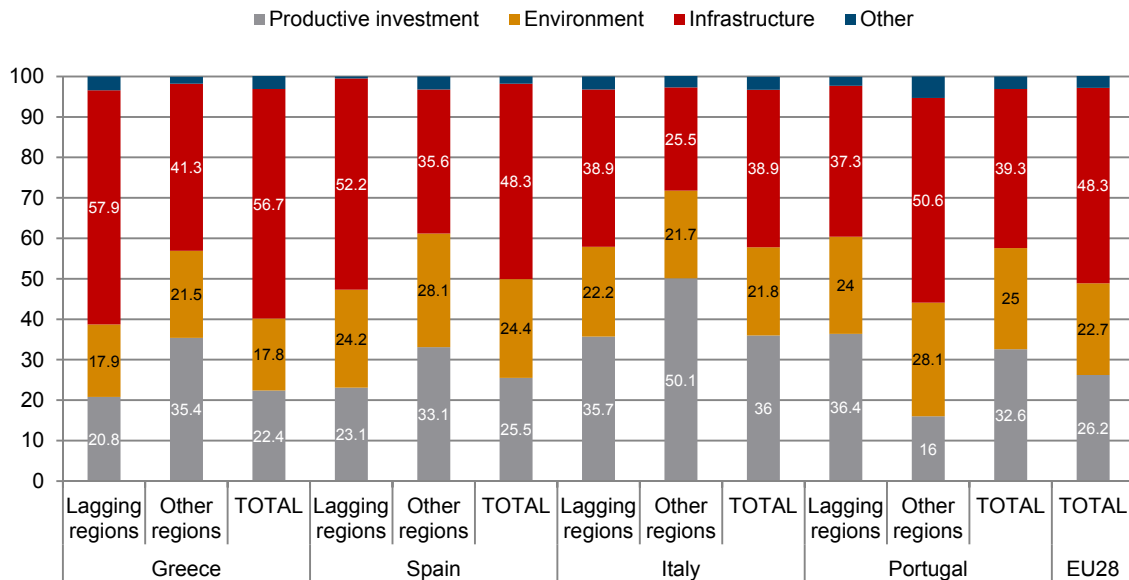
⁸⁰ Commission regulation (EC) No 438/2001, Annex IV.

⁸¹ Commission regulation (EC) No 1828/2006, Annex II.

⁸² DG Regio (2015), 'Geography of Expenditure', Final Report, Work Package 13 – 'Ex post evaluation of Cohesion Policy programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and the Cohesion Fund (CF)'.

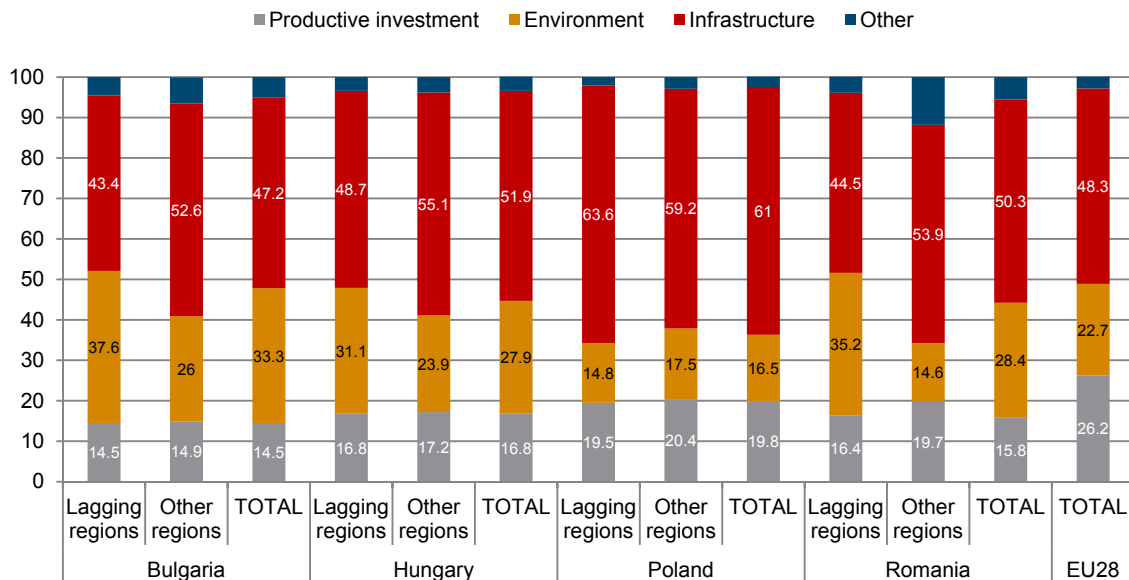
⁸³ This has been calculated as the cumulative ERDF and CF expenditures up to 2014 divided by the average GDP over the period.

Figure 5.3 / Structure of ERDF/CF expenditures 2007-2013 (in % of total expenditures), population weighted averages over regions, Southern lagging regions countries



Source: DG Regio, Eurostat, own calculations.

Figure 5.4 / Structure of ERDF/CF expenditures 2007-2013 (in % of total expenditures), population weighted averages over regions, Eastern lagging regions countries



Source: DG Regio, Eurostat, own calculations.

In the Eastern countries, the lagging regions tended to put a higher focus on environmental investments than the more competitive regions (except in Poland), while in the latter ERDF/CF expenditures were mostly concentrated on infrastructure investment.

Although these numbers suggest that as a trend lagging regions tend to invest less in 'productive investment' than the more competitive regions (especially in the Southern EU countries), this is not corroborated by the absolute size of ERDF/CF expenditures (measured in euro per inhabitant and in % of the regions' GDP), as the absolute EU transfers to the lagging regions (except for Bulgaria and Romania) were much higher than for the more competitive regions. Thus, in Portugal lagging regions spent twice as much ERDF/CF money per inhabitant as the more competitive regions, in Greece and Spain around 3 times and in Italy even 12 times as much.

Similar was the case in Hungary and Poland, though the differences in per capita investment were smaller than in the EU South. In Bulgaria and Romania, per capita ERDF/CF expenditures in the lagging regions were lower than in the other regions, however, in terms of GDP ERDF/CF expenditures were more important in the lagging regions.

Comparing the 2007-2013 expenditures with the 2000-2006 financing period shows some significant changes, especially for the Southern lagging regions countries. In the period 2000-2006, the four Southern lagging regions countries accounted for approximately 63% of total EU ERDF/CF expenditures, with Spain receiving the largest share (27.4%), followed by Italy, Greece and Portugal (each around 11% to 12.6%). In absolute numbers, in the period 2000-2006, Spain spent around EUR 40 billion in ERDF/CF investments, whereas Greece, Italy and Portugal each around EUR 16 bn to 18 bn. In the 2007-2013 period, the amount as well as the share of the Southern lagging regions' ERDF/CF investments was significantly reduced compared to the 2000-2006 period. Spain's ERDF/CF investments decreased by around 43% (to EUR 22.8 bn), Portugal's and Greece's by 25.6% (to EUR 12.1 bn) and 23% (EUR 12.8 bn), respectively, and Italy's ERDF/CF investment declined by 19% (to EUR 14.8 bn). Therefore, the overall share of the Southern lagging regions countries in total EU ERDF/CF investments decreased to 31%, i.e. to half the 2000-2006 share.

As the four Eastern lagging regions countries were either new members of the EU (Hungary, Poland) or entered only later (Bulgaria, Romania), their size of ERDF/CF expenditures was relatively low in 2000-2006, just as the share in total EU expenditures (Hungary: 1.7%, Poland: 6.8%). In the period 2007-2013, ERDF/CF investment increased strongly in the four Eastern lagging regions countries, especially in Poland and Hungary, while the late entrants Bulgaria and Romania, also because of a phasing-in period, spent much less. Thus, in 2007-2013 Poland's ERDF/CF investment expenditures rose to around EUR 44.7 bn (15% of total EU), those of Hungary to around EUR 18 bn (7% of EU total) and Bulgaria's and Romania's to around EUR 4.5 bn and 7.6 bn, respectively. Overall, the Eastern lagging regions countries accounted for around 37% of total EU ERDF/CF investments in the period 2007-2013.

The 2007-2013 financing period also brought significant changes in the spending structure of ERDF/CF compared to the 2000-2006 period. Thus, in most countries the importance of environmental investment from the ERDF/CF declined from 2000-2006 to 2007-2013. In Spain and Poland, the share of environmental investments in total ERDF/CF investments declined most strongly, by more than 17 percentage points on average in both countries, with the Spanish lagging regions decreasing their environmental investments by relatively more than the other regions. In Poland, both the lagging and other regions reduced the environmental share by approximately the same amount. The decline in the share of environmental investment was also strong in Hungary and Italy (around 9 percentage points) but less pronounced in Greece and Portugal. In both countries, the lagging regions reduced the share of

environmental investments in total ERDF/CF investments, while the more competitive regions slightly raised it.

Table 5.2 / Change in spending structure 2000-2006 to 2007-2013

		Productive investment	Environment	Infrastructure	Other
Greece	lagging regions	7.7	-7.1	-1.2	0.6
	Other regions	25.0	0.9	-25.4	-0.5
	TOTAL	10.5	-5.9	-5.2	0.6
Spain	lagging regions	-0.1	-22.0	21.8	0.3
	Other regions	14.3	-13.0	-4.2	3.0
	TOTAL	4.9	-17.3	10.8	1.6
Italy	lagging regions	-0.5	-7.5	7.3	0.8
	Other regions	12.9	-17.9	5.4	-0.5
	TOTAL	-0.9	-9.2	9.2	0.8
Portugal	lagging regions	8.7	-3.4	-6.7	1.5
	Other regions	-9.2	10.6	-5.1	3.7
	TOTAL	6.3	-1.0	-7.4	2.0
Bulgaria	lagging regions	.	.	.	.
	Other regions	.	.	.	.
	TOTAL	.	.	.	.
Hungary	lagging regions	2.0	-9.0	3.7	3.3
	Other regions	-1.9	-11.9	14.0	-0.2
	TOTAL	0.4	-9.3	7.9	0.9
Poland	lagging regions	5.2	-14.3	8.8	0.3
	Other regions	8.2	-18.4	9.1	1.0
	TOTAL	8.1	-17.1	8.2	0.9
Romania	lagging regions	.	.	.	.
	Other regions	.	.	.	.
	TOTAL	.	.	.	.
EU28	TOTAL	-1.5	-9.8	10.0	1.3

Source: DG Regio, Eurostat, own calculations.

Instead, most of the eight lagging regions countries placed higher emphasis on 'productive investment' in the period 2007-2013, the exceptions being the lagging regions in Spain and Italy (and the more competitive regions in Portugal and Hungary), which invested relatively less in this priority in the period 2007-2013 than in the period 2000-2006.

As far as infrastructure investment is concerned, its share in total ERDF/CF investment decreased in Greece and Portugal, with the Greek lagging regions reducing the infrastructure share by much less than the more competitive regions. In the other countries the share of infrastructure investment increased, though mostly only slightly, except for the Spanish lagging regions, where the share of infrastructure in total ERDF/CF investment increased by 20 percentage points.

Overall these shifts in structure also correspond largely to the shifts in absolute expenditure levels in the Southern lagging regions countries, while in Poland and Hungary absolute ERDF/CF investment levels increased significantly in all investment priorities, foremost however in infrastructure investment.

5.4. FOREIGN DIRECT INVESTMENT

The analysis of foreign direct investment covers both the country and regional dimension in the eight lagging regions countries. At the national level the analysis investigates aggregate FDI inflows and outflows, the countries' net investment positions, the importance of FDI for their economies, the evolution of FDI aggregate and sectoral stocks as well as the role of 'mergers & acquisitions' in FDI inflows. At the regional level, because of data limitations, the analysis covers the number of greenfield FDI inflows on aggregate and by sectors; furthermore, the analysis also covers the regions' net FDI position in terms of FDI projects.

The main data sources for the country-level analysis are the UNCTAD database and the World Investment Report 2015 Annex tables⁸⁴, as well as the Eurostat database on 'European Union direct investments'. The UNCTAD data are used for the analysis of aggregate FDI developments. A comparison of UNCTAD and Eurostat data showed that, where available, both data sources provide similar aggregate results and are thus highly comparable. However, in contrast to Eurostat FDI data, UNCTAD data cover a longer time period and are more consistent in terms of yearly coverage and breaks in time series due to shifts in the data collection methodology from the Balance of Payments Manual (BPM) 5 to the BPM6. However, the available UNCTAD data do not incorporate country-level information on sectoral FDI flows. For this the analysis uses Eurostat data.

The main regional data source is the fDi Markets cross-border investment monitor database collected and provided by Financial Times Ltd. It offers up-to-date information (i.e. up to 2016) on FDI flows by NUTS 3 regions as well as a detailed sectoral breakdown (roughly comparable with the NACE classification) of FDI flows. The drawback of these data is that data on investment volumes are generally not reliable, so that only the numbers of FDI projects can be used – though even these data need to be checked carefully before using them.

Aggregate FDI flows

In the pre-crisis period 2000-2007, global FDI flows surged from initially USD 500 billion to around USD 2,000 bn in 2007. About 50% to 66% of the global outflows came from the EU28. In the same period, the EU28 accounted for on average 40% of global FDI inflows⁸⁵. During the economic crisis from 2008 to 2009, global FDI nearly halved (compared to 2007 levels) to USD 1,100 bn and recovered after the crisis to around USD 1,300 to 1,500 bn. EU FDI inflows and outflows showed a similar development, with a huge drop during the crisis (from pre-crisis USD 1,100 bn to USD 350 bn) and some bounce back in 2011 to around USD 500 bn. From 2012 onwards, both EU FDI inflows and outflows declined continuously to USD 280 bn in 2014.

⁸⁴ <http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>

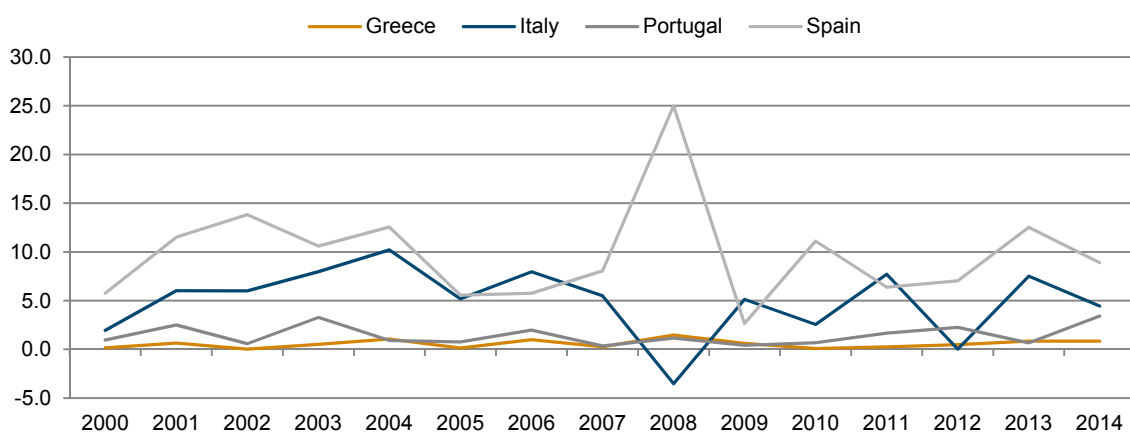
⁸⁵ In theory global FDI inflows and outflows should be identical. However, UNCTAD FDI statistics are based on national sources, which may differ in their methodology of data collection. Hence, for a given transaction, host country and home country often do not register it in exactly the same way. For example, country A may include re-invested earnings in its outflow statistics while country B receiving this FDI may not include the earnings in its inflow statistics. Furthermore, corporate accounting practices and valuation methods differ between countries. These two factors lead to discrepancies in global FDI inflow and outflow data. (Source: UNCTAD website, Division on Investment and Enterprise, FAQ.)

Up to the year 2011, the EU28 was a global net investor (i.e. FDI outflows were higher than inflows), especially in the pre-crisis years and also after the crisis up to 2011. In 2012 and 2013 the EU's net investment flows were slightly negative; hence the EU became a net receiver of FDI flows, while in 2014 net investment was approximately balanced. Simultaneously, the EU's global role as an investor but also a receiver of FDI flows was declining. While in pre-crisis times the EU accounted for 50% to 60% of global FDI outflows and around 40% of global inflows, the EU's share in global FDI flows declined to around 21% in both FDI inflows and outflows. Thus, over time the EU became – on a global scale – less and less important as an investor as well as a destination for FDI, due to strong increases of FDI flows to and also from Developing Asia and increasing FDI outflows of North America (UNCTAD, World Investment Report 2015).

Against this background of the EU's decreasing global importance as an FDI sending and receiving area, the developments of FDI flows in the eight EU lagging regions countries are analysed below.

Among the Southern lagging regions countries, Spain accounted for on average 8-10% of total EU FDI inflows from 2000 to 2014 (including the outlier year 2008, when the Spanish share was one quarter of EU FDI inflows). Italy's share in EU FDI inflows was around 5% to 8% on average (with outliers in 2008 and 2012), while Greece and Portugal accounted for 0.5% to 2% on average of total EU FDI inflows from 2000-2008. Thus, for Greece, Portugal and Spain the share in total EU FDI inflows was approximately the same as their respective share in total EU GDP over this period, so that the distribution of EU FDI to these countries was more or less proportional to the distribution of EU GDP. Only in Italy was the share in EU FDI inflows less than proportional to its share in EU GDP (i.e. around 12% on average).

Figure 5.5 / FDI inflows in % of total EU28 FDI inflows, 4 Southern EU lagging regions countries

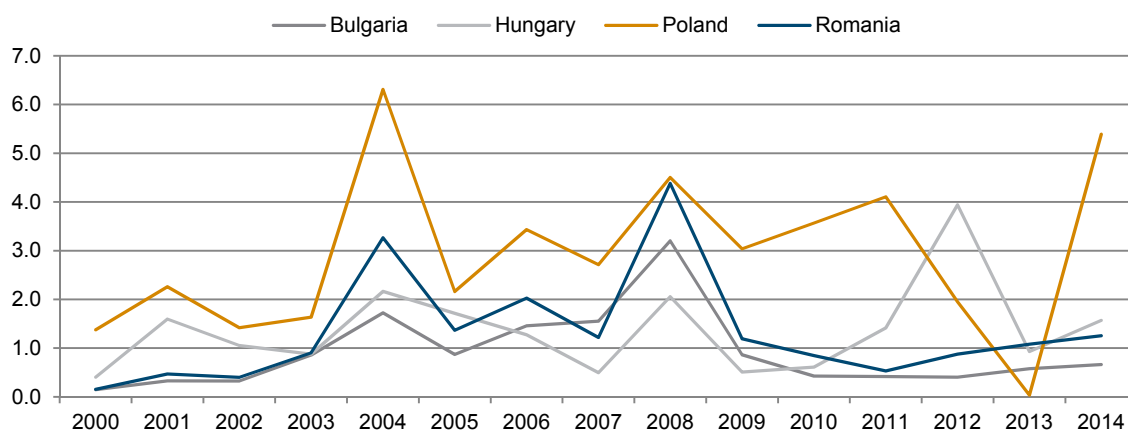


Source: UNCTAD, WIR 2015 Annex tables.

By contrast, in all four Eastern lagging regions countries, their share in total EU FDI inflows was (much) higher than their respective share in EU GDP. Thus, Bulgaria received around 1-1.5% on average of total EU FDI inflows (average share in EU GDP: 0.2-0.3%), Hungary and Romania 1-2% (average GDP share: 0.8% in each country) and only in Poland did the share in EU FDI (i.e. 3%) correspond approximately to its share in EU GDP (i.e. 2-3%). That is, on a relative basis as well as partly also in

absolute terms, the four Eastern lagging regions countries received higher amounts of FDI inflows than the four Southern lagging regions countries.

Figure 5.6 / FDI inflows in % of total EU28 FDI inflows, 4 Eastern EU lagging regions countries



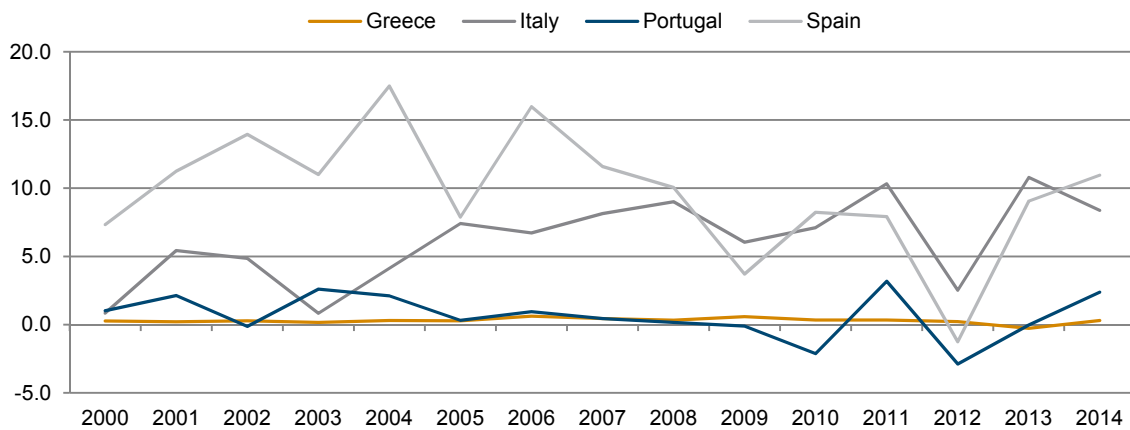
Source: UNCTAD, WIR 2015 Annex tables.

As far as FDI outflows are concerned, significant outward FDI (on a European scale) was observed predominantly in the case of Spain and Italy, the largest economies of the eight lagging regions countries. Before the crisis, FDI outflows from Spain accounted for around 10% to over 15% of total EU FDI outflows, thus being higher than Spain's share in EU GDP, while during and after the crisis until the year 2012 FDI outflows declined strongly, but picked up again afterwards. Italy's role as an investor in the EU was constantly increasing over time, developing from a low share in EU FDI outflows in the early 2000s to a share of around 10% in EU outward FDI flows from 2011 onwards (with a dip in 2012 however).

Hungary and Poland turned from being pure receivers of FDI flows to being also investor countries. From 2003 onwards, both countries show FDI outflows starting at around 0.5% of total EU FDI outflows in Hungary and 0.5% to 1% in Poland. In Hungary this share was rising constantly with an (outlier) peak in 2012 to on average 1-1.5% of total EU outflows. In Poland the development was more mixed as the steady increase in its share in EU outward FDI was reversed in 2012 and 2013, yet bounced back strongly in 2014. The other four countries (i.e. Greece, Portugal, Bulgaria and Romania) also showed some outward investment, however, their contribution to total EU outward FDI was quite low over most of the period 2000-2014.

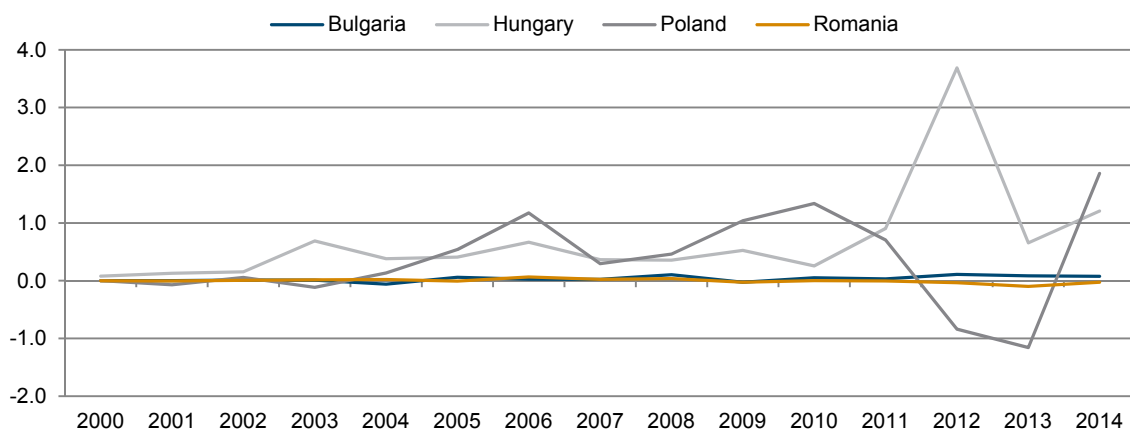
Comparing the net FDI position of the eight lagging regions countries in more detail, it shows that from 2005 onwards Italy has become a net investing countries as outward FDI constantly surpassed inward FDI by around USD 20 bn on average per year (with a strong peak in 2008). Spain was a net investor country for a long period before the crisis, while during and after the crisis its net FDI flows became initially more balanced and turned positive in 2012 and 2013 (i.e. Spain became a net FDI receiving country). This trend was reversed again in 2014.

Figure 5.7 / FDI outflows in % of total EU28 FDI outflows, 4 Southern EU lagging regions countries



Source: UNCTAD, WIR 2015 Annex tables.

Figure 5.8 / FDI outflows in % of total EU28 FDI outflows, 4 Eastern EU lagging regions countries



Source: UNCTAD, WIR 2015 Annex tables.

In Greece FDI inflows and outflows were approximately equal before the crisis, so that net FDI inflows were approximately zero. In 2009 to 2011, Greece even became a net investor country, while from 2012 onwards FDI inflows were higher than outflows. Also in Portugal, FDI outflows were relatively large compared to inflows, leading to weakly positive net FDI flows up to 2011, which, with the exception of 2012, were also continued in 2013 and 2014.

In the Eastern lagging regions countries, except Hungary, FDI outflows were relatively small so that the net FDI flows correspond more (in Bulgaria and Romania) or less (in Poland) to the FDI inflows. By contrast, Hungary saw large FDI outflows especially in the periods 2009-2011 and 2012-2014, which reduced its net FDI flows significantly to around 3% to 6% of aggregate investment.

Overall the results suggest that many of the Southern lagging regions countries and increasingly so Hungary are either net investor countries or at least have had balanced net FDI flows over a prolonged period of time. One question that follows from this is whether the FDI outflows of these countries are real investments made or investments made for other reasons, most notably to avoid taxation. Neither motive leaves a particularly optimistic view. If the countries' FDI outflows are real investments, an additional question is why less developed countries in the EU find it more favourable to invest abroad rather than to invest in their domestic economy and potentially contribute to economic development. If the motives of outward FDI are tax related, this reduces domestic tax revenues, leads to a deterioration of the government's fiscal position and lowers the options for economic policy-making.

To explore very briefly the motives for the lagging regions countries' outward investments, the analysis looks at the main outward FDI destinations of these countries. This may be indicative of whether investment went to tax havens or whether investments went to countries where there might be an economic motive to invest in.

It shows that from 2005 to 2012, Spain's nominal FDI outward stocks doubled from USD 305 bn to over USD 636 bn. During this period the structure of destination countries shifted to some extent. Thus, in 2005 Luxembourg was Spain's main destination country (most likely for tax reasons), while in 2012 it was the UK followed by Brazil and the Netherlands (those countries were also among the top 10 investment destinations in 2005). Overall, the 2012 structure of investment destinations suggests that part of Spain's outward investments, most likely those going to the UK and the Netherlands, could be due to tax reasons, while other investments, e.g. in emerging economies like Brazil and Mexico or in EU countries, could have been due to real investments.

The Italian case seems to be comparable to the Spanish one. From 2005 to 2012, total outward FDI stocks more than doubled (from USD 244 bn to 527 bn). Over the whole period the Netherlands were the main destination country, most likely for tax reasons as the Dutch tax system is particularly favourable for multinational enterprises⁸⁶, followed by a number of EU28 countries like Germany, Austria, Spain and France as well the US, where FDI went most likely for other than tax reasons.

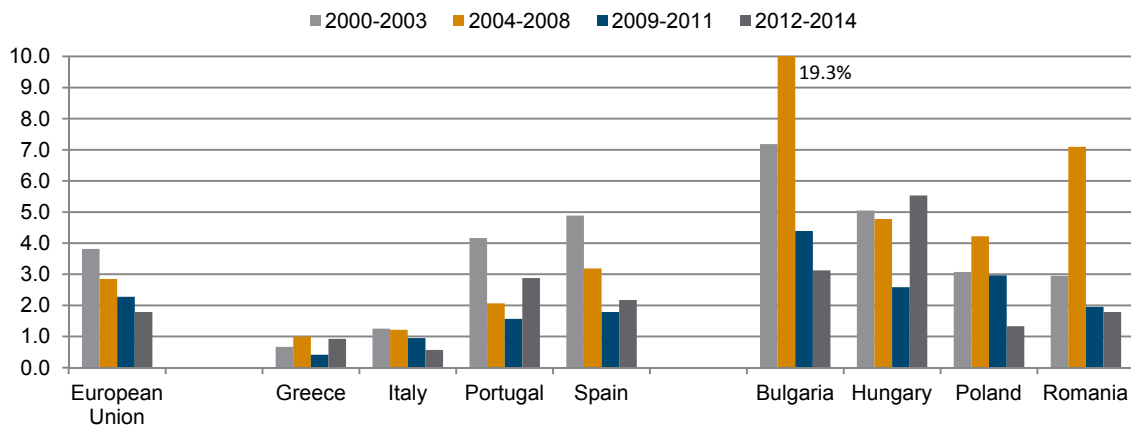
Compared to Italy and Spain, the share of FDI destination countries that are assumed to be tax haven countries in total outward FDI stocks is much higher for Greece, Portugal, Hungary and Poland. Thus Greece's most important destination countries are Cyprus and the Netherlands; in Portugal the Netherlands account for around 44% of total outward FDI stocks in 2012. In Hungary FDI went mostly to Curacao, Belgium, Cyprus, Switzerland and Luxembourg and in Poland also to Cyprus, Luxembourg, the Netherlands and Switzerland. Not all of these outward investments were necessarily made because of tax reasons and some of these investments may flow back to the respective lagging regions countries in the form of investments into the real economy. Still, the high share of tax havens amongst FDI destination countries and the strong increase in outward FDI stocks from 2005 to 2012 in the case of Greece, Poland and Hungary are a warning sign that under the current fiscal arrangements in the EU, these countries are losing a significant amount of tax revenues, which, especially in the case of lagging regions countries, would be very useful for stimulating economic growth.

⁸⁶ See e.g. McGauran, K., Fernandez, R. and Frederik, J. (2013), 'Avoiding Tax in Times of Austerity', SOMO Report September 2013, SOMO – Centre for Research on Multinational Corporations, Amsterdam.

FDI and GDP

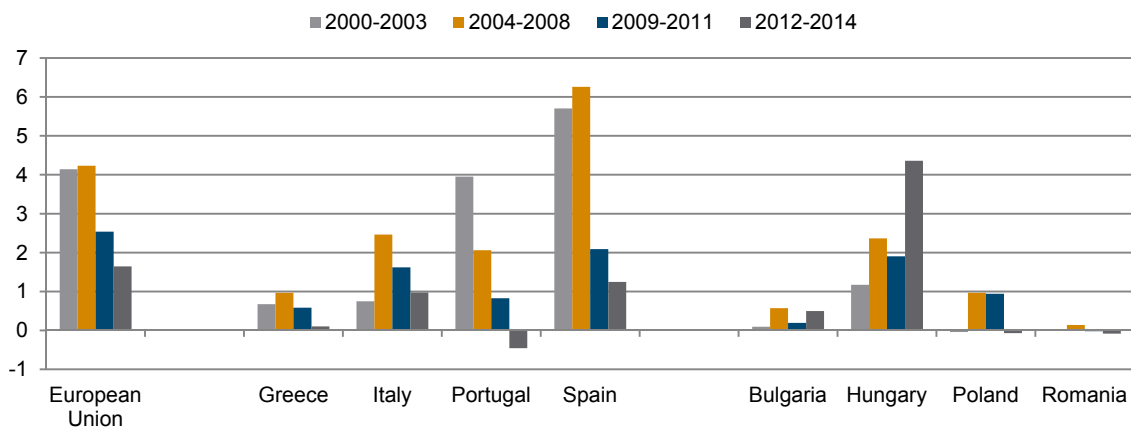
To put the importance of FDI inflows and outflows into perspective as regards their potential significance for the economies of the eight lagging regions countries, FDI inflows and outflows are also analysed in per cent of each country's GDP for the period 2000-2014.

Figure 5.9 / FDI inflows in % of GDP



Source: UNCTAD, WIR 2015 Annex tables.

Figure 5.10 / FDI outflows in % of GDP



Source: UNCTAD, WIR 2015 Annex tables.

Overall, FDI inflows seem to be of little importance for the economies in Greece and Italy. Over the whole period 2000-2014, the size of FDI was only around 0.4-1.3% of GDP in Greece and Italy. Additionally, in Italy the share of FDI in GDP fell constantly over time, from 1.3% in the period 2000-2003 to 0.6% in 2012-2014, thus having almost no impact on the development of Italy's economy. In Portugal and Spain FDI had a higher share in GDP. In both Portugal and Spain FDI accounted for 4.2% to 4.9% of domestic investment in the period 2000-2003. This share declined continuously up to 2011 (reaching around 1.7% of GDP), but increased in the period 2012-2014. However, this increase was again mainly due to a significant drop in GDP in both countries.

In the Eastern EU lagging regions countries, FDI generally played a more important role for the economy. Thus, before the crisis the share of FDI in GDP was around 3% to 5% in Hungary, Poland and Romania, and in Bulgaria even 7.2% (in 2000-2003) and 19.3% (in 2004-2008). In all four Eastern lagging regions countries, the crisis led to a strong reduction of the importance of FDI inflows. After the crisis this trend continued in Bulgaria, Poland and Romania, while in Hungary the role of FDI increased again (due to low domestic investment levels). Overall the impression is that FDI is becoming less and less important in the Eastern lagging regions countries.

As concerns FDI outflows in per cent of GDP, they are, especially if compared to FDI inflows, relatively substantial in all four Southern lagging regions countries as well as in Hungary (especially from 2009 onwards). In all four Southern lagging regions countries FDI outflows have at least the same size as FDI inflows, with Italy and Spain being in fact net investor countries over the period 2000 to 2014. In Hungary FDI outflows are still lower than inflows, but the difference between them became relatively small over time, thus leading to relatively low net FDI levels and thus a relatively low importance on aggregate. In the three other Eastern lagging regions countries, FDI outflows are of minor importance if compared to FDI inflows.

Greenfield FDI and mergers & acquisitions

To shed some more light on the importance of FDI inflows for the economic development of the eight lagging regions countries, the analysis compares total FDI inflows to the financial inflows due to mergers & acquisitions (M&A). In principle, M&A flows should be part of FDI flows, thus allowing some conclusions with respect to the share of investments that are greenfield FDI. Thus, it should be possible to give at least some information on how much of new capacity was added to the economies of the eight countries through FDI, or whether FDI was mainly buying existing capacities⁸⁷.

For illustration, in Portugal, Spain and Italy the share of M&A flows in total FDI flows was around 40% to 60% in the period 2000-2014, so that only 50% of FDI flows could be considered greenfield investments. By contrast, in Greece the share of M&A in total FDI inflows was nearly 100%, suggesting that more or less all FDI to Greece was solely used to buy existing capacities (at least in value terms).

In the Eastern lagging regions countries the share of M&A in FDI inflows in the period 2000-2014 was much lower than in the Southern countries (around 13% to 19%), suggesting that much of the FDI inflows had a greenfield character in the Eastern countries.

⁸⁷ In practice the comparison of M&A and FDI inflows is rather complicated, as e.g. the time of recording of both types of flows may be different thus causing major differences in the annual M&A and FDI inflows. For this, the analysis uses cumulative data, i.e. using the sum of both M&A and FDI, to calculate the share of M&A inflows in total FDI inflows.

FDI stocks – sectoral structure of FDI

The following analysis focuses on the development of FDI stocks in the eight lagging regions countries dealing with both aggregate and sectoral inward and outward FDI positions. The main point of the analysis is to highlight the importance of FDI for the economies of the eight countries, to give an indication of what role FDI has played in the economic development over the last 15 years and what role it can potentially play in the future.

Starting with aggregate inward and outward FDI stocks (in % of GDP) in the eight countries, it shows that from 2000 to 2014 inward FDI stocks in the EU28 on aggregate increased from 26% to 49% of GDP: thus, inward FDI stocks nearly doubled. Similar developments occurred in Portugal and Spain, where FDI stock increased from 32% and 33%, respectively, to around 52% of each country's GDP. Hence, in both countries inward FDI stocks are comparable to the EU28 aggregate. In contrast to these countries, inward FDI stocks are much lower in Greece (9% of GDP in 2012-2014) and Italy (17% of GDP), with FDI stocks in Greece declining over time and especially since 2004, while in Italy inward FDI stocks increased by around 70% from 2000 to 2014.

FDI is very important in the economies of Bulgaria and Hungary. Since 2009, Bulgarian inward FDI stocks have been at a level of more than 90% of GDP; in Hungary that level was 78% in the period 2012-2014. Compared to these, FDI stocks in Poland and Romania are relatively low with around 46% and 42% of GDP, respectively. Still, inward FDI stocks increased strongly in both countries starting from the early 2000s (by around 20 percentage points). Notably, in both Poland and Romania the size of inward FDI stocks in per cent of GDP were lower than the EU28 stocks, especially in the periods during and after the crisis.

As far as outward FDI stocks are concerned, aggregate EU28 stocks increased by 30 percentage points, from 34.5% in 2000-2003 to around 57% of GDP. A similar increase was observed in Spain (from 23% to 48% of GDP) and also in Hungary (from 4% to 29% of GDP). Moderate increases in outwards stocks occurred in the other lagging regions countries, except for Bulgaria and Romania that both have no significant outward FDI stocks.

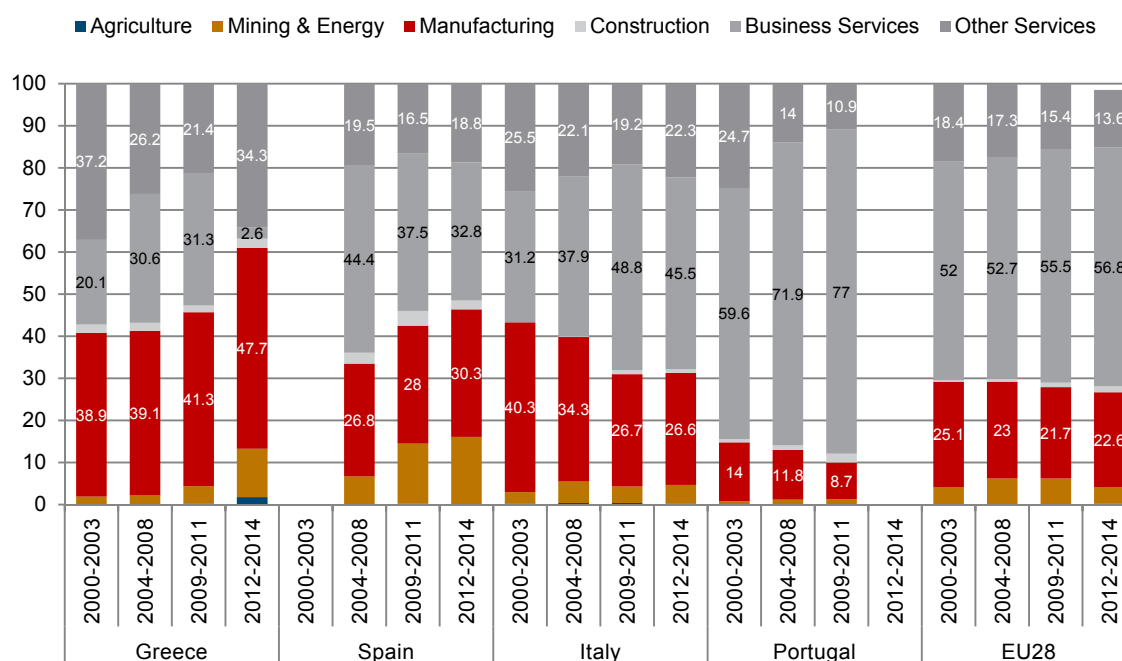
Among the eight countries, outward FDI stocks are highest in Spain (about 49% of GDP in 2012-2014), followed by Portugal, Italy and Hungary (between 25% and 30% in the period 2012-2014). Poland and Greece have an outward stock of around 10% to 15% of GDP. Thus, in all eight countries the outward FDI positions (in per cent of GDP) are lower than the outwards stock of the aggregate EU28.

Consequently, regarding the net FDI position it shows that on aggregate the EU28 is a net investing region with outward FDI stocks being around 7-10% higher than inward FDI stocks over the period 2000-2014. Among the eight lagging regions countries, Italy was the only country that over the whole period 2000-2014 was a net investor country; especially after the crisis its net investment position increased strongly, to around 7% of GDP. Greece is the second country where outward FDI stocks are higher than inward stocks, though the crisis had a major impact on the Greek position: prior to the crisis, Greece was a net receiving country, but it turned into a net investor country thereafter. All other countries are generally net receiving countries (except for Spain in the period 2009-2011).

Next, we look at the sectoral composition of inward FDI stocks in the eight lagging regions countries. As before, the analysis covers the period 2000-2014. This, however, creates some problems in generating consistent sectoral time series across the countries, as the statistical method to collect sectoral data has shifted from using the NACE Rev. 1.1 classification to using the NACE Rev. 2 classification. To arrive at more or less consistent time series, the analysis used a common scheme to create sectors which can be compared approximately.

This analysis of FDI stocks also allows some conclusions on the sectoral structure of FDI in the eight lagging regions countries. For the Southern lagging regions countries, it shows that in Greece, Spain and Italy the main investment sectors are manufacturing and business services, accounting for 60% to 70% of total inward FDI stocks. Other important sectors are other services and partly also mining & energy (especially in Greece and Spain in 2012-2014). In contrast to these countries, FDI stocks in manufacturing are low in Portugal and only account for 10% of total inward FDI over the period 2000-2014. In Portugal FDI is mainly concentrated in the business services sectors.

Figure 5.11 / Inward FDI stocks by economic sectors, in % of total FDI (Total = 100), Southern EU lagging regions countries

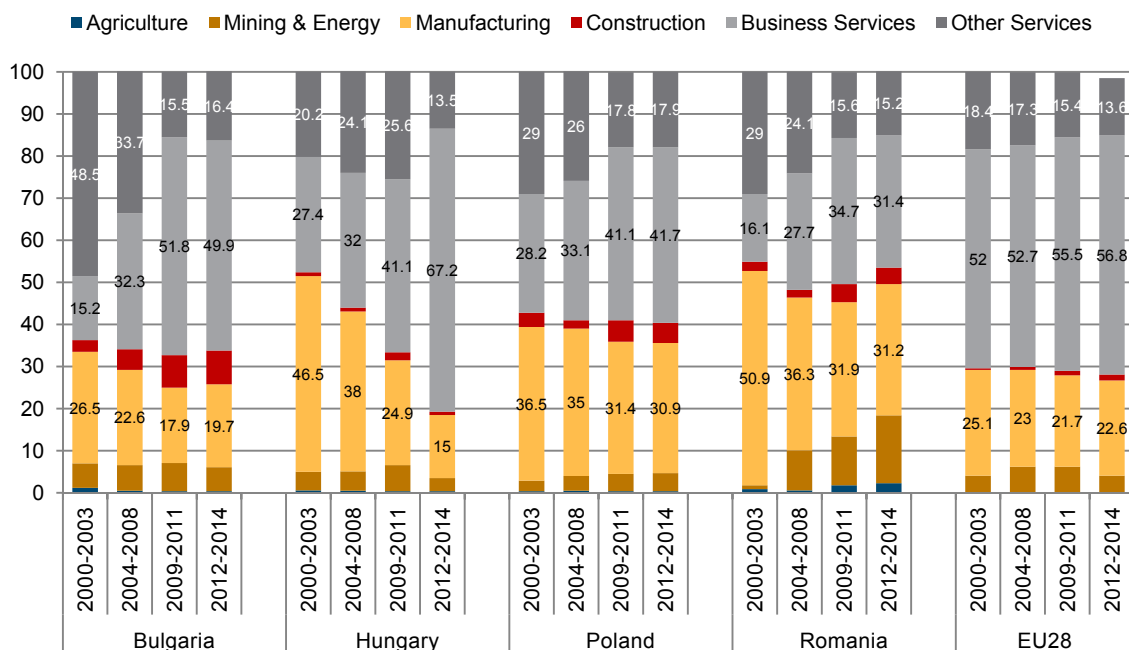


Source: Eurostat, own calculations.

In the Eastern European lagging regions countries, FDI stocks are also concentrated in business services and manufacturing. However, over time the data indicates that the share of manufacturing in the total FDI stock in the Eastern lagging regions countries constantly declined from 2000 to 2014, especially in Hungary where the manufacturing share fell from 46% in 2000-2003 to 15% in 2012-2014. As a consequence, the manufacturing share in total FDI in Hungary and also Bulgaria is lower than the average manufacturing share in the EU.

A more detailed analysis of FDI stocks also shows that manufacturing FDI in Greece and Bulgaria is mainly concentrated in the medium low and low technology intensive industries, while in Italy and Romania manufacturing FDI is more or less evenly split between medium high, medium low and low technology intensive industries. In Spain FDI is concentrated in medium high tech and other industries, while in Poland it is concentrated in medium high tech and low tech industries. Hungary is the only country among the eight lagging regions countries with a significant share of high technology and medium high technology intensive industries in total manufacturing FDI⁸⁸.

Figure 5.12 / Inward FDI stocks by economic sectors, in % of total FDI (Total = 100), Eastern EU lagging regions countries



Source: Eurostat, own calculations.

Regional FDI

Regional FDI data are not as easily available as country-level FDI data, as many statistical offices or central banks do not collect or publish these data. Though there are some exceptions (e.g. Hungary), the analysis cannot build on such data for a consistent analysis covering all eight lagging regions countries jointly.

Therefore, the regional analysis uses the *fdimarkets.com* database of greenfield investment. The advantage of this database is that it offers detailed FDI data both at the sectoral and regional level. However, the sectors are only roughly comparable to the NACE classification. Still an attempt has been made to arrive at a regional FDI industry classification that is approximately comparable with the industry classification of the country-level FDI analysis (see below). Another drawback of the *fdimarkets.com*

⁸⁸ The detailed tables are shown in the Online Annex II to this report, published as *wiiw Research Report No.426*, including a breakdown of the industry classification.

data is that the volumes of investments are only partially given and, where available, are not reliable in many cases because the volume data were estimated. The more reliable data are those on the number of FDI projects per region, and though the volume of investment thus will not be analysed, the data allow for obtaining basic insights on the regional distribution of FDI in absolute terms as well as on the sectoral structure of FDI.

Regarding the sectoral structure and finding a suitable aggregation scheme that is comparable to the country-level FDI analysis, the analysis made use of the information on 'industry activity' and 'industry sector' given in the *fdimarkets.com* database. Overall, eight sectors have been derived from the database:

1. Mining & energy
2. High technology intensive manufacturing
3. Medium high technology intensive manufacturing
4. Medium low technology intensive manufacturing
5. Low technology intensive manufacturing
6. Advanced services
7. R&D&ICT
8. Other services

As the *fdimarkets.com* database in most cases includes information on the destination city of the FDI projects, it was possible to regionalise the FDI data at the NUTS 2 level of regions, using Eurostat correspondence tables of LAUs (lower administrative units) and the NUTS 2 regions, or – where cities were not covered in these tables – by manual allocation using either Google maps or more detailed company data from the respective web pages. This also allowed grouping and aggregating the FDI projects by lagging and other regions. Still, for some of the FDI data no information on the destination city was given. In this case, these FDI projects were put into a third category named 'non-allocated' data.

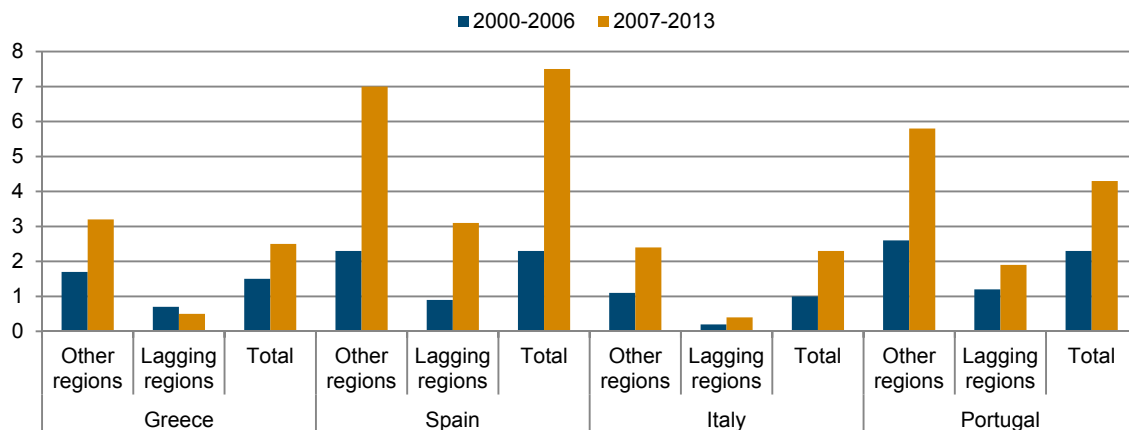
The analysis starts with a descriptive overview of the data, listing the number of inward greenfield FDI projects recorded in the *fdimarkets.com* database in 2003-2015 by the eight countries and regional groups. From 2003 to 2015 in total 17,558 projects were recorded in the eight lagging regions countries. 10,329 projects (58.8% of the total) were recorded in the more developed regions, 3,253 (18.5%) in the lagging regions and 3,976 (22.6%) projects could not be allocated to a region. Already this overview suggests large differences in FDI inflows between lagging and more developed regions.

Among the eight lagging regions countries the highest number of projects went to Spain, i.e. over 4,000 projects in 2003-2015, followed by Poland, Romania, Hungary and Italy. Greece received the lowest number of FDI projects. In all countries, except Romania, the lagging regions received a lower number of FDI projects, despite the fact that in some countries the group of lagging regions has significantly more inhabitants than the 'other' region group.

To provide a more accurate view on the potential impacts of inward greenfield FDI projects on the regions in the eight lagging regions countries, the number of FDI projects per 100,000 inhabitants is analysed. This shows that in all eight countries the lagging regions received significantly less greenfield FDI projects than the more developed regions, i.e. the number of projects was 2 to 6 times lower in the lagging regions than in the 'other' regions.

A comparison of the Southern and Eastern lagging regions countries shows that the Eastern countries received 3-5 times more FDI projects per capita than the Southern lagging regions countries, except Spain.

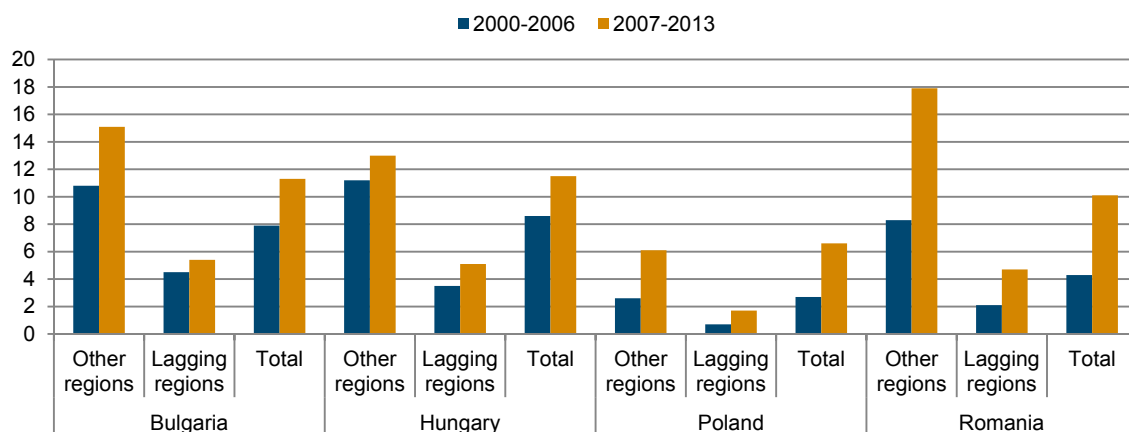
Figure 5.13 / Number of greenfield FDI projects 2003-2015 per 100,000 inhabitants*, by type of regions, Southern lagging regions countries



* Average population of regions in the respective period.

Source: fdimarkets.com database, own calculations.

Figure 5.14 / Number of greenfield FDI projects 2003-2015 per 100,000 inhabitants*, by type of regions, Eastern lagging regions countries



* Average population of regions in the respective period.

Note: The scale of the Eastern lagging regions differs from the scale of the Southern lagging regions.

Source: fdimarkets.com database, own calculations.

As far as the sectoral structure of inward greenfield FDI projects is concerned, FDI projects in the Southern lagging regions countries were mainly established in the services sector, in both the lagging and the more competitive regions. The number of manufacturing projects was low, especially in all Greek and Italian regions. In the Eastern lagging regions countries, most greenfield FDI projects went

into the services sector, too, especially in the more developed regions. By contrast, the Eastern lagging regions received much less services FDI projects.

In the Eastern more competitive regions, the number of FDI projects in the manufacturing sector was relatively low if compared to the number of services projects. However, compared to the Southern lagging regions' number of manufacturing projects and even total projects in the Southern countries, the number of manufacturing projects was in fact relatively high. As opposed to the Southern lagging regions, the lagging regions in the Eastern countries received approximately the same number of FDI projects per inhabitant as the more competitive Eastern regions, except in Poland.

Among the relatively low number of manufacturing FDI projects in the Southern countries, almost no projects were established in the high technology industries. In both, the more competitive as well as the lagging regions in the Southern countries, most manufacturing projects were established in the medium high technology sectors, followed by medium low and low tech industries. This holds for all regions in these countries.

Table 5.3 / Inward greenfield FDI projects by broad sectors, Southern lagging regions countries; FDI projects per 100,000 inhabitants*

		Other regions		lagging regions	
		2000-2006	2007-2013	2000-2006	2007-2013
Greece	Services	1.6	3.0	0.6	0.4
	Manufacturing	0.1	0.0	0.1	0.0
	Construction	0.1	0.1	0.0	0.0
	Mining & energy	0.0	0.0	0.0	0.0
	Total	1.7	3.2	0.7	0.5
Spain	Services	1.6	5.8	0.6	2.2
	Manufacturing	0.6	0.8	0.3	0.6
	Construction	0.1	0.2	0.0	0.2
	Mining & energy	0.0	0.0	0.0	0.2
	Total	2.3	7.0	0.9	3.1
Italy	Services	0.9	2.0	0.1	0.2
	Manufacturing	0.1	0.2	0.1	0.1
	Construction	0.1	0.1	0.0	0.0
	Mining & energy	0.0	0.0	0.0	0.0
	Total	1.1	2.4	0.2	0.4
Portugal	Services	2.0	4.9	0.6	1.1
	Manufacturing	0.3	0.3	0.4	0.5
	Construction	0.3	0.5	0.1	0.2
	Mining & energy	0.0	0.1	0.1	0.0
	Total	2.6	5.8	1.2	1.9

* Average population of regions in the respective period.

Source: fdimarkets.com database, own calculations.

In the Eastern European lagging regions countries the situation is more differentiated. In all Eastern countries manufacturing FDI in both the 'other' and the lagging regions went into all four technology groups of manufacturing. In Bulgaria, Poland and Romania the distribution of manufacturing FDI projects favoured predominantly medium high tech and low tech sectors in both types of regions. Similar was the

case in Hungary, though there was a substantial number of projects (per capita) established in the high tech industries (in both types of regions).

In Bulgaria as well as in Romania the lagging regions received either a higher or equal number of manufacturing FDI projects per capita (in all technology groups) than the 'other' regions, while in Hungary and especially Poland the lagging regions received considerably less manufacturing projects per capita (again in all technology groups).

Breaking down the inward FDI projects in the services sector into projects in advanced services, in other services and in 'R&D and ICT' services, it shows that the main and recurrent feature across all countries is the dominance of projects in the 'other' services sectors, both in the lagging as well as the more competitive regions. Another recurrent feature is the strong bias of all services FDI projects towards the more competitive regions. These account for a much larger number of FDI projects per capita than the lagging regions, especially in advanced services and in R&D and ICT. Especially in the latter services sector almost no investment projects were established in the lagging regions in both the Southern and Eastern lagging regions countries.

Table 5.4 / Inward greenfield FDI projects by broad sectors, Eastern lagging regions countries; FDI projects per 100,000 inhabitants*

		Other regions		lagging regions	
		2000-2006	2007-2013	2000-2006	2007-2013
Bulgaria	Services	6.8	11.6	1.7	2.8
	Manufacturing	1.6	1.6	1.9	1.8
	Construction	2.3	1.6	0.6	0.4
	Mining & energy	0.2	0.3	0.3	0.4
	Total	10.8	15.1	4.5	5.4
Hungary	Services	5.8	7.7	1.3	1.5
	Manufacturing	4.1	4.4	2.0	3.3
	Construction	1.3	0.7	0.1	0.2
	Mining & energy	0.0	0.1	0.1	0.1
	Total	11.2	13.0	3.5	5.1
Poland	Services	1.2	3.8	0.2	0.8
	Manufacturing	1.2	1.6	0.4	0.6
	Construction	0.2	0.6	0.0	0.2
	Mining & energy	0.0	0.1	0.0	0.0
	Total	2.6	6.1	0.7	1.7
Romania	Services	5.0	13.6	1.0	2.6
	Manufacturing	1.8	1.7	0.9	1.6
	Construction	1.4	2.4	0.1	0.4
	Mining & energy	0.0	0.1	0.0	0.1
	Total	8.3	17.9	2.1	4.7

* Average population of regions in the respective period.

Source: fdimarkets.com database, own calculations.

Analysing briefly the net FDI position of the regions, i.e. investigating the difference in the number of inward and outward FDI projects by types of regions (per 100,000 inhabitants) and broad sectors, shows the following: In the Southern lagging regions countries the more competitive regions are significant net investing regions in terms of the numbers of FDI projects. But also the Southern lagging regions have,

compared to their inwards FDI stocks, significant outward FDI stocks. Thus, with the exception of the Spanish lagging regions, the net position of FDI projects is either nearly balanced, as in Italy or in Greece – in the latter country, however, the lagging regions have a higher number of manufacturing FDI projects abroad than domestically. In Portugal, the net position of the lagging regions is even negative, due to a quite substantial number of outward services FDI projects.

By contrast, in the Eastern lagging regions countries the number of outward FDI projects is low, so that their net position more or less is only determined by the net inflows of FDI project to the regions.

5.5. CONCLUSIONS IN THE LIGHT OF THE ANALYSIS OF PART I AND PART II

The analysis arrived at the results – to some extent surprising – that despite the manifold structural problems in the Southern lagging regions countries, pre-crisis investment levels (i.e. investment to GDP ratios) were not that much different from EU average levels. Even more surprisingly, investment rates in the Southern lagging regions themselves were actually in part much higher than the EU average investment rate before the crisis. At first sight this seems to be at odds with these regions' unsatisfactory economic performance and their low level of competitiveness.

At least part of this is, however, explained by the analysis of their investment structure. It shows to be of a certain unfavourable nature, especially for regions in need of development, as investments in the manufacturing industry (particularly in higher technology segments) as well as investments in machinery or intellectual assets are relatively low in the Southern lagging regions. Amongst those, Greece constitutes a special case: not only are manufacturing investment rates the lowest among all Southern lagging regions countries, but the household sector is the main investment driver – instead of the enterprise sector, as is the case elsewhere. Consequently, investment in the Southern lagging regions is mainly directed to the services sector, which assumedly has lower productivity effects in the Southern regions, given that a solid industrial base, which would be in need of services sector inputs, is mostly not adequately developed. Simultaneously, in Spain the housing bubble led to a strong misallocation of investment (in largely unproductive buildings), with high opportunity costs (as funds could have been invested more productively) once the bubble burst.

However, given some fundamental framework conditions, these investment patterns are less surprising. Most of the Southern lagging regions have a sectoral structure characterised by a low share of manufacturing industry (and a very low share of higher technology industry) and high shares of the services sector. Likewise, the educational structure shows a high share of low skilled population, while unit labour costs were relatively high at least before the crisis. In addition to these weaknesses, a wide range of structural problems exist, such as corruption, an adverse business environment with barriers to entrepreneurship and competition, difficult access to finance, partly high tax rates etc.

These structural issues may provide an explanation for the low investment rates in productive sectors producing tradable goods. Actual demand or possibilities for such investments might be low, given the relatively low number of manufacturing industry producers, and an even lower number of high tech producers. Agglomeration effects are likely to be missing or at least lower than in more developed regions, and also the unfavourable skill structure is not particularly attractive for productive investment.

At the same time, supply of investment may be hampered by structural issues like corruption, governance issues, the business environment etc.

These factors may constitute a 'lock-in' effect for the Southern lagging regions, as without investment in sectors producing competitive tradable goods, the growth pattern as well as the sectoral structure is unlikely to change.

The Southern lagging regions benefited much less from FDI inflows than the Eastern lagging regions, where FDI was a key factor in restructuring the regional economies. Overall, Southern countries, and especially the lagging regions therein, received much less greenfield FDI and more M&A investments, so that effects on their competitive position were presumably lower than in the Eastern countries. It appears likely that this is not going to change much in the future, as a) FDI to Europe generally seems to be declining and b) both efficiency seeking as well as market seeking FDI is rather directed towards Eastern Europe, given its advantages e.g. in terms of wages, taxation and also distance to potential markets in Europe.

With respect to FDI it is partly worrying to see that many Southern lagging regions countries have significant outward FDI flows and stocks. Although in some cases this may well be positive for those countries, as it helps domestic companies to diversify and explore new markets, it could also be an indication that investment abroad is more attractive than domestic investment. In addition, a considerable part of these outward flows may be motivated by tax reasons, which has negative effects on public revenues and the capacity of the public sector to invest.

The unfavourable pre-crisis investment situation in the Southern lagging regions became worse in the crisis and post-crisis period. High amounts of private debt, accumulated before the crisis, led to a deleveraging process in both the household and enterprise sector with corresponding drops in the investment rate. Simultaneously, high public debts, occasional bail-outs of the financial sector, automatic stabilisers and the requirement to keep the public deficit within certain limits, led to a strong reduction of public investment rates. As a consequence, current investment rates in the Southern lagging regions and countries are currently at particularly low levels, making it questionable whether the lock-in effect of the lagging regions can be overcome any time soon.

The Eastern lagging regions are also in a somewhat difficult position. They are peripheral regions with an unfavourable sectoral structure (i.e. high share of agriculture, moderately high share of manufacturing industry, low share of services, especially advanced services) and a large share of low skilled population.

Still, compared to the EU average, investment rates were relatively high, but at the same time lower than in the more competitive regions within the countries (especially in Bulgaria and Romania). Investment was mainly directed to the manufacturing industry sector, while services sector investment was low, which at least helped to upgrade the tradable goods sector to some extent.

However, a large part of these investments were FDI driven, either through new greenfield investments or potentially also investments by multinationals already located in those countries. As these FDI flows generally preferred to go to larger agglomerations, given their market potential, adequate skill supply and transport and communication infrastructure etc., the peripheral lagging regions benefited much less

from these inflows than the more competitive regions in the Eastern countries. This partly explains their lower investment rates.

The question is whether relying strongly on FDI is a viable strategy for future development. The analysis has shown that EU FDI inflows significantly declined because of the crisis and this was also strongly felt in the Eastern lagging regions countries. Thus, genuine domestic investment will become more and more important for the economic development of the regions. However, some of the Eastern countries have severe structural issues (foremost Bulgaria and Romania), with a lack of access to finance, a difficult business environment, corruption, low levels of governance, a lack of stability in the juridical system etc., which may constitute general obstacles to investment. Furthermore, the lagging regions in those countries show a number of unfavourable characteristics (skill structure, accessibility, sectoral structure etc.), making them less attractive for investments, so that the danger is that over the longer run they may end up in a 'lock-in' situation similar to the situation of the Southern lagging regions.

The role of EU structural policy is difficult in such an environment. Over the last period, the largest share of structural funds went into infrastructure investments followed by environmental investments and productive investment. By this it improved the accessibility and connectivity, the quality of life as well as the business environment for a large number of people in these regions. Given the results of the analysis it may, however, be asked whether a shift to focusing on productive investments, especially for the lagging regions, could be an approach to help them to break out of their 'lock-in' effect and to enter a sustainable path of economic development.

SHORT LIST OF THE MOST RECENT WIIW PUBLICATIONS

(AS OF DECEMBER 2017)

For current updates and summaries see also wiiw's website at www.wiiw.ac.at

ECONOMIC CHALLENGES OF LAGGING REGIONS III: RECENT INVESTMENT TRENDS AND NEEDS

by Roman Römisch (coordinator) and Stefan Jestl

wiiw Research Reports, No. 423, December 2017

91 pages including 19 Tables and 49 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

ECONOMIC CHALLENGES OF LAGGING REGIONS II: RECENT STRUCTURAL REFORMS, OUTSTANDING NEEDS AND GOVERNANCE ISSUES

by Roman Römisch (coordinator), Ruggero Forni, Lydia Greunz, Nirina Rabemifara and Terry Ward

wiiw Research Reports, No. 422, December 2017

151 pages including 77 Tables and 81 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

ECONOMIC CHALLENGES OF LAGGING REGIONS I: FISCAL AND MACROECONOMIC ENVIRONMENT

by Roman Römisch (coordinator), Adam Brown, Ben Gardiner and Jonathan Stenning

wiiw Research Reports, No. 421, December 2017

75 pages including 10 Tables and 62 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

FINANCIAL CYCLES IN CREDIT, HOUSING AND CAPITAL MARKETS: EVIDENCE FROM SYSTEMIC ECONOMIES

by Amat Adarov

wiiw Working Papers, No. 140, December 2017

81 pages including 14 Tables and 31 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

TRADE IN SERVICES VERSUS TRADE IN MANUFACTURES: THE RELATION BETWEEN THE ROLE OF TACIT KNOWLEDGE, THE SCOPE FOR CATCH-UP, AND INCOME ELASTICITY

by Eddy Bekkers, Michael Landesmann and Indre Macskasi

wiiw Working Papers, No. 139, December 2017

63 pages including 38 Tables and 10 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

WIIW MONTHLY REPORT 2017/12

ed. by Vasily Astrov and Sándor Richter

- › Graph of the month: Gross domestic product, real growth in %, average 2012-2016
- › Opinion Corner: Do trade imbalances affect economic growth?
- › Trade effects of EU integration arrangements in the Western Balkan countries
- › Corruption and firm-level productivity: greasing or sanding effect?
- › Kyrgyzstan: suffering from 'Dutch disease'?
- › The editors recommend for further reading
- › Monthly and quarterly statistics for Central, East and Southeast Europe
- › Index of subjects – December 2016 to December 2017

wiiw Monthly Report, No. 12, December 2017

47 pages including 4 Tables and 32 Figures

exclusively for wiiw Members

UKRAINE: SELECTED ECONOMIC ISSUES

by Vasily Astrov and Leon Podkaminer

wiiw Policy Notes and Reports, No. 19, December 2017

29 pages including 3 Tables, 8 Figures and 1 Box

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

WIIW HANDBOOK OF STATISTICS 2017: CENTRAL, EAST AND SOUTHEAST EUROPE

by Alexandra Bykova, Nadya Heger, Beate Muck, Renate Prasch, Monika Schwarzhappel, Galina Vasaros and David Zenz

Countries covered: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kazakhstan, Kosovo, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, Ukraine

wiiw Handbook of Statistics No. 2017, November 2017 (ISBN: ISBN- 978-3-85209-056-6)

334 pages including 248 Tables and 15 Maps

Hardcopy + CD-ROM with PDF: EUR 70.00 (time series given for 2000, 2005, 2010, 2014-2016)

Download PDF: EUR 50.00 (PDF with identical content as hardcopy)

Download Excel tables + PDF: EUR 245.00

USB drive Excel tables + PDF + hardcopy: EUR 250.00

GLOBAL VALUE CHAINS AND STRUCTURAL UPGRADING

by Roman Stöllinger

wiiw Working Papers, No. 138, November 2017

41 pages including 6 Tables and 2 Figures

hardcopy: EUR 8.00 (PDF: free download from wiiw's website)

WIIW MONTHLY REPORT 2017/11

ed. by Vasily Astrov and Sándor Richter

- › Graph of the month: Total Forbes billionaire wealth in selected countries, in % of national income
- › Opinion Corner: What may be the future of EU cohesion policy in the light of currently discussed reforms?
- › Self-imposed food embargo and consumer prices in Russia
- › Can economics explain the current bad EU-Russia relations?
- › Non-tariff barriers in the EU inhibiting DCFTA trade
- › The editors recommend for further reading
- › Monthly and quarterly statistics for Central, East and Southeast Europe
- › Index of subjects – November 2016 to November 2017

wiiw Monthly Report, No. 11, November 2017

47 pages including 3 Table and 21 Figures

exclusively for wiiw Members

CESEE BACK ON TRACK TO CONVERGENCE

by Vladimir Gligorov, Richard Grieveson, Peter Havlik, Leon Podkaminer, et al.

wiiw Forecast Report. Economic Analysis and Outlook for Central, East and Southeast Europe, Autumn 2017

wiiw, November 2017

149 pages including 31 Tables, 51 Figures and 1 Box

hardcopy: EUR 80.00 (PDF: EUR 65.00)

IMPRESSUM

Herausgeber, Verleger, Eigentümer und Hersteller:

Verein „Wiener Institut für Internationale Wirtschaftsvergleiche“ (wiiw),
Wien 6, Rahlgasse 3

ZVR-Zahl: 329995655

Postanschrift: A 1060 Wien, Rahlgasse 3, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50
Internet Homepage: www.wiiw.ac.at

Nachdruck nur auszugsweise und mit genauer Quellenangabe gestattet.

Offenlegung nach § 25 Mediengesetz: Medieninhaber (Verleger): Verein "Wiener Institut für Internationale Wirtschaftsvergleiche", A 1060 Wien, Rahlgasse 3. Vereinszweck: Analyse der wirtschaftlichen Entwicklung der zentral- und osteuropäischen Länder sowie anderer Transformationswirtschaften sowohl mittels empirischer als auch theoretischer Studien und ihre Veröffentlichung; Erbringung von Beratungsleistungen für Regierungs- und Verwaltungsstellen, Firmen und Institutionen.