

Economic Challenges of Lagging Regions II:

Recent Structural Reforms, Outstanding Needs and Governance Issues

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Abstract

This report is concerned with analysing, for eight EU Member States with lagging regions, the main structural reforms carried out over the past five to ten years, essentially those which are relevant for the European Structural and Investment Funds. Furthermore it provides an overview of the remaining structural reforms needed, including to the system and operation of governance, and their relevance for lagging regions. The identification of the remaining reforms needed is based on a detailed analysis of the main indicators that can be identified to assess the situation in each of the eight countries concerned and, so far as possible, in the lagging regions in them. An additional concern is to gauge the effects of the reforms carried out with a particular focus on the lagging regions.

The first subsection of the report briefly sets out the structural reforms covered by the analysis and the rationale for choosing these from among all those subject to the European Council's Country-Specific Recommendations. It then presents for each of the eight countries and the lagging regions the main structural imbalances in the form of a concise summary bringing out the main points emerging from the detailed analysis for each country. The second sub-section assesses the effects of labour market reforms on investment, productivity and competitiveness. A third sub-section examines the business environment in each of the countries and the lagging regions within these as well as the structure of enterprises and business demography, and attempts to relate this to the business environment. It also considers the reforms which have been carried out over recent years which have been aimed at improving the situation in which businesses operate.

Keywords: regional economic development, EU, lagging regions, regional policy, economic challenges, structural reforms, labour market reforms, business environment

JEL classification: D21, E24, G30, H11, J21, J24, O15, O 16, O 18, O 38, R11, R38, R50

CONTENTS

1.	Project overview	1
2.	Introduction to Part II	6
3.	Structural imbalances and structural reforms	7
3.1.	Structural reforms	7
3.2.	Structural weaknesses in the 8 Member States.....	11
4.	Synoptic overview of the main structural issues	14
4.1.	Low growth region countries	14
4.2.	Low income region countries	34
4.3.	Situation in other areas	48
5.	Effects of structural reforms.....	49
5.1.	Introduction	49
5.2.	The effect of labour market reforms	49
5.3.	Main labour market challenges in the 8 countries.....	50
5.4.	Labour market reforms.....	54
5.5.	Assumed effects of labour market reforms on employment, productivity, investment and competitiveness	57
5.6.	Gauging the effects.....	61
5.7.	Summary and conclusion.....	88
6.	Business environment	92
6.1.	Theoretical context – literature review: regulation, business demography and growth	92
6.2.	Reforms in the business environment.....	94
6.3.	The main remaining challenges in the business environment	96
6.3.1.	Demography and dynamics of business enterprises	121
6.3.2.	The structure of enterprises in the 8 Member States	121
6.3.3.	The business demography in the 8 Member States	123
6.3.4.	Business demography in the lagging regions	125
6.3.5.	Enterprise birth rates.....	127
6.3.6.	Country-specific summaries and conclusions.....	131
6.3.7.	Cross-country/region summary and conclusion.....	136

7.	Annexes	137
7.1.	Annex A: Classification of policies in the LABREF database	137
7.2.	Annex B: Definition of reform directions	139
7.3.	Annex C: Specifications underlying the partial correlation analysis and the results from OLS regressions	140
8.	References	144

TABLES AND FIGURES

Table 3.1 / Policy areas in which structural reforms have been made or called for.....	7
Table 3.2 / Rationale for CSRs in areas affecting investment	8
Table 3.3 / Policy areas with direct effects on investment decisions – evidence from empirical literature.....	10
Table 3.4 / Indicators and source of data to measure progress in reform areas	12
Table 5.1 / Labour market reform measures implemented in the 2000-2014 period.....	56
Table 5.2 / Assumed effects of labour market reforms	60
Table 5.3 / Partial correlation between the number of LMR measures taken in 2000-2014 and annual average growth rate in employment over the same period	62
Table 5.4 / Partial correlation between the number of LMR measures taken in 2000-2014 and annual average growth rate in GFCF over the same period	68
Table 5.5 / Developments in GFCF per employment over the period 2000-2014	72
Table 5.6 / Developments in investment rates (GFCF/GVA) over the period 2000-2014.....	73
Table 5.7 / Partial correlation between the number of LMR measures taken in 2000-2014 and the average annual growth rate of GVA per employment over the same period.....	74
Table 5.8 / GVA per hour worked, 2005, in EUR.....	80
Table 5.9 / GVA per employment, 2005, in thousand EUR	81
Table 5.10 / Partial correlation between the number of LMR measures taken in 2000-2014 and the change in cost competitiveness over the same period.....	83
Table 5.11 / Real compensation of employees in relation to GVA	87
Table 5.12 / Real compensation of employees per hour worked.....	88
Table 5.13 / Employment effects of LMRs – results from partial correlation analysis	89
Table 5.14 / Investment effects of LMRs – results from partial correlation analysis.....	89
Table 5.15 / Productivity effects from LMRs – results from partial correlation analysis.....	90
Table 5.16 / Cost competitiveness effects from LMRs – results from partial correlation analysis	91
Table 6.1 / ‘Doing Business’ reforms undertaken in the 8 Member States since 2006	94
Table 6.2 / Business environment indicators in Italy, 2016.....	96
Table 6.3 / Enforcing contracts indicators in Italy, 2013 and 2016	97
Table 6.4 / Dealing with construction permits indicators in Italy, 2013 and 2016	98
Table 6.5 / Starting a business indicators in Italy, 2013 and 2016	98
Table 6.6 / Business environment indicators in Spain, 2016	99
Table 6.7 / Starting a business indicators in Spain, 2015 and 2016.....	100
Table 6.8 / Dealing with construction permits in Spain, 2015 and 2016	101
Table 6.9 / Registering property indicators in Spain, 2015 and 2016.....	101
Table 6.10 / Getting electricity indicators in Spain, 2015 and 2016.....	101
Table 6.11 / Business environment indicators in Greece, 2016	102
Table 6.12 / Registering property indicators in Greece, 2016	103
Table 6.13 / Enforcing contracts indicators in Greece, 2016	103
Table 6.14 / Starting a business indicators in Greece, 2016	104
Table 6.15 / Dealing with construction permits indicators in Greece, 2016	104
Table 6.16 / Business environment indicators in Portugal, 2016.....	104
Table 6.17 / Starting a business indicators in Portugal, 2016.....	105
Table 6.18 / Dealing with construction permits indicators in Portugal, 2016	106
Table 6.19 / Registering property indicators in Portugal, 2016.....	106

Table 6.20 / Enforcing contracts indicators in Portugal, 2016.....	106
Table 6.21 / Business environment indicators in Hungary, 2016.....	107
Table 6.22 / Share of entrepreneurs considering electricity and transport infrastructure as major constraints for doing business in Hungary, 2013.....	107
Table 6.23 / Indicators on regulations, taxation, and business licences as problems for doing business in Hungary and lagging regions, 2013.....	108
Table 6.24 / Dealing with construction permits indicators in Hungary, 2016.....	108
Table 6.25 / Starting a business indicators in Hungary, 2016.....	109
Table 6.26 / Business environment indicators in Romania, 2016.....	109
Table 6.27 / Electricity and transport infrastructure as a problem for doing business in Romania, 2013.....	110
Table 6.28 / Dealing with construction permits indicators in Romania, 2016.....	111
Table 6.29 / Regulations, taxes, and business licensing as problems for doing business in Romania and lagging regions, 2013.....	111
Table 6.30 / Registering property indicators in Romania, 2016.....	111
Table 6.31 / Starting a business indicators in Romania, 2016.....	112
Table 6.32 / Corruption, crime and informality as problems for doing business in Romania and lagging regions, 2013.....	112
Table 6.33 / Business environment indicators in Bulgaria, 2016.....	113
Table 6.34 / Electricity and transport infrastructure as a problem for doing business in Bulgaria, 2013.....	114
Table 6.35 / Regulations, taxes, and business licensing as a problem for doing business in Bulgaria, 2013.....	114
Table 6.36 / Dealing with construction permits indicators in Bulgaria, 2016.....	115
Table 6.37 / Registering property indicators in Bulgaria, 2016.....	115
Table 6.38 / Starting a business indicators in Bulgaria, 2016.....	115
Table 6.39 / Corruption, crime and informal sector as problems for doing business in Bulgaria, 2013.....	116
Table 6.40 / Business environment indicators in Poland, 2016.....	117
Table 6.41 / Starting a business indicators in Poland, 2015 and 2016.....	118
Table 6.42 / Regulations, taxes, and business licensing as problems for doing business in Poland, 2013.....	118
Table 6.43 / Enforcing contracts indicators in Poland, 2016.....	119
Table 6.44 / Electricity and transport infrastructure as a problem for doing business in Poland, 2013.....	119
Table 6.45 / Registering property indicators in Poland, 2016.....	119
Table 6.46 / Dealing with construction permits indicators in Poland, 2016.....	120
Table 6.47 / Corruption, crime and the informal sector as problems for doing business in Poland and lagging regions, 2013.....	120
Table 6.48 / Employment share in the tradable sector.....	121
Table 6.49 / Business density in the tradable sector.....	122
Table 6.50 / Share of employment in the tradable sector and employment by firm size.....	123
Table 6.51 / Enterprises birth rate and employment in the tradable sector.....	124
Table 6.52 / High-growth enterprises (growth in employment of 10% or more) in the tradable sector, 2012-2014.....	124
Table 6.53 / Enterprise density and employment.....	126
Table 6.54 / Enterprise birth rate and employment in new enterprises.....	128
Table 6.55 / Churn rate in the lagging regions (% total enterprises).....	129

Table 6.56 / Number of enterprises, number of enterprise births, churn rate of enterprises and average size of enterprises, 2011 and 2014 (2013 for churn rate).....	130
Table 6.57 / Business demography in Poland	131
Figure 1.1 / Structure of the study, linkages and transmission mechanisms between tasks.....	4
Figure 4.1 / Corruption Perception Index in Italy, 1997 to 2015	15
Figure 4.2 / Worldwide Governance Indicators in Italy, 2008 and 2014	15
Figure 4.3 / Quality of Government Index in Italy and lagging regions, 2010 and 2013.....	16
Figure 4.4 / Proportion of young people aged 25-34 with ISCED 0-2 in Italy and lagging regions: 2008, 2011 and 2014.....	17
Figure 4.5 / Participation rate of persons aged 25-64 in continuing education or training in Italy and lagging regions: 2008, 2012, and 2015	18
Figure 4.6 / Long-term unemployment rate (% of total active population) in Italy and lagging regions: 2008, 2012 and 2015.....	19
Figure 4.7 / Employment rate of those aged 25-29 with tertiary education in Italy and lagging regions: 2008, 2011 and 2014.....	19
Figure 4.8 / Participation rate of women aged 25-64 with tertiary education in Italy and lagging regions: 2008, 2011 and 2014.....	20
Figure 4.9 / Long-term unemployment rate (% of total active population) in Spain and lagging regions: 2002 to 2015.....	22
Figure 4.10 / Youth unemployment rate (15-24) in Spain and lagging regions: 2002 to 2015	22
Figure 4.11 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Spain and lagging regions: 2006 to 2014	23
Figure 4.12 / Early leavers (18-24) from education and training in Spain and lagging regions, 2002 to 2015.....	24
Figure 4.13 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 0-2 in Spain and lagging regions, 2005-2014.....	25
Figure 4.14 / Worldwide Governance Indicators in Greece, 2008 and 2014	27
Figure 4.15 / Long-term unemployment rate (% of total active population) in Greece and lagging regions: 2008, 2012 and 2015.....	28
Figure 4.16 / Youth unemployment rate in Greece and lagging regions: 2008, 2012 and 2015	29
Figure 4.17 / Female participation rate in Greece and lagging regions: 2010, 2012 and 2015.....	29
Figure 4.18 / Long-term unemployment rate (% of total active population) in Portugal and lagging regions: 2005 to 2015.....	31
Figure 4.19 / Unemployment rate of young people aged 15-24 in Portugal and lagging regions, 2003-2015	31
Figure 4.20 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Portugal and lagging regions: 2005 to 2014	32
Figure 4.21 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 0-2 in Portugal and lagging regions, 2005-2014.....	33
Figure 4.22 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 5-8 in Portugal and lagging regions, 2005-2014.....	33
Figure 4.23 / Corruption Perception Index in Bulgaria, 1996-2015.....	35
Figure 4.24 / Quality of Government Index in Bulgaria and lagging regions, 2010 and 2013	36

Figure 4.25 / Long-term unemployment rate (% of total active population) in Bulgaria and lagging regions: 2008, 2012 and 2015	37
Figure 4.26 / Proportion of young people aged 15-24 neither in employment nor in education and training in Bulgaria and lagging regions: 2008, 2012, 2015 (% of the age group).....	37
Figure 4.27 / Employment rates of those aged 25-64 with low education in Bulgaria and lagging regions, 2008, 2011 and 2014	38
Figure 4.28 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Poland and lagging regions: 2008, 2011 and 2014.....	39
Figure 4.29 / Participation rate of people aged 25-64 in continuing education and training in Poland and lagging regions: 2008, 2011 and 2015.....	40
Figure 4.30 / Participation rate of women aged 25-64 with upper secondary education in Poland and lagging regions: 2008, 2011 and 2015.....	41
Figure 4.31 / Proportion of young people aged 25-34 with ISCED 5-8 in Hungary and lagging regions, 2005 to 2014	42
Figure 4.32 / Share of young people aged 15-24 in vocational education or training in Hungary and lagging regions, 2014.....	43
Figure 4.33 / Corruption Perception Index in Romania, 1996-2015.....	45
Figure 4.34 / Quality of Government Index in Romania and lagging regions, 2010 and 2013.....	45
Figure 4.35 / Worldwide Governance Indicators in Romania, 2008 and 2014.....	46
Figure 4.36 / Early leavers (18-24) from education and training in Romania and lagging regions in 2008, 2012 and 2015	47
Figure 4.37 / Proportion of people with ISCED 5-8 in Romania and lagging regions in 2008, 2011 and 2014	47
Figure 4.38 / Participation rate of 25-64 in continuing education or training in Romania and lagging regions in 2008, 2012, and 2015	48
Figure 5.1 / Long-term unemployment rate (% of total active population) in Greece, Spain, Portugal and Italy in 2015.....	51
Figure 5.2 / Youth unemployment rate in Greece, Spain, Italy and Portugal in 2015	51
Figure 5.3 / Female participation rates in Italy, Romania and Greece, in 2015	52
Figure 5.4 / Proportion of employees (25 and over) in temporary jobs because they could not find a permanent job in Spain, Poland and Portugal in 2014.....	54
Figure 5.5 / Partial correlation between growth in employment and number of contracting ALMP measures (scatter of residuals and trend)	63
Figure 5.6 / Partial correlation between growth in employment and number of expanding ALMP measures (scatter of residuals and trend)	64
Figure 5.7 / Partial correlation between growth in employment and decreasing labour taxation measures (scatter of residuals and trend)	65
Figure 5.8 / Partial correlation between growth in employment growth and increasing labour taxation measures (scatter of residuals and trend)	66
Figure 5.9 / Partial correlation between growth in employment and decreasing welfare-related benefits (scatter of residuals and trend).....	66
Figure 5.10 / Partial correlation between growth in employment growth and decreasing unemployment benefits (scatter of residuals and trend)	67
Figure 5.11 / Partial correlation between growth in GFCF and relaxing job protection (EPL) (scatter of residuals and trend)	69

Figure 5.12 / Partial correlation between growth in GFCF and strengthening job protection (EPL) (scatter of residuals and trend).....	70
Figure 5.13 / Partial correlation between growth in GFCF and increasing welfare-related benefits (scatter of residuals and trend).....	70
Figure 5.14 / Partial correlation between growth in GFCF and moderating wage setting (scatter of residuals and trend).....	71
Figure 5.15 / Partial correlation between growth in GFCF and number of increasing wage setting measures (scatter of residuals and trend).....	71
Figure 5.16 / Partial correlation between growth in productivity and contracting ALMP measures (scatter of residuals and trend).....	75
Figure 5.17 / Partial correlation between growth in productivity and expanding ALMP measures (scatter of residuals and trend).....	76
Figure 5.18 / Partial correlation between growth in productivity and tightening immigration/mobility measures (scatter of residuals and trend).....	76
Figure 5.19 / Partial correlation between growth in productivity and decreasing labour taxation measures (scatter of residuals and trend).....	77
Figure 5.20 / Partial correlation between growth in productivity and increasing labour taxation (scatter of residuals and trend).....	77
Figure 5.21 / Partial correlation between growth in productivity and decreasing welfare-related benefits (scatter of residuals and trend).....	78
Figure 5.22 / Partial correlation between growth in productivity and increasing welfare-related benefits (scatter of residuals and trend).....	78
Figure 5.23 / Partial correlation between growth in productivity and increasing wage setting (scatter of residuals and trend).....	79
Figure 5.24 / Partial correlation between growth in cost competitiveness and relaxing immigration/mobility measures (residuals and trend).....	83
Figure 5.25 / Partial correlation between growth in cost competitiveness and tightening immigration/mobility measures (residuals and trend).....	84
Figure 5.26 / Partial correlation between growth in cost competitiveness and strengthening job protection (scatter of residuals and trend).....	85
Figure 5.27 / Partial correlation between growth in cost competitiveness and decreasing labour taxation (scatter of residuals and trend).....	85
Figure 5.28 / Partial correlation between growth in cost competitiveness and increasing labour taxation (scatter of residuals and trend).....	86
Figure 6.1 / Italy – Distance to the frontier of best performing countries, 2003-2016.....	97
Figure 6.2 / Spain – Distance to the frontier of best performing countries, 2003-2016.....	100
Figure 6.3 / Greece – Distance to the frontier of best performing countries, 2003-2016.....	103
Figure 6.4 / Portugal – Distance to the frontier of best performing countries, 2003-2016.....	105
Figure 6.5 / Hungary – Distance to the frontier of best performing countries, 2003-2016.....	107
Figure 6.6 / Romania – Distance to the frontier of best performing countries, 2003-2016.....	110
Figure 6.7 / Bulgaria – Distance to the frontier of best performing countries, 2003-2016.....	113
Figure 6.8 / Poland – Distance to the frontier of best performing countries, 2003-2016.....	117
Figure 6.9 / Enterprise density, 2014.....	126
Figure 6.10 / Average employment size of enterprises in the tradable sector, 2014.....	127
Figure 6.11 / Employment concentration in the tradable sector, 2014.....	127
Figure 6.12 / Enterprise births, 2014.....	128

Figure 6.13 / Employed per enterprise birth, 2014.....	128
Figure 6.14 / Churn rate.....	129

1. Project overview

This report is the second 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:

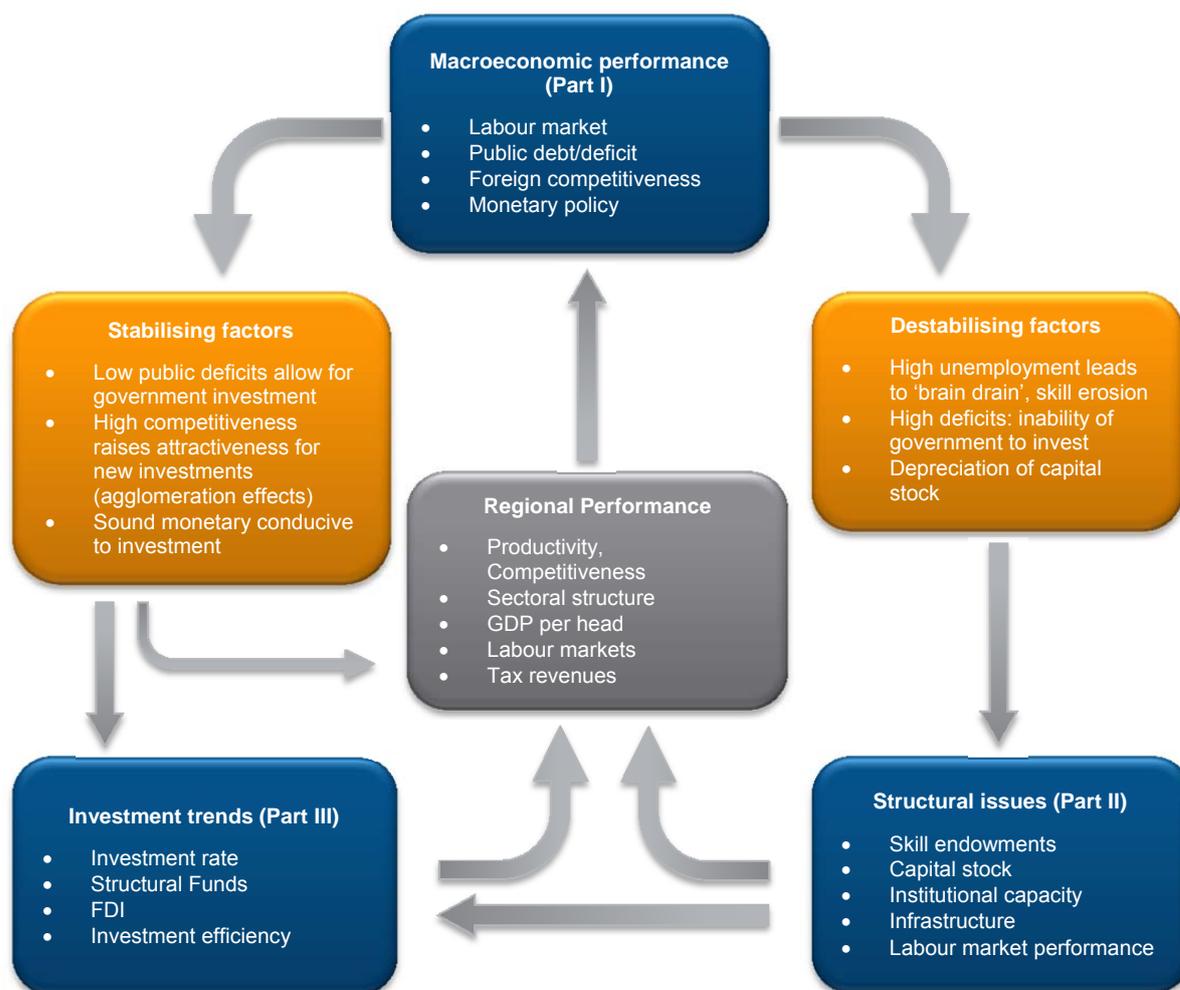
- › **Part I** analyses the fiscal and macroeconomic environment in the lagging regions and the relevant Member States, as a sound and sustainable macroeconomic framework is a necessary, but by itself not a sufficient precondition for investment and growth in the regions. The first task therefore
 - 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 II, 'Recent Structural Reforms, Outstanding Needs and Governance Issues'.

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 II

Part II is concerned with analysing, for the 8 EU Member States⁴ with lagging regions, the main structural reforms carried out over the past five to ten years, essentially those which are relevant for the European Structural and Investment Funds, and with providing an overview of the remaining structural reforms needed, including to the system and operation of governance, and their relevance for lagging regions. The identification of the remaining reforms needed is based on a detailed analysis of the main indicators that can be identified to assess the situation in each of the 8 countries concerned and, so far as possible, in the lagging (NUTS 2) regions in them. An additional concern is to gauge the effects of the reforms carried out with a particular focus on the lagging regions.

This report is divided into three sub-sections. The first subsection briefly sets out the structural reforms covered by the analysis and the rationale for choosing these from among all those subject to the European Council's Country-Specific Recommendations (CSRs). It then presents for each of the 8 countries and the lagging regions the main structural imbalances in the form of a concise summary bringing out the main points emerging from the detailed analysis for each country. Detailed country reports are included in the Online Annex to this report.⁵ The second sub-section assesses the effects of labour market reforms (LMRs) on investment, productivity and competitiveness. The analysis is based on a detailed database on LMRs in the EU28 countries over the period 2000-2014. A third sub-section examines the business environment in each of the countries and the lagging regions within these as well as the structure of enterprises and business demography, i.e. the rates of birth and death of businesses, and attempts to relate this to the business environment. It also considers the reforms which have been carried out over recent years which have been aimed at improving the situation in which businesses operate.

⁴ Greece, Italy, Portugal and Spain (with lagging low growth regions); Bulgaria, Hungary, Poland and Romania (with lagging low income regions).

⁵ See *wiiw Research Report No. 425*, 'Online Annex – Economic Challenges of Lagging Regions: Annex I – Country Case Studies'.

3. Structural imbalances and structural reforms

3.1. STRUCTURAL REFORMS

In practice, the Country-Specific Recommendations (CSRs) cover a wide range of policy areas. While many of them have been aimed directly at boosting economic growth and job creation, or strengthening productivity and competitiveness with the same ultimate objectives in mind, others have been targeted at reducing poverty and social exclusion, which can also be important for improving the conditions for sustained growth to occur. The policy areas in which reforms have been recommended are set out in Table 3.1.

Table 3.1 / Policy areas in which structural reforms have been made or called for

PUBLIC FINANCES
Public finances, Taxation, Pension system, Healthcare system
FINANCIAL SECTOR
Banking and access to finance, Housing and private debt
LABOUR MARKET
Active labour market policy, Unemployment benefits, Incentives to work, Job creation and labour market participation, Wage setting, Employment protection legislation and labour contracts
EDUCATION
Education, skills and lifelong learning
PRODUCT AND SERVICES MARKETS
Service and network industries, Innovation and business environment
ENERGY AND ENVIRONMENT
TRANSPORT
QUALITY OF GOVERNANCE AND PUBLIC ADMINISTRATION
Administration modernisation, Judiciary reform, Anti-corruption, Public procurement

Note: Based on the policy areas distinguished in the European Council's Country-Specific Recommendations (CSRs).

Table 3.2 / Rationale for CSRs in areas affecting investment

Areas	Rationale
1. Corporate taxation	<ul style="list-style-type: none"> › Investment has declined particularly strongly in sectors where sector-specific surtaxes have been imposed in recent years. › Reducing corporate tax rates can enhance investment.
2. Banking and Access to finance	<ul style="list-style-type: none"> › SMEs are the main source of economic growth and new jobs. They however often face problems in obtaining finance to develop new products or access new markets. › The high debt cost of firms can weigh on their performance and impede new investment.
3. Labour market	<ul style="list-style-type: none"> › Aligning wage developments with productivity is essential to maintain cost competitiveness. › Labour market institutions, via their effect on the wage structure, affect the investment decisions of firms. › Labour market segmentation, which is important in some countries, can obstruct the entry of young workers into employment with consequent effects on productive potential. Extensive use of temporary contracts can have a negative impact on productivity as temporary employees tend to have less access to vocational training and limited possibilities to build up experience and expertise in particular tasks. › A reform of the Public Employment Services (PES) has the potential to play a prominent role in matching supply and demand in the labour market through more effective counselling, targeted employment measures and better identification of future skills requirements.
4. Education	<ul style="list-style-type: none"> › Early school leaving is an important challenge to be addressed as it undermines the size of the skilled workforce, affects the job prospects of the individuals concerned and reduces potential growth. › The quality and labour market relevance of education and training are often not adequate and contribute to youth unemployment. They also hamper the development of high-value added and innovative sectors. › Low education expenditure and/or a reduction in public investment on education adversely affects long-term growth prospects.
5. Business environment and innovation	<ul style="list-style-type: none"> › Structural reforms should aim at removing obstacles preventing businesses from growing, helping SMEs to expand their markets, and promoting innovation, boosting export capacity, stimulating job creation, and helping companies to improve productivity and to compete more effectively. › Reforming business and professional services could increase GDP and investment since they play a crucial role as drivers of knowledge, new technology and innovation. Reducing regulatory barriers to professional services has the potential to increase labour productivity by improving the allocation of resources. › Insufficiently innovation-friendly business environment is likely to be a major obstacle to medium- and longer-term economic growth.
6. Governance	<ul style="list-style-type: none"> › Bad governance can deter businesses from investing, as can corruption and an excessively bureaucratic administration which poses high costs on businesses. › Lengthy public procurement procedures can hamper the growth of firms, especially of small firms. Irregularities in public procurement procedures have a negative impact on the business environment and hold back investment particularly in infrastructure. › An efficient and independent judicial system contributes to trust and stability. Predictable, timely and enforceable judicial decisions are conducive to a business environment which encourages investment. Efficient judicial systems can play a key role in maintaining business confidence and ensuring the returns to growth. They are a key building block for an investment-friendly business environment and effective mechanisms to fight corruption. › Low administrative capacity hampers investment in general and EU co-funded investment in particular. Inefficiencies in public administration also weigh on a country's capacity to implement reforms effectively. One of the key levers to ensure smoother policy action lies in improved coordination and more efficient allocation of responsibilities between the various levels of government. › The development of e-government contributes to increasing transparency and to reducing administrative burdens.

Not all of these areas, however, are of equal relevance for the present report which is essentially concerned with their effect on investment in lagging regions and on improving the conditions which are conducive to attracting investment. Although in principle, most kinds of structural reform have the potential to boost investment by increasing the attractiveness of a national or regional economy as a place to locate and produce in, in practice, some are likely to be much more important, or relevant, than others. The intention of the study is to focus attention on those reforms which are likely to have a direct and significant effect on investment decisions.

The main policy areas selected are:

- › Corporate taxation
- › Banking and Access to finance
- › Labour market (wage setting, labour market policy, unemployment benefits)
- › Education
- › Business environment including product markets, research and innovation
- › Governance (effectiveness and efficiency of public administration, anti-corruption, public procurement, justice system).

The choice of the reform areas is very much in line with the check list of investment challenges established by the Commission in December 2015 and published in a Staff Working Document on Member States' investment challenges⁶.

Table 3.2 outlines the main justifications for CSRs in the areas affecting investment.

The choice of the reform areas is also based on the literature and the empirical evidence available on the way interventions or reforms in these areas affect investment decisions and the development of the economy as a whole. The linkages providing the basis for the choice and the related references are briefly outlined in Table 3.3.

⁶ http://ec.europa.eu/europe2020/pdf/2016/ags2016_challenges_ms_investment_environments_en.pdf

Table 3.3 / Policy areas with direct effects on investment decisions – evidence from empirical literature

Areas	Empirical evidence of Effects
1. Corporate taxation	<p>An increase in corporate income taxes can adversely affect aggregate investment, FDI and entrepreneurial activity because taxes reduce expected as well as actual profits. Corporate tax rates are negatively correlated with investment essentially in manufacturing and positively with the size of the informal economy.</p> <p>References: for instance Devereux, Griffith and Klemm (2002), Desai, Foley and Hines (2004b), Auerbach (2002), Gordon and Hines (2002), Hasset and Hubbard (2002), Hines (2007), Djankov (2010).</p>
2. Banking and access to finance	<p>Credit constraints and other financial frictions have a negative impact on investment in general and innovation expenditure in particular because they make it harder to obtain the necessary finance. By deterring investment, financial constraints have a negative effect on productivity and, as a consequence, on exports.</p> <p>References: for instance Carpenter and Petersen (2002), Aghion et al. (2007), Savignac (2008), Musso and Schiavo (2008), Moreno-Badi and Sloomakers (2009) Manova, (2008), Berman and Héricourt (2010), Bellone et al. (2010).</p>
3. Labour market	<p>A well-functioning labour market promotes job creation, increases living standards and builds the basis for a cohesive society. Deficiencies of the labour market result in high unemployment, low labour force participation and job-skill mismatches. The latter tend to deter investment from taking place. New OECD analysis, however, finds that less strict employment protection is associated with lower investment rates, though the effect is small and positive effects on GDP and investment come through higher employment.</p> <p>References: for instance Blanchard and Wolfers (2000); Bertola et al. (2002); OECD (2003), Nickell et al. (2005), Varga, Roeger and Veld (2013), Coenen, McAdam and Straub (2007), Lusinyan and Muir (2013).</p>
4. Education	<p>Skills (e.g. education) and competences are key factors for prosperity and economic growth. They are inputs to many productive activities including R&D. Human capital and skills form the intellectual capital of companies. Depending on the sector of activity, investment will take place where the appropriate skills are available.</p> <p>References: for instance Sala-i-Martin et al. (2004), de la Fuente and Doménech (2006), Cohen and Soto (2007), Barro and Lee (2010), Hanushek and Ludger (2012).</p>
5. Business environment and RDTI	<p>Competitive markets and the absence of barriers are seen as important conditions for innovation and investment. Theoretical models suggest that reforms which liberalise or improve the functioning of markets can positively affect productivity through three different channels: a reallocation of scarce resources (allocative efficiency), an improvement in the utilisation of production factors by firms (productive efficiency) and an incentive for firms to innovate to move towards the technology frontier (dynamic efficiency). The empirical literature on these effects, however, is limited.</p> <p>References: for instance Bayoumi, Laxton and Pesenti (2004), Griffith, Harrison and Simpson (2006), Alberto, Ardagna, Nicoletti and Schiantarelli (2005)</p>
6. Governance	<p>Institutional quality is a determinant of investment and FDI in particular, for a variety of reasons. First, good governance is associated with higher economic growth, which should attract more FDI inflows. Second, poor institutions that enable corruption to occur tend to add to investment costs and reduce profits. Third, the high sunk cost of FDI makes investors highly sensitive to uncertainty, including the political uncertainty that arises from poor institutions. Good institutions have a positive effect on development through the promotion of investment by raising productivity prospects and expected rates of return and by lowering uncertainty.</p> <p>References: Kaufman et al. (1999), Wei (2000), Habib and Zurawicki (2002), Kaufmann and Kraay (2002), Kinoshina and Campos (2003), Levchenko (2004), Walsh and Yu (2010)</p>

3.2. STRUCTURAL WEAKNESSES IN THE 8 MEMBER STATES

The analysis carried out has identified the structural weaknesses in the 8 countries and the extent to which they have been tackled, in order to assess the effect that the reforms have had, in so far as it is evident, and to determine structural problems which remain to be tackled where further efforts are accordingly necessary.

The identification of structural weaknesses in each of the 8 countries has been carried out by examining the data at both national and regional level which bear on them and by relating the situation in the areas in question to that in the rest of the EU. The areas where structural reforms are likely to be most necessary are those considered to have the most important potential effects on investment and economic development and in which the situation differs significantly from that elsewhere in the EU. The data used to assess the extent of structural weaknesses in the different areas are set out in Table 3.4 below.

In order to identify the areas where further reforms might be needed, the starting point was to screen the information assembled and published as part of the European Semester process on the CSRs. This includes both the reforms recommended and an assessment of the extent to which previous recommendations have been acted on. The screening, however, was not limited to the CSRs but covered all relevant policy documents, including the Annual Growth Surveys, country reports produced by the European Semester, the OECD, the World Bank and national reform programmes.

The reforms carried out and those which have been recommended to the 8 Member States were examined in the light of the results of the statistical analysis aimed at identifying structural reform areas. This indicated whether all areas identified as needing structural reform according to the data have actually been tackled and the extent to which they have achieved the effect intended.

The remaining part of this section summarises for each of the 8 countries the main points resulting from the analysis. Detailed country reports are included as an Online Annex⁷ to this report together with a note specifying the data used, their sources and definitions.

⁷ See *wiiw Research Report* No. 425, 'Online Annex – Economic Challenges of Lagging Regions: Annex I – Country Case Studies'.

Table 3.4 / Indicators and source of data to measure progress in reform areas

Areas	Variables	Source
1. Corporate taxation	Corporate income tax rate (at national level)	OECD Tax Database, 200-2016
	Implicit tax rate on capital and business income of corporations (at national level)	Eurostat, Government Statistics, 2000-2012
2. Access of enterprises to finance	Access to finance by SMEs (at national level) - Problems faced by enterprises in the past 6 months - Current most important problem for enterprises - Outcome of applications by enterprises for bank loans - Availability of bank loans	Survey on access to finance of enterprises (SAFE), European Commission and European Central Bank, 2015
3. Labour market	Unemployment and long-term unemployment rates (at national and NUTS 2 level)	Eurostat, LFS (lfst_r_lfu3rt) and (lfst_r_lfu2ltu) 2002-2015
	Young people neither in employment nor in education and training by NUTS 2 regions (NEET rates, 15-24)	Eurostat, LFS (edat_lfse_22) 2000-2015
	Unemployment rate for people aged 15-24 (Youth unemployment rate), by education level and NUTS 2 regions	Eurostat, LFS (lfst_r_lfu3rt) and microdata for regional data, 2000-2015
	Employment rate for people aged 20-64 by sex, and by NUTS 2 regions	Eurostat, LFS (lfst_r_lfe2emprt) 2000-2015
	Employment rate for people aged 25-64 by educational attainment level and by NUTS 2 regions.	Eurostat, LFS (lfst_r_lfe2eedu) and microdata for regional data, 2000-2014
	Temporary employment, as percentage of total employees for those aged 15-24 by NUTS 2 regions, and by age groups (15-24 and 25+ years old)	Eurostat, LFS (lfsa_etpga) 2002-2015, and microdata for regional data, 2005-2014
	Job vacancy statistics by occupation and NUTS 2 regions – annual data, NACE Rev. 2	Eurostat, Job vacancy statistics (jvs_a_nace2) 2000-2008 and (jvs_a_nace2) 2008-2014
4. Education	Early leavers from education and training by NUTS 2 regions (18-24 years old)	Eurostat, LFS (edat_lfse_16) 2000-2014
	Educational attainment level by ISCED level by NUTS 2 regions and by age groups (25-64 and 25-34 years old)	Eurostat, LFS (edat_lfse_04), 2015 and microdata 2005-2014
	Young people enrolled in regular education or vocational training, by NUTS 2 regions (15-24 years old)	Eurostat, LFS microdata, 2005-2014
	Young people enrolled in vocational education or training, by NUTS 2 regions (15-24 years old)	Eurostat, LFS microdata, 2005-2014
	Participation rate in continuing education and training by NUTS 2 regions (lifelong learning), 25-64 years old	Eurostat, LFS (trng_lfse_04) 2000-2015
	Early childhood education, participation rate of 4-years-old in education, by NUTS 2 regions	Eurostat, Regional education statistics [educ_regind], 2001-2012
	Education expenditure, expenditure of the general government in education as % of GDP (at national level)	Eurostat, General government expenditure [gov_10a_exp]

ctd.

Table 3.4 / ctd.

5. Business environment and RDTI	Enterprise statistics: employment by size of enterprise in critical sectors (national level)	Eurostat, Structural Business Statistics [sbs_sc_sca_r2] 2013
	Information on ease of doing business and starting a business (number of procedures, cost and time, etc.) (For Spain 2015, Italy 2013, and Poland 2015, data are available at regional level – for the remaining countries, data only at national level) http://databank.worldbank.org/data/reports.aspx?source=doing-business	Doing Business World Bank, Ease of doing business index 2005-2015
	Product market regulation (PMR) indicators (at national level) covering indicators on: <ul style="list-style-type: none"> › State Control (Public ownership, Scope of state-owned enterprises, Government involvement in network sectors, Direct control over business enterprises, Governance of state-owned enterprises, Involvement in business operation, Price controls, Command & control regulation) › Barriers to entrepreneurship (Complexity of regulatory procedures, Licence and permits system, Communication and simplification of rules and procedures, Administrative burdens on start-ups, corporations, sole proprietor firms, Barriers in services sectors, Regulatory protection of incumbents, Legal barriers to entry, Antitrust exemptions, Barriers in network sectors) › Barriers to trade and investment (Explicit barriers to trade and investment, Barriers to FDI, Tariff barriers, Other barriers to trade and investment, Differential treatment of foreign suppliers, Barriers to trade facilitation) 	OECD 1998-2013
	Employment in high-technology sectors (manufacturing and knowledge-intensive services) by NUTS 2 regions (NACE Rev. 1.1) (as a % of total employment)	Eurostat, High-tech statistics [htec_emp_reg2] 2008-2014
	Total R&D personnel and researchers by NUTS 2 regions (as a % of total employment)	Eurostat, R&D statistics (rd_p_persreg) 2000-2013
	Total intramural R&D expenditure (as a % of GDP) (at national level)	Eurostat, R&D statistics (rd_e_gerdreg) 2000-2013
6. Governance	Judicial independence (at national level) <i>It measures the perceived extent in which the judiciary of the country is independent from influences of members of government, citizens, or firms.</i> https://www.transparency.org/country	World Economic Forum, Global Competitiveness Report, Competitiveness dataset, 2006-2016
	Corruption Perception Index (at national level) <i>It ranks countries based on how corrupt a country's public sector is perceived to be. It is a composite index, drawing on corruption-related data from expert and business surveys carried out by a variety of independent institutions.</i> https://www.transparency.org/country	Transparency International 2005/2006-2015/2016
	Businesses' attitudes towards corruption in the EU (at national level) http://ec.europa.eu/COMMFrontOffice/PublicOpinion/index.cfm/ResultDoc/download/DocumentKy/69434	Flash Eurobarometer 428, 2015
	Interaction of businesses with public administration (at national level) http://ec.europa.eu/COMMFrontOffice/PublicOpinion/index.cfm/ResultDoc/download/DocumentKy/70331	Flash Eurobarometer 417, 2015
	Worldwide Governance Indicators (at national level) on political stability, government effectiveness, the quality of regulations, the rule of law, control of corruption and the extent of public accountability http://databank.worldbank.org/data/reports.aspx?source=worldwide-governance-indicators	Worldwide Governance Indicators (WGI), World Bank, 1996-2014
	E-government usage by individuals; people using the internet for interaction with public authorities (16-74 years old) by NUTS 2 (if not available, NUTS 1 is used)	Eurostat, [isoc_r_gov_] for regional data. For national data ([tsdgo330] for years 2000-2010; [tin00012] afterwards).
	Enterprises using the internet for submitting a proposal in a public electronic tender system to public authorities (at national level)	Eurostat, (tin00109) 2005-2013
	European Quality of Government Index, by NUTS 2 region	Gothenburg Institute of Quality of Government, 2010 and 2013

4. Synoptic overview of the main structural issues

The purpose here is to briefly highlight the areas which pose the main structural challenges in each of the countries covered, i.e. those which pose major structural obstacles to growth and economic development and on which future reforms should focus.

The most problematic areas are identified by both the performance of the country in relation to relevant quantitative indicators (taking the EU average as a benchmark) and qualitative information gathered from various reports and surveys⁸.

Governance-related issues seem to be the main problems in Bulgaria, Romania, Greece and Italy while education is a major challenge in Portugal and Hungary and labour market rigidities in Spain and Poland. The business environment is also particularly unfavourable in Greece, Poland and Hungary. On the other hand, access of enterprises to finance and the level of corporate taxation do not seem to be major sources of concern in the 8 Member States examined.

4.1. LOW GROWTH REGION COUNTRIES

Italy

Governance, education and the labour market pose significant obstacles to investment in Italy and are particularly in need of structural reform. The aspects concerned are examined below, with an indication where possible of whether the situation is improving or worsening as well as whether the situation is better or worse in the lagging regions than in the rest of the country.

Governance

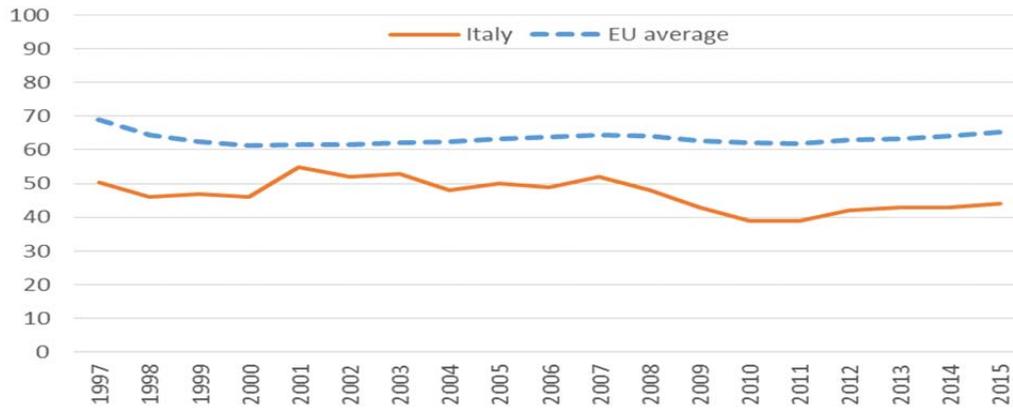
Despite some improvements in recent years, governance continues to be a major structural weakness in Italy. Corruption, the low quality of government, a large informal economy and the lack of stability of legislation represent significant deterrents to investment.

Corruption in particular remains a serious problem in the country, despite a slight improvement in the Corruption Perception Index (developed by Transparency International) in the recent past. According to the index, Italy was the second most corrupt country in 2015 among the 8 Member States covered in this study after Bulgaria. The 2015 Eurobarometer survey of business views on corruption confirms that it is perceived as more of a problem in Italy than in the rest of the EU, particularly in relation to public

⁸ These are mainly documents related to the European Semester process (such as the Country reports 2016 and the Country-specific recommendations), but also the European Commission report on 'Employment and social developments in Europe 2015' and 'Member States' Investment Challenges' as well as the OECD reports on 'Employment Outlook 2016' and 'Going for growth 2015'.

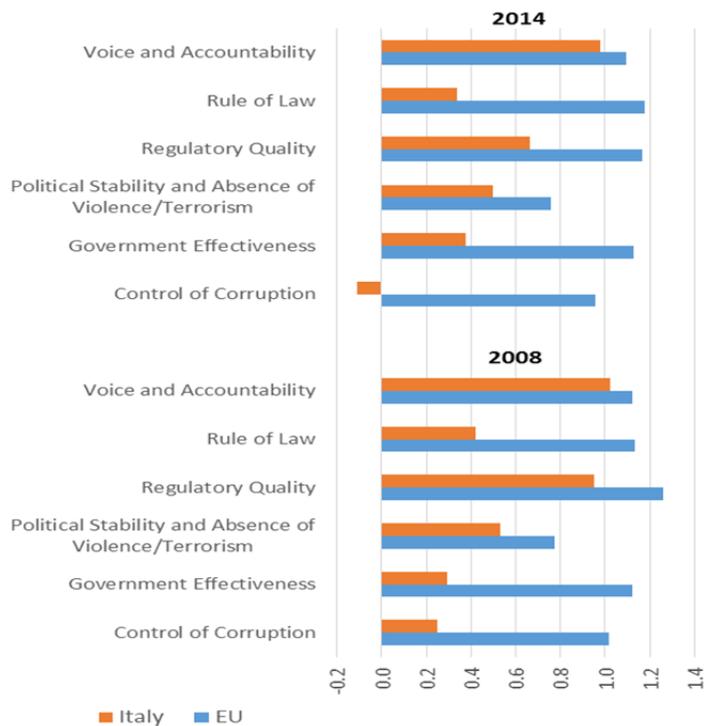
procurement. In addition, according to the World Bank Worldwide Governance Indicators, control of corruption is especially deficient in Italy, and the situation seems to have worsened over recent years. Moreover, the statute of limitations remains an obstacle to tackling corruption (as repeatedly highlighted in the country-specific recommendations addressed to Italy).

Figure 4.1 / Corruption Perception Index in Italy, 1997 to 2015



Note: The scale ranges from 0 to 100, from highly corrupt to highly clean.
Source: Transparency International.

Figure 4.2 / Worldwide Governance Indicators in Italy, 2008 and 2014



Note: The scale ranges from -2.5 to 2.5, higher values corresponding to better governance.
Source: Worldwide Governance Indicators, World Bank.

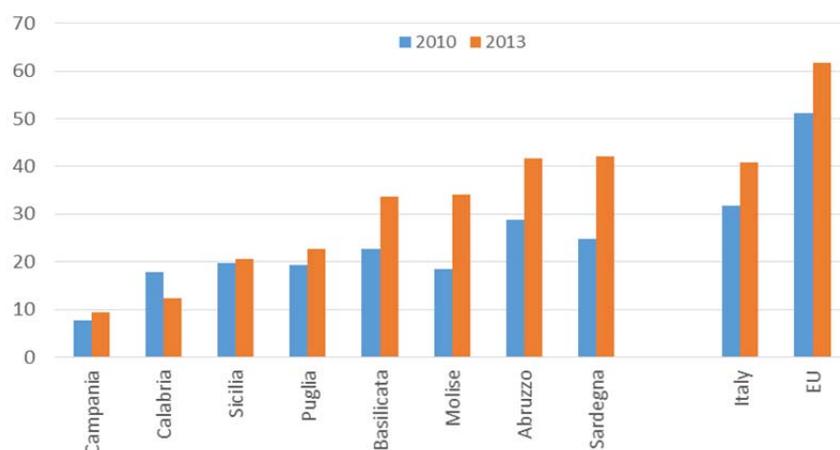
Although action has been taken in the form of the adoption of anti-corruption legislation in 2012, the speeding-up and rationalisation of the decision-making process in public procurement in 2015, and the strengthening of the competence of the national anti-corruption authority (ANAC), it remains to be seen how effective it will prove to be.

In addition, the **quality of government** was assessed in 2013 (the latest year available) as being significantly lower in the country than on average in the EU, Italy being ranked 25th on the European Quality of Government Index. Equally, Italy scored well below the EU average in terms of government effectiveness in 2014 according to the Worldwide Governance Indicators and much the same as 5 years earlier.

In all the lagging regions, apart from Abruzzo and Sardegna, moreover, government is assessed less favourably than in the rest of the country, especially in Campania and Calabria.

Action has been taken, in the form of a comprehensive enabling law to reform public administration in 2015 to improve the recruitment, management and mobility of staff and the implementation of the Simplification Agenda in 2015-2017 to ease the administrative and regulatory burden. But again the effects remain to be seen.

Figure 4.3 / Quality of Government Index in Italy and lagging regions, 2010 and 2013



The scale ranges from 1 to 100, higher values corresponding to a better quality of government.

Source: N. Charron, L. Dijkstra and V. Lapuente (2015), 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions', *Social Indicators Research*, 122(2), pp. 315-346.

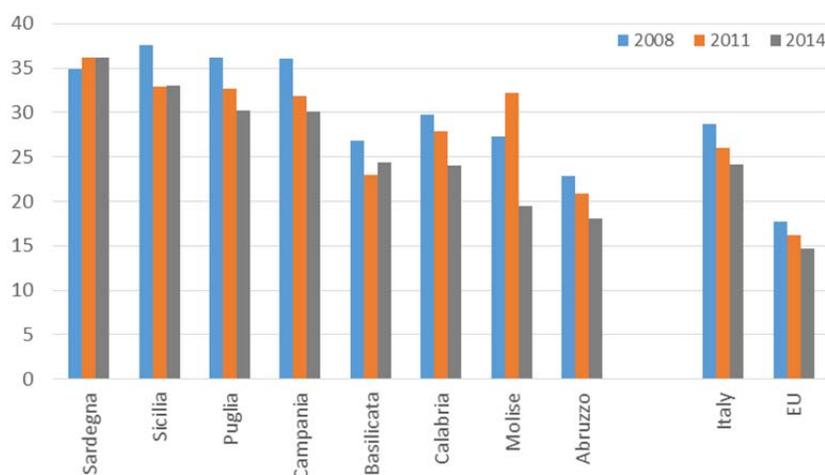
The extent of the **informal economy** and the **lack of stability of legislation** are also important deterrents to investment. According to a Eurobarometer survey carried out in 2015, around 90% of businesses operating in Italy considered that these represented significant obstacles to their activities. Regional data on these aspects are not available, but it is likely that the informal economy is an even more problematic issue in the lagging southern regions than in the rest of the country.

The Jobs Act, adopted in December 2014, encouraged the transition from informal activities to declared work and strengthened the sanctions against undeclared work but there is little evidence yet of its effectiveness.

Education

The low education level of the workforce also has a major adverse effect on the country's competitiveness and growth potential. The **proportion of people of working age with only basic schooling remains large**, with just over 40% of population aged 25-64 having lower secondary education or below as against 23.5% in the EU. Though the proportion is tending to decline, it still remains well above the EU average for young people aged 25-34 (24% as against 15%). The proportion, moreover, is larger than the national average in most of the lagging regions, most especially in Sicilia and Sardegna where over half of the population aged 25-64 had only basic schooling and over a third of those aged 25-34.

Figure 4.4 / Proportion of young people aged 25-34 with ISCED 0-2 in Italy and lagging regions: 2008, 2011 and 2014



Source: Eurostat, LFS microdata.

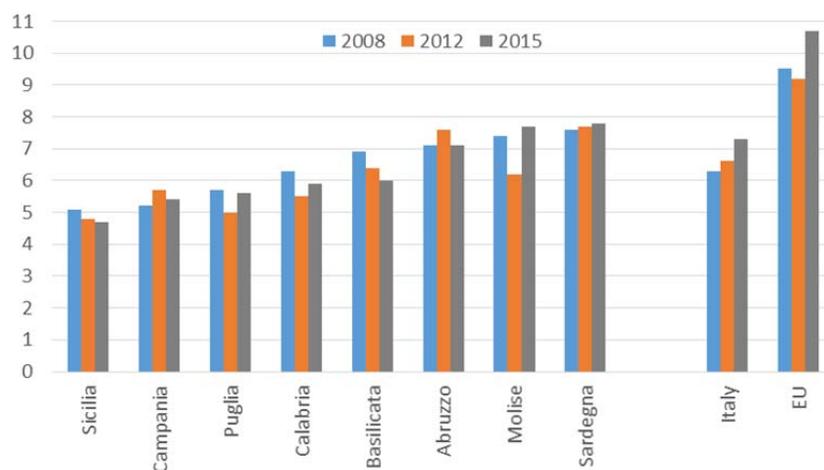
Between 2011 and 2015, the Italian authorities undertook several reforms to reduce the number of young people with inadequate qualifications, including the 2011 reform of secondary schools and the 2015 school reform which gave more autonomy to schools and strengthened work-based learning in upper-secondary schools as well as in technical tertiary education.

At the same time, Italy also has a relatively **small proportion of people with tertiary education**, a key growth factor according to most studies, only 18% of those aged 25-64 having such qualifications as against the EU average of 30%. While the share of young people aged 25-34 with tertiary education was larger (25%), indicating that the situation is improving, it is improving less quickly than in the rest of the EU (40% on average). Apart from Molise, the situation is worse in the lagging regions than in the rest of the country, especially so in Sicilia and Sardegna but also, if to a smaller extent, in Puglia and Campania. The fact that many highly-educated young people seem to have left the country over the crisis period has only made the problem worse.

The relatively large number of people leaving the education and initial vocational training system with low qualification is exacerbated rather than compensated by the **small number receiving continuing training**. In 2015, only 7% of those aged 25-64 participated in education or training as against an EU

average of 11% and the difference has shown no tendency to narrow over recent years. This implies that workers (including the low-qualified) have limited opportunity to learn new skills and adapt to changes in technology and methods of working, with adverse effects on the quality of the workforce and the attractiveness of the country as a location in which to invest. The problem in lagging regions is generally worse, particularly in Sicilia where less than 5% of population aged 25-64 participated in education or training according to the 2015 EU Labour Force Survey.

Figure 4.5 / Participation rate of persons aged 25-64 in continuing education or training in Italy and lagging regions: 2008, 2012, and 2015



Source: Eurostat, LFS [trng_lfse_04].

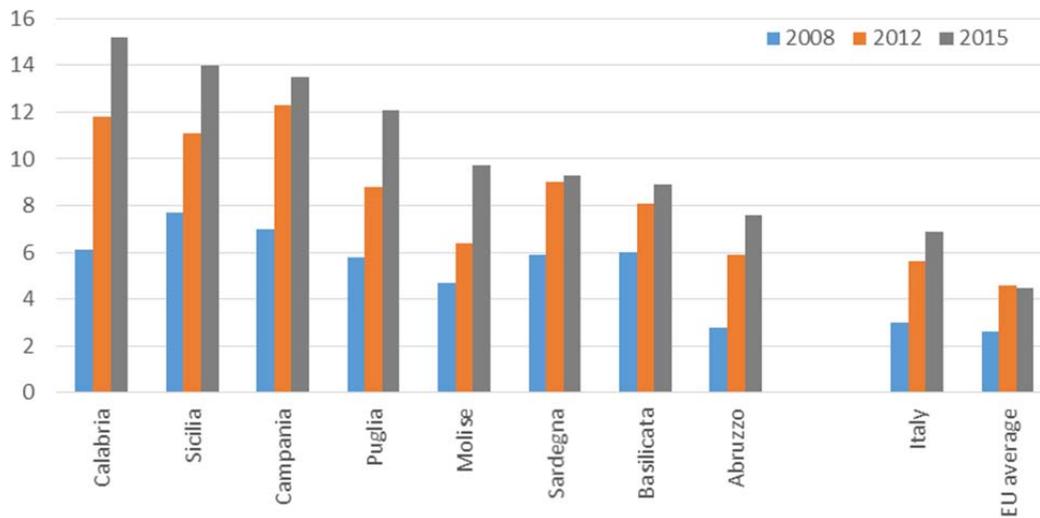
Labour market

The Italian labour market is characterised by significant segmentation, with the unemployed, especially the young, finding it difficult to find a job and a relatively large number of women being economically inactive.

Structural problems in the labour market are reflected, in particular, in the large number of the unemployed out of work and looking for a job for a year or more. During the crisis, **the rate of long-term unemployment** (LTU) increased steadily, reaching 7.7% of the total active population in 2014. Though it declined slightly in 2015 (to 6.9%), the proportion was still well above the EU average. Long-term unemployment was even higher in all the lagging regions, and particularly so in Calabria where over 15% of the active population had been looking for a job for a year or more in 2015.

The **situation of young people is particularly unfavourable**, with almost twice the proportion of young people than the EU average neither in employment, nor in education or training (NEETs) in 2015 (though it was slightly smaller than in 2014). The difficulties that young people face in the labour market are reflected in the very low employment rate of those aged 25-29 with tertiary education. In 2015, it was only 49% as opposed to an EU average of 80%, indicating that even the better educated have difficulties finding work. Moreover, the rate has declined more over the crisis period (since 2007) than in the rest of the EU.

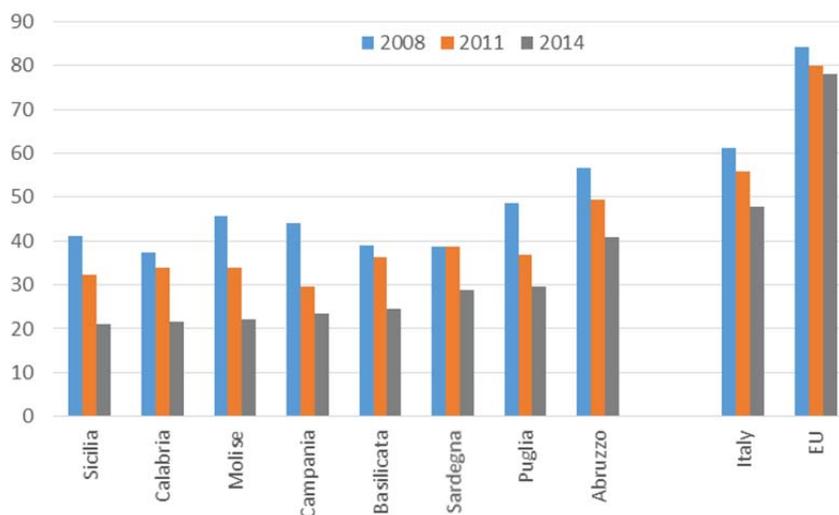
Figure 4.6 / Long-term unemployment rate (% of total active population) in Italy and lagging regions: 2008, 2012 and 2015



Source: Eurostat, LFS [tgs00053, tesem130].

The problems are even more acute in the lagging regions: the NEET rate among young people being significantly higher than the national average in all of them, except Molise, and especially high in Calabria and Sicilia where around a third of young people aged 15-24 were not in employment nor in education or training.

Figure 4.7 / Employment rate of those aged 25-29 with tertiary education in Italy and lagging regions: 2008, 2011 and 2014



Source: Eurostat, LFS microdata.

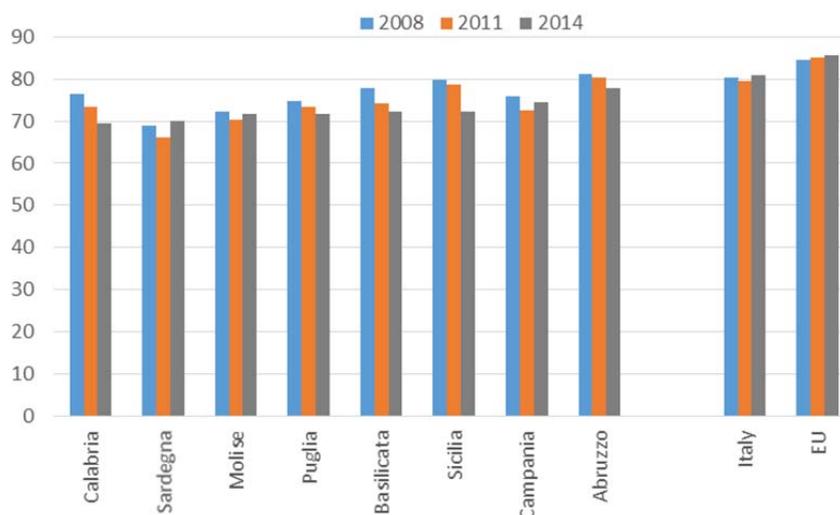
However, there are signs of some improvement over the past two years, which may be related to the recent labour market reforms introduced. The 2014 Jobs Act was therefore intended to encourage open-ended contracts of employment and to reform the governance of active labour market policies (a new

national agency was put in place in January 2016 to manage such policies). The Youth Guarantee scheme implemented in 2014 may also have contributed to the recent improvement of the labour market situation of young people.

In addition, **labour force participation is very low, especially among women** (54% against 67% in the EU in 2015), and has increased hardly at all over recent years. This is mainly due to a lack of care facilities, an unfavourable taxation system for second earners and a traditional view of the place of women being at home. These factors underlie the low participation rate even among those with tertiary education implying that skills which are potentially important for growth are not been sufficiently used. (Not only is the proportion of working-age population with tertiary education small but there is also limited use of those with such qualifications.)

In all the lagging regions, the participation rate of women was significantly lower than in the rest of the country, especially in Campania and Sicilia (where it was only 36% in 2015). The same is true of those with tertiary education, the rate being particularly low in Calabria and Sardegna (around 70% as compared with a national average of 81% and an EU average of 86%).

Figure 4.8 / Participation rate of women aged 25-64 with tertiary education in Italy and lagging regions: 2008, 2011 and 2014



Source: Eurostat, LFS microdata.

According to the OECD employment protection legislation indicators, the **strictness of regulation against dismissals** was eased in 2013, but it remains tighter than in the EU on average and the strictest of the 8 Member States examined here.

The bargaining framework is another factor worth highlighting. The fact that wages negotiated under collective agreements are valid for a relatively long period (three years) and that **firm-level bargaining** remains **under-developed** hampers the alignment of wages to productivity and labour market conditions, which is likely adversely to affect cost competitiveness.

Situation in other areas

Despite recent measures aimed at reducing the administrative burden for enterprises and easing product market regulation, doing business in Italy remains relatively difficult. In 2016, the country was ranked 24th of the 28 EU Member States according to the Ease of Doing Business survey. Resolution of commercial disputes is particularly problematic, almost twice the number of days being required than the EU average (1,120 as opposed to 594). Problems are even more acute in the lagging regions, where in all cases, it takes longer to resolve a dispute, especially so in Puglia where the procedure took over 2,000 days in 2012 (the last year for which information is available).

In addition, according to the European Structural Business Statistics, the share of employment in micro-sized and small firms (those with less than 50 people employed) remains larger than in the rest of the EU, suggesting a potential disadvantage in competing on international markets.

Following various measures introduced by the government after the crisis in order to support the access of SMEs to finance (such as the creation of the Banca del Mezzogiorno to provide credit to enterprises operating in the south of the country, and the Central Guarantee Fund to provide credit for SMEs while stimulating investment in innovation), business confidence in the future availability of bank loans has improved. Access to capital however remains more difficult than in most the other EU countries. Moreover, according to Banca d'Italia, both short- and long-term interest rates on business loans are higher in the lagging regions (particularly in Calabria) than in the rest of the country.

Spain

The labour market and education are two areas in particular in need of reform in Spain. The main aspects concerned are examined below, with an indication where possible of whether the situation is tending to improve or not and whether it is better or worse in the lagging regions than in the rest of the country.

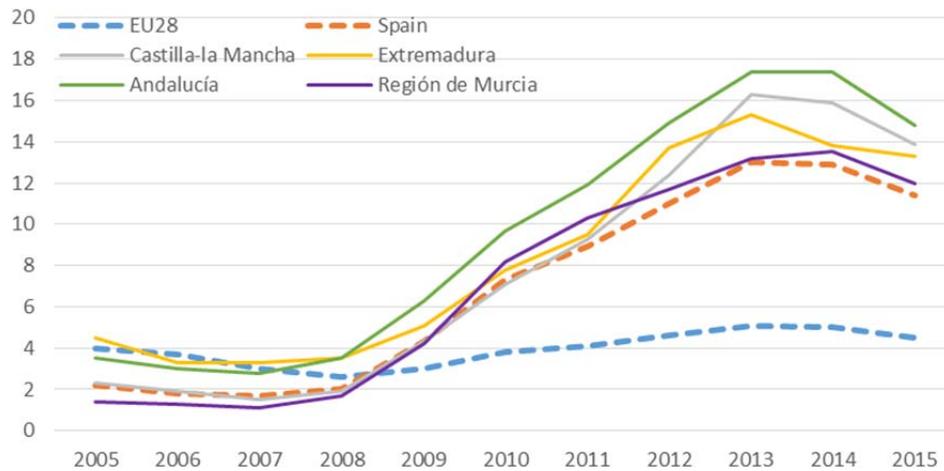
Labour market

A segmented labour market is a prominent feature of the Spanish economy. This is reflected in the relatively large proportion of those in work on temporary contracts of employment, high unemployment among young people and a high rate of long-term unemployment more generally.

Unemployment in general rose markedly over the crisis period, increasing to over 25% at its peak in 2013, and while it has fallen since then, it was still well over twice the EU average in 2015 (22% as opposed to 9%). Unemployment in all the lagging regions is even higher, reaching close to 30% in Extremadura and around 32% in Andalucía.

Around half of the people concerned in 2015 had been out of work and looking for a job for a year or more, implying that the **long-term unemployment** rate, which reflects underlying structural problems in the labour market, averaged over 11% of the labour force in Spain in 2015, as against just over 4% in the rest of the EU. It was again higher in all the lagging regions, reaching almost 14% in Extremadura and 15% in Andalucía.

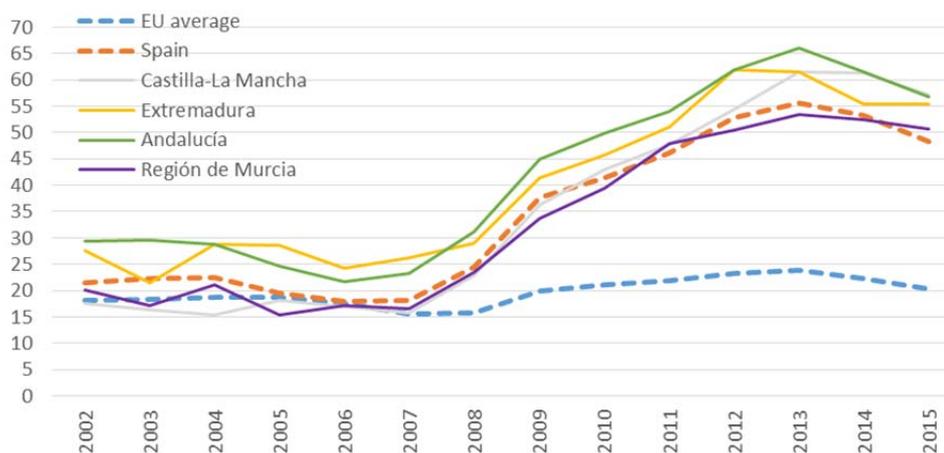
Figure 4.9 / Long-term unemployment rate (% of total active population) in Spain and lagging regions: 2002 to 2015



Source: Eurostat, LFS [tgs00053, tesem130].

Unemployment was particularly high among **young people**, peaking at 55% of those aged 15-24 in the labour market in 2013 and remaining at 48% in 2015 (as compared with an average of 20% in the EU as a whole). In all four lagging regions, the rate was above the national average, in Murcia, only slightly so, but in the other three, considerably so (55% or more in each case).

Figure 4.10 / Youth unemployment rate (15-24) in Spain and lagging regions: 2002 to 2015



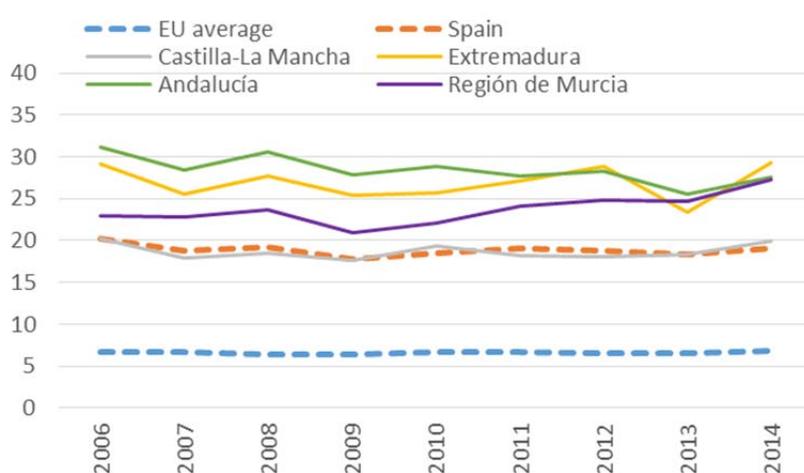
Source: Eurostat, LFS [lfst_r_lfu3rt].

Temporary contracts of employment remain prevalent throughout the country, more so than in any other Member State, and most especially in the lagging regions, potentially deterring employers from providing continuing training and, accordingly, being likely to have a detrimental effect on productivity, not only because of this but also because of the higher turnover of the workforce which it implies. Most of the people working on such contracts, moreover, do so involuntarily because they cannot find a permanent job, close to 20% of all employees aged 25 and over in 2015 (i.e. excluding young people

who are most likely to be in fixed-term jobs because of being on a training contract or serving a probationary period) as opposed to an EU average of 7%. In the lagging regions, the figures are even higher. While in Castilla-la-Mancha, the proportion in temporary jobs involuntarily was only just above the national average, in the three other lagging regions, it was well above, at around 28-29% of employees of 25 and over in each case.

There is, moreover, little sign of a downward trend in the figures. Indeed, according to the OECD Employment Protection Legislation indicators, regulations on the use of fixed-term contracts have tended to become laxer over recent years rather than being tightened.

Figure 4.11 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Spain and lagging regions: 2006 to 2014



Source: Eurostat, LFS microdata.

The wage-bargaining system also potentially contributes to labour market rigidities. Though a new agreement for Employment and Collective Bargaining for 2015-2017 was signed by the social partners to promote decentralised wage bargaining and opt-outs from sectoral agreements, **firm-level agreements remain under-developed**. This, therefore, limits the extent to which wages can adjust to local or regional circumstances and represents a possible deterrent to investment.

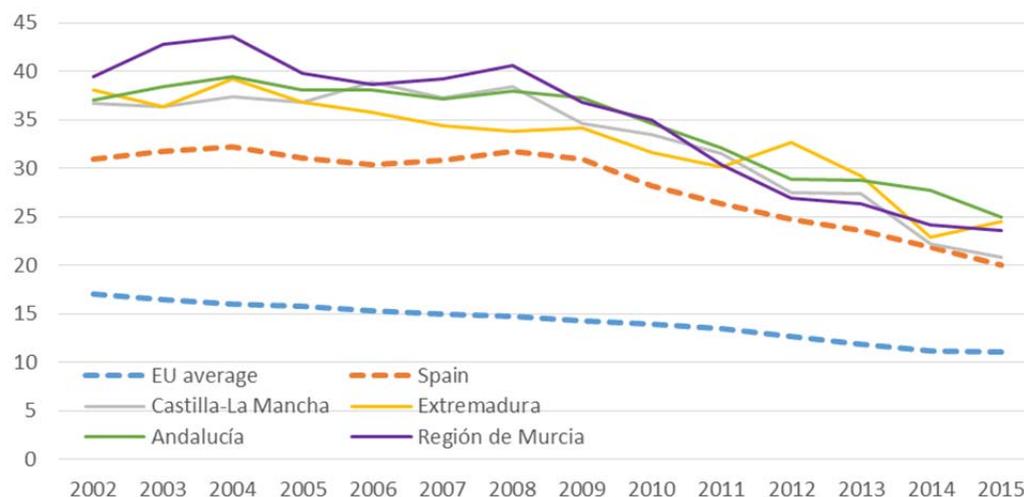
Various reforms have been introduced by the Spanish authorities in recent years, such as to active labour market policies in 2011 (aimed at rationalising recruitment incentives and supporting youth employment), reductions in severance pay in the case of unfair dismissals, the provision of additional incentives to employers to hire workers on an open-ended basis in 2012 and the lowering of employers' social contributions to boost the creation of permanent jobs in 2015. Nevertheless, both youth and long-term unemployment remains high and a clear division remains between those on permanent contracts of employment and those on temporary ones. In addition, the capacity of the public employment services (PES) to provide effective individualised counselling and possibilities of employment and traineeships remains limited. Moreover, as the country-specific recommendations have indicated, there is also insufficient cooperation between the national and regional PES, as well as with private placement agencies, which is likely to reduce labour mobility.

Education

The education level of the workforce is another problem area, potentially adversely affecting competitiveness and growth potential.

Although it has declined since 2009, the relative number of **early school leavers** remains significant. Some 20% of young people aged 18-24 in 2015 had no qualifications beyond basic schooling and were not participating in education or training, almost twice the average as in the EU (11%). In the lagging regions, the proportion is larger, especially in Andalucía and Extremadura, where 25% of young people had left the education system without any qualifications.

Figure 4.12 / Early leavers (18-24) from education and training in Spain and lagging regions, 2002 to 2015

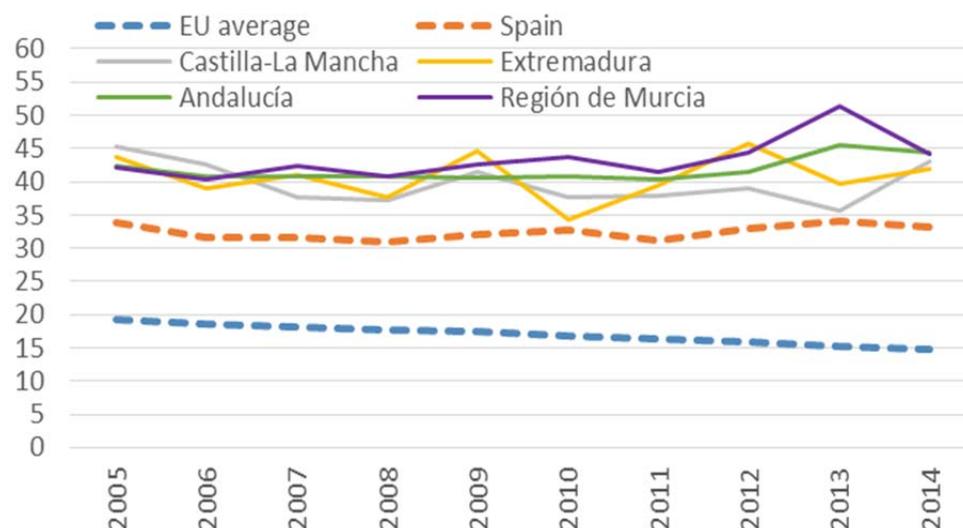


Source: Eurostat, LFS [edat_lfse_16].

This is reflected in the equally **large number of people aged 25-34 with only basic education**, which amounted to just over a third of those in this age group in Spain as compared to an EU average of only 15%. While it is well below the figure for working-age population as a whole (42.6% for those aged 25-64 as against an EU average of 23.5%), signifying a long-term decline in the proportion of young people leaving school with inadequate qualifications, the decline has been no larger than in the rest of the EU. The number is again even larger in the four lagging regions, where 40-45% of people in the 25-34 age group had no qualifications beyond compulsory schooling (and over 50% in the case of those aged 25-64, 57% in Extremadura).

By contrast, the proportion of young people in this age group with tertiary education in Spain is larger than the EU average (44% as against 40% in 2015), so that the relative number with upper secondary education is substantially smaller than elsewhere (under a quarter as opposed to around a half). In the lagging regions, however, while the proportion of those aged 25-34 with upper secondary qualifications is also small, the proportion with tertiary education is equally below the EU average and considerably below the national average (36% in Extremadura and 32% in the other three in 2015).

Figure 4.13 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 0-2 in Spain and lagging regions, 2005-2014



Source: Eurostat, LFS microdata.

A new Education Law (LOMCE) was adopted in 2013 in an attempt to reduce the number leaving education without adequate qualifications, against a backdrop of very little change in the proportion over the period 2005-2014. Among other things, it introduced new evaluations in primary school to track learning difficulties at an early stage as well as initiating a reform of vocational education. Whether this will lead to an actual reduction in the number entering the labour market with insufficient qualifications remains to be seen.

Situation in other areas

Although, according to the OECD product market regulation indicators, the overall business regulatory environment in Spain is no more or less restrictive than in the rest of the EU, doing business is, nevertheless, assessed by the World Bank as being more difficult than in other EU Member States on average. There is, however, a marked variation between lagging regions within the country, with Extremadura being ranked as being easier in these terms than most other regions in Spain whereas Murcia is ranked as being more difficult than average. At the same time, measures have been taken in recent years to improve the situation through a number of pieces of legislation, including on company insolvencies and facilitating market entry.

One of the major obstacles to doing business is the perception of corruption being more of a problem in Spain than in other EU countries (according to the Corruption Perception Index developed by Transparency International), along with the lack of predictability and stability of legislation and the existence of a relatively large informal economy (as shown by the 2015 Eurobarometer on the interaction of businesses with public administration). In addition, according to the European Quality of Government Index, the quality of government is regarded as being worse than in other parts of the EU, though in the lagging regions it is considered to be better than in the rest of the country.

Reforming the local administration and the judiciary system has been the focus of several country-specific recommendations. In 2013, the Spanish government both rationalised the local authorities' structure to avoid duplication and the overlapping of competences, and improved access to public information. However, the public procurement system, especially at regional and local level, remains burdensome, with overly-lengthy proceedings and excessively complicated legislation which is subject to frequent change.

Greece

Problems of governance, the business environment and the labour market adversely affect growth prospects in Greece. The aspects concerned are examined below, with an indication, where possible, of whether the situation is improving or not as well as whether it is better or worse in the lagging regions than in the rest of the country.

Governance

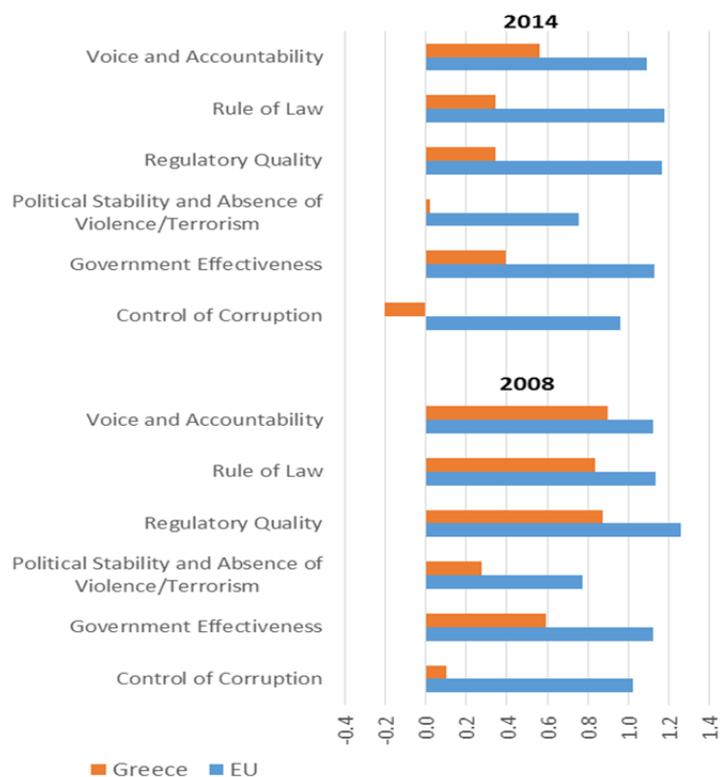
Notwithstanding the progress achieved over the past few years, the low quality of governance remains a major structural weakness. A high level of corruption, a large informal economy and the lack of stability of legislation represent significant deterrents to investment.

Corruption in particular remains a serious problem. The Corruption Perception Index, produced by Transparency International, shows Greece as having a higher level than other EU countries. The 2015 Eurobarometer survey confirms that corruption is perceived as more of a problem than elsewhere. In addition, according to the World Bank Worldwide Governance Indicators, control of corruption, together with political instability, is especially deficient in Greece and the situation has worsened over recent years. Although regional data are not available, it is likely that corruption represents an even more important deterrent to investment in lagging regions.

In addition, the European Quality of Government Index, last produced in 2013, ranked Greece in the 21st position in these terms, while the World Bank's Worldwide Governance Indicators gave the country a similarly low ranking in 2014 as regards **government effectiveness**. Moreover, in the lagging regions of Voreio Aigaio and Kriti (the only two covered by the indicators), government is assessed even less favourably than in the rest of the country.

In addition, the difficulty of **contract enforcement**, the existence of a large **underground economy** and the **lack of stability in legislation** were also perceived as major obstacles for businesses operating in Greece as shown by the Eurobarometer survey.

Several measures have been implemented by the Greek authorities in the recent past to improve the situation, including the creation of a Single Public Procurement Authority in 2011, the National Anti-corruption Action Plan in 2013, a comprehensive reform of the judiciary and a new Code for Civil Procedures in 2015. A new system for recruiting managers has also been introduced to increase the efficiency of public administration, and steps have been taken to improve the assessment system for civil servants, while a reorganisation of ministries and public bodies is underway.

Figure 4.14 / Worldwide Governance Indicators in Greece, 2008 and 2014

Note: The scale ranges from -2.5 to 2.5, higher values corresponding to better governance.
Source: Worldwide Governance Indicators, World Bank.

Business environment

The business environment poses major problems as well, with important implications for competitiveness, innovation and the potential for growth.

According to the OECD product market regulation indicators, the **business regulatory environment** in 2013 was **more restrictive** than the EU average along with state control and barriers to entrepreneurship.

The World Bank classified Greece as a place where **doing business** is one of the most **challenging** and in 2016, the country was ranked 26th of the 28 EU Member States according to the Ease of Doing Business indicators. While the abolition of the minimum capital requirement for limited liability companies in 2014 and the lowering of the registration costs in 2015 made it easier to start a business, Greece was still ranked in the bottom half of EU countries in this regard (17th out of 28). In addition, the 2016 Doing Business Report for Greece confirmed the difficulty of **enforcing contracts** and highlighted the problems of **registering property** and **resolving insolvency**.

Equally, as noted elsewhere, the share of **employment in micro-sized firms** (those with less than 10 people employed) is substantially larger than in the rest of the EU in the tradable goods and services sector, adversely affecting competitiveness and productivity growth.

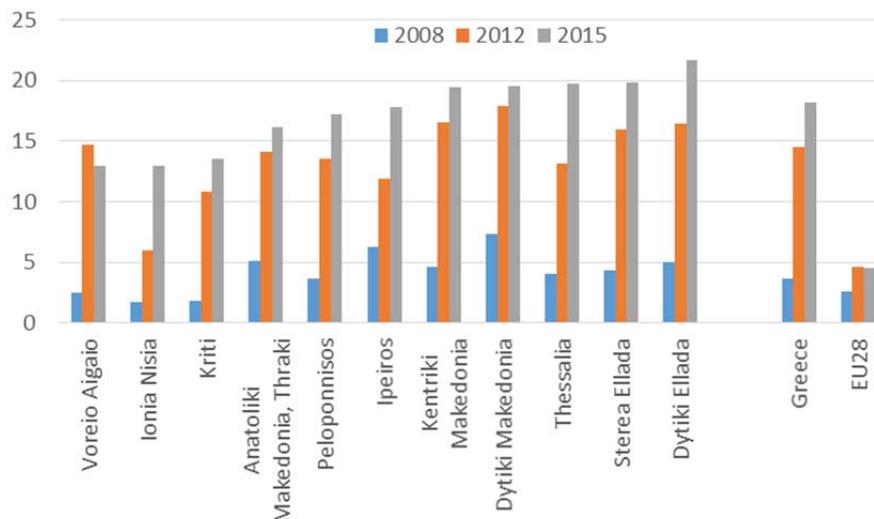
Over the 2011-2016 period, the government introduced several measures to improve the business environment (such as the 2012 Business Friendly Greece Law, changes in customs procedures to reduce red tape for exporters, the easing of restrictions on many regulated professions and the simplification of the business licensing procedures), but as yet there is little sign that they have had a significant effect.

Labour market

The high rate of long-term unemployment, the difficulties of young people in finding a job and the low participation of women in the workforce are the most visible signs of structural problems in the labour market.

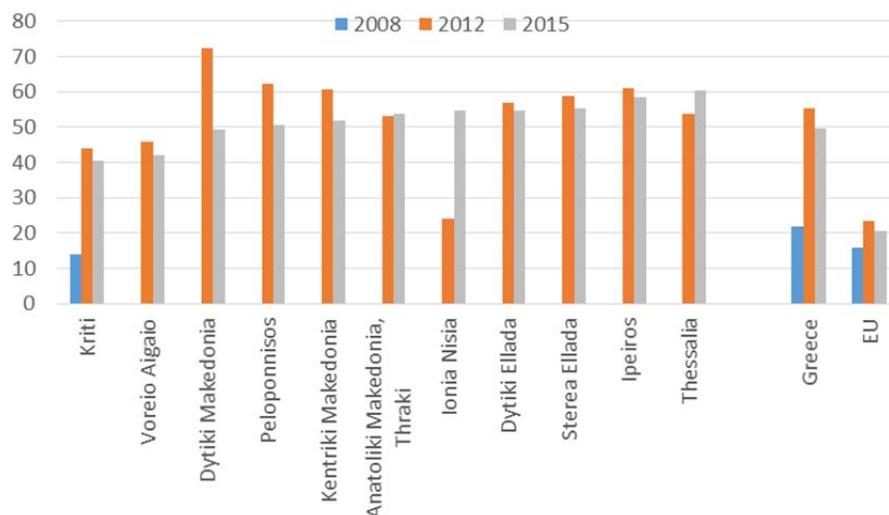
Not only is **unemployment** higher in Greece than anywhere else in the EU, most especially in the lagging regions, but most of the unemployed (75%) have been out of work for a year or more. In 2015, the rate of **long-term unemployment** was over 18% of those who were economically active (as against just 4% on average in the rest of the EU). It was even higher in half the lagging regions (22% in Dytiki Ellada and almost 20% in both Thessalia and Sterea Ellada) and though it was lower in Voreio Aigaio and Ionia Nisia (at less than 13%), it was still three times the EU average.

Figure 4.15 / Long-term unemployment rate (% of total active population) in Greece and lagging regions: 2008, 2012 and 2015



Source: Eurostat, LFS [tgs00053, tesem130].

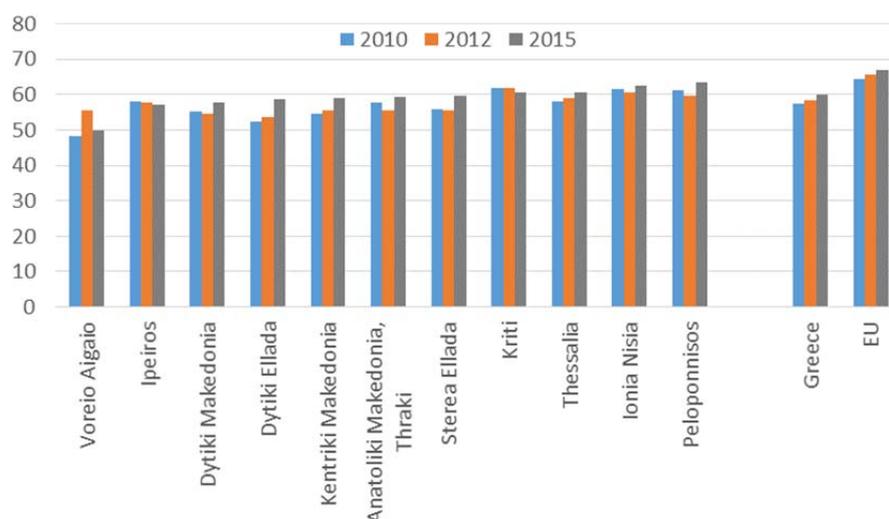
In addition, half of **young people** aged 15-24 who had entered the labour market were unemployed in 2015, over twice the pre-crisis rate as well as that in the rest of the EU. Jobs for young people were even scarcer in most of the lagging regions, especially in Thessalia and Ipeiros, where the youth unemployment rate was close to 60%.

Figure 4.16 / Youth unemployment rate in Greece and lagging regions: 2008, 2012 and 2015

Note: Data in most of the lagging regions in Greece is only available from year 2010.

Source: Eurostat, LFS [lfst_r_lfu3rt].

Only 60% of **women** of working age (15-64) were economically active in the country in 2015 (as against an EU average of 67%), which largely reflects the large proportion of women with only basic schooling. In 7 of the lagging regions, the proportion was lower than in the rest of the country, especially in Voreio Aigaio (where it was only around 50%).

Figure 4.17 / Female participation rate in Greece and lagging regions: 2010, 2012 and 2015

Source: Eurostat, Labour Force Survey [lfst_r_lfp2actrt].

Various measures have been introduced in the recent past to improve labour market conditions (including initiatives to modernise the Public Employment Services, better targeted labour market policies, a reform of the apprenticeship system and a system to identify and forecast skill needs), though much remains to be done to reduce structural problems.

Situation in other areas

Despite measures taken to improve the vocational education system (including a more flexible curriculum in secondary school, and attempts to upgrade vocational education and apprenticeships), there remains a need to match what is taught more closely to labour demand (as underlined in Commission recommendations).

Access of enterprises to finance remains a serious problem. The proportion of businesses reporting access to credit as the most pressing challenge they face was three times larger than the EU average in 2015, and the gap has widened over recent years. The relative number of unsuccessful bank loan applications also remains significantly higher than in the rest of the EU, and while two new measures were introduced to improve access to finance for SMEs, it remains to be seen how effective they will be.

In addition, the corporate tax rate was markedly higher in Greece than elsewhere in the EU in 2016 and has risen markedly over the crisis period as part of fiscal consolidation measures, whereas in other EU countries, it has declined.

Portugal

Weaknesses in the labour market and education are major obstacles to economic growth in Portugal. These weaknesses are examined below both in the country as whole and in the lagging regions within the country.

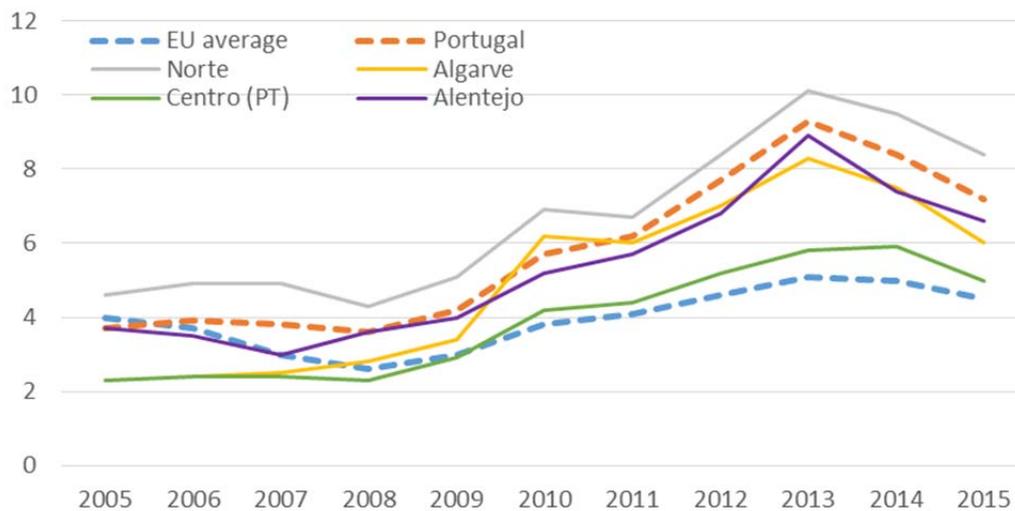
Labour market

Long-term and youth unemployment are both relatively high in Portugal, signalling structural problems in the labour market. Though there has been some reduction in both in the recent past, it has been modest.

The overall unemployment rate in 2015 was above the EU average both in the country and in all the lagging regions, except Centro. Moreover, almost 60% of the unemployed in the country had been actively seeking for a job for a year or more in 2015 (against 48% in the EU). Accordingly, the rate of **long-term unemployment** was also above that in the rest of the EU, averaging over 7% of the economically active (as against an EU average of just 4%), even though it was some 2 percentage points less than the peak in 2013. In Norte, the centre of the textile industry in the country, it was even higher at over 8%, around twice the EU average. In the other three lagging regions, however, it was below the national average, especially in Centro, but still above the rate in the rest of the EU.

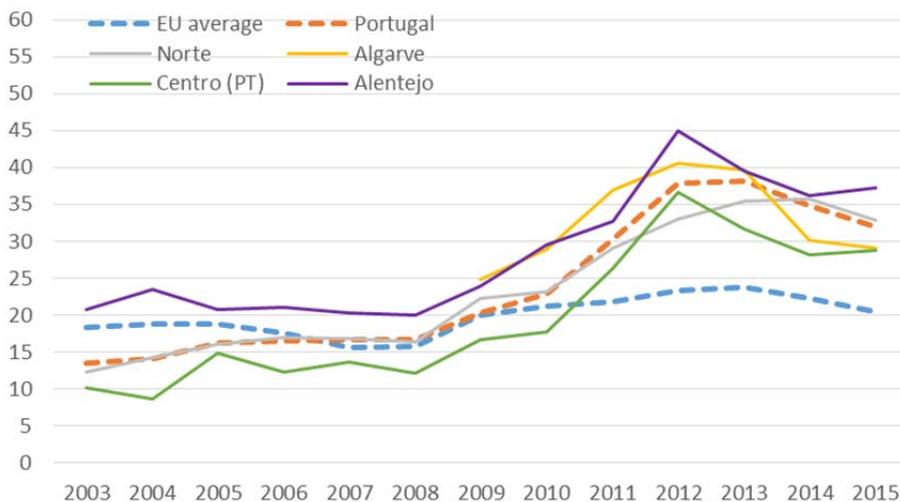
Young people are particularly affected by the nature of the labour market. Around a third of young people who had entered the labour market were unemployed in 2015 (as compared with an EU average of 20%). The **youth unemployment rate** increased markedly during the crisis and has remained high. In the lagging regions, the rate is below the national average in both Centro and Algarve – though still well above the EU average – much the same as the average in Norte and above the average in Alentejo, where it was almost twice the EU average.

Figure 4.18 / Long-term unemployment rate (% of total active population) in Portugal and lagging regions: 2005 to 2015



Source: Eurostat, LFS [tgs00053, tesem130].

Figure 4.19 / Unemployment rate of young people aged 15-24 in Portugal and lagging regions, 2003-2015



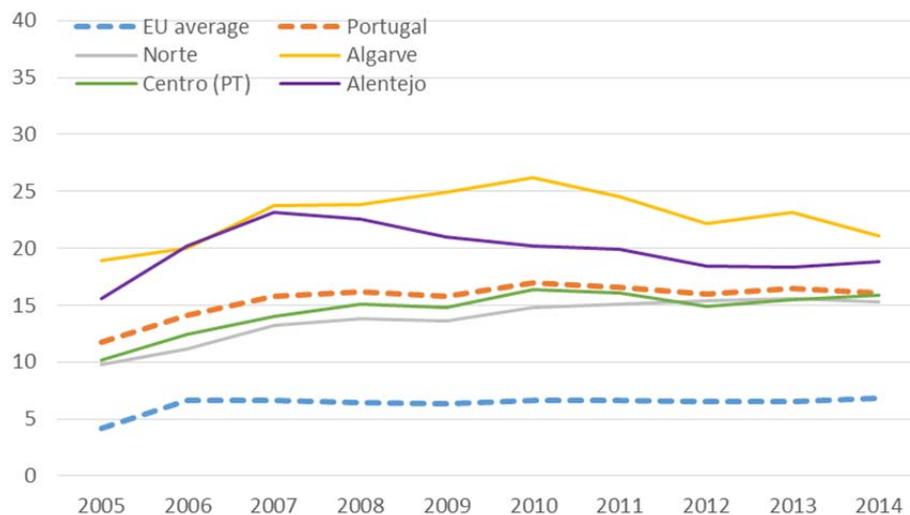
Source: Eurostat, LFS [lfst_r_lfu3rt].

The reduction in youth and long-term unemployment is almost certainly largely a consequence of a resumption of GDP growth in 2014, even if at a relatively low rate, but the various measures implemented to tackle the problem, such as the Labour Market Reform in 2012, the modernisation of the Public Employment Services and new measures to increase the employability of the long-term unemployed (such as the REATIVAR traineeships introduced in 2015) are also likely to have contributed to the reduction.

The extent of **temporary employment** is also large, implying significant labour market segmentation and a potential deterrent to employers providing continuing training. Some 16% of employees worked on fixed-term contracts in 2015 because they could not find a permanent job, well over twice the average EU proportion (7%) and with no tangible sign of a reduction over recent years. In the lagging regions, the proportion was very similar to the national average in Norte and Centro, but well above the average in Alentejo (19% of employees) and Algarve (21%).

According to the OECD Employment Protection Legislation indicators, the protection of permanent workers against dismissal has become slightly less stringent, though it remains more restrictive than in the rest of the EU. A reduction of the maximum duration of fixed-term contracts is planned for 2017, though it remains to be seen what effect this will have on the numbers concerned.

Figure 4.20 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Portugal and lagging regions: 2005 to 2014



Source: Eurostat, LFS microdata.

In addition, the **wage-setting system remains very centralised**, with limited scope for firm-level bargaining, so that wages cannot effectively adjust to productivity and labour market conditions, with adverse effects on the competitiveness of Portuguese enterprises.

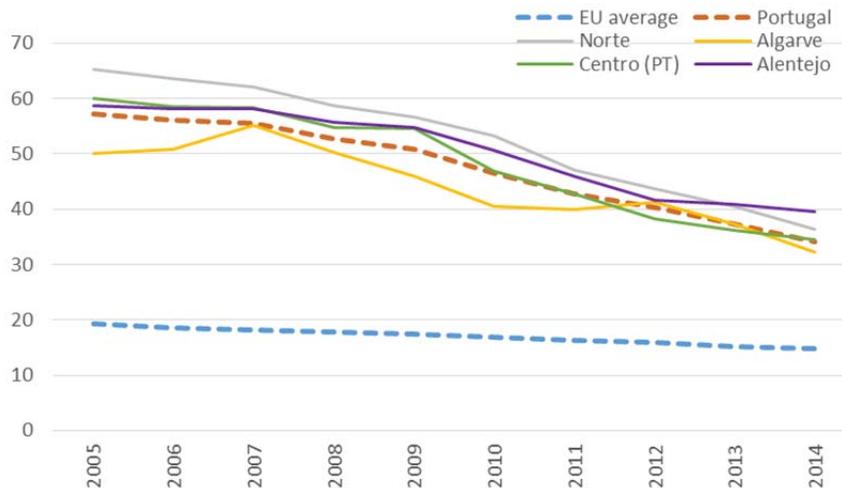
Education

The large share of the workforce which is low educated, with only basic schooling, adversely affects competitiveness and is an obstacle to shifts in the structure of the economy towards higher value-added activities.

Over half of population of working age has only basic schooling ((55% against an EU average of 23.5% in 2015). Even for young people aged 25-34, around a third have this level of education, over twice the EU average, implying that although there is a long-term decline in the proportion, there is still a long way to go to reduce it to the level in the rest of the EU.

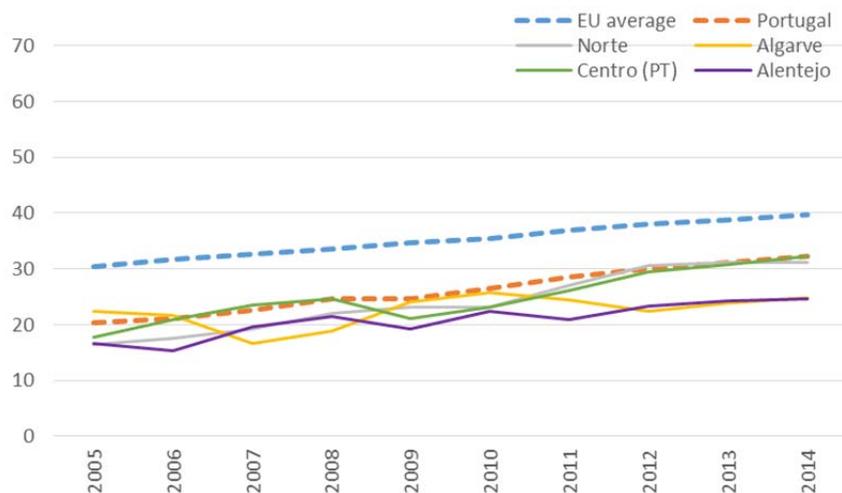
The proportion of the 25-34 age group with only basic schooling is much the same as the national average in Centro and Algarve but larger in both Norte and Alentejo, where some 36-40% of young people had only basic schooling (and 58-61% of those aged 25-64).

Figure 4.21 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 0-2 in Portugal and lagging regions, 2005-2014



Source: Eurostat, LFS microdata.

Figure 4.22 / Proportion of individuals aged 25-34 whose highest education level attained is ISCED 5-8 in Portugal and lagging regions, 2005-2014



Source: Eurostat, LFS microdata.

In addition, the share of **young people with tertiary education**, which is recognised as playing a key role in terms of economic development, is also smaller in Portugal than the EU average (32% as against 40% in 2015). Although the share has increased over the past 10 years, the gap in relation to the EU average has not been reduced. The share is even smaller in three of the lagging regions (particularly in Algarve and Alentejo, where it is less than 25%).

Among the various measures implemented, a new Law on Education was passed in 2015 which, among other things, laid the basis for reforming the dual vocational training system and which might lead to more young people attaining at least upper secondary qualifications.

Situation in the other areas

According to the 2016 World Bank report on Doing Business, Portugal is considered the second best place in the EU to start a business. Over the past 10 years, the time taken to set up a new firm and the minimum capital required have been reduced to well below the EU average. It is also ranked in the top half of EU Member States in terms of the ease of doing business, while overall product market regulation is considered less restrictive than in the rest of the EU. However, businesses operating in Portugal are on average much smaller than elsewhere in the EU, so possibly affecting their productivity.

Despite various measures to improve the quality of governance (such as the 2011 reform of public administration, the modification of public procurement legislation in 2012 and the 2014 reform of the judicial system), corruption is regarded as one of the main obstacles to doing business by more businesses in Portugal than in the EU (according to recent Eurobarometer surveys).

Both the EU SAFE survey and the European Central Bank database indicate that access to finance has improved over the past few years, partly due to several initiatives taken by the authorities. In 2015, however, the number of enterprises that failed to obtain a loan was larger in Portugal than in the rest of the EU.

Although, the government has initiated a comprehensive reform of taxation since 2014, aimed in part at increasing competitiveness, the system continues to be seen as unstable and unpredictable, potentially inhibiting investment.

4.2. LOW INCOME REGION COUNTRIES

Bulgaria

Poor governance along with structural problems in the labour market represent potentially important deterrents to investment in Bulgaria.

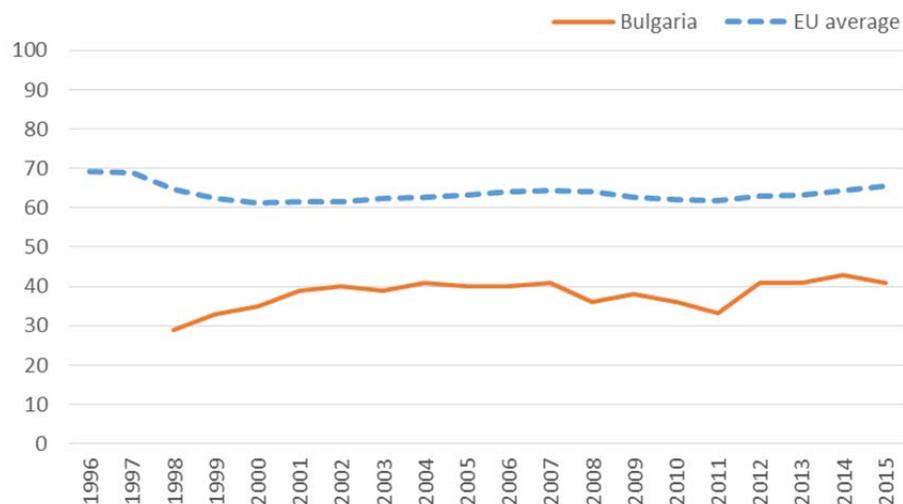
Governance

Deficiencies in the judicial system, very high corruption level as well as poor quality of government pose major problems.

According to the World Economic Forum, the **judicial system** in the country was perceived in 2015 as being less independent than in other parts of the EU. The situation, moreover, seems to have worsened over recent years, Bulgaria being ranked among the most problematic countries in the EU in this respect.

At the same time, **corruption** seems pervasive and the perception of the extent of this has not diminished over the recent past. According to Transparency International, Bulgaria was regarded as the country with the biggest problem in the EU in this respect in 2015, with little change over the past 15 years or so. This is confirmed by the 2015 Eurobarometer survey of business views which indicates that corruption is perceived as more of a problem in Bulgaria than in other EU countries, particularly in relation to public procurement. In addition, the World Bank Worldwide Governance Indicators show that control of corruption is particularly deficient in the country.

Figure 4.23 / Corruption Perception Index in Bulgaria, 1996-2015

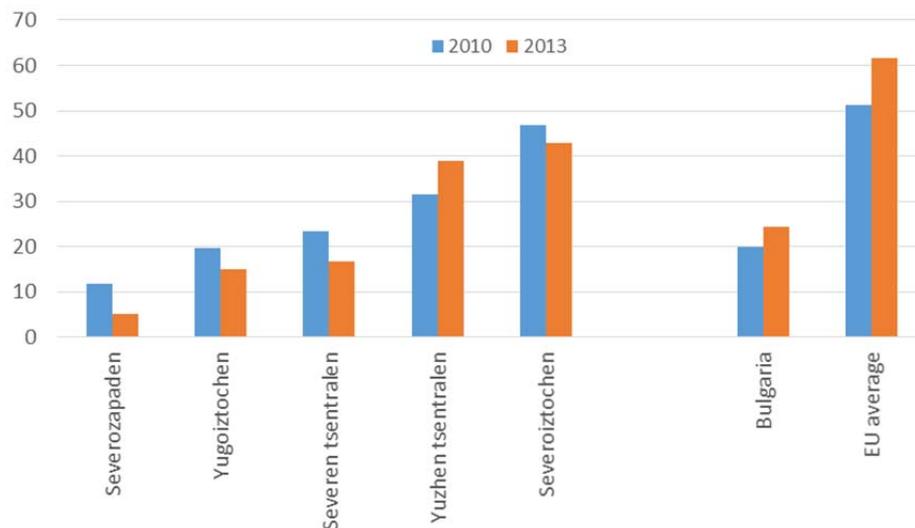


Note: The scale ranges from 0 to 100, from highly corrupt to highly clean.

Source: Transparency International.

Bulgaria was also assessed as being well below the EU average as regards **government effectiveness** in 2014 according to the Worldwide Governance Indicators. Equally, the European Quality of Government Index ranked Bulgaria below all other Member States in this respect in 2013, though the situation was considered to have improved over the preceding three years. In three of the lagging regions – Severozapaden, Yugoiztochen and Severen tsentralen – the quality of government, especially in the first, was perceived as being even lower than the national average. Moreover, in each of these, as well as in Severoiztochen, the quality was regarded as having worsened between 2010 and 2013.

In 2015, the authorities took various initiatives to improve governance, in particular to increase the efficiency and transparency of the judicial system (with a new electronic system for random case allocation, a new law reforming the structure of the Supreme Judicial Council, and the adoption of an updated Strategy for Continuing Reform in the Judiciary) and to combat corruption (a comprehensive anti-corruption strategy was proposed by the government in April 2015). It remains to be seen how effective these measures will prove to be.

Figure 4.24 / Quality of Government Index in Bulgaria and lagging regions, 2010 and 2013

The scale ranges from 1 to 100, higher values corresponding to a better quality of government.

Source: N. Charron, L. Dijkstra and V. Lapuente (2015), 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions', *Social Indicators Research*, 122(2), pp. 315-346.

Labour market

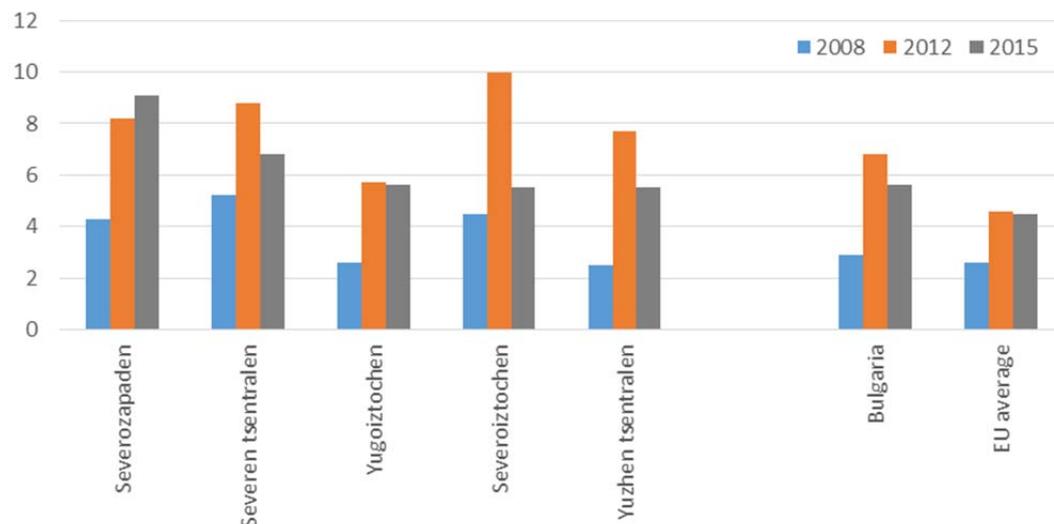
The Bulgarian labour market shows evidence of serious structural problems, in the form of a large pool of long-term unemployed, especially among those with only basic schooling, a large number of young people neither in employment nor in education or training and a low rate of employment among those with only basic schooling.

Even before the crisis, **long-term unemployment** was well above the EU average and since then the proportion of the unemployed who had been out of work for a year or more has risen to 61% in 2015 (as against an EU average of 48%), or 5.6% of the economically active population (as compared with an EU average of 4.5%). In three of the lagging regions, the long-term unemployment rate is similar to the national average, but in Severozapaden and Severen tsentralen, it is well above, most especially in the first, where 75% of the unemployed had been out of work and looking for a job for a year or more, some 9% of the active population.

Although the relative number of young people aged 15-24 who were **neither employed nor in education or training** (NEETs) has declined over the recent past, it was still well above the EU average in 2015 (19% as against 12%). It was even higher in four of the lagging regions, especially in Severozapaden where the figure was around a third of the age group.

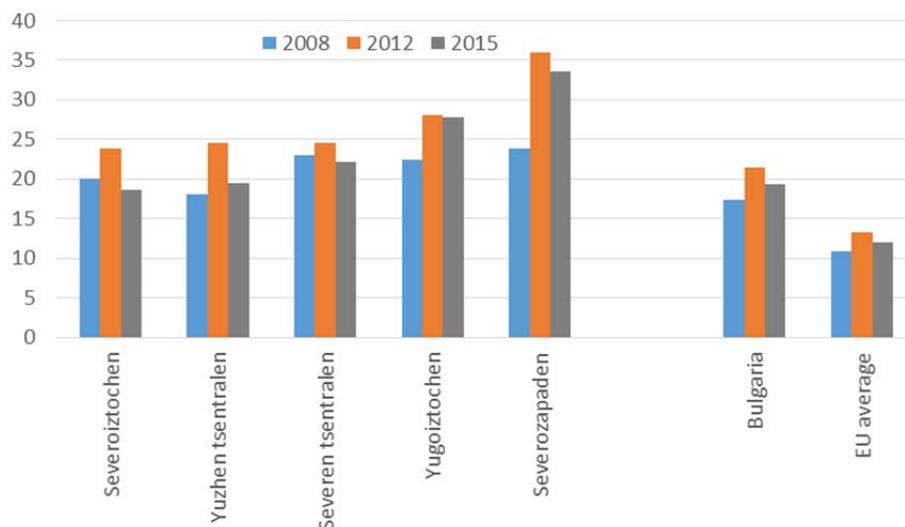
A number of specific measures have been implemented by the Public Employment Services (PES) over the recent past to improve contact with non-registered NEETs, but further efforts seem necessary, especially with regard to those with only basic schooling, the Roma, in particular.

Figure 4.25 / Long-term unemployment rate (% of total active population) in Bulgaria and lagging regions: 2008, 2012 and 2015



Source: Eurostat, LFS [tgs00053, tesem130].

Figure 4.26 / Proportion of young people aged 15-24 neither in employment nor in education and training in Bulgaria and lagging regions: 2008, 2012, 2015 (% of the age group)

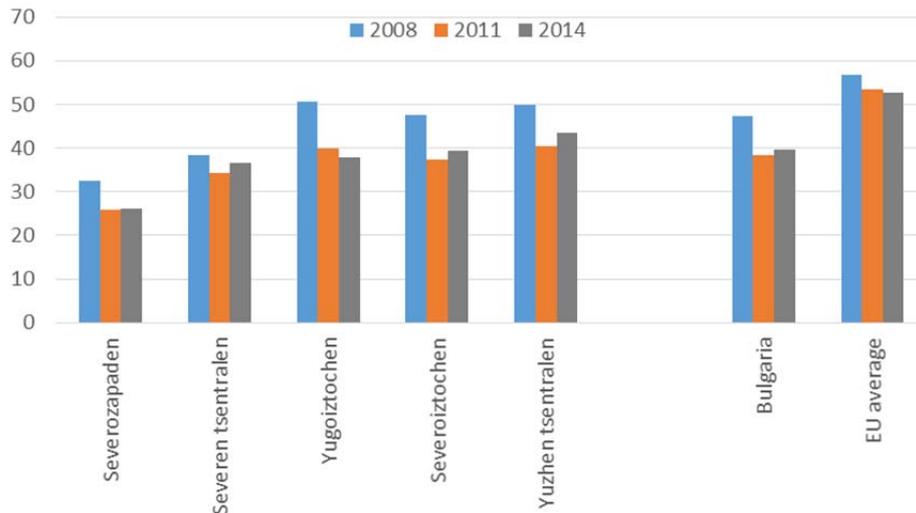


Source: Eurostat, LFS [edat_ifse_22].

This applies equally to those **with only basic schooling** in older age groups, only around 40% of whom were in employment in Bulgaria in 2015, 13 percentage points below the EU average (for those with higher education levels, the proportion was much the same as the EU average). This reflects a particularly low labour force participation among the low-educated in Bulgaria, especially among men, for whom the rate of participation was only just over 60%, 14 percentage less than the EU average (the rate for women was 7 percentage points below the EU average).

The problem was even more marked in all the lagging regions (except Yuzhen tsentralen), and most especially in Severozapaden where only just over a quarter of those with only basic schooling were in employment in 2015, less than half the EU average.

Figure 4.27 / Employment rates of those aged 25-64 with low education in Bulgaria and lagging regions, 2008, 2011 and 2014



Source: Eurostat, LFS [lfst_r_lfe2eedu] and LFS microdata for the regional data.

Several measures have been implemented in recent years to increase employment of both young people (such as New Start in 2011 and Jobs for young people in 2012) and vulnerable groups such as the long-term unemployed, as well as to strengthen and modernise the PES. However, the capacity of the PES to provide effective guidance to jobseekers and support for vulnerable groups remains limited.

Situation in the other areas

Despite recent measures making it easier to do business (such as lowering registration fees for setting up a business or making it easier to void suspect transactions in resolving insolvency), the business environment is still regarded as being unsupportive of investment.

A new law on pre-school and school education was adopted in 2015 and new strategies for the educational integration of children from ethnic minorities and for lifelong learning have been launched. With regard to the last, action was sorely needed since an average of only 2% of those aged 25-64 were in continuing training in 2015, much less than the EU average of 11%. Moreover, the proportion was less in all the lagging regions, especially in Severozapaden and Severen tsentralen, where the figure was less than 1%. However, while the measures tackle some of the most pressing problems, it is yet not clear how far they will help to resolve them.

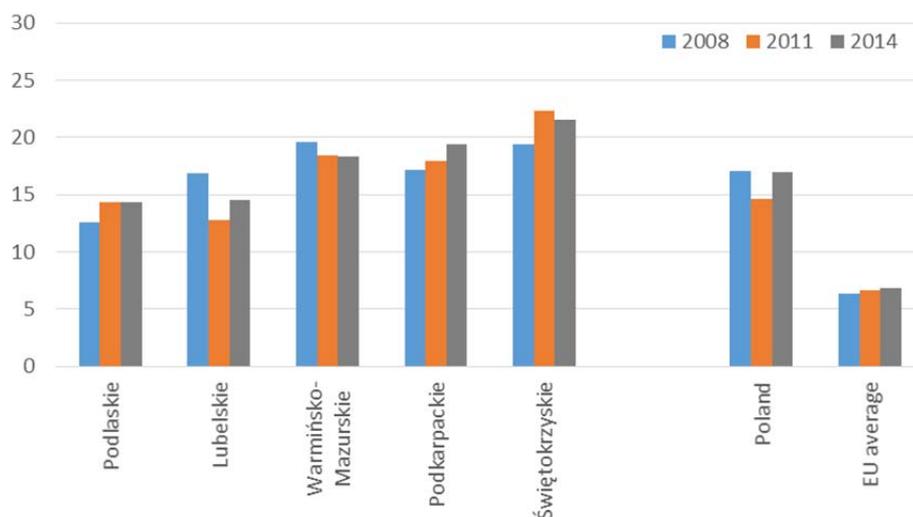
Poland

Structural weaknesses in the labour market and a relatively unfavourable business environment are potentially important obstacles to growth in Poland. In particular, there are signs of labour market segmentation, which seems to impact on the extent of continuing training, difficulties of young people to find employment and low participation among women, other than those with tertiary education. Starting a business is also more difficult than elsewhere.

Labour market

Temporary employment is widespread across the country, even for those aged 25 and over. Some 17% of employees were in jobs with **temporary contracts of employment** in Poland in 2015 because they could not find a permanent job, the second highest figure in the EU and as compared with an EU average of 7%. The proportion, moreover, has risen over the recent past. In three of the lagging regions, Warmińsko-Mazurskie, Podkarpackie and, most especially, in Świętokrzyskie (where 22% of employees of 25 and over were working in temporary jobs involuntarily), the figures were even higher.

Figure 4.28 / Proportion of employees (25 and over) with temporary contract because they could not find a permanent job in Poland and lagging regions: 2008, 2011 and 2014



Source: Eurostat, LFS microdata.

The large number of people employed in fixed-term jobs is due to a large extent to the high costs of dismissing workers on standard, open-ended contracts of employment. They also reflect, however, the widespread use of civil law contracts which are regulated by the Civil Code (unlike standard employment contracts which are regulated by the Labour Code) and for which the requirements in terms of social protection are limited and, accordingly, involve lower costs.

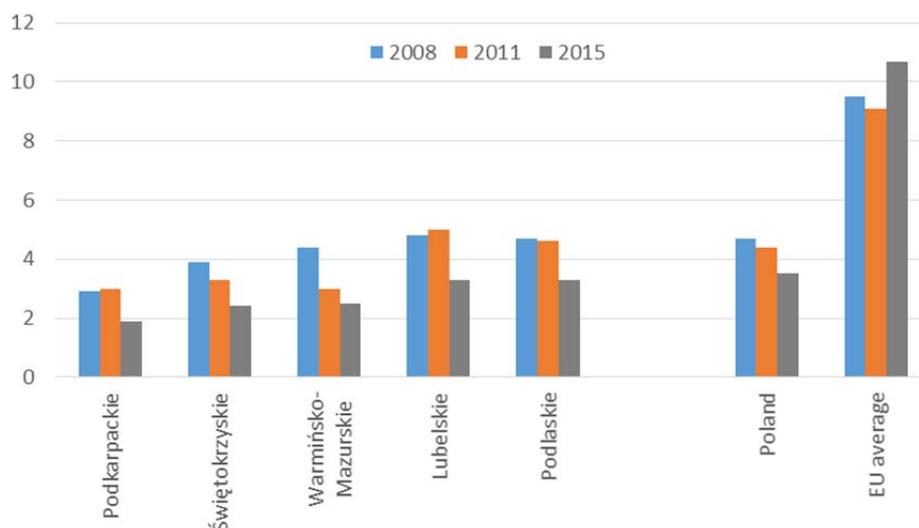
Several measures have been introduced over the recent past to tackle the situation. A minimum hourly remuneration for those working on civil law contracts was introduced in 2016 and the social contributions for some civil law contracts were increased. In addition, it was announced for 2017 to limit the total

number of fixed-term contracts which an employee can have with the same employer to three and to reduce their maximum duration to 33 months.

Partly as a reflection of the extent of temporary working, **participation in continuing training** is much lower in Poland than in the rest of the EU since employers are likely to be more reluctant to provide such training to the employees concerned. In 2015, therefore, less than 4% of those aged 25-64 participated in continuing training as against an EU average of 11%. The figure, moreover, declined over the 2008-2015 period whereas the EU average increased.

Participation in continuing training is even lower in the lagging regions, particularly in the ones where temporary employment contracts are most in use (Warmińsko-Mazurskie, Świętokrzyskie and Podkarpackie). In each of these, the proportion of employees participating was less than 3% in 2015 and in the last, less than 2%. In all three, the proportion had declined over the preceding 7 years.

Figure 4.29 / Participation rate of people aged 25-64 in continuing education and training in Poland and lagging regions: 2008, 2011 and 2015



Source: Eurostat, LFS [trng_ifse_04].

Youth unemployment is also relatively high in lagging regions, reflecting the difficulty of young people entering the labour market to find jobs. Whereas the Polish average rate was much the same as the EU average in 2015 (around 21%), in four of the five lagging regions, it was higher, especially in Lubelskie (8 percentage points higher) and even more so in Podkarpackie (18 percentage points higher).

In addition, **labour force participation rates of women** are lower than in most other parts of the EU, especially of those with education below the tertiary level. While the participation rate of women with only basic schooling is particularly low (36% as against an EU average of 52%), these make up only a small part of the workforce (only around 10% of women). More concerning is the low rate among women with **upper secondary level education** which is the lowest in the EU (at only around 62% of those aged 25-64 and well below the EU average of 74%). This contrasts with the participation rate of women with tertiary education which is slightly above the EU average. The rate, moreover, has remained almost unchanged over the past decade or so while in the rest of the EU, it has increased.

In two of the lagging regions, Warmińsko-Mazurskie and Podkarpackie, the participation rate is even lower (59% and 61%, respectively, in 2015). Although in the other three regions, it is higher than the national average, it is still well below the EU average and in all cases, it has declined over recent years (by around 4 percentage points over the 2007-2015 period in four of them, all except Podlaskie, where it declined by 2 percentage points).

Figure 4.30 / Participation rate of women aged 25-64 with upper secondary education in Poland and lagging regions: 2008, 2011 and 2015



Source: Eurostat, LFS [lfst_r_lfp2acedu].

Although various measures have been taken over the recent past to improve the business environment in Poland, a number of adverse features remain which are likely to deter investment.

While the ease of doing business in Poland is no less favourable than in the EU on average, **starting a business** is by contrast much more difficult. According to the World Bank in 2016, the country was ranked 24 of the 28 EU Member States in terms of the ease of setting up a new business. It was both much more time-consuming (30 days being required as against an average of 10 in the EU) and costly (three times higher than the EU average). In Świętokrzyskie and Podkarpackie, the time needed was even longer (36 and 37 days, respectively in 2015 – the latest year available at the regional level).

In addition, obtaining **construction permits** was much more cumbersome in all the lagging regions than in the rest of Poland as well as in other parts of the EU on average, with around 20 or more procedures to go through instead of an average of 21 in the country as a whole in 2015. **Registering property** also takes longer in Poland than elsewhere in the EU (33 days instead of an EU average of 26 in 2015), most especially in Świętokrzyskie (39 days) and Lubelskie (45 days, almost twice the EU average).

Moreover, according to the OECD, **product market regulation** was assessed in 2013 as being more restrictive in Poland than on average in the EU, particularly as regards the degree of state control, though the situation seems to have improved over time.

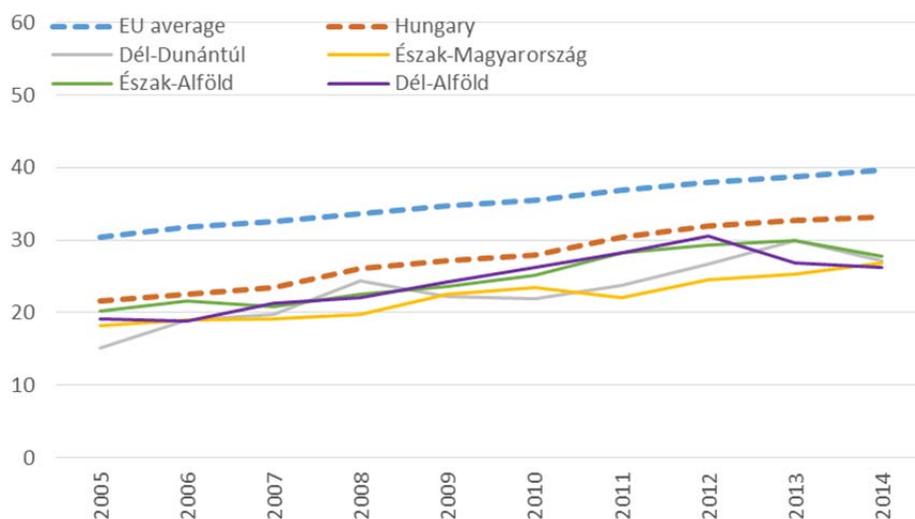
Hungary

Weaknesses in education and training and the business environment have potentially an adverse effect on competitiveness and growth in Hungary and are therefore areas in which further policy action seems to be called for.

Education

Despite a steady increase over the past decade, the proportion of working-age population with **tertiary education**, which is recognised as an important determinant of economic growth potential, remains smaller than the EU average (24% against 30% for those aged 25-64 in 2015). Moreover, despite the increase, the gap between Hungary and the EU average in the share of young people aged 25-34 with this level of qualification was no narrower than for the broader age group (around a third in Hungary having tertiary qualifications as against 40% across the EU as a whole). The gap is even wider in all the lagging regions, where less than 20% of those aged 25-64 has tertiary education and only around 27-28% of those aged 25-34. In addition, the gap has tended to widen over the recent past instead of narrowing.

Figure 4.31 / Proportion of young people aged 25-34 with ISCED 5-8 in Hungary and lagging regions, 2005 to 2014

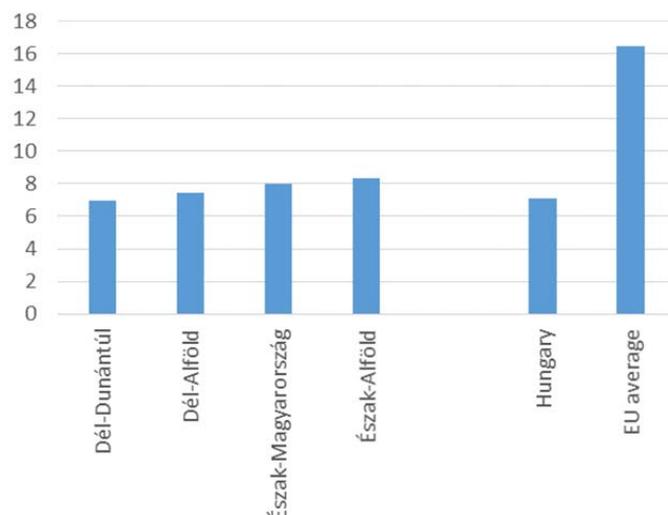


Source: Eurostat, LFS microdata.

The proportion of young people aged 15-24 in **vocational education or training**, i.e. in the process of obtaining upper secondary qualifications, was also significantly lower in Hungary (7%) than the EU average (16%) in 2014. Although the proportions in the lagging regions are in three cases slightly larger, they are, nevertheless, far below the EU average.

Since 2011, various measures have been introduced to tackle the issue without having a marked effect in closing the gap with the rest of the EU. The latest initiative is the Higher Education Strategy which was approved in 2016 with the aim of increasing the tertiary education attainment rate, though it is too soon to judge its effectiveness in this regard.

Figure 4.32 / Share of young people aged 15-24 in vocational education or training in Hungary and lagging regions, 2014



Source: Eurostat, LFS.

Business environment

The business environment also poses major problems for investment. The country was ranked 22nd of the 28 EU Member States as regards the **ease of doing business** by the World Bank in 2016. For the ease of **starting a business**, it was ranked slightly higher, at 18, but the cost of so doing in terms of the minimum capital required, was particularly high at almost double the EU average.

Over the 2011-2016 period, the government introduced various measures to improve the business environment, which have so far had a limited effect on the indicators used to assess this. In addition, the introduction of an electronic filing system to facilitate contract enforcement and the removal of restrictions limiting the operating hours for retail shops are planned for 2017.

Various measures have also been taken to reduce corruption, such as the 2011 public procurement law, the creation of a Public Procurement Database in 2013, and the implementation of the Anti-corruption programme 2015-2018. However, corruption and the scale of the informal economy remains a concern for businesses, especially in the three lagging regions in the east of the country, Észak-Magyarország, Észak-Alföld and Dél-Alföld. In these three regions taken together, therefore (i.e. in the NUTS 1 region which they form), 20% of businesses surveyed in 2013 by the World Bank reported that the activities of their competitors in the informal economy were a serious constraint on their ability to do business, twice the proportion in the country as a whole.

The labour market

Labour market conditions, as reflected in the various indicators used for judging these, seem to have improved over recent years. The employment rate (69% for those aged 20-64) is close to the EU average of 70%; unemployment is below the EU average and above the average only in Észak-Alföld among the lagging regions (10.9% as opposed to 9.4% in 2015); youth unemployment is around the EU

average, except again in Észak-Alföld (25.1% as against 20.4%) and the share of long-term unemployed is slightly below the EU average in all the lagging regions. The only indicator which suggests a structural problem is the proportion of employees in temporary jobs because they could not find permanent ones. In the country as a whole, this is much the same as the EU average (around 7%), but in all the lagging regions it is significantly higher, especially in Észak-Alföld and Dél-Alföld, where it was around twice the EU average (at 13-14%).

The relatively high employment rate and the low rate of unemployment is partly due to the extensive use of the Public works scheme, which is the main active labour market policy measure in the country, and which provides jobs of community benefit to jobseekers. However, there is a question-mark over the capacity of the scheme to improve the employability of the people concerned and the extent to which it helps them find regular jobs. Accordingly, the Staff Working Document produced for the 2016 European Semester recommended that the focus should be put on other more effective measures.

Other areas

Sector-specific taxes remain a potential hindrance to investment as pointed out repeatedly in the country-specific recommendations addressed to Hungary. Over the past few years, various new sector taxes have been introduced, though some were abolished shortly after their introduction.

Romania

Poor governance along with deficiencies in the education system represent important deterrents to investment in Romania and limit growth potential.

Governance

According to the World Economic Forum, the **judicial system** is perceived as less independent than in the EU on average and it seems to have become less so over recent years. Indeed, of the 8 countries covered here, Romania is ranked only above Bulgaria in terms of judicial independence.

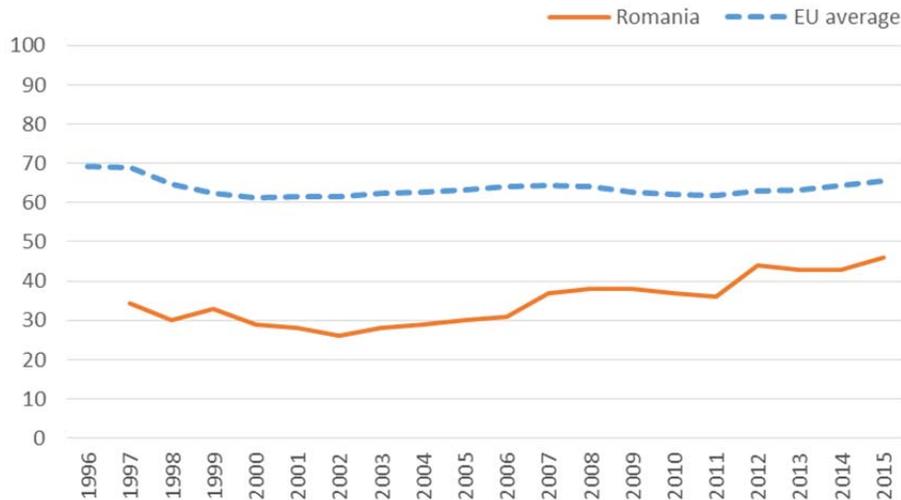
Equally, **corruption** remains a serious problem, even though the situation seems to have improved in the recent past. According to Transparency International, Romania was considered among the countries with the highest level of corruption in the EU in 2015. This is confirmed by the 2015 Eurobarometer survey of business views which indicates that corruption is perceived as more of a problem than in other EU countries. In addition, the World Bank Worldwide Governance Indicators show that control of corruption is particularly weak in the country.

The Worldwide Governance Indicators developed by the World Bank also show that **government was perceived as significantly less effective** in Romania than elsewhere in the EU in 2014.

Government is equally assessed as being of lower quality. Although the situation seems to have improved in this respect between 2010 and 2013, including in all the lagging regions, Romania was still ranked in penultimate position by the European Quality of Government Index. In two of the five lagging

regions (Sud-Est and Nord-Est), the situation was worse than in the rest of the country, while in another two, Sud-Vest Oltenia and Nord-Vest, it was similar to the country average.

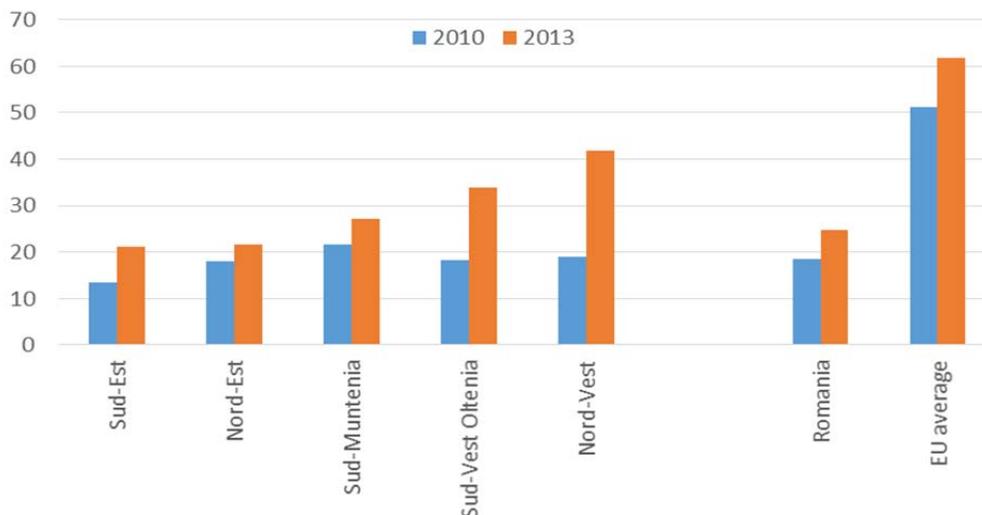
Figure 4.33 / Corruption Perception Index in Romania, 1996-2015



Note: The scale ranges from 0 to 100, from highly corrupt to highly clean.

Source: Transparency International.

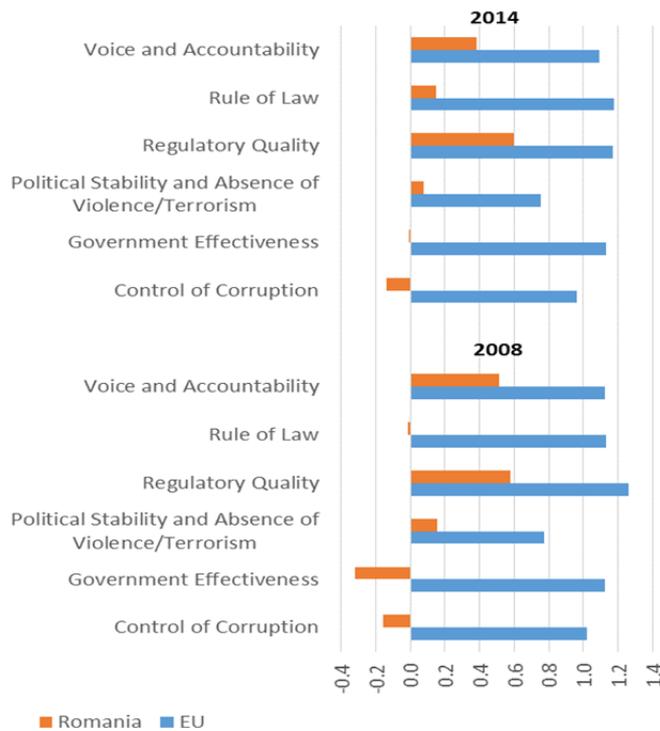
Figure 4.34 / Quality of Government Index in Romania and lagging regions, 2010 and 2013



The scale ranges from 1 to 100, higher values corresponding to a better quality of government.

Source: N. Charron, L. Dijkstra and V. Lapuente (2015), 'Mapping the Regional Divide in Europe: A Measure for Assessing Quality of Government in 206 European Regions', *Social Indicators Research*, 122(2), pp. 315-346.

Important steps have been taken to tackle these issues over the recent past (such as the 2012-2015 National anti-corruption strategy, the Public administration strategy, the 2014-2020 National strategy on public procurement and the 2015-2020 Strategy for the development of the judiciary), and the survey evidence suggests that there has been some improvement, but there is still some way to go.

Figure 4.35 / Worldwide Governance Indicators in Romania, 2008 and 2014

Note: The scale ranges from -2.5 to 2.5, higher values corresponding to better governance.

Source: Worldwide Governance Indicators, World Bank.

Education

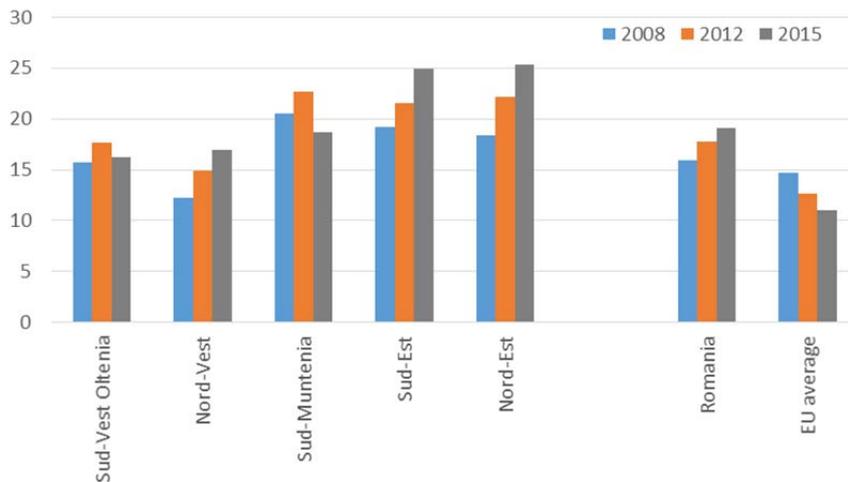
The **early school leaving rate** was relatively high in 2015, with 19% of those aged 18-24 leaving education without adequate qualifications in 2015 as against an average of 11% in the EU. Moreover, the rate has risen over recent years instead of declining as elsewhere in the EU. In two of the lagging regions, Nord-Est and Sud-Est again, the relative number of young people leaving education with no qualifications beyond basic schooling was higher, at 25%.

At the same time, the proportion of **working-age population with tertiary education** was well below the EU average (17% for those aged 25-64 as against an EU average of 30%). Although the proportion is larger for younger age groups, indicating that there is an upward trend in participation in tertiary education, it was still much smaller than in other parts of the EU (29% for those aged 25-34 as opposed to an EU average of 40%). The proportion is smaller than the national average in all the lagging regions, most especially in Sud-Muntenia, Nord-Est and Sud-Est, where only 21-22% of young people aged 25-34 had tertiary education, close to half the EU average.

The proportion of working-age population **participating in continuing education or training** after leaving the initial education system was also considerably below the EU average. In 2015, only just over 1% of those aged 25-64 participated in education or training, a small fraction of the EU average (11%). The difference, moreover, has widened rather than narrowed over recent years. This implies that workers have limited opportunity to learn new skills and adapt to changes in technology and methods of

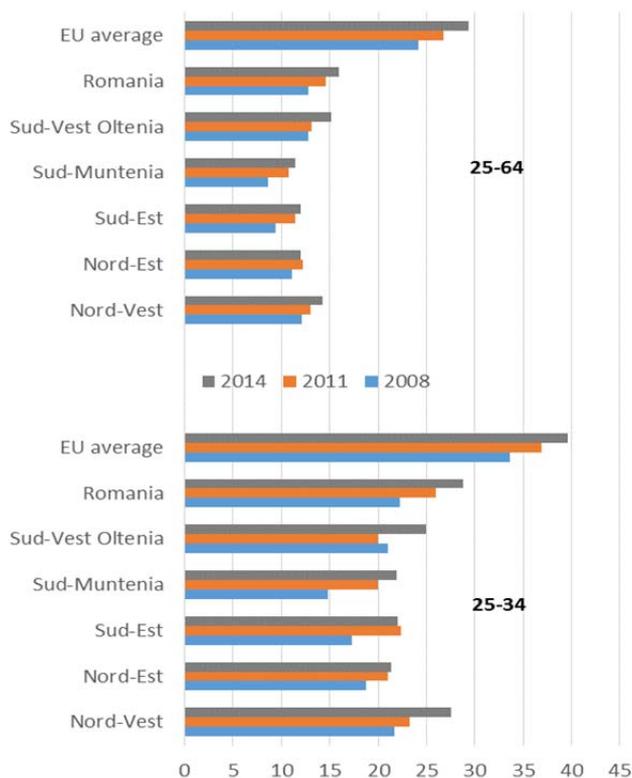
working, with adverse effects on the quality of the workforce and the attractiveness of the country as a location in which to invest.

Figure 4.36 / Early leavers (18-24) from education and training in Romania and lagging regions in 2008, 2012 and 2015



Source: Eurostat, LFS [edat_lfse_16].

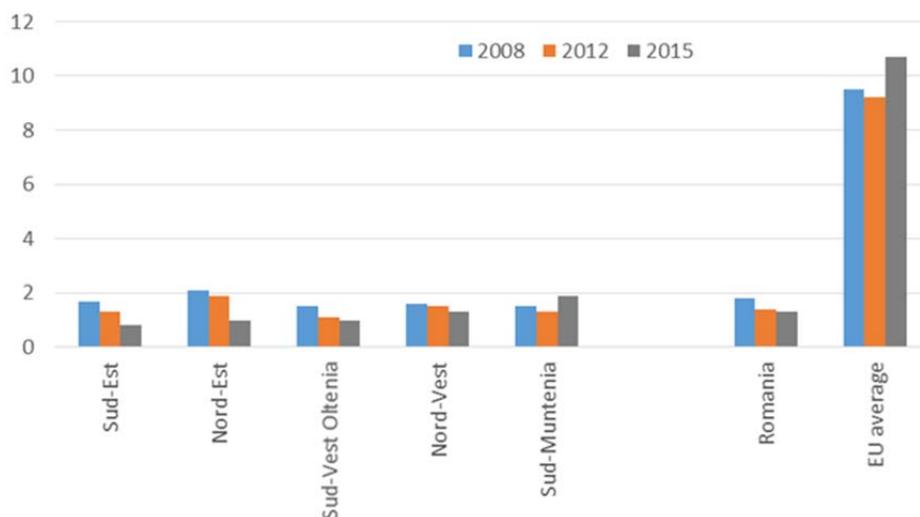
Figure 4.37 / Proportion of people with ISCED 5-8 in Romania and lagging regions in 2008, 2011 and 2014



Source: Eurostat, LFS microdata.

In three of the lagging regions (Sud-Est, Nord-Est and Sud-Vest Oltenia), the proportion participating in continuing education or training was even smaller than the national average, at less than 1%. In the other two, Nord-Vest and Sud-Muntenia, the proportion was around the average or slightly above and, therefore, still only around 1-2%. In all of the lagging regions, the proportion in 2015 was either smaller than it was in 2008 or not significantly larger.

Figure 4.38 / Participation rate of 25-64 in continuing education or training in Romania and lagging regions in 2008, 2012, and 2015



Source: Eurostat, LFS [trng_lfse_04].

Some action has been taken over recent years to modernise and improve the education system (including by implementing various measures to reduce early school leaving, and increasing the quality and access to vocational education and training as well as apprenticeship), but there is little evidence as yet of this being reflected in a reduction in early school leaving and action to increase participation in lifelong learning remains to be taken.

4.3. SITUATION IN OTHER AREAS

The OECD ranked Romania as 19th of the 28 EU Member States in terms of the ease of doing business. While the ease of starting a business was assessed as being around the EU average, the increase in the time required to register for Value Added Tax planned in 2017 will increase the difficulty. On the other hand, enforcing contracts was made easier in 2016 and the insolvency system improved.

Various measures have been implemented in the recent past to support the employment of disadvantaged groups and to increase the capacity of the Public Employment Services, but access to the labour market is still a challenge for the most vulnerable people, and, in particular, for young people. The unemployment rate of young people aged 15-24 with tertiary education was much higher than the EU average (33% as opposed to 17% in 2015), similar to the country average in four of the lagging regions and even higher in the fifth, Nord-Vest (49%).

5. Effects of structural reforms

5.1. INTRODUCTION

Although economic theory – or, more accurately, particular strands of theory – might predict that structural reforms can assist the development of lagging economies, it cannot simply be assumed that they will have such an effect. An attempt has therefore been made to assess the effect of the reforms introduced on the performance of the 8 Member States and, more particularly, on the lagging regions in them in relation to the aspects they were intended to address. The examination below focuses on the effects of Labour Market Reforms.

5.2. THE EFFECT OF LABOUR MARKET REFORMS

Analysis of the effects of Labour Market Reforms (LMRs) is given priority over reforms in other policy areas for several reasons. First, from a detailed review of the structural imbalances in the 8 Member States, it is evident that although the labour market has been subject to many reforms in most of the 8 Member States in the last decade, the situation remains unfavourable in most lagging regions and in low growth regions in particular. Secondly, Part I⁹ has shown that rigidities in the labour market in all lagging regions, and again in the low growth regions in particular, tend to exacerbate other structural weaknesses and widen existing disparities, especially in respect of human capital and labour market opportunities, resulting in underinvestment and lagging growth. Thirdly, given the data available, the labour market is the policy area where an investigation of the effects of reforms can be most readily carried out.

The aim is to assess the effects of labour market reforms (LMRs) on regional performance measured in terms of productivity, investment and cost competitiveness. The last indicator of performance deserves some clarification. Although it would be preferable to examine the effect on overall competitiveness and not simply cost competitiveness, the data to do so are lacking at the regional level. Competitiveness, therefore, should really be defined in terms of trade performance which is the ultimate goal of improving competitiveness, but the tendency is to define the latter in terms of relative costs alone, which are only element of trade performance and, in many cases, not the main or decisive one. There is equally a tendency to regard reductions in relative costs, particularly in unit labour costs, as improving competitiveness, defined in these terms, which it may well do in the short and medium term but not necessarily in the longer term if it adversely affects technological advance, innovation and the development of new products (which it may do by discouraging investment, especially in capital-intensive methods of production and shifts of activity into other sectors). It should also be said that productivity performance is particularly important in the traded goods and services sectors and less at the overall economy level, though there is often in practice a relatively close relationship between the two.

⁹ 'Economic Challenges of Lagging Regions I: Fiscal and Macroeconomic Environment', *wiiw Research Report* No. 421.

The approach adopted consists of summarising the main challenges on the labour market in the 8 countries covered by the study, of explaining the data compiled on LMRs which are used to gauge the effects, of setting out the way in which these reforms are believed, according to economic theory, to affect regional performance, of testing the transmission channels concerned on the basis of a partial correlation analysis and of reviewing the developments in regional performance over the period 2000-2014, distinguishing between low growth and low income regions.

It should be stressed that the results of the analysis do not necessarily imply that the reform in question led to the change which is observed in the target variable or that it was the major cause of the change. Other things could well have been happening at the time which affected developments, which are not taken into account here. All that the analysis is attempting to do is to see whether there is evidence that the change which was expected to occur as a result of a particular reform actually did so. If a change is observable, then it can be taken as prima facie evidence of the reform having the intended effect, but it remains to investigate whether it was in fact a significant cause of the change or whether other factors were (more) responsible. It also remains to examine whether the way in which the change was brought about was in line with the theory underlying the reform or whether the channels, or mechanisms, through which it worked differed from those expected. Equally, the fact that no change might be observable does not necessarily mean that the reform concerned had no effect, since it may be that the effect was offset by other factors, or other developments, which shifted the target variable in the opposite direction. It can be said, however, that the effect of the reform was not strong enough to counteract the other factors, or developments, in question.

It should also be stressed that the reforms in question are not necessarily aimed at tackling structural problems but are those which were implemented over the period in the countries concerned. In some cases, they may have gone against the country-specific recommendations made by the Commission because, for example, they were intended to achieve a different objective, such as increasing income support to the unemployed which may have been regarded as inadequate, even though it might lessen incentives to work.

5.3. MAIN LABOUR MARKET CHALLENGES IN THE 8 COUNTRIES

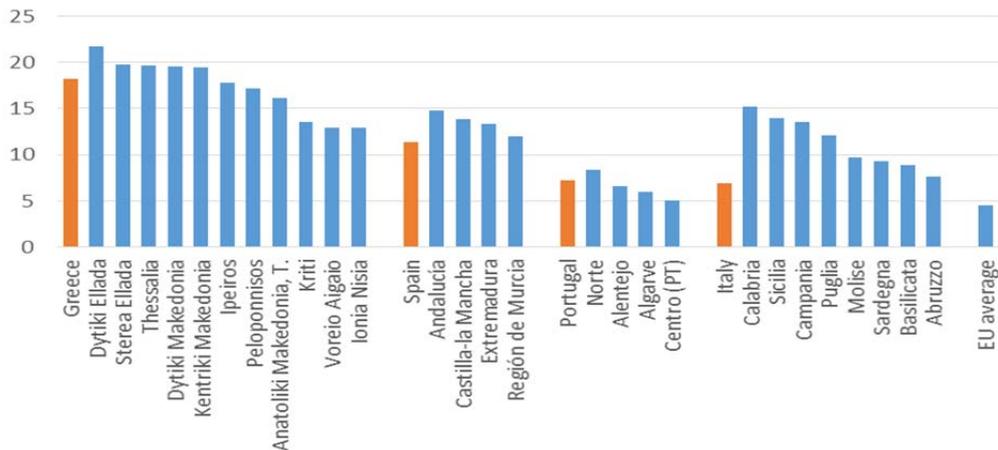
Rigidities in the labour market seem to affect all the 8 Member States covered in this study, though the situation in Hungary and Romania seems less problematic than in the other 6 countries. The main structural issues in the labour markets in these countries are summarised below.

Long-term unemployment

Not only was the unemployment level higher in Greece, Spain, Portugal and Italy than in the EU, but over half of the unemployed in these countries had been out of work for a year or more in 2015 (in particular in Greece where the proportion was 73%), reflecting structural problems in the labour market. Some 18% of the active population was, therefore, long-term unemployed in Greece and 11% in Spain as against an EU average of 4.5%. Though the unemployment rate in Bulgaria was slightly below the EU average, here as well a large majority of the unemployed (61%) had been out of work for a year or more (compared with an EU average of 48%).

The problem was generally more severe in the lagging regions than in the country as a whole. In Spain, and Italy, the long-term unemployment rate was higher in all the lagging regions, while in Greece it was higher in around half of them and only in Norte in Portugal.

Figure 5.1 / Long-term unemployment rate (% of total active population) in Greece, Spain, Portugal and Italy in 2015

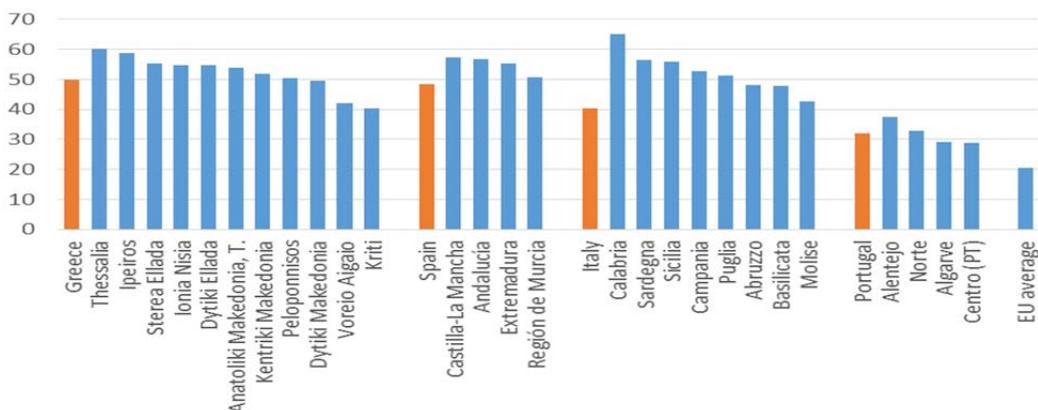


Source: Eurostat, LFS [tgs00053, tesem130].

Youth unemployment

High levels of unemployment among young people relative to older age groups are also a sign of a segmented labour market where new entrants find it difficult to find work. Youth unemployment was particularly high in Greece and Spain, where about half of young people aged 15-24 who had entered the labour market were unemployed in 2015 (as against an average of 20% in the EU). In Italy and Portugal, the corresponding proportion was lower (40% and 32%, respectively), but still well above the EU average.

Figure 5.2 / Youth unemployment rate in Greece, Spain, Italy and Portugal in 2015



Source: Eurostat, LFS [lfst_r_lfu3rt].

In the lagging regions, young people entering the labour market face even greater difficulties of finding a job. In all the lagging regions in Spain and Italy, in most of the lagging regions in Greece and in Alentejo and Norte in Portugal, the youth unemployment rate was higher than the national average. In Thessalia in Greece, the rate was as high as 60% in 2015 and in Calabria in Italy, 65%, i.e. over three times the EU average.

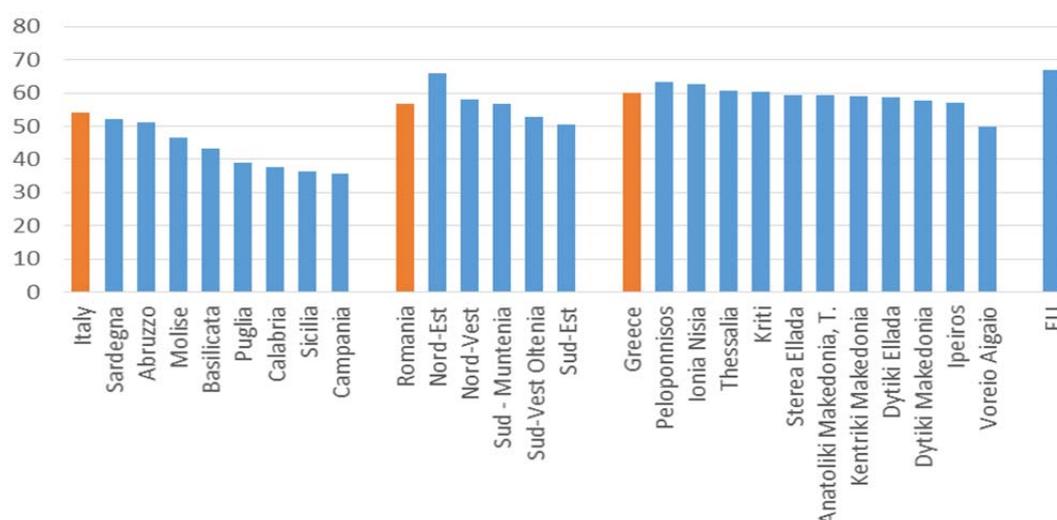
On a positive note, in each of these four countries, youth unemployment has declined over the recent past, possibly reflecting the measures implemented under the Youth Guarantee scheme, though it remains high.

Youth unemployment rates among those with a university education or equivalent are particularly high in these countries as well (ranging from 32% in Portugal to 50% in Greece in 2014, as compared with an EU average of 17%), emphasising the difficulties of young people finding a job. The rate was even higher in a number of the lagging regions, such as in Abruzzo in Italy (80%) or Thessalia in Greece (71%). In particular in Italy (and to a lesser extent in Greece and Spain), this is reflected by the low employment rates of young people with tertiary education, with only 49% of those aged 25-29 with this level of qualification in employment in 2015 as against an EU average of 80%. Although the rates are higher in Greece (58%) and Spain (70%), they are still well below the EU average.

Low participation rates

Accessing the labour market is difficult for women too. Low participation rates among women serve not only to reduce the size of the workforce but to deprive employers of potential skills. The participation rates of women of working age (15-64) are particularly low in Italy (54%), Romania (57%) and Greece (60% in 2015) as against an EU average of 67%. While in Greece, there has been some increase since 2013, the rate has tended to decline over the recent past in Romania and Italy.

Figure 5.3 / Female participation rates in Italy, Romania and Greece, in 2015



Source: Eurostat, LFS [lfst_r_lfp2actrt].

Moreover, participation rates of women are lower than the country average in most of the lagging regions. This is the case in all the Italian lagging regions, especially in Campania and Sicilia (where in both cases the rate was only 36% in 2015). The same is true in Greece for 7 of the lagging regions and in Romania for 3 of the lagging regions.

Participation rates of women in Italy as well as Hungary are particularly low among those with tertiary education (around 80% in both countries against 86% in the EU in 2015), implying that skills which are potentially important for growth are not sufficiently used. In all the lagging regions of these countries, the rates were even lower, and particularly so in the Italian regions of Calabria and Molise where participation rates among women with tertiary education were only around 70%.

In Poland, the problem is more acute among women with upper secondary education (only 62% of those aged 25-64 being in employment as against an EU average of 74%) who make up the majority of women of working age. In two of the lagging regions, Warmińsko-Mazurskie and Podkarpackie, the participation rate of women with this level of education was lower still (59% and 61%, respectively). Moreover, the rate has remained almost unchanged over the past decade or so while in the rest of the EU, it has increased.

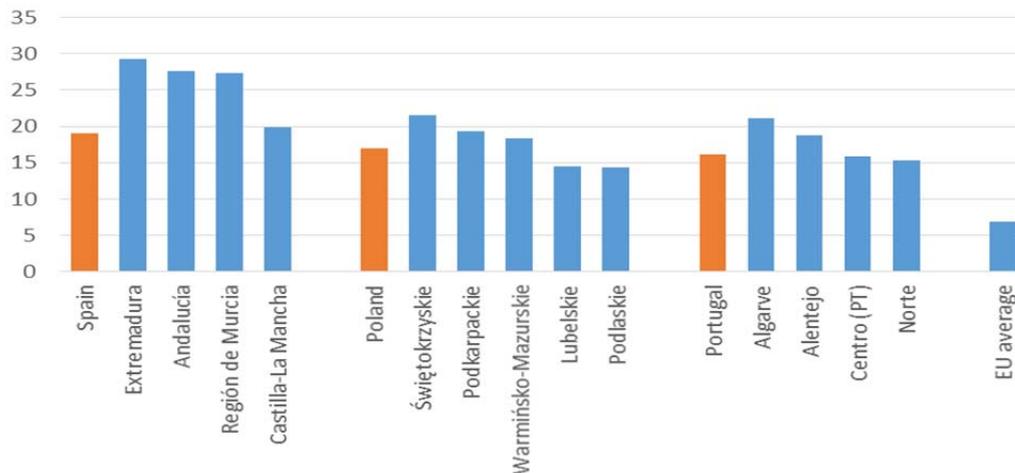
Temporary work

A significant number of people working on temporary contracts of employment is a further sign of a segmented (or two-tier) labour market, especially if they work in the jobs concerned involuntarily because they are unable to find a permanent job (or one with a standard open-ended contract of employment). Involuntary temporary employment is widespread in Spain, Poland and Portugal, not only suggesting a segmented labour market but one which deters employers from providing continuing training to upgrade or extend the skills of their workforce and which, accordingly, is likely to have a detrimental effect on productivity. In 2014, 16-19% of all employees aged 25 and over in these countries (i.e. excluding young people many of whom in many countries are employed on short-term training or probationary contracts) were in jobs with temporary contracts of employment because they could not find a permanent job, as compared with an EU average of only 7%.

In Spain, the proportion was even larger in all the lagging regions (almost 30% of employees in Extremadura were working in temporary jobs involuntarily), in Poland in three of the lagging regions and in Portugal, in two of them.

There is no sign of any reduction in the use of temporary contracts over recent years in any of these countries – indeed, in many lagging regions and particularly those in Spain (such as Extremadura) but also in Świętokrzyskie in Poland, the use has risen markedly – suggesting that labour market segmentation is not tending to decline over time and in some places is expanding. According to the OECD Employment Protection Legislation indicators, regulations on the use of fixed-term contracts in Spain have tended to become laxer over recent years rather than being tightened. In Portugal and Poland, a reduction of the maximum duration of fixed-term contracts was announced for 2017, but it remains to be seen what effect this will have on the numbers concerned.

Figure 5.4 / Proportion of employees (25 and over) in temporary jobs because they could not find a permanent job in Spain, Poland and Portugal in 2014



Source: Eurostat, LFS microdata.

Limited wage bargaining at firm level

The fact that firm-level bargaining remains largely under-developed in Italy, Portugal and Spain contributes further to labour market rigidities by limiting the extent to which wages can adjust to productivity and labour market conditions, with potential adverse effects on competitiveness and investment.

5.4. LABOUR MARKET REFORMS

The reforms covered by the analysis are those set out in the country reports of the 8 Member States, included as Online Annexes¹⁰ to this report and summarised above. These reforms are combined with those listed in the LABREF database established in 2005 on the initiative of the European Commission's Directorate General for Economic and Financial Affairs (DG ECFIN) and the Labour Market Working Group (LMWG) attached to the Economic Policy Committee (EPC) of the ECOFIN Council.

The LABREF is a descriptive database covering labour market and welfare policy measures for the EU28 over the period 2000-2014 (for Romania and Bulgaria, data start in 2003; for Croatia, in 2012). Information up to 2013 has been validated by Members of the Economic Policy Committee of the ECOFIN Council. Information relating to 2014 is in the process of being validated. The measures reported in LABREF relate to legislation which has been enacted, as well as to other public acts of general scope, including measures entailing changes in the implementation framework of a previously adopted measure. In addition, they also encompass relevant collective and tripartite agreements. The database does not record information on planned reforms or draft bills (which might give rise in anticipation to changes in behaviour).

¹⁰ See *wiiw Research Report No. 425*, 'Online Annex – Economic Challenges of Lagging Regions: Annex I – Country Case Studies' and *wiiw Research Report No. 426*, 'Online Annex – Economic Challenges of Lagging Regions: Annex II – Economic Analysis and Supplementary Tables'.

The database is organised into 9 broad policy areas:

1. active labour market programmes
2. disability and early retirement schemes
3. immigration and mobility
4. job protection legislation
5. labour taxation
6. other welfare-related benefits
7. unemployment benefits
8. wage bargaining
9. working time organisation

Policy areas are further divided into 49 policy fields. Annex A gives a detailed overview of the policy fields covered by each broad policy area.

Policy measures within each one of the 49 policy fields can be very heterogeneous as regards their impact on labour market outcomes. For analytical purposes, a basic distinction has to be made on the way that the underlying policy setting is affected by the reform. Accordingly, a reform is said to be of an 'expanding' or 'increasing' (or 'contracting', 'decreasing') nature whenever the measure raises (or lowers) the scope and level of taxes or monetary benefits. It is said to be 'tightening' when a reform is aimed at increasing the stringency of a particular regulation and 'relaxing' when it is intended to have the opposite effect. Details are set out in Annex B.

Main characteristics of the LMRs in the lagging region countries

The main types of reform measure implemented in the 2000-2014 period were Active Labour Market Policies (ALMPs in Table 5.1). These were essentially aimed at increasing or improving the provision of vocational training, public employment services and their role in job-seeking assistance and job-counselling, employment subsidies and special schemes for young people. Nearly all measures taken were 'expanding' in nature, i.e. they consisted of increasing the availability, generosity, or effectiveness of ALMPs.

Other LMRs concerned labour taxation and more specifically income taxation and employers' and employees' social security contributions. While in the EU on average 70% of the measures taken in labour taxation were aimed at reducing the tax wedge between total labour costs and wages, in the lagging region countries, 'decreasing' measures accounted for a slightly smaller share (two thirds). A third of the measures taken therefore were aimed at increasing taxes in this area.

Job protection measures were more frequently implemented in the low growth region countries, i.e. in the 4 southern EU15 Member States, Italy, Spain, Greece and Portugal, than in the low income region countries, i.e. in Bulgaria, Romania, Hungary and Poland, the 4 EU13 countries, as well as in the EU on average. It should be noted that while in the EU28 on average the share of measures strengthening job protection (i.e. those consisting of increasing protection against job dismissals, rights and working conditions of workers) was slightly larger than the share of measures weakening it, there are marked differences between the lagging region countries. In the 4 EU15 countries, the focus was more on

weakening job protection. In the EU13 countries, on the contrary, the focus was more on strengthening it to give employees more protection, against dismissal in particular.

Table 5.1 / Labour market reform measures implemented in the 2000-2014 period

Policy areas	EU28	Lagging region	Low growth	Low income	EU28	Lagging region	Low growth	Low income
		countries	region	region		region	countries	region
Number of reforms				Relative share (%)				
ALMPs	1,109	371	214	157	29	27	25	30
Contracting measures	31	6	3	3	1	0	0	1
Expanding measures	1,069	363	211	152	27	26	25	29
No change in intensity	9	2	0	2	0	0	0	0
Early Withdrawal	127	51	34	17	3	4	4	3
Easing measures	77	27	15	12	2	2	2	2
Tightening measures	47	23	19	4	1	2	2	1
No change in intensity	3	1	0	1	0	0	0	0
Immigration/Mobility	210	69	47	22	5	5	5	4
Relaxing measures	154	45	31	14	4	3	4	3
Tightening measures	53	22	15	7	1	2	2	1
No change in intensity	3	2	1	1	0	0	0	0
Job Protection (EPL)	432	193	136	57	11	14	16	11
Relaxing measures	201	105	81	24	5	8	9	5
Strengthening measures	225	86	53	33	6	6	6	6
No change in intensity	6	2	2	0	0	0	0	0
Labour Taxation	657	239	139	100	17	17	16	19
Decreasing Labour Taxation	462	152	86	66	12	11	10	13
Increasing Labour Taxation	160	77	47	30	4	6	5	6
No change in intensity	35	10	6	4	1	1	1	1
Welfare-related benefits	421	112	55	57	11	8	6	11
Decreasing Welfare-rel. benefits	104	21	6	15	3	2	1	3
Increasing Welfare-rel. benefits	309	88	49	39	8	6	6	7
No change in intensity	8	3	0	3	0	0	0	1
Unemployment benefits	300	108	78	30	8	8	9	6
Decreasing Unempl. benefits	146	43	24	19	4	3	3	4
Increasing Unempl. benefits	148	62	52	10	4	4	6	2
No change in intensity	6	3	2	1	0	0	0	0
Wage Setting	248	115	86	29	6	8	10	6
Moderating measures	149	83	64	19	4	6	7	4
Increasing measures	87	28	19	9	2	2	2	2
No change in intensity	12	4	3	1	0	0	0	0
Working Time	386	126	69	57	10	9	8	11
Expanding measures	164	56	34	22	4	4	4	4
Reducing measures	217	68	33	35	6	5	4	7
No change in intensity	5	2	2	0	0	0	0	0
All LMP reform measures	3,890	1,384	858	526	100	100	100	100

Source: Own calculations based on data from the LABREF database.

A distinctive feature of the 4 EU15 countries is that they have implemented a relatively small number of welfare-related measures, such as social assistance in the form of housing or means-tested benefits, family-related benefits or in-work benefits (such as tax credits). In the EU, on average, measures consisting of increasing the generosity of benefits or easing entitlement conditions to in-work benefits, social assistance, sickness benefits or family-related benefits, represented over 73% of the measures

taken in this policy area. The share of such 'increasing' measures was larger than this in the 4 EU15 countries, nearly 90%, but smaller in the 4 EU13 countries, where it represented just 68%.

Unemployment benefit measures were more often implemented in the 4 EU15 countries than in the 4 EU13 ones. There is also a marked difference in the kinds of measure taken. In the 4 EU15 countries, over two thirds of the measures consisted of increasing the generosity of unemployment benefits (replacement rates, duration, coverage) or easing entitlement conditions while in the 4 EU13 countries such 'increasing' measures represented only a third; the main focus being on reducing unemployment benefits to increase incentives to work.

There were also marked differences in wage setting measures, which were more often taken in the 4 EU15 countries than in the 4 EU13 ones. While the focus in both was on measures consisting of amending legislation or agreements to relax framework conditions for wage setting on the part of employers, resulting ultimately in wage moderation, the share of such 'moderating' measures was larger in the 4 EU15 countries (74%) than in the 4 EU13 ones (65%). In both, the share of 'moderating' measures overall was larger than in the EU28 on average (60%).

Reforms to working time regulation were slightly more often undertaken in the 4 EU13 countries than the EU15 ones. While in the latter there was a balance between measures reducing working time and those increasing it, in the EU13, the focus was more on measures reducing working time such as on tightening regulatory requirements on working time, improving the rights and conditions of part-time workers, raising the generosity or duration of parental/paternity/maternity leave or increasing access to sabbatical or educational leave.

Only a small number of reforms were concerned with migration and mobility policy and there are no marked differences between lagging region countries in this area. Around two thirds of the measures taken consisted of relaxing regulatory restrictions on migration or increasing support to mobility. This is a slightly smaller share than in the EU28 where relaxing measures represented over 73% of all those taken in this policy area.

The number of reform measures in respect of early withdrawal from the labour force was also relatively small. In the 4 EU13 countries these were for the most part (70%) 'tightening' measures consisting of reducing the generosity of early withdrawal schemes (early retirement or disability benefits) or tightening eligibility conditions in order to reduce the number of workers withdrawing prematurely from the labour force. In the 4 EU15 countries, on the other hand, there was a larger share of 'easing' measures (56%).

5.5. ASSUMED EFFECTS OF LABOUR MARKET REFORMS ON EMPLOYMENT, PRODUCTIVITY, INVESTMENT AND COMPETITIVENESS

From the above overview of LMR measures, it should be clear that these cover a wide variety of different kinds of intervention, each of which is likely to affect different sections of the labour market, and each of which is likely also to work via different channels to affect productivity, investment and cost competitiveness, i.e. the main performance indicators considered here. Consequently, the analysis of the effects arising from LMRs needs to distinguish between the different measures.

The main 'guide' in setting the hypotheses about the expected transmissions from LMRs is economic theory. This forms the basis for the transmission mechanisms identified in the relevant literature which covers the publications by the European Commission, the ECB¹¹ and the OECD¹² among others. The aim of this section is to briefly summarise the main expected effects from each of the LMR areas as assumed in the literature. Table 6 provides a synoptic overview.

Active labour market programmes (ALMPs) aim at improving the efficiency of the matching process in the labour market, reducing frictions in the filling of vacancies by assisting job seekers. ALMPs act on the costs of recruitment (through job counselling, placement services, etc.) as well as, with passive measures (unemployment benefits) on labour costs and wages (making work pay). Such measures encourage firms to create new vacancies and unemployed workers to accept jobs. Active labour market programmes to the extent that they aim at improving the public employment services, training, increasing subsidies for employment or for direct job creation are therefore assumed to have a positive and direct impact on employment. Contracting measures which consist of reducing the generosity or availability of the support should have the opposite effect. There are a few ALMP reform measures, such as training for instance, which can have a direct impact on productivity and competitiveness, and, in a second round, on investment. Again, 'expanding' training measures are assumed to affect productivity and competitiveness positively while 'contracting' measures should have the opposite effect.

High taxes on labour can depress labour supply and reduce firms' labour demand by driving up the cost of labour (due to high employers' contributions or payroll taxes). Such detrimental effects seem to be stronger for young and low-skilled workers, second earners and lone parents who can often face significant disincentives for full-time labour force participation. Therefore, 'decreasing' reform measures, i.e. those that reduce the labour tax wedge, are assumed to increase employment and reduce the scale of 'informal' employment. 'Increasing' measures, i.e. those consisting of increasing the labour tax wedge, are assumed to have an adverse effect on employment. Tax reforms can also affect economic growth via their influence on private investment and productivity. Decreasing reforms in labour taxation are assumed to lead to higher profit margins of firms and, via this channel, to increased investment. Investment in turn is a driver of productivity which in turn may lead to increased cost competitiveness (as well as overall competitiveness). 'Increasing' reform measures, i.e. those which increase the labour tax wedge, are assumed to have the opposite effect.

Reforms in respect of employment protection legislation (EPL), according to the mainstream literature, increase labour market flexibility and should tend to reduce structural unemployment by inter alia increasing labour mobility and productivity. Less stringent employment protection legislation (EPL) according to this view promotes an efficient allocation of labour resources by making it easier for firms to respond quickly to changes in technology or product demand that require reallocation of staff or downsizing. Therefore, EPL reforms that reduce the costs of hiring and firing can lead to higher productivity. Consequently, measures taken to reduce the restrictive nature of employment protection, particularly in sectors where labour turnover is 'naturally' high, should lead to increases in productivity and investment and, as a consequence, in the longer term to increases in labour demand. On the other hand, new OECD analysis finds that less strict employment protection is associated with lower investment rates, though the effect is small. At the same time, relaxing EPL should make employers

¹¹ ECB (2015), 'Progress with structural reforms across the euro area and their possible impacts', *Economic Bulletin*, Issue 2 and ECB (2015), 'The short-term fiscal implications of structural reforms', *Economic Bulletin*, Issue 7.

¹² OECD (2015), 'Structural reforms: impact on growth and employment – Italy'.

more willing to take on labour since the cost of dismissing workers if output does not expand as expected is reduced. The OECD, in fact, finds some evidence of such relaxation being associated with increased employment, which in turn is associated with higher GDP and investment.

Welfare-related benefits in the form of in-work benefits or tax credits are assumed to increase the financial incentive in favour of employment for those at the lower end of the labour market. 'Increasing' measures are therefore expected to have a positive impact on labour supply but if these are small, sector-specific, or temporary as tends to be the case, the effects on the aggregate level of employment might also be small. Investment is supposed to be stimulated by the demand effects from increased employment to the extent that it occurs (though such effects are influenced by the way the benefits are financed). Decreasing welfare-related benefit schemes are assumed to have the opposite effect.

All other things being equal, it can be assumed that reductions in working time (i.e. 'reducing' measures) can create labour demand just to keep the overall time worked unchanged. According to the work-sharing assumption, working time reductions are indeed assumed to have a positive effect on employment. At the same time, flexible forms of work, such as part-time and temporary arrangements, can help certain groups enter the labour market (e.g. young, parents with childcare or older workers) and increase labour supply. Many of the empirical studies carried out however come to the conclusions that reductions in working time have a limited effect on employment.¹³ So far as the effect from reductions in working time on productivity are concerned, the empirical evidence suggests that shorter working hours are associated with higher labour productivity. Moreover, the literature suggests that 'flexible' working time arrangements can have positive effects on enterprise performance and keep down unit labour costs of production.¹⁴ According to a number of studies, the ability of workers to choose their working time arrangements has a positive effect on job performance and productivity. It results in a more satisfied workforce that are more committed and productive.¹⁵

There is a commonly shared view in the literature that wage rigidities and non-optimal wage setting can push up unemployment and increase the extent of labour market mismatches. Rigidities that reduce wage differentiation and flexibility can hinder the hiring of workers (e.g. the less skilled). Wage moderating reforms can therefore have a positive effect on labour demand. At the same time, however, they can have a negative impact on labour supply. The effect from wage setting reforms on employment is therefore uncertain, though in the present context, the demand effect can be assumed to predominate. The main effects from wage moderating measures are assumed to be on investment and competitiveness. According to the literature, the investment effect occurs via the higher profit margins

¹³ Crépon and Kramarz (2002) study the 1982 reduction of the work-week in France from 40 to 39 hours, finding that it did not create jobs but increased unemployment. Hunt (1999) finds similar results for gradual working time reduction in Germany. Investigating developments over the period 1984-94, she finds that working time reduction led to higher hourly wages and lower employment. Andrews et al. (2005) also find no evidence of positive employment effects of work-sharing in Germany. Skuterud (2007) presents an analysis of the Canadian province of Quebec where the standard workweek was gradually reduced from 44 to 40 hours, concluding that despite a 20% reduction among full-time workers in weekly hours worked beyond 40, the policy failed to raise employment. Varejao (2006) investigates the effects of the 1996 working time reduction in Portugal, finding that the policy originated a negative scale effect, a substitution of overtime for normal hours and wage restraint. He finds that the firms' reaction to the policy is affected by the presence of minimum wage earners and the use of overtime hours.

¹⁴ See for instance Golden (2012), International Labour Office.

¹⁵ See for instance Hill et al. (1998); Igbaria et al. (1999); Kelliher and Anderson (2010); Messenger (2004); Golden (2012).

that firms have available for investment. Investment in turn should help to improve productivity and competitiveness. The opposite can be assumed from 'increasing' wage setting measures.

While efficient social benefit systems are important so that displaced workers are protected against poverty and given facilities to help find new jobs, overly generous benefit systems may constitute disincentives to work. Measures implemented to reduce or increase unemployment benefits might under specific circumstances lead to higher or lower supply of labour. While the unemployment benefit system does certainly influence productivity, competitiveness and investment, the effects can come through a variety of different channels. It is therefore difficult to assume a particular effect from these.

Table 5.2 / Assumed effects of labour market reforms

Policy areas	Employment	Investment	Productivity	Competitiveness
ALMPs				
Contracting measures	-	((-))	(-)	(-)
Expanding measures	+	((+))	(+)	(+)
Early Withdrawal				
Easing measures	?	?	?	?
Tightening measures	?	?	?	?
Immigration/Mobility				
Relaxing measures	?	?	?	?
Tightening measures	?	?	?	?
Job Protection (EPL)				
Relaxing Job Protection (EPL)	((+))	(+)	+	+
Strengthening Job Protection (EPL)	((-))	(-)	-	-
Labour Taxation				
Decreasing Labour Taxation	+	+	(+)	(+)
Increasing Labour Taxation	-	-	(-)	(-)
Welfare-related benefits.				
Decreasing Welfare-rel. benefits	-	(-)	((-))	((-))
Increasing Welfare-rel. benefits	+	(+)	((+))	((+))
Unemployment benefits				
Decreasing Unemployment benefits	+	?	?	?
Increasing Unemployment benefits	-	?	?	?
Wage Setting				
Moderating measures	?	+	(+)	(+)
Increasing measures	?	-	(-)	(-)
Working Time				
Expanding measures	?	?	-	-
Reducing measures	?	?	+	+

Note: '+' indicates an expected positive effect, '-' a negative effect and '?' an undetermined effect. Brackets indicate that the effect is not a direct one but is assumed to occur via a transmission channel and is medium term in nature. Double brackets indicate that the effect is assumed to occur via several transmission channels and is long term in nature.

It is not easy to predict the effects from early retirement measures as the causal relationship between labour participation and employment is not always clear. 'Tightening' measures, i.e. those which decrease the generosity of early withdrawal schemes or tightening eligibility conditions, could have a positive impact on labour supply, output and living standards. Increasing the effective age of retirement should in addition alleviate the burden of ageing populations, so reducing the taxes or contributions needed to support those in retirement and improving public finances.

The immediate short-run effects of increased immigration on the wages and employment of existing workers depend particularly on the extent to which migrants have skills that are substitutes or complements to those of existing workers. If the skills of migrants and existing workers are substitutes, immigration can be expected to increase competition in the labour market and drive down wages in the short run. The closer they are substitutes, the greater the effect in pushing down wages will be. Whether and to what extent declining wages lead to workers withdrawing from the labour force depends not only on their willingness to accept the new lower wages but their access to alternative sources of income. If, on the other hand, the skills of migrants are complementary to those of existing workers, all workers might experience increased productivity which can be expected to lead to a rise in the wages of existing workers. In addition to expanding labour supply, immigration can also increase the demand for labour. Since migrants expand consumer demand for goods and services as well as potentially starting up new businesses, in the medium to long run, immigration can be expected to lead to more investment. Both effects result in greater demand for labour and thus increased wages and employment in the economy.

5.6. GAUGING THE EFFECTS

The approach adopted to verify if the assumed effects are reflected in the data is, as noted at the outset, a partial correlation analysis between the number of reform measures undertaken in the 2000-2014 period in the various LMR areas and the main variables of interest, namely growth of investment, productivity and cost competitiveness over the same period. Growth is measured in terms of either the annual average growth rate over the period in the variable concerned or the difference between the end and the start year of the period.

METHODOLOGICAL NOTE

It should be noted at the outset that the methodological approach adopted to gauge the effects at the level of the lagging regions is a two-step procedure which was adopted to overcome the constraint of the insufficient number of observations in relation to the number of independent variables. In a first step, four models were estimated, one for each dependent variable, which best explain the relationship between the dependent variables concerned and the various LMR measures, including a set of specific controls, covering all NUTS 2 regions in the EU (n=259). These models (which are set out in Annex C) were used to calculate the partial correlations for the full set of observations shown in Tables 5.3, 5.4, 5.7 and 5.8. In order to verify the predicted theoretical effect at the level of the lagging regions and the 8 Member States covered by the study, the two sets of residuals underlying each of the models, which are the basis of the partial correlations for the full sample of observations, were used in a second step. This consisted of calculating 'simple correlations' between the residuals for the lagging regions both overall and within each of the 8 countries. It should be noted that while for the full sample of observations these 'simple correlations between the residuals' are equal to the partial correlations obtained in the first step, this is not the case for any subset of observations. In consequence, the correlations for the lagging regions (overall and within each of the 8 countries) and for the 8 Member States cannot be interpreted as 'partial correlations' *stricto sensu*. The terms are nevertheless used interchangeably in what follows.

Employment

Many of the LMRs typically have a direct effect on labour demand and/or labour supply. Before looking at the effects of the reforms on investment, productivity and cost competitiveness, therefore, it is useful to verify if the assumed employment effects from LMRs are confirmed by the data. Many of the assumed productivity investment and cost competitiveness effects come in any case from the effect on employment which is supposed to affect demand and output and through this, investment and productivity.

Table 5.3 / Partial correlation between the number of LMR measures taken in 2000-2014 and annual average growth rate in employment over the same period

	expected relation	Employment annual average growth rate 2000-2014	
		part. corr.	sign.
ALMPs			
Contracting measures	-	0.20	0.00
Expanding measures	+	0.16	0.01
Early Withdrawal			
Easing measures	?	0.11	0.08
Tightening measures	?	0.01	0.88
Immigration/Mobility			
Relaxing measures	?	0.02	0.82
Tightening measures	?	0.18	0.01
Job Protection (EPL)			
Relaxing Job Protection (EPL)	((+))	-0.04	0.52
Strengthening Job Protection (EPL)	((-))	0.03	0.64
Labour Taxation			
Decreasing Labour Taxation	+	0.15	0.02
Increasing Labour Taxation	-	-0.18	0.01
Welfare-related benefits.			
Decreasing Welfare-rel. benefits	-	0.30	0.00
Increasing Welfare-rel. benefits	+	-0.13	0.05
Unemployment benefits			
Decreasing Unemployment benefits	+	-0.38	0.00
Increasing Unemployment benefits	-	0.05	0.44
Wage Setting			
Moderating measures	?	0.04	0.58
Increasing measures	?	0.38	0.00

Note: Cells highlighted in green indicate statistically significant correlations in line with expectations. Cells not highlighted indicate significant coefficients but ones which are not in line with expectations. Cells highlighted in yellow indicate significant coefficients for indeterminate effects. Cells highlighted in grey indicate statistically insignificant correlations at the 5% level. '+' indicates an expected positive effect, '-' a negative effect and '?' an indeterminate effect. Brackets indicate that the effect is not a direct one but is assumed to occur via a transmission channel and is medium term in nature. Double brackets indicate that the effect is assumed to occur via several transmission channels and is long term in nature.

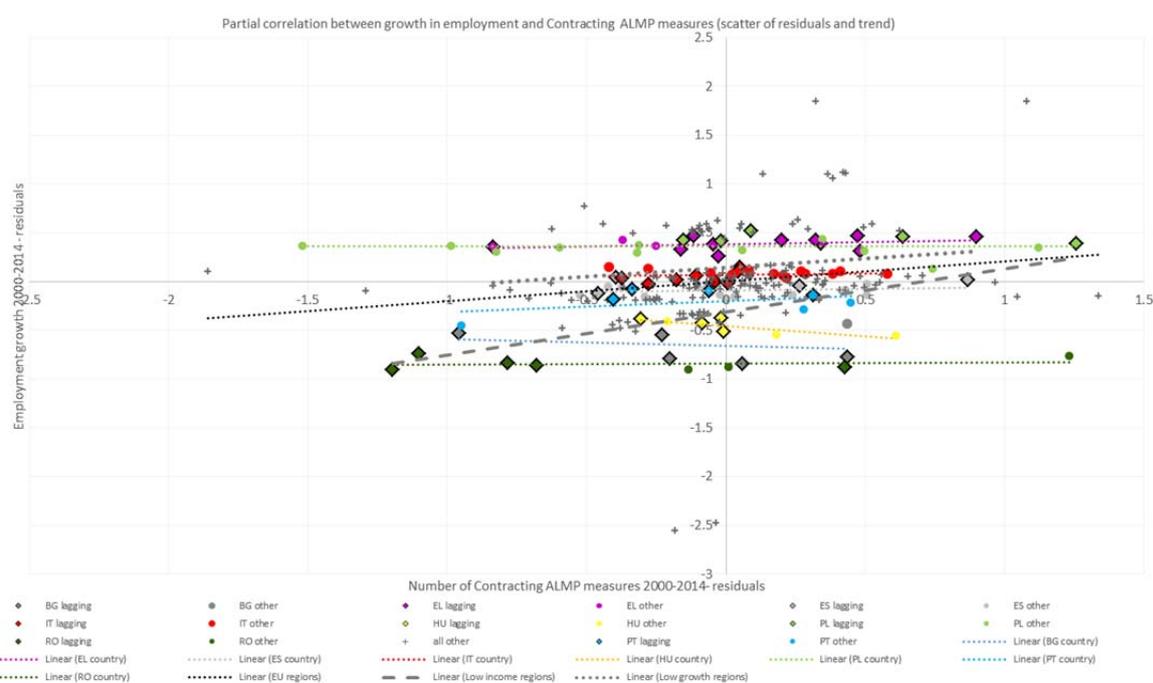
For the specification of the underlying model, see Annex C.

The number of reforms concerning working time had to be excluded because they were strongly correlated with the number of reforms in wage setting.

Source of data: Labour market reform measures – LABREF database, all other data – Cambridge Econometrics, European Regional Data.

The results from the partial correlation analysis between the various LMPs and growth in employment over the period 2000-2014 are summarised below. Details of the underlying econometric specification are set out in Annex C. For those reform measures in Table 5.3 which are statistically significantly partially correlated with growth in employment, the residuals underlying the partial correlations coefficients are shown in Figures 5.5 to 5.10. The correlation coefficients between the residuals (and their p-value of significance) for the low growth and the low income regions as well as for the lagging regions in each of the 8 Member States and the Member States themselves are summarised in the tables below the figures.¹⁶

Figure 5.5 / Partial correlation between growth in employment and number of contracting ALMP measures (scatter of residuals and trend)



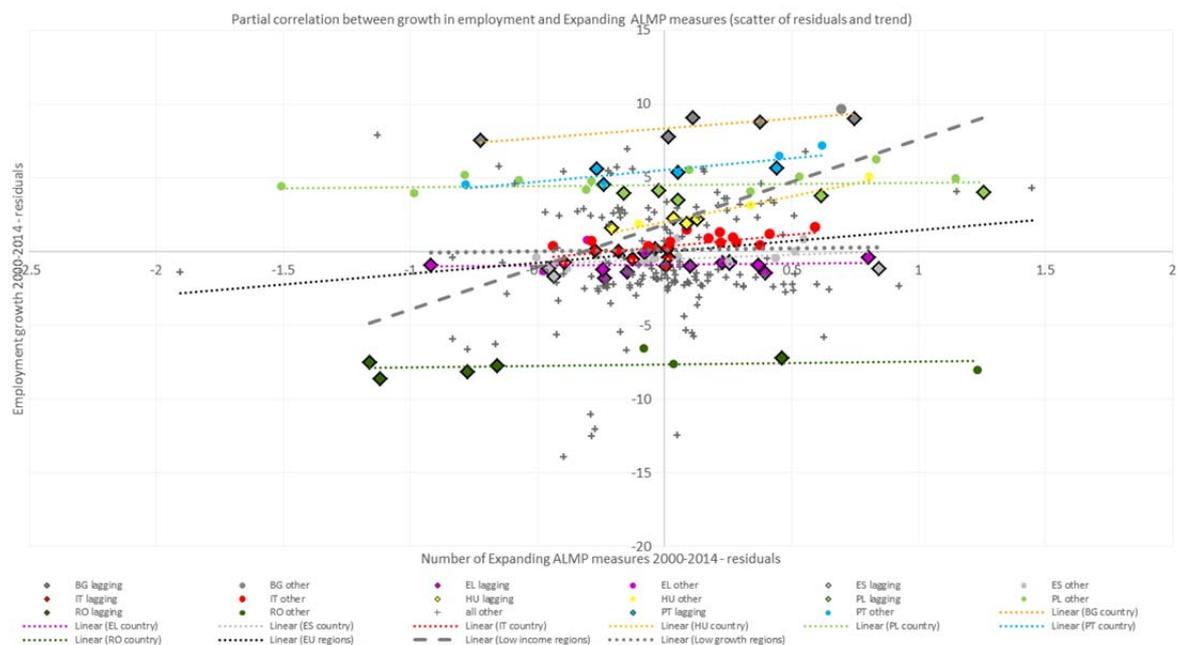
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.15	0.51	0.17	0.47	0.43	0.33	0.30	0.32	-0.20	0.70	0.15	0.72	-0.02	0.94	-0.80	0.02	0.20	0.00	0.33	0.09	0.51	0.02
lagging reg.	0.49	0.20	0.35	0.62	0.06	0.93	0.36	0.27	-0.73	0.12	-0.29	0.62	-0.38	0.51	-0.52	0.44						

The number of **Active Labour Market Programmes** (ALMPs in Table 5.3) undertaken in the 2000-2014 period and aimed at increasing the availability, generosity and effectiveness of support (i.e. the 'expanding' schemes in Table 5.3) is positively correlated with employment growth over the same period. This is the case in the EU overall and in the low income regions. The correlation in the latter is stronger than in the EU on average. It is strongest in Hungary for all regions but it is not significant for the lagging regions taken alone. It is also stronger for the lagging regions in Bulgaria as well as for all regions. In the low growth regions overall, the relationship is not statistically significant, though it is

¹⁶ The colour code in these summary tables is the same as in Table 5.3. Cells highlighted in green indicate statistically significant correlations in line with expectations; cells not highlighted indicate significant correlations but ones which are not in line with expectations; cells highlighted in grey indicate statistically insignificant correlations at the 10% level.

significant for regions in Italy and Portugal but not for the lagging regions considered alone (Figure 5.6). It should be noted that ‘contracting’ ALMP measures were however also positively correlated with employment growth in the EU on average but not in Hungary where the partial correlation is in line with the effect predicted by the literature (Figure 5.5).

Figure 5.6 / Partial correlation between growth in employment and number of expanding ALMP measures (scatter of residuals and trend)



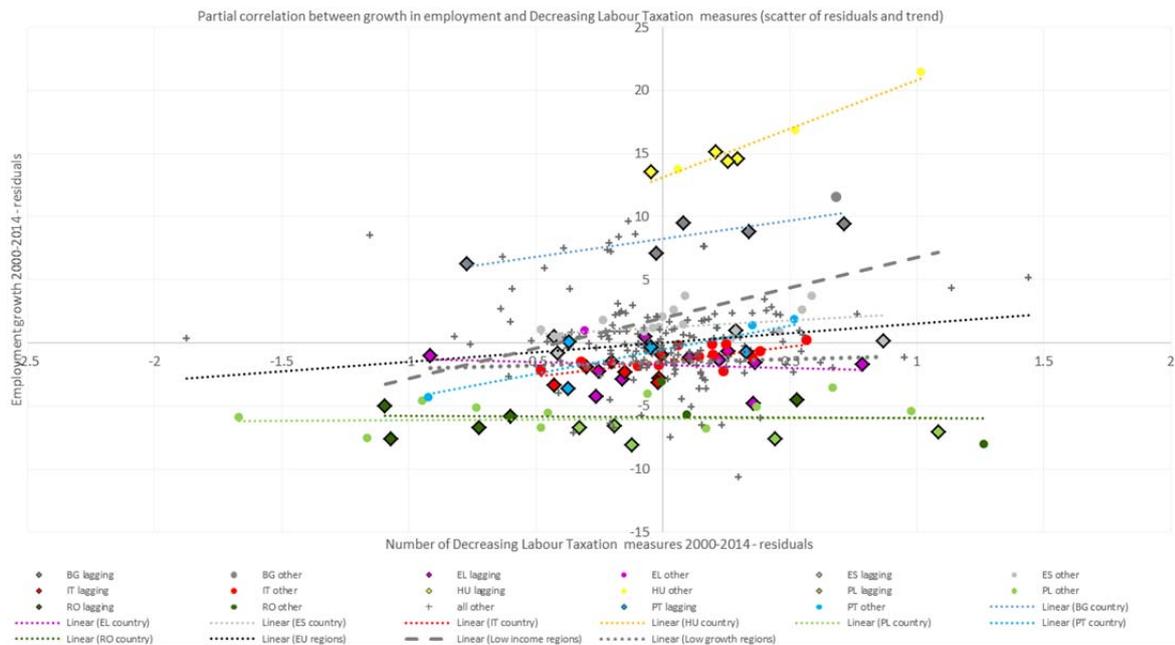
correlations	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.60	0.00	0.35	0.14	0.85	0.01	0.07	0.82	0.86	0.02	0.27	0.51	0.14	0.60	0.97	0.00	0.16	0.01	0.03	0.88	0.57	0.01
lagging reg.	0.12	0.77	0.49	0.47	0.49	0.47	0.27	0.41	0.82	0.05	0.65	0.20	0.14	0.82	0.78	0.15						

The measures taken to reduce **labour taxation** (i.e. ‘decreasing’ schemes in Table 5.3) were also positively (and significantly) correlated with employment growth in the EU overall, in Bulgaria and Hungary among the 4 EU13 countries and in Italy and Portugal for the 4 EU15 one. For the lagging regions alone, the relationship only holds for Bulgaria. This result suggests that reductions in social security contributions or income taxes operated in these countries as incentives for enterprises to create additional jobs. The relationship for both the low growth and low income regions is not significant (Figure 5.7). Symmetrically, there is a statistically significant negative relationship between measures to increase labour taxation and the change in employment in the EU on average. In this case, the correlation is also significant in the low income regions. For individual countries, the expected relationship holds for in Romania for the lagging regions and in Hungary for all regions (Figure 5.8).

The assumed negative association between ‘decreasing’ **welfare-related benefits** and employment growth is only partly confirmed by the data. While such an association is found for Romania and Poland among the 4 EU13 countries, the association is positive rather than negative for the low income regions. It is also positive for the low growth regions and for the EU as a whole (Figure 5.9). Decreasing welfare-

related benefits, therefore, do not seem to be associated with lower employment growth in most countries.

Figure 5.7 / Partial correlation between growth in employment and decreasing labour taxation measures (scatter of residuals and trend)



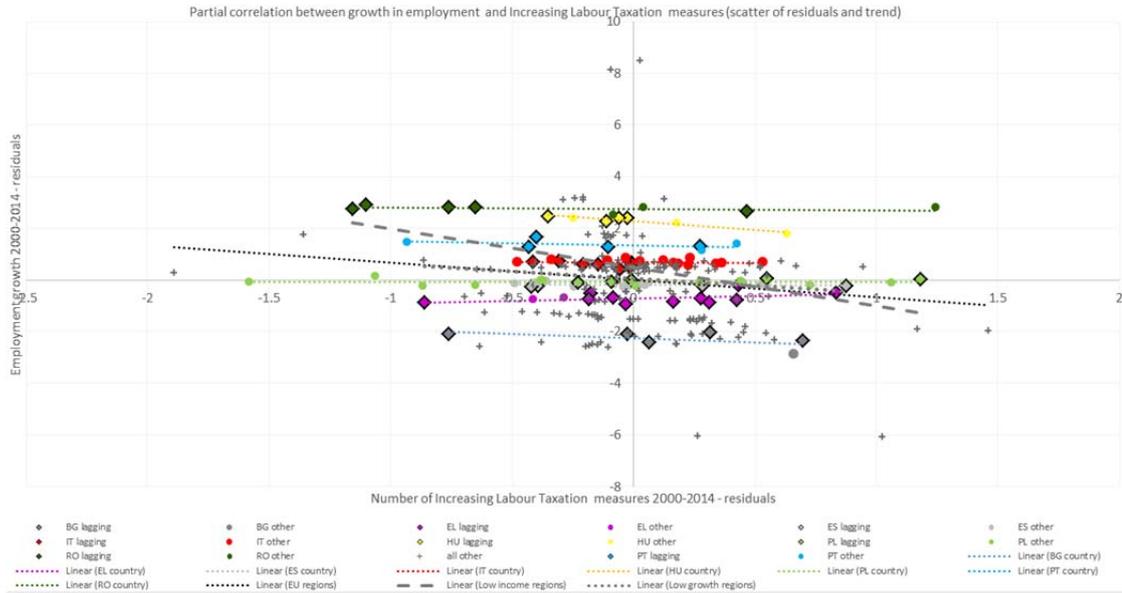
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.62	0.00	0.36	0.13	0.84	0.01	-0.12	0.69	0.85	0.02	-0.05	0.91	0.06	0.84	0.98	0.00	0.15	0.02	0.13	0.52	0.31	0.20
lagging reg.	0.36	0.38	0.34	0.64	0.34	0.64	-0.05	0.89	0.84	0.04	0.60	0.25	-0.11	0.85	0.78	0.15						

The assumed relationship between reductions or increases in **unemployment benefits** and increases or reductions in employment is not verified by the data for the EU or for the low growth and low income regions. However, among the 4 EU15 countries, reductions in unemployment benefits were associated with employment growth in line with the predicted effect for Greece overall and for the lagging regions and among the 4 EU13 countries for the lagging regions in Poland (Figure 5.10).

The reforms to **Job Protection** legislation (EPL) are assumed either to affect productivity by tightening or relaxing labour market flexibility or to lead to an increase or reduction in the willingness of employers to take on new workers. In practice, in line with the former hypothesis, no statistically significant relationship is apparent between ‘relaxing’ or ‘strengthening’ job protection.

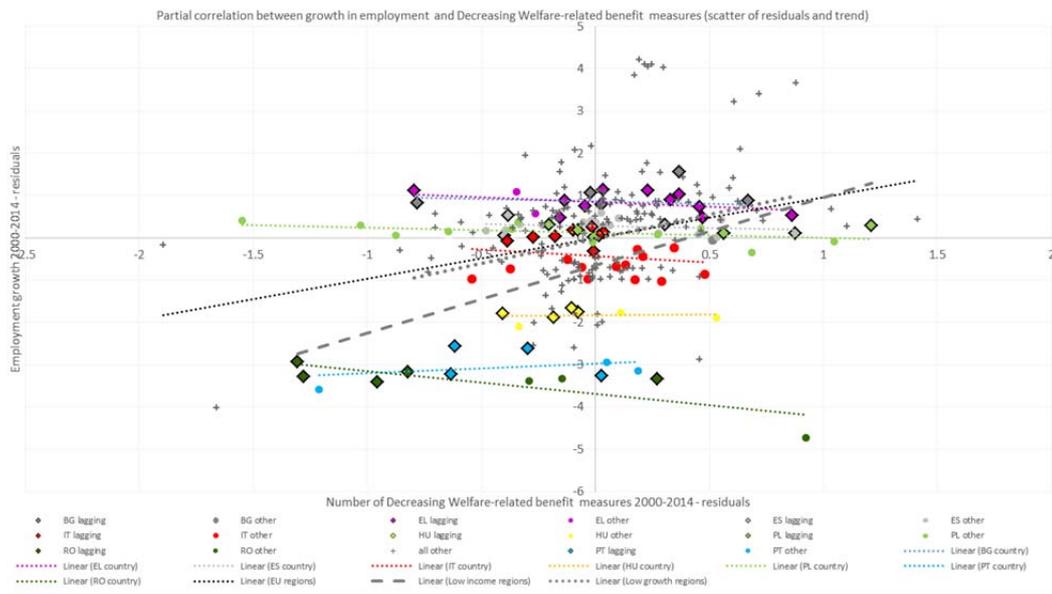
Since the direct employment effects from **wage setting** reforms are uncertain as indicated above, it is not surprising that the correlations between the wage setting measures implemented and the change in employment are largely inconclusive. The same applies to reforms to **early retirement** schemes and the measures taken in respect of **immigration or mobility**.

Figure 5.8 / Partial correlation between growth in employment growth and increasing labour taxation measures (scatter of residuals and trend)



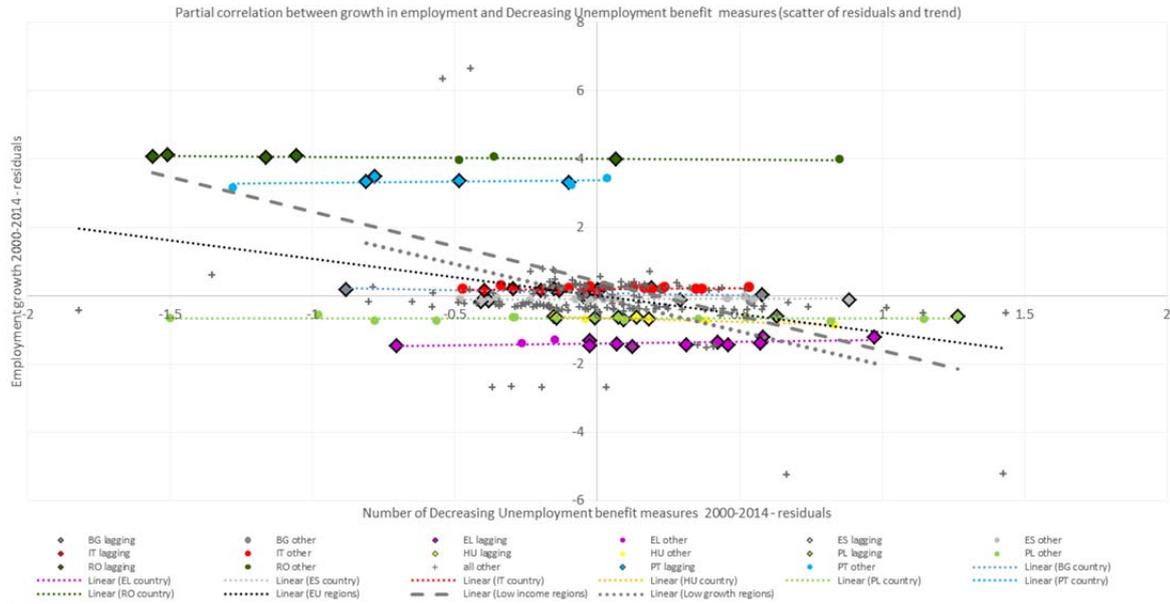
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.09	0.69	-0.17	0.48	-0.48	0.26	0.40	0.17	-0.57	0.21	-0.29	0.48	0.01	0.98	-0.94	0.00	-0.18	0.00	-0.26	0.18	-0.43	0.06
lagging reg.	-0.56	0.14	0.41	0.56	-0.42	0.55	0.42	0.19	-0.41	0.47	-0.80	0.07	0.77	0.09	-0.49	0.47						

Figure 5.9 / Partial correlation between growth in employment and decreasing welfare-related benefits (scatter of residuals and trend)



correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.18	0.45	-0.22	0.37	0.29	0.52	-0.37	0.21	-0.12	0.81	-0.78	0.01	-0.46	0.07	0.09	0.85	0.30	0.00	0.37	0.06	0.60	0.01
lagging reg.	0.19	0.64	-0.34	0.64	-0.33	0.65	-0.42	0.19	0.36	0.53	-0.45	0.42	0.20	0.73	0.34	0.64						

Figure 5.10 / Partial correlation between growth in employment growth and decreasing unemployment benefits (scatter of residuals and trend)



correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.18	0.44	0.18	0.45	0.33	0.47	0.50	0.08	-0.58	0.21	-0.72	0.03	-0.06	0.81	-0.91	0.00	-0.38	0.00	-0.57	0.00	-0.74	0.00
lagging reg.	-0.39	0.32	0.76	0.17	-0.57	0.38	0.63	0.03	-0.40	0.48	-0.81	0.06	0.78	0.09	-0.50	0.46						

Investment

As should be clear from the overview of expected effects from LMRs, labour taxation and wage setting are the main policy areas which are assumed to influence investment decisions directly. According to the literature, reductions in labour taxation and wages lead to higher profit margins of firms and, via this, to higher investment. Such an effect is expected to occur largely in the short term.

While most of the other LMR areas are also assumed to affect investment decisions, the effects essentially come from changes in either consumption or productivity and take consequently more time to occur. Reforms in ALMPs, for instance welfare-related benefits, working time and unemployment benefits – to the extent that they increase employment – can affect investment essentially via increased consumption. Reforms to job protection legislation – to the extent that they increase labour market flexibility – are assumed to increase labour mobility and productivity and through this, investment.

Verifying the assumptions – what the data tell us

To test the assumed effects from LMRs on investment, the annual average growth rate in real terms over the period 2000-2014 in Gross Fixed Capital Formation (GFCF) is considered. The results from the partial correlation analysis between the various LMPs and growth in investment over the period 2000-2014 are summarised below.

Table 5.4 / Partial correlation between the number of LMR measures taken in 2000-2014 and annual average growth rate in GFCF over the same period

	expected relation	Investment annual average growth rate 2000-2014	
		part. corr.	sign.
ALMPs			
Contracting measures	((-))	-0.10	0.11
Expanding measures	((+))	0.04	0.53
Early Withdrawal			
Easing measures	?	-0.11	0.09
Tightening measures	?	0.10	0.11
Immigration/Mobility			
Relaxing measures	?	0.07	0.26
Tightening measures	?	-0.03	0.64
Job Protection (EPL)			
Relaxing Job Protection (EPL)	(+)	-0.14	0.03
Strengthening Job Protection (EPL)	(-)	0.14	0.03
Labour Taxation			
Decreasing Labour Taxation	+	0.06	0.37
Increasing Labour Taxation	-	-0.09	0.17
Welfare-related benefits.			
Decreasing Welfare-rel. benefits	(-)	0.11	0.10
Increasing Welfare-rel. benefits	(+)	0.17	0.01
Unemployment benefits			
Decreasing Unemployment benefits	?	-0.01	0.85
Increasing Unemployment benefits	?	-0.08	0.22
Wage Setting			
Moderating measures	+	-0.25	0.00
Increasing measures	-	-0.16	0.01

Source of data and Note: see Table 5.3.

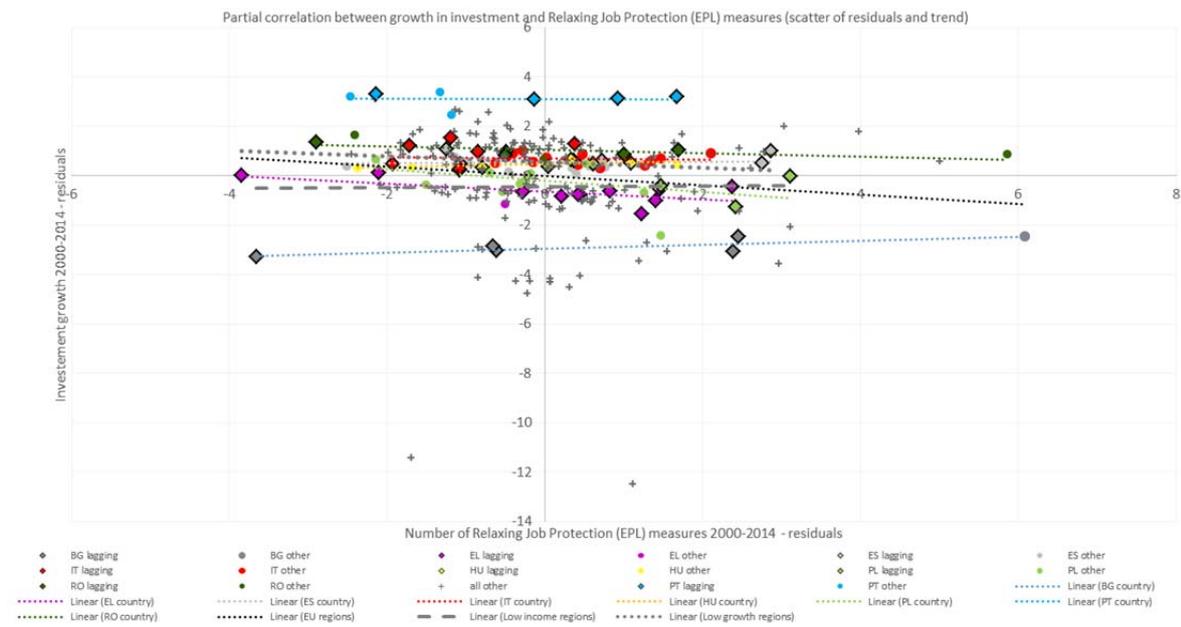
Details on the underlying econometric specification are set out in Annex C. For those reform measures in Table 5.4 which are statistically significantly partially correlated with growth in investment, the residuals underlying the partial correlations coefficients are shown in Figures 5.11 to 5.15, together with a summary table of the correlations between the residuals for the lagging regions and for the 8 countries covered by the study.

Moderations in **wage setting** are assumed to increase investment via higher profits. While this assumption is not verified by the partial correlations for the EU as a whole, the low income regions and the low growth regions, it is for Spain among the 4 EU15 countries and Poland among the 4 EU13 countries (Figure 5.14). On the other hand, the symmetrical negative relationship between increases in wage setting and growth of investment, suggested by economic theory, is verified by the data for the EU28 as a whole. Increased wages are also associated with a slowdown in investment for Romania (Figure 5.15).

The predicted effects of reforms in **labour taxation** on investment decisions are only weakly verified by the data. While 'increasing' reform measures (i.e. higher taxes on labour) are associated with a

slowdown in the growth of GFCF and ‘decreasing’ reform measures with increased growth in investment for the EU as a whole, the partial correlation coefficients are statistically not significant (Table 5.4).

Figure 5.11 / Partial correlation between growth in GFCF and relaxing job protection (EPL) (scatter of residuals and trend)



correlations of residuals	IT corr.	IT p-val.	ES corr.	ES p-val.	PT corr.	PT p-val.	EL corr.	EL p-val.	BG corr.	BG p-val.	RO corr.	RO p-val.	PL corr.	PL p-val.	HU corr.	HU p-val.	EU corr.	EU p-val.	low growth reg. corr.	low growth reg. p-val.	low income reg. corr.	low income reg. p-val.
country	-0.09	0.71	0.05	0.84	-0.05	0.92	-0.58	0.03	0.79	0.04	-0.55	0.14	-0.41	0.11	0.67	0.09	-0.14	0.02	-0.14	0.48	0.02	0.95
lagging reg.	0.28	0.49	-0.43	0.54	-0.57	0.38	-0.66	0.02	0.67	0.18	-0.64	0.21	-0.60	0.25	0.64	0.31						

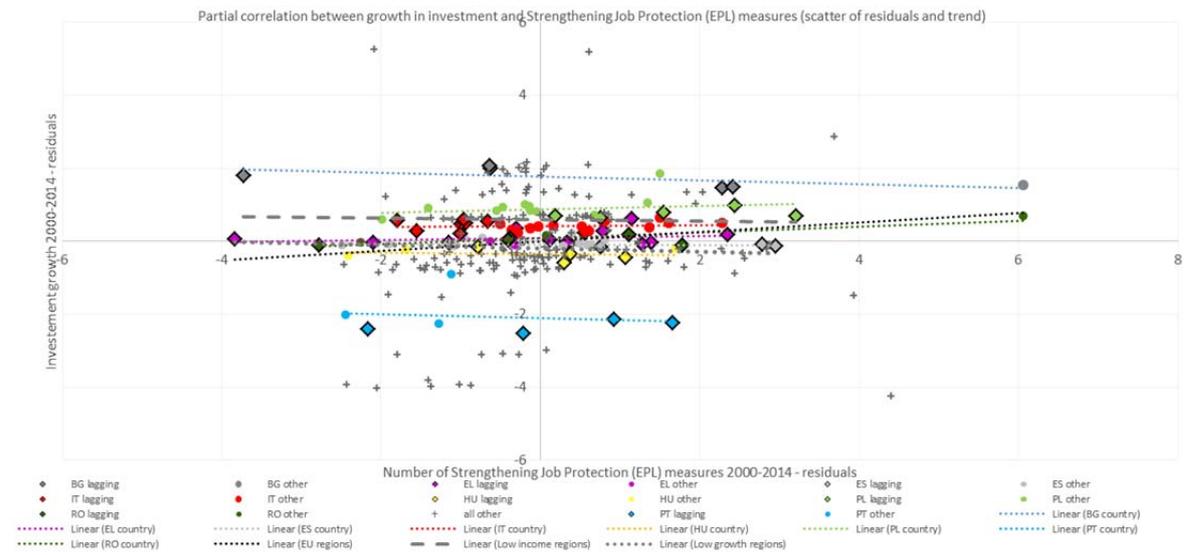
The investment effects from other LMR areas than taxation and wage setting are assumed to come either through increased consumption and demand or through increased investment. The hypothesis that measures taken to relax **job protection** can increase productivity and, in a second round, investment is not verified by the data. For the EU as a whole and for Greece, the data on the contrary suggest a negative correlation. Among the 4 EU13 countries, the hypothesis, however, seems to hold for Hungary and Bulgaria though not for the lagging regions alone (Figure 5.11). The symmetrical hypothesis of a negative effect of strengthened job protection on investment is also rejected by the data for both the EU overall and Romania (Figure 5.12).

The predicted effects from reforms in **ALMP** on investment growth are weakly verified by the data in that contracting measures are negatively correlated with growth in investment and expanding measures positively but the partial correlation coefficients are not statistically significant. The same is true for reforms in **immigration/mobility**. While the partial correlations go in the ‘right’ direction, they are not statistically significant (Table 5.4).

The hypothesis that **welfare-related benefits** affect investment via higher demand channelled through higher employment is partially verified by the data. Measures taken to increase benefits are associated with higher investment growth in the EU on average. However, among the 8 Member States covered by

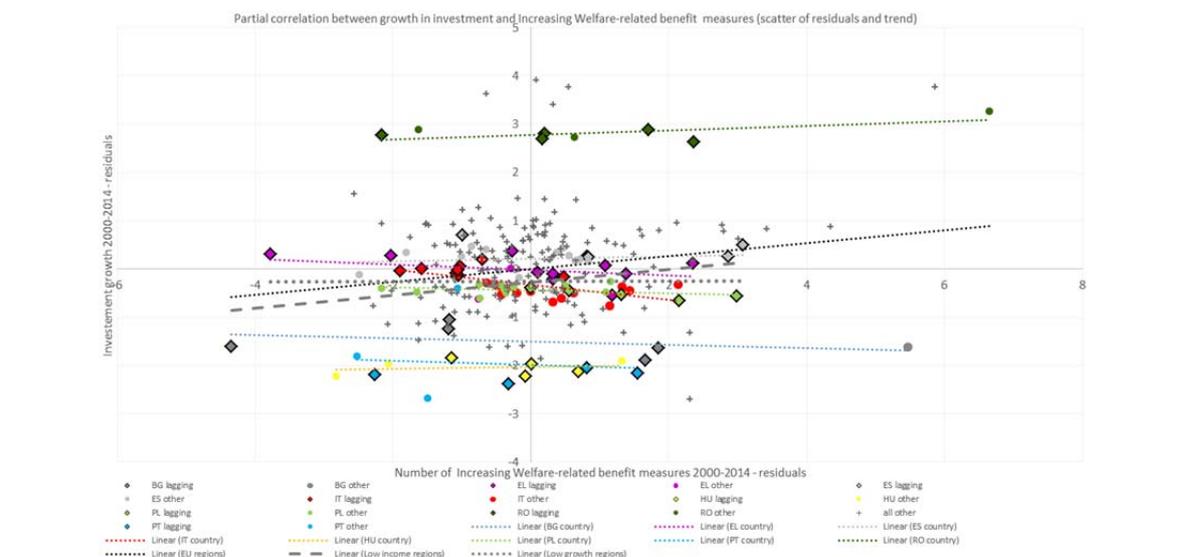
the study this is the case only for Romania overall but for the lagging regions alone (Figure 5.13). The partial correlation between ‘decreasing’ schemes and investment is not statistically significant.

Figure 5.12 / Partial correlation between growth in GFCF and strengthening job protection (EPL) (scatter of residuals and trend)



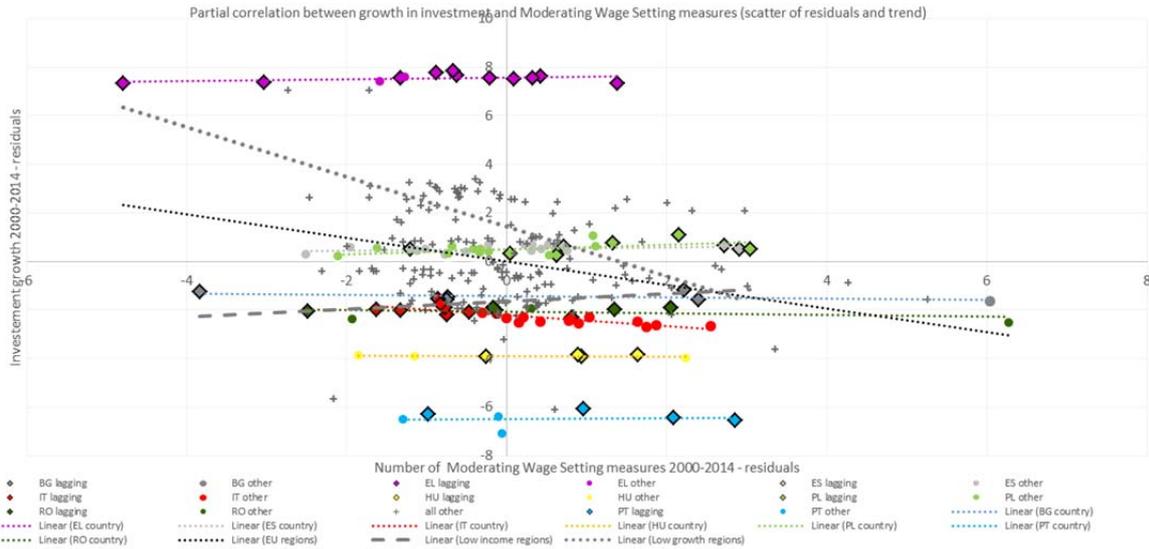
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.13	0.59	-0.09	0.72	-0.14	0.77	0.20	0.50	-0.65	0.14	0.83	0.01	0.21	0.43	-0.12	0.80	0.14	0.02	-0.08	0.68	-0.04	0.86
lagging reg.	-0.34	0.40	-0.54	0.41	0.65	0.29	0.18	0.60	-0.63	0.22	0.26	0.66	0.41	0.48	-0.71	0.22						

Figure 5.13 / Partial correlation between growth in GFCF and increasing welfare-related benefits (scatter of residuals and trend)



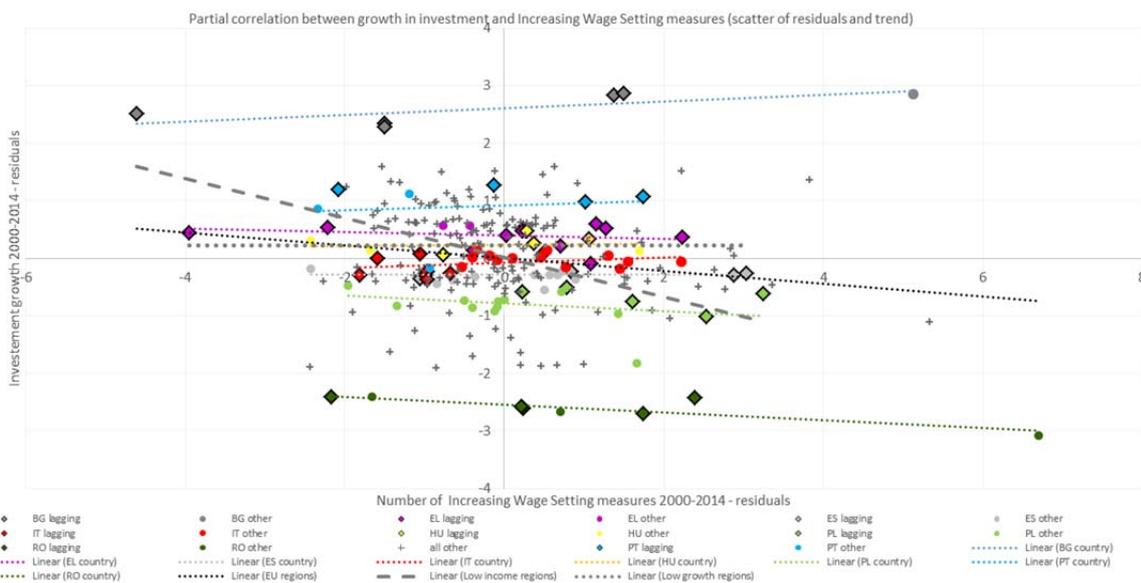
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.62	0.00	0.14	0.56	-0.09	0.84	-0.28	0.34	-0.38	0.44	0.64	0.08	-0.36	0.17	0.21	0.64	0.17	0.01	0.01	0.98	0.13	0.61
lagging reg.	-0.25	0.55	-0.53	0.42	0.33	0.65	-0.47	0.14	-0.36	0.53	-0.19	0.75	-0.82	0.06	-0.70	0.24						

Figure 5.14 / Partial correlation between growth in GFCF and moderating wage setting (scatter of residuals and trend)



correlations of residuals		IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.											
corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.										
country	-0.84	0.00	0.40	0.09	0.06	0.90	0.34	0.26	-0.44	0.36	-0.39	0.33	0.50	0.05	-0.27	0.56	-0.25	0.00	-0.33	0.09	0.17	0.48	
lagging reg.	-0.50	0.19	0.28	0.70	-0.57	0.38	0.32	0.33	-0.13	0.83	0.73	0.12	0.53	0.33	0.46	0.50							

Figure 5.15 / Partial correlation between growth in GFCF and number of increasing wage setting measures (scatter of residuals and trend)



correlations of residuals		IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.											
corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.	corr.	p-val.										
country	0.32	0.16	-0.02	0.95	0.13	0.78	-0.23	0.45	0.71	0.09	-0.85	0.00	-0.29	0.28	0.11	0.81	-0.16	0.01	0.00	1.00	-0.33	0.17	
lagging reg.	0.39	0.34	0.55	0.40	-0.64	0.31	-0.19	0.57	0.66	0.19	-0.33	0.57	-0.47	0.40	0.71	0.23							

Developments in investment in lagging regions

Low levels of investment are a common characteristic of lagging regions which are growing slowly. In all the low growth regions, except in the Spanish ones in the 2007-2014 period, gross fixed capital formation (GFCF) per person employed over the period 2000-2014 was lower than the national average. The difference with the national average was largest in the Italian low growth regions. At the same time, in all the low growth region countries with the exception of Spain, GFCF per worker was below the EU average. The gap was largest for Portugal where the additions to capital per worker each year were less than half of those in the rest of the EU15 over the period. It was also large for Greece.

Growth in GFCF per worker in 2000-2007 in low growth regions was, however, slightly higher in the low growth regions than the country averages as well as the EU15 average (Table 5.5). This was essentially due to the relatively large investment in the Spanish and Greek regions. But the catching up that occurred over this period in terms of the capital stock per worker was more than wiped out in the 2007-2014 period because of the crisis and the years of recession which depressed both private and public investment. Over the period 2007-2014 investment in the low growth regions, and in other parts of their respective countries, declined much more than the EU15 average. In Greece, the decline was particularly large, investment falling by over 11% each year, but it was also large in all the other three countries. Moreover, while in many of the EU15 countries, investment stopped declining in the 2010-2014 period, it continued to go down in the low growth regions.

Table 5.5 / Developments in GFCF per employment over the period 2000-2014

	average				growth p.a. GFCF per Employment			
	2000-06	2007-14	2010-14	2000-14	2000-07	2007-14	2010-14	2000-14
low growth regions	10.3	9.6	8.7	9.9	2.8	-5.1	-4.7	-1.3
low growth regions IT	10.9	9.5	8.6	10.1	1.0	-5.8	-6.9	-2.5
low growth regions EL	9.2	7.4	5.9	8.3	3.4	-10.4	-9.0	-3.8
low growth regions ES	12.9	13.4	12.6	13.2	4.8	-3.0	-1.1	0.8
low growth regions PT	6.7	6.1	5.6	6.4	0.8	-4.1	-5.1	-1.7
IT, EL, ES, PT	12.2	10.9	10.1	11.5	1.6	-4.6	-3.9	-1.5
IT	12.7	11.2	10.5	11.9	0.8	-4.4	-4.7	-1.8
EL	9.4	7.8	6.0	8.6	4.1	-11.3	-9.8	-3.9
ES	13.4	12.2	11.4	12.8	2.2	-3.8	-1.9	-0.8
PT	7.5	6.4	5.9	6.9	-1.1	-4.6	-6.8	-2.9
EU15	12.7	12.6	12.2	12.7	1.4	-1.7	-0.2	-0.2
low income regions	1.7	2.6	2.6	2.2	10.8	0.3	3.1	5.4
low income regions BG	1.0	1.4	1.3	1.2	8.0	-1.4	3.0	3.2
low income regions RO	1.1	1.9	1.7	1.5	19.9	-6.7	-3.9	5.8
low income regions PL	2.0	3.5	3.8	2.8	5.3	7.1	7.3	6.2
low income regions HU	4.4	5.1	5.0	4.8	5.5	1.1	3.8	3.3
BG, RO, PL, HU	2.7	3.9	3.8	3.3	7.4	0.3	2.6	3.8
BG	1.4	2.0	1.8	1.7	12.9	-1.6	1.2	5.4
RO	1.7	3.2	2.9	2.5	19.5	-4.6	-0.9	6.7
PL	3.1	4.4	4.6	3.8	3.5	2.8	3.8	3.2
HU	4.7	5.0	4.7	4.8	4.1	-1.0	1.4	1.5
EU12	3.4	4.5	4.4	4.0	7.2	-0.7	1.7	3.2

Source of data: GFCF, employment – Cambridge Econometrics, European Regional Data.

Low income regions lag behind the national average in terms of GFCF per worker even more. In the Polish and Bulgarian low income regions, investment per worker was a quarter less than the country average, and it was over a third less in Romania. It was lowest overall in Bulgaria. The 4 countries concerned, with the exception of Hungary, themselves lag behind the EU12 average. Unlike the low growth regions, low income regions, except those in Poland, experienced less growth in investment in the 2000-2007 period than their respective country average.

Unlike the low growth regions as well, many of the low income regions were less affected by the crisis than the rest of the country. Only in Romanian low income regions did GFCF per worker decline more during the 2007-2014 period than the national average. Investment in Poland continued to increase over this period and in the lagging regions at even higher rates than in the other Polish regions taken together. This was also the case in the Hungarian low income regions. After the global recession, recovery of investment was significant in all the low income regions except in Romania. Growth rates of GFCF per worker over the 2010-2014 period were twice as high as the national average.

Table 5.6 / Developments in investment rates (GFCF/GVA) over the period 2000-2014

	average 2000-06	GFCF/GVA (€2005)			growth p.a. of GFCF(€2005)			
		2007-14	2010-14	2000-14	2000-07	2007-14	2010-14	2000-14
low growth regions	28	25	23	27	4.4	-7.0	-6.6	-1.5
low growth regions IT	25	22	20	23	1.9	-7.1	-8.0	-2.7
low growth regions EL	30	24	19	26	4.6	-12.7	-12.5	-4.4
low growth regions ES	33	33	29	33	9.1	-5.5	-3.3	1.5
low growth regions PT	29	24	21	26	0.7	-6.0	-7.1	-2.7
IT, EL, ES, PT	26	23	21	25	3.7	-6.0	-5.2	-1.3
IT	23	21	20	22	2.2	-4.9	-5.1	-1.4
EL	26	20	16	23	5.7	-13.8	-13.8	-4.6
ES	32	27	24	29	5.8	-5.9	-3.8	-0.2
PT	28	22	20	25	-1.1	-6.2	-8.6	-3.7
EU15	24	22	21	23	2.5	-1.8	0.0	0.3
low income regions	23	28	26	25	9.6	-0.7	1.9	4.4
low income regions BG	22	27	25	25	9.2	-3.2	1.5	2.8
low income regions RO	20	26	23	23	16.5	-8.0	-5.7	3.6
low income regions PL	20	27	28	23	6.7	7.0	6.6	6.8
low income regions HU	30	31	31	31	4.2	0.9	4.3	2.5
BG, RO, PL, HU	24	27	25	25	7.2	0.1	2.5	3.6
BG	25	30	27	28	15.2	-2.8	0.0	5.9
RO	25	33	29	29	17.1	-5.7	-2.2	5.1
PL	22	24	24	23	4.2	3.3	4.4	3.8
HU	28	26	24	27	3.9	-1.1	2.4	1.4
EU12	26	27	26	27	7.3	-0.9	1.8	3.1

Source of data: GVA, GFCF – Cambridge Econometrics, European Regional Data.

Productivity

Some of the LMRs are assumed to have direct effects on productivity. This is the case for measures on Job protection or Training (ALMPs). According to the mainstream literature, less stringent employment protection promotes an efficient allocation of labour resources making it easier for firms to respond quickly to changes in technology or product demand. Reducing the cost of hiring and firing is assumed to lead to higher productivity.

Other LMRs are assumed to influence productivity via investment. This is the case for reform of labour taxation and wage setting. To the extent that reforms in these areas lead to higher profit margins, firms

are assumed to increase investment resulting in higher productivity. While the other LMRs such as reforms in welfare-related benefits, in working time or unemployment benefit system might influence productivity, the main effect is assumed to come via changes in employment, demand and output.

Verifying the assumptions – what the data tell us

To test the assumed effects of the various LMRs on productivity, the relationship with the average annual growth rate in GVA per employment over the period 2000-2014 is examined. The results from the partial correlation analysis between the various LMPs and growth in productivity over the period 2000-2014 are summarised below. Details of the underlying econometric specification are set out in Annex C. For those reform measures in Table 5.7 which are statistically significantly partially correlated with growth in productivity, the residuals underlying the partial correlation coefficients are shown in Figures 5.16 to 5.23 together with a summary table of the correlations between the residuals for the lagging regions and for the 8 countries covered by the study.

Table 5.7 / Partial correlation between the number of LMR measures taken in 2000-2014 and the average annual growth rate of GVA per employment over the same period.

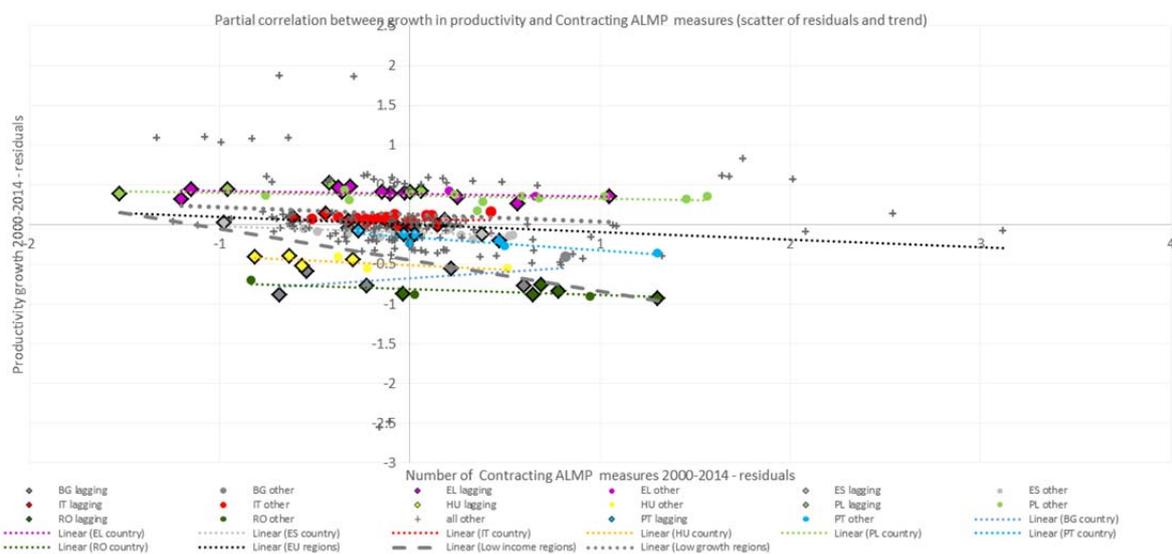
	expected relation	GVA per employment annual average growth rate 2000-2014	
		part. corr.	sign.
ALMP			
Contracting measures	(-)	-0.13	0.04
Expanding measures	(+)	-0.21	0.00
Early Withdrawal			
Easing measures	?	-0.17	0.01
Tightening measures	?	0.11	0.10
Immigration/Mobility			
Relaxing measures	(+?)	0.01	0.94
Tightening measures	(-?)	-0.15	0.02
Job Protection (EPL)			
Relaxing Job Protection (EPL)	+	-0.05	0.45
Strengthening Job Protection (EPL)	-	0.02	0.73
Labour Taxation			
Decreasing Labour Taxation	(+)	-0.31	0.00
Increasing Labour Taxation	(-)	0.20	0.00
Welfare-related benefits.			
Decreasing Welfare-rel. benefits	((-))	-0.18	0.01
Increasing Welfare-rel. benefits	((+))	0.23	0.00
Unemployment benefits			
Decreasing Unemployment benefits	?	0.32	0.00
Increasing Unemployment benefits	?	-0.04	0.55
Wage Setting			
Moderating measures	(+)	-0.03	0.65
Increasing measures	(-)	-0.42	0.00

Source of data and Note: see Table 5.3.

The assumption that **AMLPS** can have an impact on productivity is in part verified by the data. The measures taken in the 2000-2014 period to reduce interventions were associated with a slowdown in

productivity growth over the same period which is in line with expectations. This is the case for the EU on average and for the low income regions. Among the 4 EU13 countries, this is also the case for Romania and Hungary but not for the lagging regions alone. While the relationship is not statistically significant for the low growth regions as a whole, it is for these regions in Italy and Portugal and for the latter as well as in Spain for all regions too (Figure 5.16). The symmetrical hypothesis, however, of a positive relationship between expanding ALMPs and productivity is only verified by the data for regions in Hungary but not for the lagging ones alone. The data for the EU and for low income regions taken together tend to indicate the opposite effect, as do the data for lagging regions in Greece (Figure 5.17).

Figure 5.16 / Partial correlation between growth in productivity and contracting ALMP measures (scatter of residuals and trend)

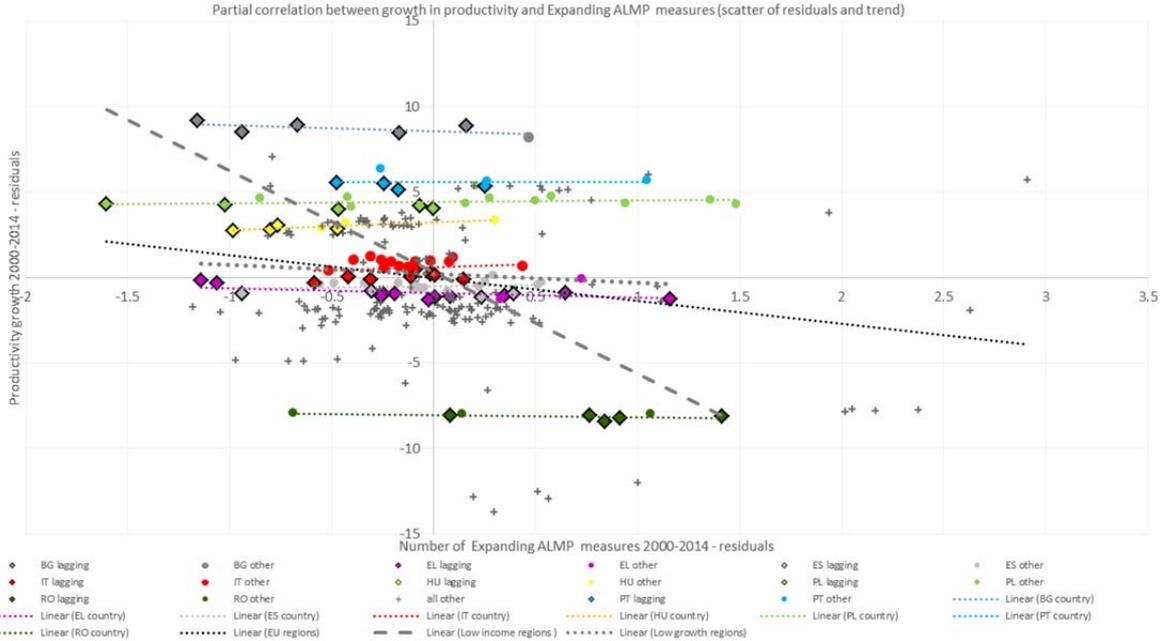


correlations of residuals	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.												
country	corr.	p-val.	corr.	p-val.																			
country	-0.04	0.88	-0.47	0.04	-0.90	0.00	-0.38	0.19	0.55	0.24	-0.64	0.08	-0.40	0.12	-0.67	0.08	-0.13	0.03	-0.20	0.32	-0.52	0.02	
lagging reg.	-0.84	0.00	-0.40	0.57	-1.00	0.00	-0.38	0.25	0.20	0.74	-0.21	0.72	0.24	0.68	-0.28	0.71							

The assumption of a positive productivity effect from decreasing **job protection** resulting in higher labour market flexibility is not verified by the data. The partial correlation coefficients are not statistically significant (Table 5.7).

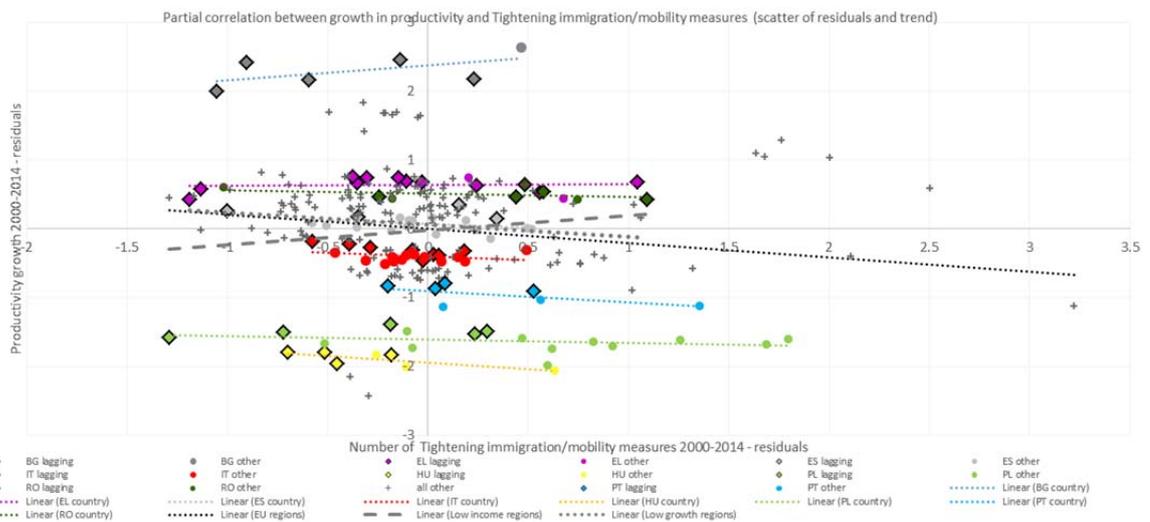
As noted above, the effect on productivity from decreasing **labour taxation** and wage setting is expected to come in part via investment. Part of the effect is assumed also to come from increased employment, demand and output. As indicated above as well, the effect expected on both employment and investment from labour taxation reforms is reflected in the data. So far as the effect on productivity is concerned, the assumed relationship is no longer reflected in the partial correlations for the EU. Decreasing labour taxation is, however, associated with higher productivity growth in Portugal and Hungary for all regions, though not for lagging regions alone, as well as for lagging regions in Italy (Figure 5.19). While the symmetrical negative relationship between increasing labour taxation and increasing productivity is not verified by the data for these countries, it is for Romania and for the lagging regions in Greece (Figure 5.20).

Figure 5.17 / Partial correlation between growth in productivity and expanding ALMP measures (scatter of residuals and trend)



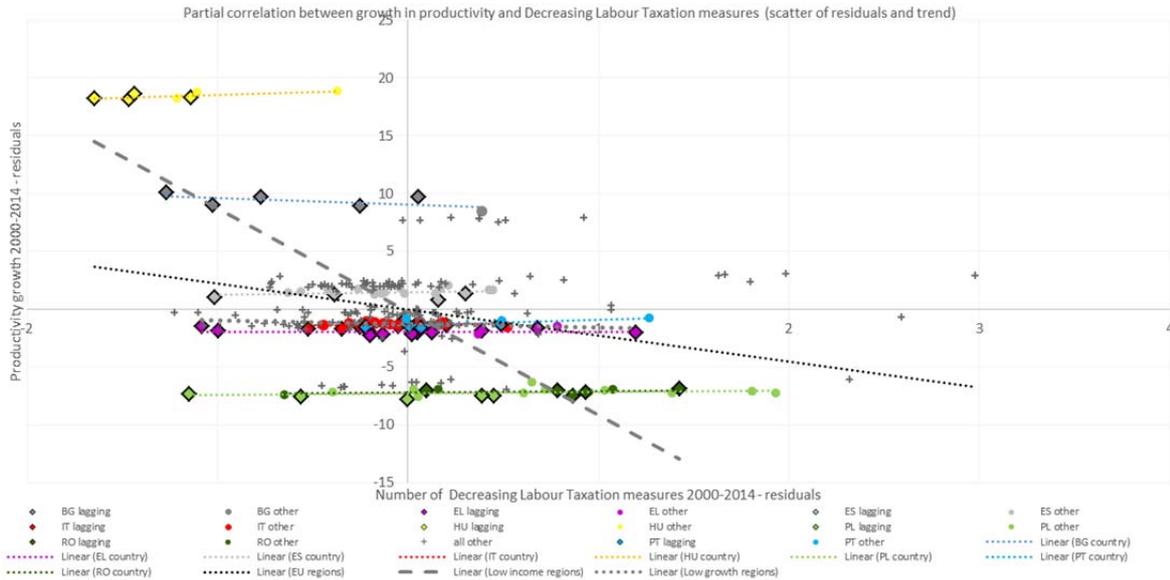
correlations of residuals	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
country	corr. p-val. 0.19 0.41	corr. p-val. 0.14 0.56	corr. p-val. -0.01 0.98	corr. p-val. -0.40 0.18	corr. p-val. -0.61 0.18	corr. p-val. -0.46 0.24	corr. p-val. 0.20 0.46	corr. p-val. 0.82 0.01	corr. p-val. -0.21 0.00	corr. p-val. -0.11 0.58	corr. p-val. -0.73 0.00
lagging reg.	0.50 0.20	-0.43 0.54	-0.48 0.48	-0.76 0.00	-0.34 0.56	-0.14 0.82	-0.68 0.17	0.18 0.81			

Figure 5.18 / Partial correlation between growth in productivity and tightening immigration/mobility measures (scatter of residuals and trend)



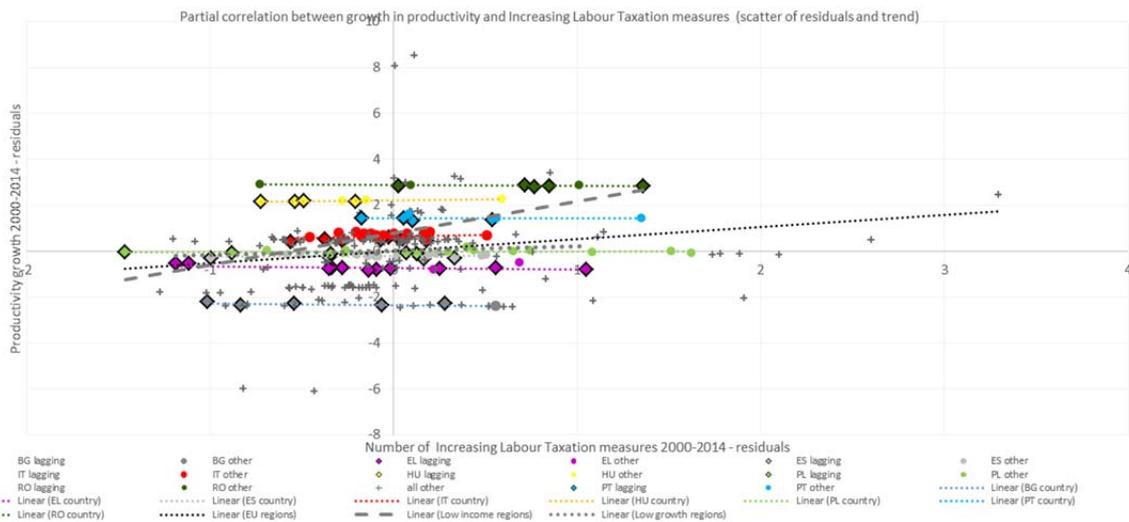
correlations of residuals	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
country	corr. p-val. -0.30 0.18	corr. p-val. -0.34 0.15	corr. p-val. -0.60 0.14	corr. p-val. 0.08 0.78	corr. p-val. 0.56 0.22	corr. p-val. -0.37 0.36	corr. p-val. -0.32 0.22	corr. p-val. -0.75 0.04	corr. p-val. -0.15 0.02	corr. p-val. -0.15 0.45	corr. p-val. 0.08 0.75
lagging reg.	-0.79 0.01	-0.17 0.82	-0.63 0.31	0.32 0.34	0.23 0.70	-0.10 0.86	0.42 0.45	-0.26 0.73			

Figure 5.19 / Partial correlation between growth in productivity and decreasing labour taxation measures (scatter of residuals and trend)



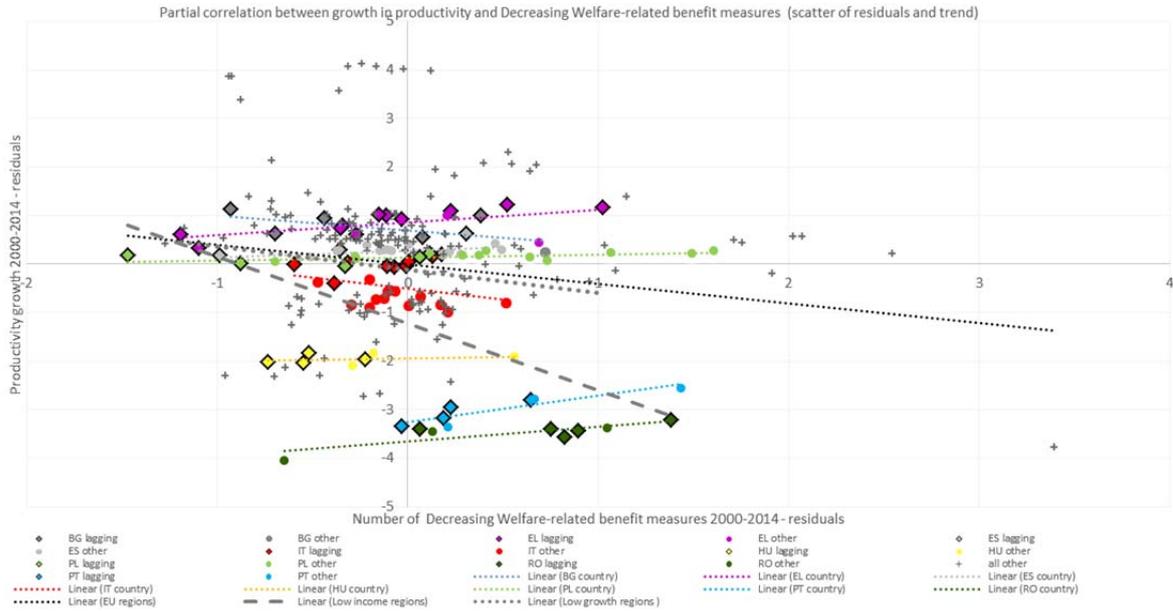
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.22	0.34	0.32	0.19	0.65	0.10	-0.03	0.91	-0.61	0.17	0.43	0.28	0.31	0.25	0.71	0.06	-0.31	0.00	-0.14	0.48	-0.76	0.00
lagging reg.	0.79	0.01	0.20	0.79	0.79	0.14	-0.21	0.54	-0.30	0.61	0.09	0.88	-0.40	0.48	0.18	0.81						

Figure 5.20 / Partial correlation between growth in productivity and increasing labour taxation (scatter of residuals and trend)



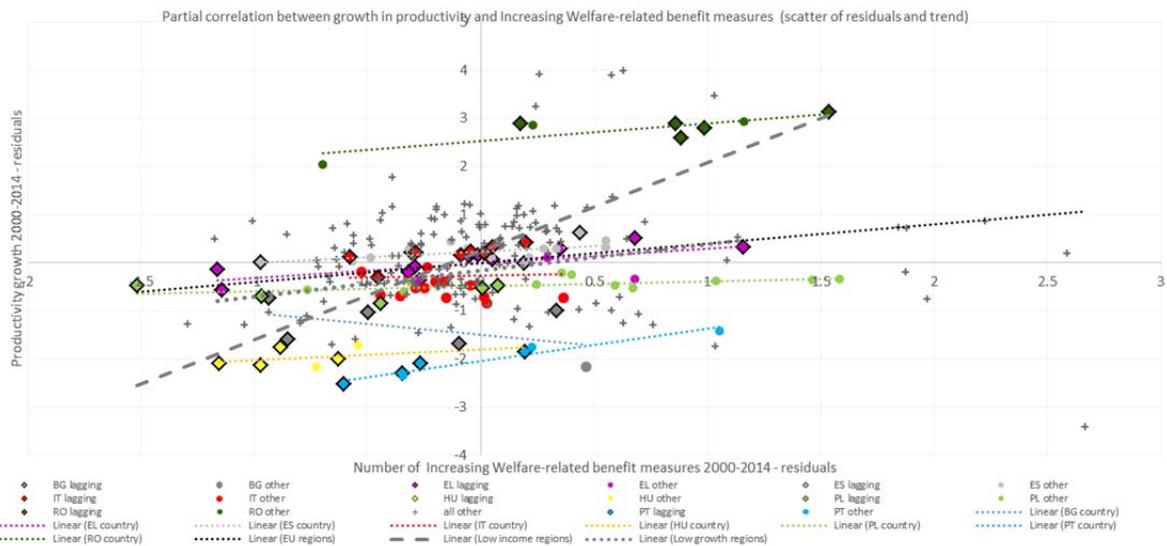
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.28	0.21	0.15	0.54	-0.12	0.80	-0.41	0.16	-0.59	0.19	-0.64	0.08	0.19	0.48	0.86	0.01	0.20	0.00	0.12	0.56	0.48	0.04
lagging reg.	0.44	0.26	-0.62	0.33	-0.57	0.38	-0.80	0.00	-0.34	0.56	-0.23	0.70	-0.74	0.12	0.20	0.79						

Figure 5.21 / Partial correlation between growth in productivity and decreasing welfare-related benefits (scatter of residuals and trend)



correlations of residuals	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
	corr. p-val.	corr. p-val.									
country	-0.30 0.18	0.40 0.09	0.89 0.00	0.58 0.03	-0.60 0.19	0.79 0.01	0.55 0.02	0.26 0.56	-0.18 0.00	-0.17 0.38	-0.57 0.01
lagging reg.	0.48 0.22	0.62 0.33	0.92 0.03	0.87 0.00	-0.21 0.73	0.39 0.50	0.13 0.83	0.22 0.76			

Figure 5.22 / Partial correlation between growth in productivity and increasing welfare-related benefits (scatter of residuals and trend)

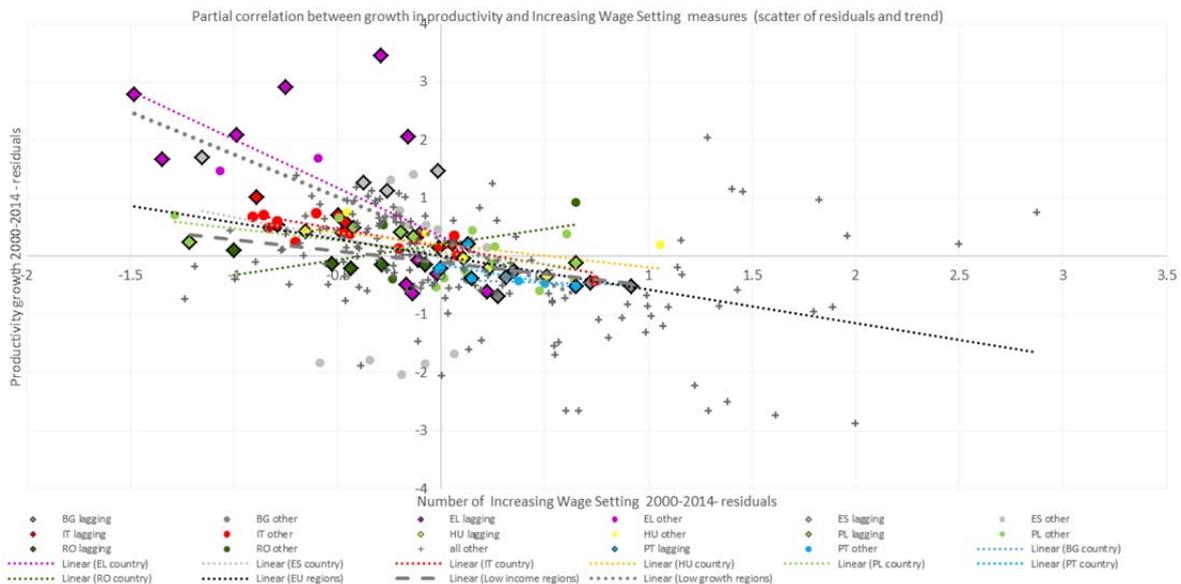


correlations of residuals	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
	corr. p-val.	corr. p-val.									
country	0.05 0.83	0.57 0.01	0.97 0.00	0.65 0.01	-0.50 0.29	0.79 0.01	0.55 0.03	0.51 0.23	0.23 0.00	0.32 0.11	0.81 0.00
lagging reg.	0.72 0.03	0.60 0.34	0.97 0.01	0.84 0.00	-0.11 0.86	0.37 0.52	0.03 0.97	0.33 0.64			

There is some evidence from the correlation analysis of a negative productivity effect from increasing **wage settings**. For the EU as a whole and for both the low income and low growth regions, productivity growth is negatively correlated with increased wage settings as predicted. Among the 4 EU15 countries, the relationship is statistically significant in Italy and Greece for the lagging regions as well as overall. Among the 4 EU13 countries, the assumption holds for the lagging regions in Hungary and Romania and for all regions in Poland (Figure 5.23). The hypothesis of a positive productivity effect from wage moderation is not verified by the data (Table 5.7).

The hypothesis that **immigration** can have a direct effect on productivity if the skills of migrants are complementary to those of existing workers is in part verified by the data. Measures tightening regulatory restrictions on migration or reducing mobility are negatively correlated with productivity growth for the EU on average. Among the 4 EU15 countries, this is the case for the lagging regions in Italy and among the 4 EU13 countries, for all regions in Hungary (Figure 5.18). The symmetrical hypothesis of a positive productivity effect from relaxing regulations in respect of migration is not verified by the data since the partial correlation coefficient is not statistically significant (though it has the right sign) (Table 5.7).

Figure 5.23 / Partial correlation between growth in productivity and increasing wage setting (scatter of residuals and trend)



correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.85	0.00	-0.17	0.50	-0.63	0.11	-0.62	0.02	-0.20	0.70	0.55	0.15	-0.56	0.02	-0.59	0.15	-0.42	0.00	-0.64	0.00	-0.67	0.00
lagging reg.	-0.85	0.00	-0.64	0.30	-0.58	0.38	-0.63	0.03	-0.13	0.82	-0.83	0.05	-0.54	0.32	-1.00	0.00						

Since the hypothesis of a positive investment effect from increased **welfare-related benefits** was verified by the data, it is not surprising that there is also a positive relationship with productivity growth. Measures increasing the generosity of benefits or easing entitlement conditions are positively related to productivity growth for the EU on average as well as for the low growth regions. Among the 4 EU13 countries, the relationship holds for the regions in Romania and Poland but not for lagging regions alone.

Although the relationship is not verified by the data for the low growth regions taken together, it is verified for the lagging regions in Italy, Portugal and Greece taken separately. In the latter two, it is also verified for all regions as it is for those in Spain (Figure 5.22). A symmetrical, negative relation between decreasing welfare-related benefits and growth in productivity is observed for the EU on average and for the low income regions but not for individual countries (Figure 5.21).

Developments in productivity in lagging regions over the 2000-2014 period

The GVA produced per hour worked in the 27 low growth regions in Italy, Greece, Spain and Portugal is smaller than the respective country averages, by 20% overall (Table 5.8). GVA per hour worked in the low growth regions in Spain is closest to the national average, while the difference is largest in the low growth regions in Italy and Greece. Measured in this way, productivity at national level in Italy, Greece, Spain and Portugal is itself a fifth lower on average than in the EU15.

While in the period 2000-2007 growth in productivity was lower in the low growth regions taken together than the EU15 average, it was higher than the respective country averages. In the period 2007-2014 it was higher than both the national and EU average. In all the low growth countries the increase in productivity was higher in the low growth regions than the national average in the 2000-2007 period except in Greece. In Italy however there was virtually no growth in productivity in both 2000-2007 and 2007-2014. In Greece there was a decline in productivity in the years 2007-2014.

Table 5.8 / GVA per hour worked, 2005, in EUR

	average				growth p.a.			
	2000-06	2007-14	2010-14	2000-14	2000-07	2007-14	2010-14	2000-14
low growth regions all	20	21	21	20	0.9	1.0	1.1	0.9
low growth regions IT	24	25	25	25	0.3	0.4	0.5	0.3
low growth regions EL	15	15	15	15	2.1	-0.5	0.4	0.8
low growth regions ES	22	24	25	23	0.5	2.1	2.0	1.3
low growth regions PT	12	14	14	13	1.7	1.6	1.3	1.6
IT, EL, ES, PT	25	27	27	26	0.5	0.9	1.0	0.7
IT	30	30	31	30	0.1	0.2	0.5	0.2
EL	18	18	18	18	2.4	-0.4	-0.1	1.0
ES	24	27	28	26	0.4	1.8	1.7	1.1
PT	14	16	16	15	1.6	1.2	1.1	1.4
EU15	33	36	36	34	1.4	0.7	0.9	1.1
low income regions all	4	5	5	5	5.3	2.3	2.7	3.8
low income regions BG	3	3	3	3	1.7	1.3	1.3	1.5
low income regions RO	3	4	4	3	8.6	2.2	3.0	5.4
low income regions PL	5	6	7	6	2.9	3.0	3.2	2.9
low income regions HU	7	9	9	8	4.3	1.2	0.6	2.7
BG, RO, PL, HU	6	8	8	7	5.0	2.8	2.4	3.9
BG	3	4	4	4	3.5	1.5	1.2	2.5
RO	4	5	5	4	8.2	2.7	3.2	5.4
PL	7	9	9	8	4.1	3.0	2.2	3.5
HU	8	10	11	10	4.4	1.8	0.6	3.1
EU12	7	9	9	8	5.2	2.3	2.0	3.7

Source: Own calculations based on Cambridge Econometrics, European Regional Data.

The picture is roughly the same if productivity is measured in terms of GVA per person employed (Table 5.9).

In the 19 low income regions in Bulgaria, Romania, Poland and Hungary, productivity measured in terms of GVA per hour worked is a third lower than the national average. The difference with the national average is largest in the low income regions in Poland and Romania and smallest in Hungary. While Hungary and Poland have productivity levels close to the EU12 average, it is only half this in Bulgaria and Romania.

Over the period 2000-2007, Romania had much higher productivity growth than the EU12 average. In the other three countries, it was lower. In the 2007-2014 period, growth in productivity was also higher in Poland than in the rest of the EU12. In the low income regions in Romania, growth of productivity was higher than the Romanian average. In all other low income regions, productivity growth in both the 2000-2007 and 2007-2014 periods was lower than the respective national averages.

In sum, growth in productivity in low growth regions was higher than the national average but national growth rates were low and lower in Italy and Spain than in the rest of the EU15 in the 2000-2007 period and lower in the latter and in Greece in the 2007-2014 period. Growth in productivity in the low income regions was lower than the national level average, or similar to it, with the exception of the Romanian regions in the 2007-2007 period. Productivity growth was higher than the EU12 average in Romania over the whole period and in Poland in the 2007-2014 period.

Table 5.9 / GVA per employment, 2005, in thousand EUR

	2000-06	2007-14	average		2000-07	2007-14	growth p.a.	
			2010-14	2000-14			2010-14	2000-14
low growth regions all	37	38	38	37	0.5	0.5	0.7	0.5
low growth regions IT	44	44	43	44	0.0	-0.4	-0.4	-0.2
low growth regions EL	31	31	31	31	2.1	-0.8	0.7	0.7
low growth regions ES	39	42	43	40	0.0	1.9	1.8	1.0
low growth regions PT	23	26	27	24	1.4	1.4	1.1	1.4
IT, EL, ES, PT	46	47	48	47	0.1	0.4	0.5	0.3
IT	55	54	53	54	-0.2	-0.6	-0.4	-0.4
EL	37	38	37	37	2.4	-1.0	0.0	0.7
ES	43	46	47	44	0.0	1.8	1.6	0.9
PT	27	30	30	28	1.4	1.0	0.7	1.2
EU15	54	57	57	55	1.2	0.3	0.6	0.7
low income regions all	7	9	10	8	5.4	1.9	2.3	3.6
low income regions BG	5	5	5	5	1.8	1.3	1.4	1.6
low income regions RO	5	7	7	6	8.7	1.7	2.2	5.2
low income regions PL	10	13	13	12	3.0	2.9	3.1	3.0
low income regions HU	15	16	16	16	3.8	-0.6	0.2	1.6
BG, RO, PL, HU	11	15	15	13	5.0	2.3	2.2	3.7
BG	5	7	7	6	3.6	1.4	1.2	2.5
RO	7	10	10	8	8.4	2.2	2.5	5.2
PL	14	18	19	16	4.0	2.7	2.1	3.4
HU	17	19	19	18	4.0	0.0	0.2	2.0
EU12	13	17	17	15	5.0	1.9	1.8	3.4

Source: Own calculations based on Cambridge Econometrics, European Regional Data.

Cost competitiveness

Cost competitiveness effects from LMR measures can arise via investment and productivity (i.e. via higher profit margins in the case of decreasing wage setting or labour taxation). They can also arise from increased skills (i.e. training under ALMPs) or increased flexibility in the labour market (i.e. decreasing job protection). Decreasing wage setting or labour taxation can also affect cost competitiveness directly, not only indirectly via investment and productivity.

Verifying the assumptions – what the data tell us

The assumed effects of LMRs on investment are tested by examining the change over the period 2000-2014 on the basis of the following measure of cost competitiveness: $[1 - (\text{compensation of employees}/\text{GVA})]$ where compensation of employees and GVA are expressed in real terms. The smaller the ratio between wages (or compensation of employees) and GVA, the more cost competitive the economy will be and the higher the cost competitiveness measure. The results from the partial correlation analysis between the various LMPs and changes in the cost competitiveness measure over the period 2000-2014 are summarised below. Details of the underlying econometric specification are set out in Annex C. For those reform measures in Table 5.10 which are statistically significantly partially correlated with growth in the cost competitiveness measure, the residuals underlying the partial correlations coefficients are shown in Figures 5.24 to 5.28 together with a summary table of the correlations between the residuals for the lagging regions and the 8 countries covered by the study.

According to the mainstream literature, more flexible labour market policies that do not constrain the adaptation of workers to technological and other changes and labour mobility should have positive effects on technological innovation and cost competitiveness. This assumption is not verified by the partial correlation analysis (Table 5.10). The symmetrical relationship, namely a negative competitiveness effect from stronger **job protection**, is not verified either (and the correlation coefficient even suggests the opposite for the EU as well as for the low income regions and Poland) (Figure 5.26). A negative competitiveness effect is, however, suggested by the correlations for Hungary, Spain and Portugal though in the former two, not for the lagging regions considered alone.

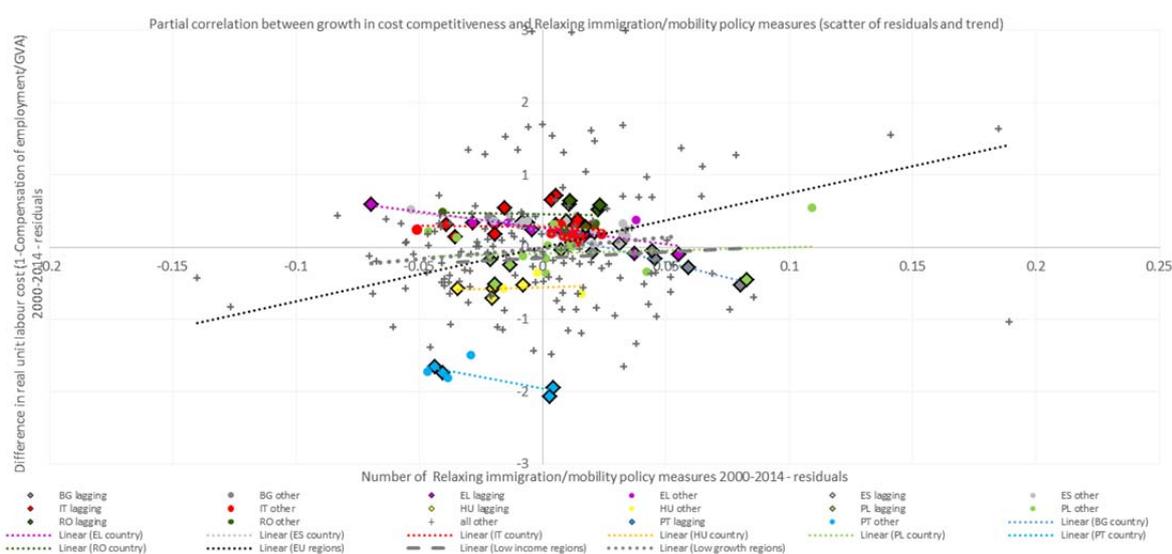
High taxes on labour are assumed to hinder investment, productivity and competitiveness all other things being equal. The assumption that **labour taxation** affects investment was not verified above and only in part that it affects productivity. It is, therefore, not surprising to find mixed results for the assumed relationship between cost competitiveness and labour taxation. While for the EU on average as well as for Poland, Bulgaria and Greece, increasing labour taxation is not associated with decreasing cost competitiveness, it is for both all regions in Hungary and lagging regions alone (Figure 5.28). Symmetrically, decreasing labour taxation is not associated with increasing cost competitiveness for all countries except Hungary. Indeed, the inverse relationship is statistically significant for Greece, Bulgaria and Poland as well as for lagging regions in Spain (Figure 5.27).

According to the mainstream literature, **wage setting**, as noted above, can affect cost competitiveness via investment and productivity as well as through a direct effect on prices. While the investment and the productivity effects are in part verified, as shown above, the results of the partial correlation analysis give no indication that the price effect might be at work. The predicted cost competitiveness effect from reductions or increases in wages are not apparent in the partial correlations (Table 5.10).

Table 5.10 / Partial correlation between the number of LMR measures taken in 2000-2014 and the change in cost competitiveness over the same period

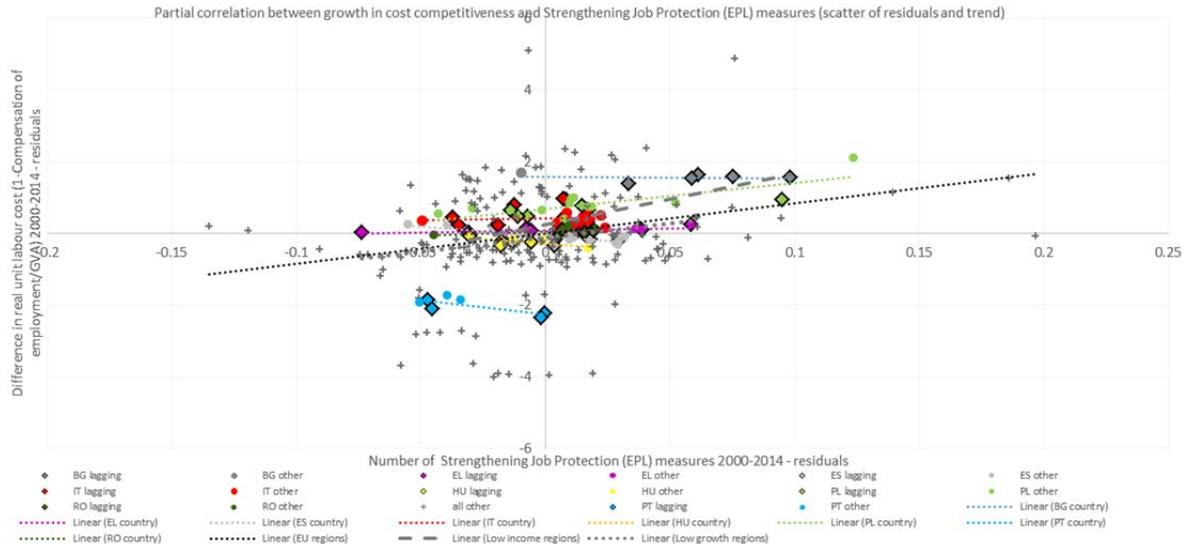
	expected relation	1-(Compensation/GVA) difference over period 2000-2014	
		part. corr.	sign.
ALMP			
Contracting measures	(-)	0.05	0.44
Expanding measures	(+)	0.08	0.23
Early Withdrawal			
Easing measures	?	0.10	0.13
Tightening measures	?	0.05	0.40
Immigration/Mobility			
Relaxing measures	((+?))	0.24	0.00
Tightening measures	((-?))	0.15	0.02
Job Protection (EPL)			
Relaxing Job Protection (EPL)	+	-0.08	0.23
Strengthening Job Protection (EPL)	-	0.27	0.00
Labour Taxation			
Decreasing Labour Taxation	(+)	-0.27	0.00
Increasing Labour Taxation	(-)	0.26	0.00
Welfare-related benefits.			
Decreasing Welfare-rel. benefits	((-))	-0.11	0.10
Increasing Welfare-rel. benefits	((+))	-0.11	0.09
Unemployment benefits			
Decreasing Unemployment benefits	?	0.14	0.03
Increasing Unemployment benefits	?	-0.16	0.01
Wage-setting			
Moderating measures	(+)	0.00	0.95
Increasing measures	(-)	0.12	0.06

Source and notes: see Table 7

Figure 5.24 / Partial correlation between growth in cost competitiveness and relaxing immigration/mobility measures (residuals and trend)

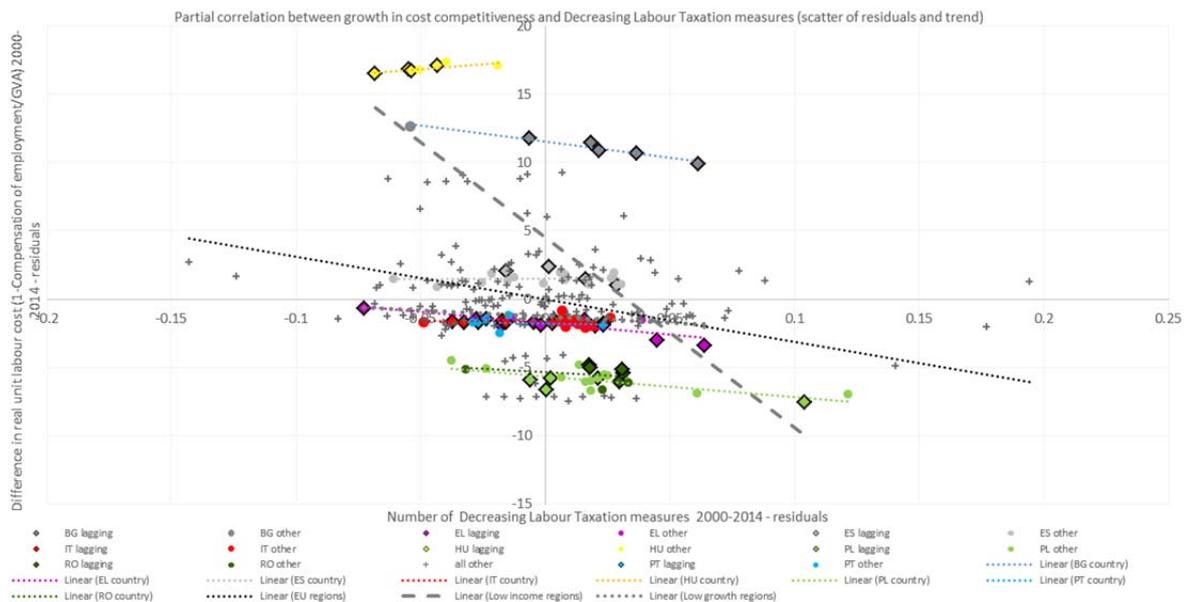
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.03	0.90	-0.66	0.00	-0.73	0.05	-0.78	0.00	-0.97	0.00	-0.06	0.88	0.12	0.66	0.14	0.76	0.24	0.00	0.11	0.60	0.13	0.58
lagging reg.	0.56	0.14	-0.88	0.06	-0.95	0.01	-0.91	0.00	-0.90	0.02	-0.28	0.63	-0.30	0.61	0.23	0.75						

Figure 5.26 / Partial correlation between growth in cost competitiveness and strengthening job protection (scatter of residuals and trend)



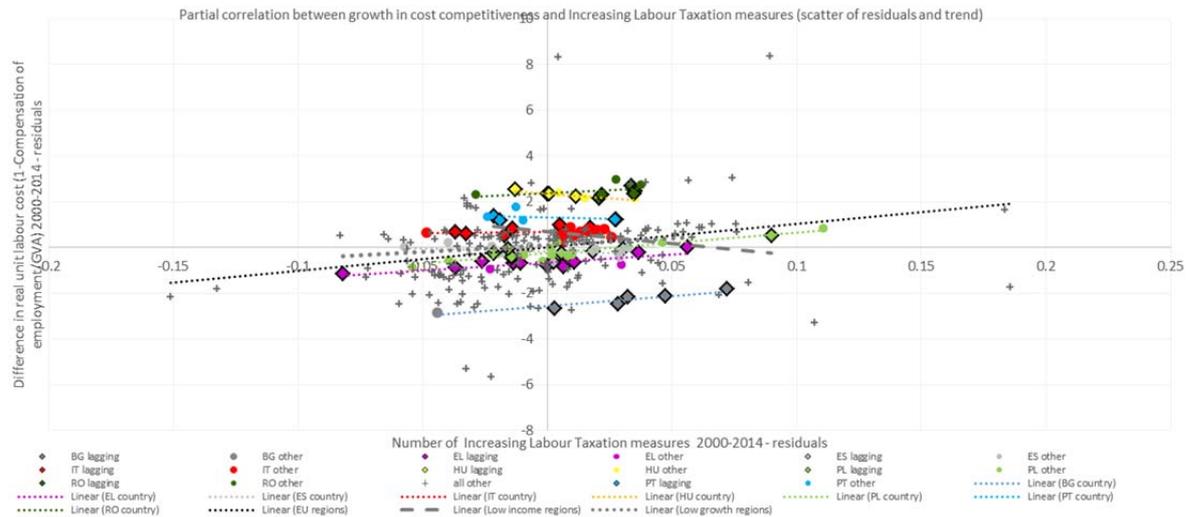
correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.07	0.77	-0.77	0.00	-0.78	0.03	0.42	0.15	-0.16	0.75	0.57	0.13	0.79	0.00	-0.66	0.09	0.27	0.00	0.24	0.22	0.79	0.00
lagging reg.	0.61	0.10	0.36	0.61	-0.87	0.07	0.37	0.25	0.64	0.21	0.47	0.39	0.85	0.04	-0.66	0.28						

Figure 5.27 / Partial correlation between growth in cost competitiveness and decreasing labour taxation (scatter of residuals and trend)



correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	-0.14	0.54	0.05	0.85	-0.13	0.78	-0.82	0.00	-0.97	0.00	-0.34	0.40	-0.77	0.00	0.75	0.04	-0.27	0.00	-0.19	0.34	-0.58	0.01
lagging reg.	-0.18	0.66	-0.84	0.09	-0.73	0.20	-0.90	0.00	-0.96	0.00	-0.66	0.19	-0.82	0.06	0.96	0.01						

Figure 5.28 / Partial correlation between growth in cost competitiveness and increasing labour taxation (scatter of residuals and trend)



correlations of residuals	IT		ES		PT		EL		BG		RO		PL		HU		EU		low growth reg.		low income reg.	
	corr.	p-val.	corr.	p-val.	corr.	p-val.																
country	0.10	0.66	-0.32	0.18	-0.29	0.52	0.81	0.00	0.95	0.00	0.40	0.31	0.89	0.00	-0.89	0.00	0.26	0.00	0.21	0.30	-0.15	0.53
lagging reg.	0.54	0.15	0.81	0.12	-0.32	0.65	0.87	0.00	0.96	0.00	0.71	0.14	0.91	0.01	-0.99	0.00						

Developments in competitiveness in lagging regions over the period 2000-2014

The compensation of employees relative to GVA in the 2000-2014 period was lower in most of the lagging regions (i.e. in those in Spain, Portugal, Bulgaria, Romania and Poland) than the national average and only a little higher in Greece and Hungary (Table 5.11). A noticeable exception is the low growth regions in Italy, which had a labour cost share in GVA around 10% higher than the national average. A priori, therefore, except for these regions, lagging regions do not seem to be disadvantaged in terms of the cost of the goods and services they produce. Cost competitiveness in most lagging regions tends to be maintained via low wages (i.e. the compensation of employees). Over the 2000-2014 period, real compensation of employees per hour worked in low growth regions was nearly 20% lower than the respective national average and it was nearly a third lower in the low income regions (Table 5.12).

Lagging region countries had themselves lower employee compensation relative to GVA than the EU average. This is particularly the case for the low growth region countries, where the difference in relation to the EU15 average was over 13% in Italy and 20-30% in Greece. In the case of low income countries, however, the difference in the share relative to the EU12 average was small, except in Bulgaria and Rumania where it was 7-8% lower.

Cost competitiveness in the lagging region countries is to a large extent maintained through lower wages. Real compensation of employees per hour worked in low growth region countries is on average a third lower than in the EU15, and much lower than this in Greece and Portugal. In the low income

countries, real compensation per hour worked is around 15% lower than in the EU12 average but 50% lower in Bulgaria and Romania.

Over the 2000-2014 period, cost competitiveness, as measured by compensation of employees relative to GVA, declined very slightly in both the EU15 and the EU12. Among the low income countries, it fell in Spain and Portugal but not in Italy and Greece. In the Spanish lagging regions there was also a reduction in the labour cost share in GVA but less than at the national level. This is mirrored in the larger increase in compensation per hour worked in these regions. In Portugal, the decline in the lagging regions was much the same as at national level. While labour costs in Italy increased over the 2000-2014 period, as noted above, there was a reduction in these in the lagging regions. This again is reflected in the lower increase in real compensation per hour worked in the latter. This was not the case in Greece where the share of labour cost in GVA in the lagging regions and real compensation per hour worked rose more than in other regions in the country.

While there was a slight fall in the share of labour costs in GVA in the EU12 on average over the period 2000-2014, this was not the case in Bulgaria and Hungary. Moreover, labour costs in the Bulgarian low income regions increased more than the country average. The same was evident in Hungary. In Poland, although labour costs declined at national level, and even more so than the EU12 average, in the lagging regions, they increased. These developments are reflected in the growth of real compensation per hour worked which was significantly higher in the lagging regions. In Romania, labour costs relative to GVA in the lagging regions declined by more than the country average and this again is mirrored in real compensation per hour worked.

Table 5.11 / Real compensation of employees in relation to GVA

	average of real compensation of employees in relation to GVA				growth p.a. of real compensation of employees in relation to GVA			
	2000-06	2007-14	2010-14	2000-14	2000-07	2007-14	2010-14	2000-14
low growth regions	0.47	0.48	0.48	0.48	0.5	-0.6	-1.8	-0.1
low growth regions IT	0.47	0.47	0.46	0.47	0.5	-0.9	-1.9	-0.2
low growth regions EL	0.37	0.40	0.40	0.39	1.7	0.6	-0.6	1.1
low growth regions ES	0.51	0.52	0.51	0.51	0.5	-1.0	-2.6	-0.2
low growth regions PT	0.54	0.51	0.51	0.53	-0.6	-0.5	-0.7	-0.6
IT, EL, ES, PT	0.46	0.47	0.47	0.47	0.3	-0.2	-1.2	0.1
IT	0.42	0.43	0.43	0.43	0.5	0.1	-0.7	0.3
EL	0.37	0.39	0.39	0.38	1.2	0.1	-1.1	0.7
ES	0.53	0.53	0.53	0.53	0.0	-0.8	-2.1	-0.4
PT	0.55	0.53	0.52	0.54	-0.9	-0.3	-0.8	-0.6
EU15	0.54	0.53	0.53	0.54	-0.5	0.2	-0.3	-0.1
low income regions	0.45	0.43	0.42	0.44	-0.1	-0.5	-0.8	-0.3
low income regions BG	0.39	0.41	0.42	0.40	-1.3	2.6	-0.5	0.6
low income regions RO	0.43	0.38	0.35	0.40	-1.0	-2.6	-2.9	-1.8
low income regions PL	0.43	0.42	0.42	0.42	0.5	0.5	0.3	0.5
low income regions HU	0.53	0.54	0.54	0.54	1.0	-0.1	0.0	0.5
BG, RO, PL, HU	0.46	0.43	0.42	0.44	-1.5	-0.4	-0.5	-0.9
BG	0.40	0.43	0.44	0.41	-1.0	1.9	-0.2	0.4
RO	0.43	0.39	0.37	0.41	-1.0	-1.8	-1.7	-1.4
PL	0.45	0.42	0.41	0.43	-2.3	0.0	-0.4	-1.1
HU	0.53	0.53	0.52	0.53	0.4	-0.3	0.1	0.0
EU12	0.46	0.44	0.43	0.45	-1.1	-0.3	-0.5	-0.7

Source of data: GVA and Compensation of employees – Cambridge Econometrics, European Regional Data.

Table 5.12 / Real compensation of employees per hour worked

	Average real compensation of employees per hour worked				growth p.a. of real compensation of employees per hour worked			
	2000-06	2007-14	2010-14	2000-14	2000-07	2007-14	2010-14	2000-14
low growth regions	9	10	10	10	1.3	0.3	-0.6	0.8
low growth regions IT	11	12	12	11	0.7	-0.4	-1.4	0.2
low growth regions EL	5	6	6	6	3.9	0.1	-0.2	2.0
low growth regions ES	11	13	13	12	1.0	1.1	-0.6	1.0
low growth regions PT	7	7	7	7	1.0	1.1	0.6	1.1
IT, EL, ES, PT	12	13	13	12	0.8	0.7	-0.2	0.7
IT	13	13	13	13	0.6	0.4	-0.2	0.5
EL	6	7	7	7	3.7	-0.3	-1.2	1.7
ES	13	14	15	14	0.4	1.0	-0.3	0.7
PT	8	8	8	8	0.7	0.9	0.2	0.8
EU15	18	19	19	18	0.9	0.9	0.6	0.9
low income regions	2	2	2	2	5.2	1.7	1.9	3.4
low income regions BG	1	1	1	1	0.4	3.9	0.9	2.1
low income regions RO	1	2	1	1	7.5	-0.4	-0.1	3.5
low income regions PL	2	3	3	2	3.3	3.5	3.5	3.4
low income regions HU	4	5	5	4	5.3	1.2	0.6	3.2
BG, RO, PL, HU	3	3	3	3	3.4	2.4	1.9	2.9
BG	1	2	2	2	2.4	3.4	1.0	2.9
RO	2	2	2	2	7.1	0.9	1.5	3.9
PL	3	4	4	3	1.7	3.0	1.8	2.3
HU	4	6	6	5	4.8	1.4	0.7	3.1
EU12	3	4	4	3	4.0	1.9	1.6	3.0

Source of data: Hours worked and real compensation of employees – Cambridge Econometrics, European Regional Data.

5.7. SUMMARY AND CONCLUSION

Employment

There is some evidence from the partial correlation analysis that the LMRs undertaken in the period 2000-2014 had an effect on employment. Expanding ALMPs were positively associated with employment growth in the EU as a whole, the low income regions in Bulgaria and in all regions in Hungary, Portugal and Italy but not in the lagging regions considered separately. Cutting back ALMPs seems to have had the effect of reducing employment growth as expected only in Hungary.

There is also some evidence from the correlation analysis that labour taxation matters for employment growth. Reducing labour taxation was associated with growth in employment in the EU as a whole and in two of the four EU15 countries – Italy and Portugal – as well as two of the four EU13 countries – Bulgaria and Hungary. Symmetrically, increasing labour taxation was associated with a slowdown in employment growth in the EU as a whole and in the low income regions taken together. The negative relationship between increasing taxation and employment is strongest in the lagging regions in Romania.

While there is no evidence of a negative effect on employment of reducing welfare-related benefits in the EU as a whole, the analysis suggests that there is such an effect in Romania and Poland though not in the lagging regions considered separately. Reducing unemployment benefits seems to have had an effect on employment growth in Greece and the lagging regions in Poland.

Table 5.13 / Employment effects of LMRs – results from partial correlation analysis

	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
Partial correlation between growth in employment and contracting ALMP measures											
country	0.15	0.17	0.43	0.30	-0.20	0.15	-0.02	-0.80	0.20	0.33	0.51
lagging reg.	0.49	0.35	0.06	0.36	-0.73	-0.29	-0.38	-0.52			
Partial correlation between growth in employment and expanding ALMP measures											
country	0.60	0.35	0.85	0.07	0.86	0.27	0.14	0.97	0.16	0.03	0.57
lagging reg.	0.12	0.49	0.49	0.27	0.82	0.65	0.14	0.78			
Partial correlation between growth in employment and decreasing labour taxation measures											
country	0.62	0.36	0.84	-0.12	0.85	-0.05	0.06	0.98	0.15	0.13	0.31
lagging reg.	0.36	0.34	0.34	-0.05	0.84	0.60	-0.11	0.78			
Partial correlation between growth in employment and increasing labour taxation measures											
country	-0.09	-0.17	-0.48	0.40	-0.57	-0.29	0.01	-0.94	-0.18	-0.26	-0.43
lagging reg.	-0.56	0.41	-0.42	0.42	-0.41	-0.80	0.77	-0.49			
Partial correlation between growth in employment and decreasing welfare-related benefit measures											
country	-0.18	-0.22	0.29	-0.37	-0.12	-0.78	-0.46	0.09	0.30	0.37	0.60
lagging reg.	0.19	-0.34	-0.33	-0.42	0.36	-0.45	0.20	0.34			
Partial correlation between growth in employment and decreasing unemployment benefit measures											
country	0.18	0.18	0.33	0.50	-0.58	-0.72	-0.06	-0.91	-0.38	-0.57	-0.74
lagging reg.	-0.39	0.76	-0.57	0.63	-0.40	-0.81	0.78	-0.50			

Colour code: LMR measures highlighted in green are those which have statistically significant correlations with employment growth in line with expectations. LMR measures not highlighted are those which have statistically significant correlations with employment growth but not in line with expectations. Cells in grey indicate insignificant correlations at the 10% level.

Investment

There is some evidence from the correlation analysis that wage setting has an effect on investment as suggested by economic theory. Increases in wages were negatively associated with investment growth in the EU as a whole and, of the 8 countries covered by the study, in Romania. The relationship is not statistically significant in the lagging regions. Wage moderation in Poland and Spain was positively related to increased investment though not for lagging regions isolated from the others.

Table 5.14 / Investment effects of LMRs – results from partial correlation analysis

	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
Partial correlation between growth in investment and relaxing job protection (EPL) measures											
country	-0.09	0.05	-0.05	-0.58	0.79	-0.55	-0.41	0.67	-0.14	-0.14	0.02
lagging reg.	0.28	-0.43	-0.57	-0.66	0.67	-0.64	-0.60	0.64			
Partial correlation between growth in investment and strengthening job protection (EPL) measures											
country	0.13	-0.09	-0.14	0.20	-0.65	0.83	0.21	-0.12	0.14	-0.08	-0.04
lagging reg.	-0.34	-0.54	0.65	0.18	-0.63	0.26	0.41	-0.71			
Partial correlation between growth in investment and increasing welfare-related benefit measures											
country	-0.62	0.14	-0.09	-0.28	-0.38	0.64	-0.36	0.21	0.17	0.01	0.13
lagging reg.	-0.25	-0.53	0.33	-0.47	-0.36	-0.19	-0.82	-0.70			
Partial correlation between growth in investment and Moderating wage setting measures											
country	-0.84	0.40	0.06	0.34	-0.44	-0.39	0.50	-0.27	-0.25	-0.33	0.17
lagging reg.	-0.50	0.28	-0.57	0.32	-0.13	0.73	0.53	0.46			
Partial correlation between growth in investment and increasing wage setting measures											
country	0.32	-0.02	0.13	-0.23	0.71	-0.85	-0.29	0.11	-0.16	0.00	-0.33
lagging reg.	0.39	0.55	-0.64	-0.19	0.66	-0.33	-0.47	0.71			

The economic literature predicts positive investment effects from relaxing the EPL and negative ones from strengthening it. These effects are not verified by the data for the EU as a whole. In Hungary and

Bulgaria, however, it seems that relaxing job protection legislation has had a positive effect on growth of investment in the 2000-2014 period. The symmetrical relationship between stronger job protection and slower growth in investment is not verified by the data.

Changes in welfare-related benefits also seem to have had an effect on investment. In the EU as a whole increasing benefits were positively correlated with growth in investment as predicted by theory, but among the countries covered by the study, this is the case only in Romania, though not in the lagging regions considered separately.

Productivity

Increasing wages are clearly associated with a reduction in productivity growth in the EU as a whole as well as in the low income and low growth regions. Among the 8 countries covered by the study, the relationship is statistically significant in Italy, Portugal, Poland and in the lagging regions in Hungary and Romania.

Table 5.15 / Productivity effects from LMRs – results from partial correlation analysis

	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
Partial correlation between growth in productivity and contracting ALMP measures											
country	-0.04	-0.47	-0.90	-0.38	0.55	-0.64	-0.40	-0.67	-0.13	-0.20	-0.52
lagging reg.	-0.84	-0.40	-1.00	-0.38	0.20	-0.21	0.24	-0.28			
Partial correlation between growth in productivity and expanding ALMP measures											
country	0.19	0.14	-0.01	-0.40	-0.61	-0.46	0.20	0.82	-0.21	-0.11	-0.73
lagging reg.	0.50	-0.43	-0.48	-0.76	-0.34	-0.14	-0.68	0.18			
Partial correlation between growth in productivity and tightening immigration/mobility measures											
country	-0.30	-0.34	-0.60	0.08	0.56	-0.37	-0.32	-0.75	-0.15	-0.15	0.08
lagging reg.	-0.79	-0.17	-0.63	0.32	0.23	-0.10	0.42	-0.26			
Partial correlation between growth in productivity and decreasing labour taxation measures											
country	0.22	0.32	0.65	-0.03	-0.61	0.43	0.31	0.71	-0.31	-0.14	-0.76
lagging reg.	0.79	0.20	0.79	-0.21	-0.30	0.09	-0.40	0.18			
Partial correlation between growth in productivity and increasing labour taxation measures											
country	0.28	0.15	-0.12	-0.41	-0.59	-0.64	0.19	0.86	0.20	0.12	0.48
lagging reg.	0.44	-0.62	-0.57	-0.80	-0.34	-0.23	-0.74	0.20			
Partial correlation between growth in productivity and decreasing welfare-related benefits measures											
country	-0.30	0.40	0.89	0.58	-0.60	0.79	0.55	0.26	-0.18	-0.17	-0.57
lagging reg.	0.48	0.62	0.92	0.87	-0.21	0.39	0.13	0.22			
Partial correlation between growth in productivity and increasing welfare-related benefits measures											
country	0.05	0.57	0.97	0.65	-0.50	0.79	0.55	0.51	0.23	0.32	0.81
lagging reg.	0.72	0.60	0.97	0.84	-0.11	0.37	0.03	0.33			
Partial correlation between growth in productivity and increasing wage setting measures											
country	-0.85	-0.17	-0.63	-0.62	-0.20	0.55	-0.56	-0.59	-0.42	-0.64	-0.67
lagging reg.	-0.85	-0.64	-0.58	-0.63	-0.13	-0.83	-0.54	-1.00			

Economic theory predicts direct, positive productivity effects from expanding ALMPs. While this effect is not verified by the data for the EU and seems to be present only in Hungary, there is evidence of the symmetrical negative relationship between reducing ALMP measures and productivity. Among the countries covered by the study, the relationship seems to hold for Spain, Portugal, Romania, Hungary and the lagging regions in Italy.

The hypothetical effects from changing labour taxation are not verified by the data for the EU as a whole. Reducing taxation is, however, positively related to productivity growth as predicted by theory in Portugal and the lagging regions in Italy and Hungary. There is also evidence of the symmetrical negative relationship between increasing taxation and productivity growth in Romania and the lagging regions in Greece.

Increasing welfare-related benefits seems to have an effect on productivity growth as predicted by the literature in all the countries except Bulgaria and Hungary. In the 4 EU15 countries, the relationship is stronger in the lagging regions than in the others but not in Spain where it does not seem to hold. The relationship does not seem to hold either in the lagging regions in the 4 EU13 countries. The predicted negative effect on productivity of reducing welfare-related benefits is verified by the data for the EU as a whole and the low income regions considered together.

Cost competitiveness

There is not much evidence from the correlation analysis to support the predicted effects of LMRs on cost competitiveness. The exception is Hungary where such effects are evident. While restrictive measures on immigration are significantly negatively correlated with increased cost competitiveness in Greece and Portugal among the 4 EU15 countries, and in Bulgaria and Poland among the 4 EU13 countries, as predicted (whether the skills of migrants are either complementary to those of existing workers or substitutes), the finding needs to take account of the small number of such measures taken.

Table 5.16 / Cost competitiveness effects from LMRs – results from partial correlation analysis

	IT	ES	PT	EL	BG	RO	PL	HU	EU	low growth reg.	low income reg.
Partial correlation between growth in cost competitiveness and relaxing immigration/mobility policy measures											
country	-0.03	-0.66	-0.73	-0.78	-0.97	-0.06	0.12	0.14	0.24	0.11	0.13
lagging reg.	0.56	-0.88	-0.95	-0.91	-0.90	-0.28	-0.30	0.23			
Partial correlation between growth in cost competitiveness and tightening immigration/mobility policy measures											
country	-0.10	0.01	-0.18	-0.78	-0.97	-0.20	-0.66	0.72	0.15	0.08	0.75
lagging reg.	0.19	-0.80	-0.85	-0.88	-0.95	-0.41	-0.76	0.93			
Partial correlation between growth in cost competitiveness and strengthening job protection (EPL) measures											
country	0.07	-0.77	-0.78	0.42	-0.16	0.57	0.79	-0.66	0.27	0.24	0.79
lagging reg.	0.61	0.36	-0.87	0.37	0.64	0.47	0.85	-0.66			
Partial correlation between growth in cost competitiveness and decreasing labour taxation measures											
country	-0.14	0.05	-0.13	-0.82	-0.97	-0.34	-0.77	0.75	-0.27	-0.19	-0.58
lagging reg.	-0.18	-0.84	-0.73	-0.90	-0.96	-0.66	-0.82	0.96			
Partial correlation between growth in cost competitiveness and increasing labour taxation measures											
country	0.10	-0.32	-0.29	0.81	0.95	0.40	0.89	-0.89	0.26	0.21	-0.15
lagging reg.	0.54	0.81	-0.32	0.87	0.96	0.71	0.91	-0.99			

6. Business environment

This chapter focuses on two questions: 1) Are there significant differences in the rate of business creation and growth between lagging regions and others? 2) If so, is there a link between these differences and the underlying business environment? The first question is addressed on the basis of Eurostat Structural Business Statistics (SBS) and Employer Business Demography data. The second question is addressed by relating the findings to the nature of the business environment in the lagging regions as indicated by various enterprise surveys and changes in this which are possible to identify as well as to the reforms that have been carried out since 2006 to make it easier to do business.

The section starts by briefly summarising the main empirical findings from recent research to set the theoretical context underlying the research questions. It then provides a concise overview of the policy reforms implemented in the 8 Member States covered by the study and a summary of the challenges in the business environment, as indicated by the main business surveys. The remaining part focuses on the two research questions set out above. It identifies the main differences in the business demography between the 8 Member States covered by the study and the main distinctive features at regional level. The findings are related to the nature of the business environment and the reforms carried out.

6.1. THEORETICAL CONTEXT – LITERATURE REVIEW: REGULATION, BUSINESS DEMOGRAPHY AND GROWTH

The business dynamics of an economy – often measured in terms of the birth rate of enterprises or the ‘churn’ rate (i.e. the rate at which enterprises are created plus the rate at which existing ones are closed down) – does not only depend on the existence of business opportunities but also on the extent to which it is easy or not to start a firm and to do business. The framework conditions and the regulations within which economic activity takes place can act as a brake on entrepreneurship and constrain business dynamics rather than facilitating business activity and supporting it (Audretsch et al., 2006). In this context policy reforms most often aim at removing such obstacles so as to make it easier to start a business and develop it and by doing so, to stimulate productivity and growth (Nicoletti and Scarpetta, 2003).

A relatively large body of research has investigated the relationship between business entry regulation and social and economic outcomes. Using data collected from business registers in 100 countries over a period of 8 years (2000-2007), Klapper et al. (2009) show that simple procedures to start up a business are critical for fostering entrepreneurship. Similarly, cumbersome regulations and administrative requirements for starting a business are found to result in a smaller number of legally registered firms, greater informal activity, a smaller tax base and more corruption (Audretsch et al., 2006). The findings suggest that quick, efficient, and cost-effective business registration processes are critical for fostering firm creation and development. Klapper et al. (2009) also found that barriers to start a business and high entry costs are negatively correlated with business density.

Many studies analysing the impact on enterprise dynamics of reforms in the business environment such as product market regulation, also investigate the effects on productivity and growth. Overall, the findings suggest that reforms which facilitate firm entry, reduce trade barriers, remove price controls and reduce public involvement in production have a positive effect on productivity and employment and tend to reduce economic rents (Nicodeme and Sauner-Leroy, 2004). There are at least two mechanisms giving rise to the positive effect on productivity. The first comes from 'internal' restructuring in incumbent firms (in terms of e.g. the organisation, the technology or inputs used) which they undertake to remain competitive vis-à-vis new entrants. This is called the 'within effect'. The second comes from 'external restructuring', i.e. the exit of least efficient firms or the shifts in market shares from least efficient firms to most efficient ones. This effect is what Schumpeter called 'creative destruction'. Barnes, Haskell and Maliranta (2001) find evidence for the 'within effect' in the OECD, Baily, Hulten and Campbell (1992) in the US and Griliches and Regev (1995) in Israel. Aghion et al. (2009) find evidence for the 'creative destruction' effect in technologically advanced industries in the UK and show that new firms play a critical role in developing innovations. There are also studies which disaggregate productivity growth into the part due to entry and exits of firms and the part due to restructuring in incumbent firms. They show that firm entry and exit play a crucial role in reallocating resources from low to higher productivity units (Scarpetta et al., 1992; Baldwin and Gu, 2003). It can be noted, moreover, that firm entry rates tend to be higher in industries with higher output and employment growth (Brandt, 2004), a result that might be related to the positive effect of firm entry on productivity noted above.

Among the factors which affect firm entry, product market regulations have a significant influence (Cincera and Galgau, 2005). The more regulations are restrictive, the lower the entry rate. Scarpetta et al. (2002) found that administrative barriers to start-ups have a negative impact on firm entry and Brandt (2004) that overly complicated licence and permit systems or badly designed tax systems discourage the creation of new enterprises.

SMEs tend to be more affected by regulatory burdens than large companies because they are less equipped to deal with complicated administrative procedures and regulatory requirements and have less resources (OECD, 1997). Overall, small enterprises have proportionally higher transaction costs than large ones.

That the business demography of an economy in terms of the size distribution of enterprises matters for economic growth is not only due to unequal capacity of small and large enterprises to deal with administrative procedures but above all to the fact that large firms can exploit increasing returns to scale. Productivity typically increases with firm size. In the manufacturing sector, where production tends to be more capital-intensive, larger firms have almost consistently higher levels of productivity than smaller ones as shown by the OECD (2016) which suggest a few additional stylised facts in this regard:

- › In most EU28 countries, post-crisis labour productivity growth measured in terms of real value added per person employed in the manufacturing sector was higher in large firms than in SMEs.
- › Labour productivity growth in the post-crisis period was higher in countries with higher start-up rates and churn rates, pointing to a possible positive effect of business dynamism (i.e. the entry and exit of firms) on productivity growth.

Based on the above settings, the following working hypothesis in respect of the relationship between enterprise environment and enterprise demography and growth can be formulated:

- › Reforms to ensure a smooth business environment and easy procedures to start up a business are critical for fostering entrepreneurship. Such reforms are likely to have a positive effect on enterprise creation and business density. They are likely to affect productivity and employment positively.
- › A business structure characterised by an over-representation of small firms is likely to have lower growth potential than one with a more balanced distribution of enterprises of different size. This is so because larger companies can exploit increasing returns to scale and are better able than small firms to take advantages of technological developments. This is also so because larger companies can act as a link between the local production system and the global value chain.

6.2. REFORMS IN THE BUSINESS ENVIRONMENT

Many policy reforms have been undertaken in the last decade to make business environments more 'enterprise friendly' and conducive to firm creation and growth. These reforms, as noted above, tackle cumbersome regulation and excessive administrative requirements. The Doing Business reform database established in 2006 on the initiative of the World Bank Group gives an indication of the number of reforms undertaken in the 8 countries covered by the study as well as their main focus (Table 6.1).

Table 6.1 / 'Doing Business' reforms undertaken in the 8 Member States since 2006

	Starting a business	Dealing with construction permits	Getting electricity	Registering property	Paying taxes	Enforcing contracts	Resolving insolvency	Other	Total
Number of reforms									
IT	4	0	1	3	2	3	5	5	23
ES	5	1	0	3	6	1	4	7	27
PT	5	4	1	3	5	5	4	7	34
EL	5	1	0	3	5	2	2	8	26
4 EU15: IT, ES, PT, EL	19	6	2	12	18	11	15	27	110
EU15	49	15	2	37	39	24	30	53	249
BG	6	1	1	2	5	2	4	3	24
RO	4	2	0	2	6	4	5	8	31
HU	4	1	0	3	5	1	2	7	23
PL	2	3	3	6	4	3	6	6	33
4 EU13: BG, RO, HU, PL	16	7	4	13	20	10	17	24	111
EU13	51	19	10	35	49	27	39	77	307
EU28	100	34	12	72	88	51	69	130	556
Share of reforms per type (%)									
IT	17	0	4	13	9	13	22	22	100
ES	19	4	0	11	22	4	15	26	100
PT	15	12	3	9	15	15	12	21	100
EL	19	4	0	12	19	8	8	31	100
4 EU15: IT, ES, PT, EL	17	5	2	11	16	10	14	25	100
EU15	20	6	1	15	16	10	12	21	100
BG	25	4	4	8	21	8	17	13	100
RO	13	6	0	6	19	13	16	26	100
HU	17	4	0	13	22	4	9	30	100
PL	6	9	9	18	12	9	18	18	100
4 EU13: BG, RO, HU, PL	14	6	4	12	18	9	15	22	100
EU13	17	6	3	11	16	9	13	25	100
EU28	18	6	2	13	16	9	12	23	100

Source: Doing Business reform database – World Bank Group.

Several interesting observations can be made from the data presented. Among the 4 EU15 countries, the rate of reform activity over the last decade in absolute terms was lowest in Italy (23 reforms) and highest in Portugal (34 reforms). In per capita terms, the activity in Italy was only slightly over half the EU15 average while in Portugal it was over five times higher than the average and in Greece over three times higher. One of the main areas of the reforms undertaken in all 4 EU15 countries was to reduce the procedures and cost needed to start a business, as was the case in the rest of the EU15. In Italy, however, most reforms were carried out to resolve insolvency more efficiently and in Spain to simplify procedures for paying taxes. Dealing with construction permits was a focus in Portugal, much less in Spain and Greece and not at all in Italy.

Ranking of the main focus areas of reforms in the 4 EU15:

- › Italy: (1) Resolving insolvency, (2) Starting a business, (3) Registering property and Enforcing contracts
- › Spain: (1) Paying taxes, (2) Starting a business, (3) Resolving insolvency
- › Portugal: same rank for Starting a business, Paying taxes and Enforcing contracts
- › Greece: (1, 2) Starting a business and Paying taxes (same rank), (3) Registering property

Reform intensity in terms of the number of reforms carried out in relation to population was much higher in the EU13 than in the EU28 over the past decade. In the 4 EU13 countries covered, however, it was only half the EU13 average. In absolute terms Poland implemented most reforms (33) and Hungary least (23), whereas in per capita terms, reform intensity in Hungary was close to the EU13 average but in Poland, only a third of the average.

Unlike in the 4 EU15 countries, the main focus of the reforms was on procedures for paying taxes and resolving insolvency except in Bulgaria where it was on simplifying business start-ups.

Ranking of the main focus areas of reforms in the 4 EU13:

- › Bulgaria: (1) Starting a business, (2) Paying taxes, (3) Resolving insolvency
- › Romania: (1) Paying taxes, (2) Resolving insolvency, (3) Starting a business and Enforcing Contracts (same rank)
- › Hungary: (1) Paying taxes, (2) Starting a business, (3) Registering property
- › Poland: (1,2) Registering property and Resolving insolvency (same rank), (3) Paying taxes

6.3. THE MAIN REMAINING CHALLENGES IN THE BUSINESS ENVIRONMENT

This section summarises the challenges that remain to be addressed in the business environment of the 8 Member States covered by the study as well as in the lagging regions within these countries so far as the data allow.

Italy

There are 6 areas in which the regulatory environment for business in Italy is less favourable than the EU average according to the Doing Business Report 2017 as shown in Table 6.2. These are paying taxes and enforcing contracts, obtaining credit, dealing with construction permits, getting electricity and starting a business, while a 7th area, resolving insolvency, is assessed as around the average. These could deter entrepreneurs from creating a new company, companies from expanding their operations or multinationals from investing in the country.

Table 6.2 / Business environment indicators in Italy, 2016

	Italy (rank in the EU, 1-28)
Starting a business	15
Dealing with construction permits	22
Getting electricity	20
Registering property	8
Obtaining credit	23
Protecting minority investors	11
Paying taxes*	28
Enforcing contracts	25
Resolving insolvency	14

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

'Enforcing contracts' has been one of the three main focus areas of reform in Italy in the last decade. Despite the distance to the situation in the most favourable country being reduced (Figure 6.1), Italy is still regarded as one of the least favourable countries in this respect. Both the time taken and the cost involved in resolving commercial disputes through local courts are still more in Italy than in the rest of the EU on average. While the cost is only slightly higher, the time taken, despite the reduction in the latest years, remains almost double the EU average (Table 6.3). Firms, therefore, often do not have the financial means to continue an action because of the length of time it takes for a court to reach a final judgement. In 2013, in five of the lagging regions, moreover, the time taken was longer than in the rest of the country, especially in Puglia, where it was more than 40% higher than the national average. In Puglia too, the cost involved was much higher than elsewhere in the country in 2013, whereas in other lagging regions it was lower than the national average (Table 6.3).

Figure 6.1 / Italy – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier shows how far on average an economy is from the best situation in any economy as regards each Doing Business indicator on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas shown in the graph are those in which the situation in Italy is less favourable than the EU average according to the Doing Business Report 2017.

Source: World Bank Doing Business Dataset.

Table 6.3 / Enforcing contracts indicators in Italy, 2013 and 2016

Region (city)	Time (days)	Cost (% of claim)
Puglia (Bari)	2022	34.1
Sardegna (Cagliari)	1507	21.5
Molise (Campobasso)	1338	25.5
Calabria (Catanzaro)	1427	24.1
Abruzzo (L'Aquila)	1435	22.9
Campania (Naples)	1280	21.7
Sicilia (Palermo)	1366	25.2
Basilicata (Potenza)	1461	20.5
Italy 2013	1400	26.2
Italy 2016	1120	23.1
EU average 2016	594	22

Note: Regional values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Italy; World Bank Doing Business 2013 – Italy; World Bank Doing Business 2017 – EU.

Complying with building regulations and **dealing with construction permits** in Italy is more costly in terms of time as well as money than elsewhere in the EU and this area was not really subject to reform over the last decade. This may discourage construction or possibly lead to bribery in order to pass inspections or even to illegal construction. In 2013, in all the lagging regions, with the exception of Campania, the number of procedures which needed to be gone through to obtain a permit was equal or lower than in other parts of the country. In addition, the time taken to obtain a permit was shorter than the national average in 5 of the regions and only in Sicilia, Campania and Calabria was it longer. The cost was also less than the national average in 5 of the regions and in 3 of these, Calabria, Abruzzo and Campania, less than the 2016 EU average. In Puglia, Molise and Basilicata, however, it was more expensive than the national average and in the last 5 times more expensive (Table 6.4).

Table 6.4 / Dealing with construction permits indicators in Italy, 2013 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of warehouse value)
Puglia (Bari)	12	223	4.1
Sardegna (Cagliari)	10	222	3.3
Molise (Campobasso)	13	192	4.0
Calabria (Catanzaro)	13	279	0.8
Abruzzo (L'Aquila)	12	208	0.7
Campania (Naples)	14	232	1.1
Sicilia (Palermo)	13	301	2.2
Basilicata (Potenza)	13	178	18.0
Italy 2013	13	231	3.6
Italy 2016	10	228	3.5
EU average 2016	13	169	2.0

Note: Regional values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Cost of dealing with construction permits in 2013 was expressed as % of income per capita. Source: World Bank Doing Business 2017 – Italy; World Bank Doing Business 2013 – Italy; World Bank Doing Business 2017 – EU.

Italy was ranked 15th out of the 28 Member States in respect to **starting a business**, and so slightly less favourable than average but improvements have been made over recent years, especially in relation to the number of procedures necessary and the time needed. Nevertheless, the cost involved remains almost four times higher than the average in the EU. In 2013, lagging regions were not disadvantaged as compared with other regions in the country in terms of the number of procedures and time taken for starting a business. Molise was the exception for what concern the number of procedures while in Campania and Abruzzo the time was longer. Also, in 5 out of 8 regions, the cost involved was lower than the national average, except, again, in Campania, Molise and Sardegna (Table 6.5).

Table 6.5 / Starting a business indicators in Italy, 2013 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of income per capita)
Puglia (Bari)	6	9	12.2
Sardegna (Cagliari)	6	9	15.3
Molise (Campobasso)	7	8	15.3
Calabria (Catanzaro)	6	7	12.4
Abruzzo (L'Aquila)	6	13	13.3
Campania (Naples)	6	16	16.0
Sicilia (Palermo)	6	8	13.5
Basilicata (Potenza)	6	8	12.6
Italy 2013	6	9	14.5
Italy 2016	5	5.5	13.8
EU average 2016	5.3	10.4	3.7

Note: Regional values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Paid-in minimum capital is the same in all the regions and slightly less than the EU average. Source: World Bank Doing Business 2017 – Italy; World Bank Doing Business 2013 – Italy; World Bank Doing Business 2017 – EU.

Although a number of reforms have been carried out to reduce taxes (i.e. the corporate income tax rate and the regional tax in 2009) and to make it easier to pay taxes, Italy is still considered the most

problematic country in the EU with respect to 'Tax paying'. 'Getting electricity' is also problematic but no reform measures were taken to make it any easier.

Spain

According to the Doing Business Report 2017, in 8 of the 9 areas distinguished, the regulatory environment for businesses in Spain is less favourable than in most other EU countries as shown in Table 6.6. There is only one area where Spain is ranked as being more favourable than the EU average, which is 'protecting minority investors', though there are three areas – 'obtaining credit', 'enforcing contracts' and 'resolving insolvencies' – where Spain is ranked close to the average.

Table 6.6 / Business environment indicators in Spain, 2016

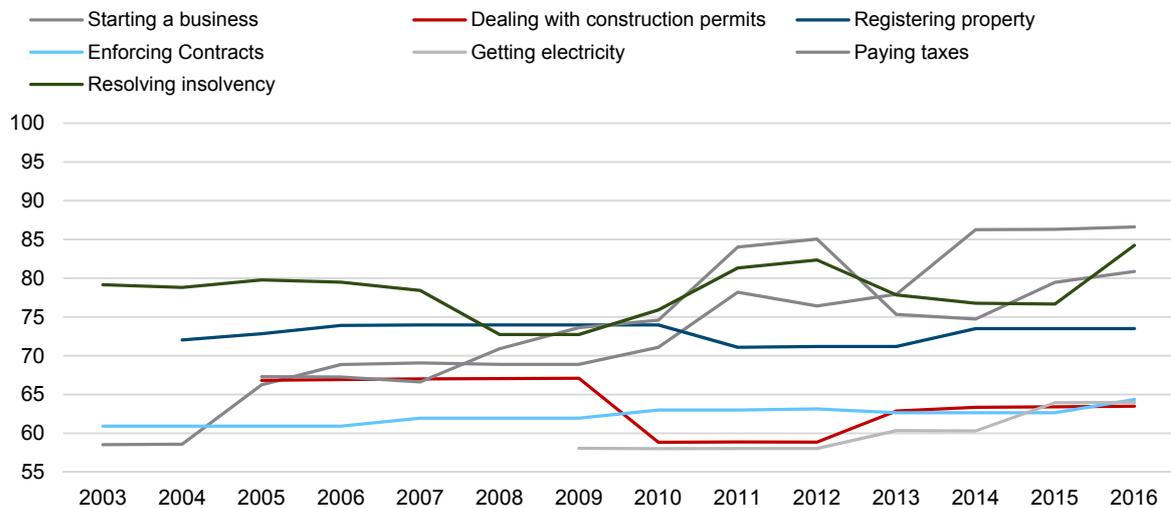
	Spain (rank in the EU, 1-28)
Starting a business	22
Dealing with construction permits	24
Getting electricity	24
Registering property	18
Obtaining credit	16
Protecting minority investors	8
Paying taxes*	17
Enforcing contracts	16
Resolving insolvency	16

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

A number of reforms have been carried out over the last decade to make it easier to **start a business**. Although they seem to have had effects as shown by the reduction of the distance with the best performing countries, particularly with respect to the time needed and the minimum capital required, there is still room for improvement (Figure 6.2). In 2015, in three of the four lagging regions, moreover, the number of procedures involved and the time needed was higher than in the rest of the country. In the fourth, Andalucía, both indicators were the same as the national average. On the other hand, in all the lagging regions the cost was lower. Indeed, in 2015 in Andalucía and Extremadura, the cost was also less than the 2016 EU average (Table 6.7).

Figure 6.2 / Spain – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Spain is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Table 6.7 / Starting a business indicators in Spain, 2015 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of income per capita)	Paid-in Min. Capital (% of income per capita)
Andalucía (Sevilla)	7	14.0	3.4	13.8
Castilla- La Mancha (Albacete)	10	15.5	5.0	13.8
Extremadura (Badajoz)	9	14.5	3.4	13.8
Murcia (Murcia)	10	15.0	4.6	13.8
Spain 2015	7	14.0	5.3	13.8
Spain 2016	7	13.0	5.0	12.9
EU average 2016	5.3	10.4	3.7	10.9

Note: Regional values refer to 2015. Regional values higher than the national average in 2015 are shown in red. Values higher than the EU average in 2016 are highlighted in grey.

Source: World Bank Doing Business 2017 – Spain; World Bank Doing Business 2015 – Spain; World Bank Doing Business 2017 – EU.

Obtaining and **dealing with construction permits** is more expensive and time-consuming in Spain than elsewhere in the EU in 2016 but no reform has been carried out in the last decade to change this and compliance with requirements for building has become more difficult after 2010 as suggested by the increasing distance of the situation in Spain with that in the best performing countries. The situation in some of the lagging regions is slightly better than in the rest of the country. In 2015, it cost less than the national average in three of the lagging regions (Andalucía is the exception) to obtain a permit, though it was still much more costly than the EU average (between 2 and 3 times more costly). It is less time-consuming too than in other Spanish regions in all apart from Murcia, which is the only lagging region where the time needed is more than the EU average (Table 6.8).

Table 6.8 / Dealing with construction permits in Spain, 2015 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of warehouse value)
Andalucía (Sevilla)	13	162	6.1
Castilla- La Mancha (Albacete)	11	153	4.8
Extremadura (Badajoz)	10	147	4.2
Murcia (Murcia)	12	247	4.4
Spain 2015	13	205	5.3
Spain 2016	13	205	5.2
EU average 2016	13	169	2.0

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Paid-in minimum capital is the same in all the regions and slightly less than the EU average

Source: World Bank Doing Business 2017 – Spain; World Bank Doing Business 2015 – Spain; World Bank Doing Business 2017 – EU.

While the time needed in Spain for **registering property** is on average around half the EU average, the cost is higher than in the rest of the EU. In all lagging regions in 2015, the time needed to register a property was longer than the national average but significantly shorter than the EU average. The cost was also higher and accordingly higher than the EU average, markedly so in Andalucía and Extremadura, in the latter over twice as high (Table 6.9).

Table 6.9 / Registering property indicators in Spain, 2015 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of property value)
Andalucía (Sevilla)	5	17	9.1
Castilla- La Mancha (Albacete)	5	15	8.1
Extremadura (Badajoz)	5	16	9.9
Murcia (Murcia)	5	17	8.1
Spain 2015	5	12.5	6.1
Spain 2016	5	12.5	6.1
EU average 2016	5	24	4.8

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Paid-in minimum capital is the same in all the regions and slightly less than the EU average

Source: World Bank Doing Business 2017 – Spain; World Bank Doing Business 2015 – Spain; World Bank Doing Business 2017 – EU.

Table 6.10 / Getting electricity indicators in Spain, 2015 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of property value)
Andalucía (Sevilla)	8	134	232.7
Castilla- La Mancha (Albacete)	8	129	235.5
Extremadura (Badajoz)	7	125	232.2
Murcia (Murcia)	7	178	232.0
Spain 2015	7	107	232.0
Spain 2016	7	107	216.1
EU average 2016	5	90	128.5

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Paid-in minimum capital is the same in all the regions and slightly less than the EU average

Source: World Bank Doing Business 2017 – Spain; World Bank Doing Business 2015 – Spain; World Bank Doing Business 2017 – EU.

Obtaining electricity is also more difficult in Spain than in the majority of the EU Member States. Despite the cost being reduced between 2015 and 2016 so that the distance between Spain and the best performing countries narrowed, access to electricity remains more expensive than in the rest of the EU. In 2015, in all lagging regions, the time needed to obtain electricity supply was longer than the national average and even more so than the EU average. The cost too was higher in all the lagging regions except Extremadura (Table 6.10).

Greece

According to the Doing Business Report 2017, the regulatory environment for businesses in Greece is less favourable than in most other EU Member States in all areas apart from protecting minority investors, where it is around average. 'Getting electricity', however, is considered to be only slightly more difficult than average, in contrast to 'registering property' and 'enforcing contracts', for which Greece is regarded as either the most problematic or almost the most problematic country in the EU as shown below (Table 6.11).

Table 6.11 / Business environment indicators in Greece, 2016

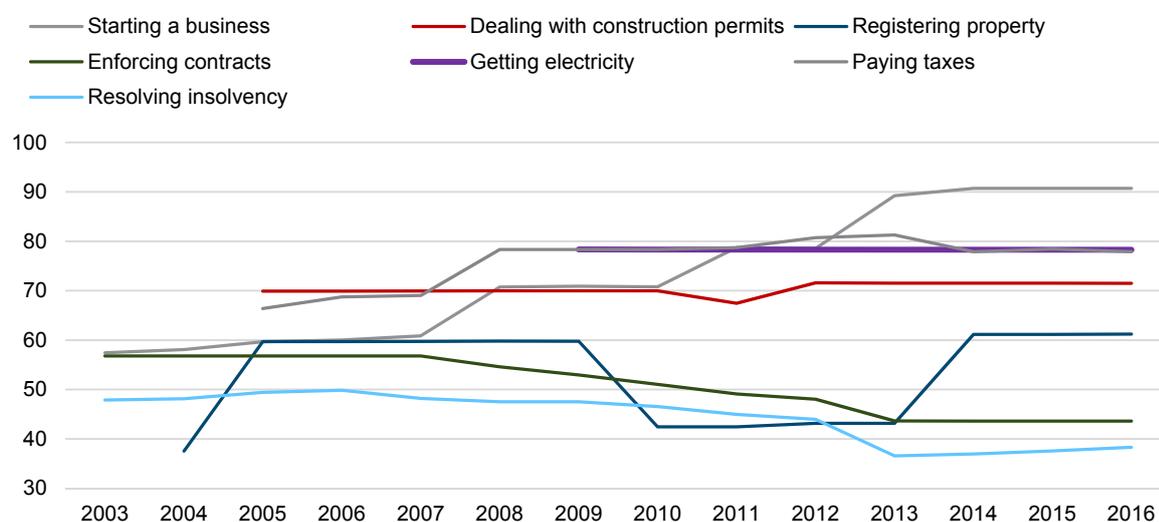
	Greece (rank in the EU, 1-28)
Starting a business	17
Dealing with construction permits	17
Getting electricity	15
Registering property	28
Obtaining credit	20
Protecting minority investors	14
Paying taxes*	19
Enforcing contracts	27
Resolving insolvency	23

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here..

* Data for 'paying taxes' indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Although a number of reforms were carried out in relation to **registering property** in Greece, not all of them made it easier, so the country is still considered the most difficult in the EU in this respect. For instance, the reform undertaken in 2010 made property transfer more expensive (by increasing the property transfer tax from 1% to 10% of the property value). This was in part changed by the reform in 2014 which reduced registration taxes and legal requirements. The cost of registration therefore and the time needed are no longer higher in Greece than in the rest of the EU but the number of procedures entailed is twice the average in the EU (Table 6.12).

Figure 6.3 / Greece – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Greece is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Table 6.12 / Registering property indicators in Greece, 2016

	Procedures (number)	Time (days)	Cost (% of property value)
Greece	10	20	4.8
EU average	5	24	4.8

Note: Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Greece; World Bank Doing Business 2017 – EU.

Contract enforcement is also more difficult than in almost all other Member States. Whereas the cost is below the EU average, the time needed is over twice as long (Table 6.13). Reforms were undertaken in 2014 and 2016 to tackle the problem but it remains to be seen whether they produce the intended effects and begin reducing the substantial distance that separates Greece from the best performing countries (see Figure 6.3).

Table 6.13 / Enforcing contracts indicators in Greece, 2016

	Time (days)	Cost (% of claim)
Greece	1580	14.4
EU average	594	22.0

Note: Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Greece; World Bank Doing Business 2017 – EU. The average number of procedure at EU level is not indicated.

Greece is ranked 17th in the EU in terms of the ease of **starting a business**, the time needed being longer than the EU average but the costs being less (Table 6.14). The area has been subject to a

number of policy reforms in the last decade which seem to have produced effects as reflected by the decreasing distance of Greece with best performing countries (Figure 1.69).

Table 6.14 / Starting a business indicators in Greece, 2016

	Procedures (number)	Time (days)	Cost (% of income per capita)
Greece	5.0	13.0	2.2
EU average	5.3	10.4	3.7

Note: Values higher than the EU average are highlighted in grey. Paid-in minimum capital in Greece is 0.
Source: World Bank Doing Business 2017 – Greece; World Bank Doing Business 2017 – EU.

Greece is also ranked 17th as regards dealing with construction permits and while the number of procedures involved is more than the EU average, both the time needed and the cost are less than average (Table 6.15).

Table 6.15 / Dealing with construction permits indicators in Greece, 2016

	Procedures (number)	Time (days)	Cost (% of warehouse value)
Greece	17	124	1.8
EU average	13	169	2.0

Note: Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Greece; World Bank Doing Business 2017 – EU.

Portugal

For most of the areas which are relevant for judging the regulatory environment for businesses, Portugal is assessed as being relatively favourable according to the Doing Business Report 2017. It is only in respect of 'obtaining credit', 'protecting minority investors' and 'paying taxes' where it is ranked below the majority of other EU countries, as shown below (Table 6.16). For the first two, in particular, however, the situation seems much less favourable than on average in the EU which could well deter or hinder business expansion as well as setting up new businesses.

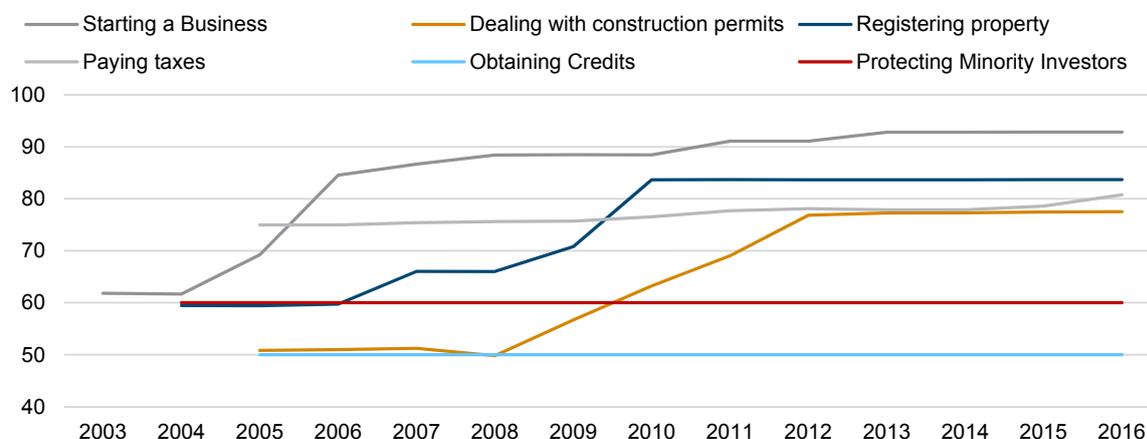
Table 6.16 / Business environment indicators in Portugal, 2016

	Portugal (rank in the EU, 1-28)
Starting a business	2
Dealing with construction permits	10
Getting electricity	8
Registering property	10
Obtaining credit	23
Protecting minority investors	22
Paying taxes*	18
Enforcing contracts	8
Resolving insolvency	3

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here..

* Data for 'paying taxes' indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Figure 6.4 / Portugal – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier.

Source: World Bank Doing Business Dataset.

There are no regional data available for Portugal. According to the World Bank Doing Business reform database, no measures were taken in the last decade to make it easier to obtain credits and just one to protect minority investors. On the other hand, there were a number of reforms relating to paying taxes but these do not seem to have made it noticeably easier to do so. The distance between the situation in Portugal and the best performing economies in this respect has therefore narrowed only slightly essentially because of a reduction in the tax rate (Figure 6.4).

Starting a business, registering property, dealing with construction permits and enforcing contracts are no longer regarded as problematic, as noted above, so that the numerous reforms carried out in these areas seem to have been effective.

Portugal is now among the countries in the EU where it is easiest to **start a business**, the time needed and the cost involved being well below the EU average (Table 6.17). (There are no data available below national level to enable the state of affairs in lagging regions to be assessed.)

Table 6.17 / Starting a business indicators in Portugal, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of income per capita)
Portugal	5.0	4.5	2.1
EU average	5.3	10.4	3.7

Note: Values higher than the EU average are highlighted in grey. There is no paid-in minimum capital in Portugal

Source: World Bank Doing Business 2017 – Portugal; World Bank Doing Business 2017 – EU.

Since 2006, three major reforms have made it easier to transfer **property** by computerising property registration and establishing a one-stop shop. Accordingly, one day only is needed now to register property, but the cost remains around 50% higher than the EU average (Table 6.19).

Table 6.18 / Dealing with construction permits indicators in Portugal, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of warehouse value)
Portugal	14	113	1.3
EU average	13	169	2.0

Note: Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Portugal; World Bank Doing Business 2017 – EU.

Table 6.19 / Registering property indicators in Portugal, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of property value)
Portugal	1	1	7.3
EU average	5	24	4.8

Note: Values higher than the national average are shown in red.

Source: World Bank Doing Business 2017 – Portugal; World Bank Doing Business 2017 – EU.

As a result of the measures taken to increase the efficiency of the judicial system by speeding up procedures and reducing the time needed, **enforcing contracts** in Portugal is now quicker and less costly than the EU average (Table 6.20).

Table 6.20 / Enforcing contracts indicators in Portugal, 2016

Region (city)	Time (days)	Cost (% of claim)
Portugal	547	13.8
EU average	594	22.0

Note: Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Portugal; World Bank Doing Business 2017 – EU. The average number of procedure at EU level is not indicated.

Hungary

The regulatory environment for business in Hungary is less favourable than the EU average in 6 of the 9 areas considered. According to the Doing Business Report 2017 (Table 6.21), this is particularly the case in respect of 'getting electricity', 'paying taxes', 'protecting minority investors and 'resolving insolvency', in all of which Hungary is considered among the least favourable countries in the EU.

It is more costly and time-consuming in Hungary than in most other EU countries to get access to **electricity** – the country is ranked 27th among the 28. According to the World Bank, no reform has been carried out in the last decade to tackle the problem. The distance to the frontier represented by best performing countries, therefore, remained wide (see Figure 6.5). Nevertheless, most of the enterprises surveyed by the World Bank Group in 2013 did not identify electricity as a major constraint on business activity. In Alföld és Észak – the NUTS 1 region which covers three of the four (NUTS 2) lagging regions, namely Észak-Magyarország, Észak-Alföld and Dél-Alföld – the proportion that did so, however, is over twice the national average. More enterprises in the lagging regions than in the rest of the country also considered transport infrastructure as a major constraint on business activity (Table 6.22).

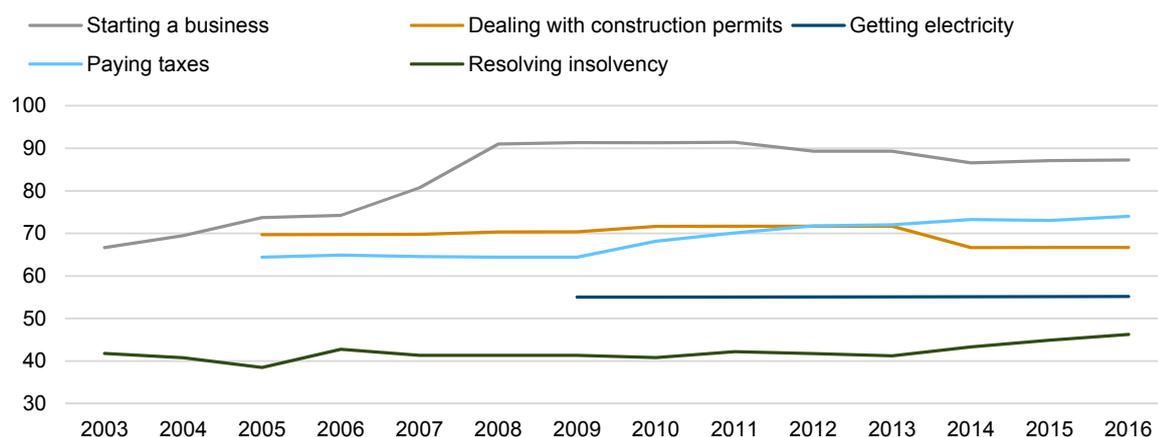
Table 6.21 / Business environment indicators in Hungary, 2016

Hungary (rank in the EU, 1-28)	
Starting a business	18
Dealing with construction permits	23
Getting electricity	27
Registering property	11
Obtaining credit	2
Protecting minority investors	25
Paying taxes*	26
Enforcing contracts	9
Resolving insolvency	25

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for 'trading across borders' is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Figure 6.5 / Hungary – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Hungary is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Table 6.22 / Share of entrepreneurs considering electricity and transport infrastructure as major constraints for doing business in Hungary, 2013

Region	Energy (% of firms identifying electricity as a major constraint)	Transport infrastructure (% of firms identifying transportation as a major constraint)
Alföld és Észak	24.9	8.6
Hungary	11.3	5.6
EU13*	22.2	14.2

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Data for Dél-Dunántúl not available.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Hungary.

Although several policy reforms have been implemented over the last decade aimed at making **paying taxes** easier and less costly for companies (e.g. by allowing additional deduction for new acquisitions) Hungary is still ranked among the least favourable countries in the EU in this respect (being ranked 26th out of the 28) and the situation has only marginally improved in terms of the distance with the most favourable countries. Tax paying issues are perceived as more difficult in the lagging regions than in the rest of the country according to the World Bank Enterprise survey in 2013. Almost a third of the enterprises surveyed in the lagging regions considered tax administration as a major constraint on business activity, while 40% were of the same opinion as regards tax rates (Table 6.23). Despite this, taxation was regarded as less of a problem in Hungary than in the other EU13 countries.

Complying with building regulations and **dealing with construction permits** is more time-consuming and involves more procedures than in the rest of the EU, though the cost is only a tenth of the EU average (Table 6.24). In addition, according to the World Bank survey, in Alföld és Észak, complying with business permits as well as dealing with the requirements of the government regulation was perceived as even more of a constraint than elsewhere in the country (Table 6.23).

Table 6.23 / Indicators on regulations, taxation, and business licences as problems for doing business in Hungary and lagging regions, 2013

Region	Time (% of senior management time spent dealing with the requirements of government regulation)	Tax rates (% of firms identifying tax rates as a major constraint)	Tax administration (% of firms identifying tax administration as a major constraint)	Licences and permits (% of firms identifying business licensing and permits as a major constraint)	Trade regulation (% of firms identifying customs and trade regulations as a major constraint)
Alföld és Észak	14.6	40	31.9	6.4	2.6
Hungary	11.3	28.1	19.8	3.7	4.8
EU13*	15.5	38.3	22.4	7.6	6.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Data for Dél-Dunántúl not available.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Hungary

Table 6.24 / Dealing with construction permits indicators in Hungary, 2016

Country	Procedures (number)	Time (days)	Cost (% of warehouse value)
Hungary	17	202	0.2
EU average	13	169	2.0

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Source: World Bank Doing Business 2017 – Hungary and World Bank Doing Business 2017 – EU.

Despite the reforms undertaken to make it easier to **start a business** (the minimum capital requirement being reduced and online registration being introduced – which meant that registration is confirmed within an hour) (Table 6.25), the distance between the situation in Hungary and that in the best performing countries has not changed much. Starting a business is still regarded as more difficult than in the majority of other EU countries, mainly because of the cost involved, which is twice the EU average.

Table 6.25 / Starting a business indicators in Hungary, 2016

Country	Procedures (number)	Time (days)	Cost (% of income per capita)
Hungary	6.0	7.0	7.1
EU average	5.3	10.4	3.7

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Hungary, and World Bank Doing Business 2017 – EU.

Although measures have been taken since 2006 to secure creditors rights, ‘**resolving insolvency**’ is also still more difficult in Hungary than in most other EU countries and the situation has not improved much since 2004.

Romania

In 6 of the 9 areas covered, the regulatory environment for business in Romania is considered to be less favourable than in most other EU countries, though in one of these areas (paying taxes), only slightly less so. The situation is particularly unfavourable as regards ‘getting electricity’ and ‘dealing with construction permits’, for which Romania is assessed as being one of the most problematic countries in the EU, as shown below (Table 6.26).

Table 6.26 / Business environment indicators in Romania, 2016

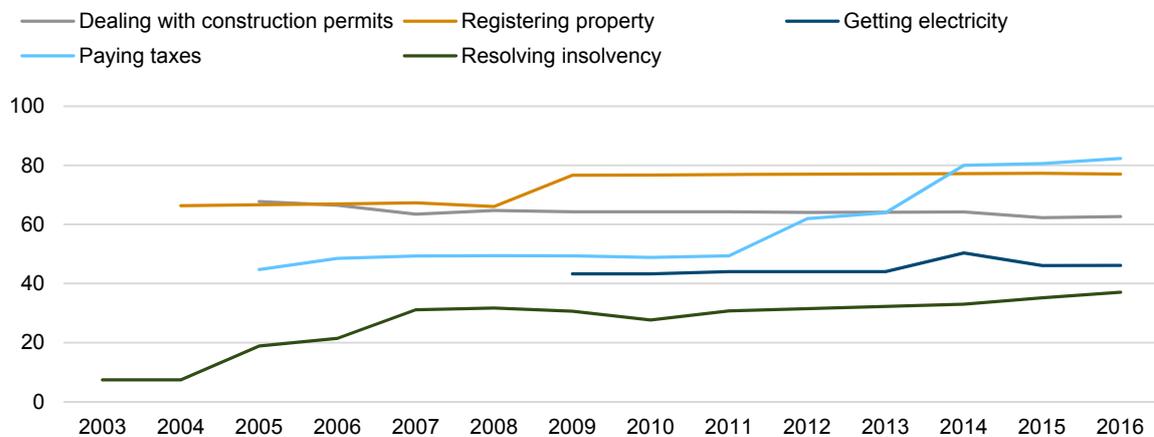
	Romania (rank in the EU, 1-28)
Starting a business	14
Dealing with construction permits	25
Getting electricity	28
Registering property	22
Obtaining credit	1
Protecting minority investors	19
Paying taxes*	15
Enforcing contracts	14
Resolving insolvency	21

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable. An indicator for ‘trading across borders’ is also included in the report, but since 16 out of the 28 EU Member States are ranked as 1, it is not included here.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Problems of electricity supply (as well as in transport infrastructure) are considered as major constraints on business activity by a larger share of enterprises in Romania than in the EU13 according to the World Bank survey in 2013 (Table 6.27). In all the lagging regions, except for Nord-Vest, this is considered as more of a constraint than in the other regions. This was particularly so in Sud-Vest Oltenia, where almost half of the enterprises surveyed identified problems in electricity supply as a major constraint to their business activity. No reforms have been carried out since 2006 according to the World Bank to alleviate the problem. Transport infrastructure is also seen as a major obstacle in all the lagging regions, except in Sud-Muntenia.

Figure 6.6 / Romania – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Romania is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Table 6.27 / Electricity and transport infrastructure as a problem for doing business in Romania, 2013

Region	Energy (% of firms identifying electricity as a major constraint)	Transport (% of firms identifying transportation as a major constraint)
Nord-Est	38.2	23.0
Nord-Vest	16.7	26.0
Sud - Muntenia	32.6	13.3
Sud-Est	30.7	22.0
Sud-Vest Oltenia	47.9	49.5
Romania	27.1	21.9
EU13*	22.2	14.2

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Romania.

Making it easier to **'deal with construction permits'** has also not been a central objective of reforms, which is reflected in Romania losing ground as compared with the best performing countries in this respect. Although both the cost and number of days required to obtain construction permits are much the same as the EU average, the number of procedures involved remains much larger, potentially discouraging construction and possibly encouraging bribery or even illegal construction (Table 6.28).

The difficulty of obtaining permits and licences in Romania is confirmed by the 2013 World Bank Enterprise Survey, this being regarded as one of the main constraints on business activity by a much larger proportion of enterprises in Romania than in the rest of the EU13, especially in Nord-Vest and in the three lagging regions in the south of the country (Sud-Muntenia, Sud-Est and Sud-Vest Oltenia) (Table 6.29).

Table 6.28 / Dealing with construction permits indicators in Romania, 2016

Country	Procedures (number)	Time (days)	Cost (% of warehouse value)
Romania	20	171	2.0
EU average	13	169	2.0

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business.

Table 6.29 / Regulations, taxes, and business licensing as problems for doing business in Romania and lagging regions, 2013

Region	Time (% of senior management time spent dealing with the requirements of government regulation)	Tax rates (% of firms identifying tax rates as a major constraint)	Tax administration (% of firms identifying tax administration as a major constraint)	Licenses and permits (% of firms identifying business licensing and permits as a major constraint)	Trade regulation (% of firms identifying customs and trade regulations as a major constraint)
Nord-Est	11.6	70.0	50.2	3.4	4.5
Nord-Vest	15.5	70.7	47.8	15.4	8.0
Sud - Muntenia	20.1	69.5	53.1	16.3	10.0
Sud-Est	16.0	81.5	51.8	18.6	12.1
Sud-Vest Oltenia	13.5	84.5	68.1	18.4	20.9
Romania	15.8	73.8	48.9	12.6	11.3
EU13*	15.5	38.3	22.4	7.6	6.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

* EU13 average: own estimation based on World Bank group data.

Source: World Bank Group – Enterprise Survey.

Registering property is also assessed as being more difficult in Romania than in most other Member States (the country being 22nd of the 28). Despite speeding up property registration by introducing quicker procedures for land registration, the number of procedures required remains higher than the EU average. Nonetheless, the time needed and, more especially, the cost, is less (Table 6.30).

Table 6.30 / Registering property indicators in Romania, 2016

Country	Procedures (number)	Time (days)	Cost (% of property value)
Romania	7	21	1.4
EU average	5	24	4.8

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Romania and World Bank Doing Business 2017 – EU.

As regards **'starting a business'**, Romania was ranked around the EU average. Nevertheless, despite being among the main focus areas for reform, starting a business involves slightly more procedures and days in Romania than in the rest of the EU on average but a lower cost (Table 6.31).

Table 6.31 / Starting a business indicators in Romania, 2016

Country	Procedures (number)	Time (days)	Cost (% of income per capita)
Romania	6.0	12.0	2.0
EU average	5.3	10.4	3.7

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Paid-in minimum capital is the same in all the regions and slightly less than the EU average
Source: World Bank Doing Business 2017 – Romania, and World Bank Doing Business 2017 – EU.

The level of corruption, crime and the importance of the informal sector are all regarded as more of a constraint on business activity in Romania than in the rest of the EU13. According to the World Bank survey in 2013 over twice as many enterprises than in the EU13 on average considered corruption and crime as major constraints, while a third regarded practices of competitors in the informal sector in a similar way. In three of the lagging regions, Sud-Est, Sud-Muntenia and Sud-Vest Oltenia, especially the latter two, corruption was seen as more of a problem than elsewhere in the country and similarly as regards crime, though in this case, more in Sud-Est than in the other two regions. The informal sector was also considered to be more of a constraint on activities in Sud-Muntenia and Sud-Vest Oltenia than in other parts of the country and this was the case as well in Nord-Vest (Table 6.32).

Table 6.32 / Corruption, crime and informality as problems for doing business in Romania and lagging regions, 2013

Region	Corruption (% of firms identifying corruption as a major constraint)	Crime (% of firms identifying crime, theft and disorder as a major constraint)	Informality (% of firms identifying practices of competitors in the informal sector as a major constraint)
Nord-Est	36.3	16.6	19.4
Nord-Vest	44.5	12.0	37.2
Sud – Muntenia	50.4	31.2	35.1
Sud-Est	47.2	36.7	27.6
Sud-Vest Oltenia	57.2	27	33.9
Romania	46.1	22.3	32.9
EU13*	18.5	9.3	19.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Romania.

So far as **insolvency procedures** are concerned, although a number of reforms have been carried out, e.g. to reduce the duration of proceedings and to introduce a procedure for out-of-court workouts, Romania is still regarded as among the least favourable countries in the EU.

Bulgaria

There are 6 areas in which the regulatory environment for business in Bulgaria is less favourable than the EU average according to the Doing Business Report 2017. These include, in particular, 'getting electricity' and 'paying taxes' for which the situation is among the most unfavourable and which is likely to deter investment and hinder growth significantly. 'Resolving insolvency' and 'registering property' are also more problematic than in most other parts of the EU as shown below (Table 6.33). 'Starting a business' and 'enforcing contract' are considered only slightly more difficult than in the EU on average.

Table 6.33 / Business environment indicators in Bulgaria, 2016

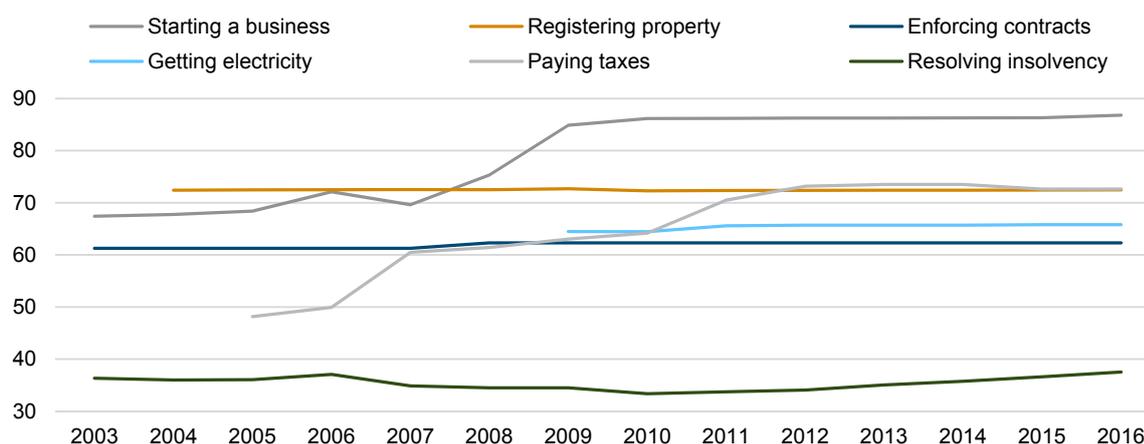
	Bulgaria (rank in the EU, 1-28)
Starting a business	16
Dealing with construction permits	14
Getting electricity	26
Registering property	21
Obtaining credit	6
Protecting minority investors	4
Paying taxes*	24
Enforcing contracts	17
Resolving insolvency	22

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Figure 6.7 / Bulgaria – Distance to the frontier of best performing countries, 2003-2016



Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Bulgaria is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Access to electricity is more problematic in Bulgaria than in the EU on average and there has been virtually no improvement over the past few years (as indicated by the unchanged distance between the country and the best performing countries – see Figure 6.7). There was just one reform measure taken

in this area, though this does not seem to have helped to improve supply. Access to electricity, however, is not seen as a major problem by businesses, a smaller proportion of enterprises identifying this as a major constraint on their activity than in the rest of the EU13, according to the World Bank 2013 survey. While the proportions were larger in three of the five lagging regions, particularly in Severen tsentralen and Severoiztochen, they were still below the EU13 average (Table 6.34).

Table 6.34 / Electricity and transport infrastructure as a problem for doing business in Bulgaria, 2013

Region	Energy (% of firms identifying electricity as a major constraint)	Transport (% of firms identifying transportation as a major constraint)
Severen tsentralen	16.8	11.1
Severoiztochen	16.3	7.9
Severozapaden	2.2	5.2
Yugoiztochen	12.4	2.8
Yuzhen tsentralen	2.9	2.6
Bulgaria	11.8	4.7
EU13*	22.2	14.2

Note: * EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Bulgaria.

Making it easier and less costly to 'pay taxes' has been at the centre of the reform agenda in Bulgaria. Measures have been taken to introduce an electronic tax paying system and to reduce corporate income tax as well as employers' social security contributions. Nevertheless, Bulgaria is still ranked among the least favourable countries in the EU in this respect (24th of the 28). Paying taxes, however, was not seen as a major constraint on business by most enterprises according to the 2013 survey, the proportion that considered it so being smaller than in the EU13 on average. But the proportion was larger than in the rest of the country in Severen tsentralen, Yugoiztochen and Severoiztochen as regards tax rates and in the two latter as regards tax administration (Table 6.35).

Table 6.35 / Regulations, taxes, and business licensing as a problem for doing business in Bulgaria, 2013

Region	Time (% of senior management time spent dealing with the requirements of government regulation)	Tax rates (% of firms identifying tax rates as a major constraint)	Tax administration (% of firms identifying tax administration as a major constraint)	Licences and permits (% of firms identifying business licensing and permits as a major constraint)	Trade regulation (% of firms identifying customs and trade regulations as a major constraint)
Severen tsentralen	14.9	14.4	10.6	5.3	0.0
Severoiztochen	19.2	17.2	19.8	7.6	12.5
Severozapaden	12.3	8.7	2.3	0.0	2.3
Yugoiztochen	23.9	28.1	20.6	30.7	4.0
Yuzhen tsentralen	7.9	2.9	2.6	0.1	0.0
Bulgaria	16.1	13.0	11.4	11.1	3.1
EU13*	15.5	38.3	22.4	7.6	6.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Bulgaria.

Although Bulgaria is ranked around the EU average as regards ‘**dealing with construction permits**’, this is largely because the time needed to do so is much shorter than the average (Table 6.36). The cost involved, on the other hand, is almost twice the average in the EU. In addition, obtaining business permits and licences was regarded as more of a problem in Bulgaria than in other parts of the EU¹³. The perception of enterprises in the lagging regions was, however, more favourable except in Yugoiztochen where nearly a third considered obtaining business licences and permits as a major constraint (Table 6.35).

Table 6.36 / Dealing with construction permits indicators in Bulgaria, 2016

Country	Procedures (number)	Time (days)	Cost (% of warehouse value)
Bulgaria	16	105	3.9
EU average	13	169	2.0

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Bulgaria and World Bank Doing Business 2017 – EU.

Registering property is assessed as being more difficult in Bulgaria than in most other Member States, mainly because of the larger number of procedures required. The cost involved and the time needed are, in fact, less than the EU average (Table 6.37). There was no reduction over the last decade or so with respect to the best performing countries (see Figure 6.7).

Table 6.37 / Registering property indicators in Bulgaria, 2016

Country	Procedures (number)	Time (days)	Cost (% of property value)
Bulgaria	8	11	2.9
EU average	5	24	4.8

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Bulgaria, and World Bank Doing Business 2017 – EU.

‘**Resolving insolvency**’ is also more difficult in Bulgaria than in the majority of the other EU Member states (Bulgaria is ranked 22nd of the 28). Despite being among the three main focus areas of reform in Bulgaria according to the World Bank, it has not become noticeably easier to resolve insolvency (as reflected in the distance to the frontier in this respect remaining wide). (The reforms undertaken involved the adoption of a new civil procedure code in 2008 and the extension of creditor rights with the insolvency proceedings becoming more transparent.)

Table 6.38 / Starting a business indicators in Bulgaria, 2016

Country	Procedures (number)	Time (days)	Cost (% of income per capita)
Bulgaria	6.0	23.0	1.3
EU average	5.3	10.4	3.7

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Bulgaria, and World Bank Doing Business 2017 – EU.

Over the past decade, **starting a business** in Bulgaria has become easier. A number of reforms were undertaken to rationalise registration procedures and to reduce the minimum capital required (it is now

possible to start a business with one euro). Nonetheless, the time needed remains over twice as long as the average in the EU (Table 6.38).

The level of corruption and the size of the informal sector are regarded as much more of an obstacle for doing business in Bulgaria than in other EU13 countries. According to the World Bank survey, nearly a third of enterprises considered this a major problem. The situation is even more problematic in some of the lagging regions – in Severoiztochen but also in Yuzhen tsentralen as regards the informal sector and in Severen tsentralen as regards corruption (Table 6.39).

Table 6.39 / Corruption, crime and informal sector as problems for doing business in Bulgaria, 2013

Region	Corruption (% of firms identifying corruption as a major constraint)	Crime (% of firms identifying crime, theft and disorder as a major constraint)	Informal sector (% of firms identifying practices of competitors in the informal sector as a major constraint)
Severen tsentralen	11.2	16.1	7.7
Severoiztochen	37.1	10.5	41.7
Severozapaden	12.7	2.3	10.4
Yugoiztochen	16.1	2.6	31
Yuzhen tsentralen	23.3	2.4	53.3
Bulgaria	27.5	8.3	32.9
EU13*	18.5	9.3	19.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013.

Poland

The regulatory environment for businesses in Poland is assessed as being less favourable than in most other EU Member States in 8 of the 9 areas covered (all apart from 'obtaining credit') (Table 6.40). In 6 of these 8 areas, however, the situation is considered only slightly less favourable than average in the EU. The two areas where the situation is regarded as being clearly less favourable are 'starting a business' and 'resolving insolvency'.

Resolving insolvency is much more difficult in Poland than in the majority of other EU Member states. Although no less than 6 reforms have been carried out over the past decade to make insolvency resolving more efficient according to the World Bank and although the distance between the situation in the country and that in the best performing countries has narrowed, there is still a long way to go to close the gap (Figure 6.8). There are no data available to assess the situation in the lagging regions.

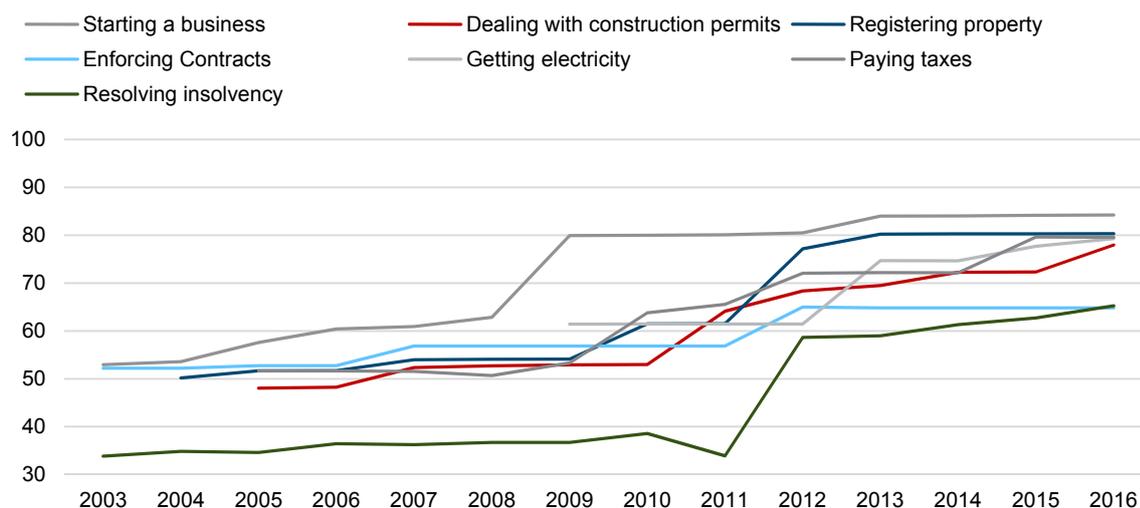
Table 6.40 / Business environment indicators in Poland, 2016

	Poland (rank in the EU, 1-28)
Starting a business	24
Dealing with construction permits	15
Getting electricity	17
Registering property	16
Obtaining credit	2
Protecting minority investors	16
Paying taxes*	16
Enforcing contracts	17
Resolving insolvency	24

Note: Values which are in the bottom half of the EU28 ranking are highlighted in grey. A ranking of 1 indicates that the country has the most favourable environment of the EU Member States, 28, the least favourable.

* Data for paying taxes indicator cover the period January-December 2015.

Source: World Bank: Doing Business Report 2017.

Figure 6.8 / Poland – Distance to the frontier of best performing countries, 2003-2016

Note: The distance to frontier score shows how far on average an economy is from the best performance achieved by any economy on each Doing Business indicator. It is indicated on a scale from 0 to 100, where 0 represents the worst performance and 100 the frontier. The areas in which the regulatory environment for business in Poland is more favourable than the EU average according to the Doing Business Report 2017 are not included in the graph.

Source: World Bank Doing Business Dataset.

Poland is regarded as one of the least favourable countries for **starting a business** (it is ranked 24th of 28). The reform measures taken over the past decade (in terms of reducing the minimum capital required) reduced the distance to the frontier as shown above but did not close the gap. In particular, the time and the cost involved in starting a business remain almost three times the EU average. The situation in terms of cost and the number of procedures is the same in the lagging regions as elsewhere in the country, but the time needed is longer in Podkarpackie and Świętokrzyskie (Table 6.41).

Table 6.41 / Starting a business indicators in Poland, 2015 and 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of income per capita)
Lubelskie (Lublin)	4	29	12.9
Podkarpackie (Rzeszów)	4	37	12.9
Świętokrzyskie (Kielce)	4	36	12.9
Podlaskie (Białystok)	4	26	12.9
Warmińsko-Mazurskie (Olsztyn)	4	22	12.9
Poland 2015	4	30	12.9
Poland 2016	4	37	12.1
EU average 2016	5.3	10.4	3.7

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Poland; World Bank Doing Business 2015 – Poland, World Bank Doing Business 2017 – EU.

Nevertheless, most of the enterprises surveyed by the World Bank in 2013 did not identify business licensing and permits as a major constraint on business activity, although the share of those that did was slightly larger (9%) than the average in the EU13 (7%). It seems, however, to be less of a problem in the lagging regions (Table 6.42).

Table 6.42 / Regulations, taxes, and business licensing as problems for doing business in Poland, 2013

Region	Time (% of senior management time spent dealing with the requirements of government regulation)	Tax rates (% of firms identifying tax rates as a major constraint)	Tax administration (% of firms identifying tax administration as a major constraint)	Licences and permits (% of firms identifying business licensing and permits as a major constraint)	Trade regulation (% of firms identifying customs and trade regulations as a major constraint)
Lubelskie					
Podkarpackie	11.9	42.8	15.5	3.0	10.3
Świętokrzyskie					
Podlaskie					
Poland	19.7	37.4	22.7	9.1	7.4
EU13*	15.5	38.3	22.4	7.6	6.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Data for Warmińsko-Mazurskie not available.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Poland.

Dealing with the government regulations and tax administration are considered as slightly more time-consuming in Poland than in other EU13 countries. Except for trade regulation, smaller shares of the enterprises surveyed considered these as major constraints on business in lagging regions than in other parts of the country, though a larger share regarded tax rates as a constraint (Table 6.42).

As noted above, **enforcing contracts** is also more difficult in Poland than in the EU on average. Despite the measures taken over the last ten years – such as stricter rules on procedures to increase the speed and efficiency of court proceedings and the appointment of more judges to commercial courts – the proceedings still take much longer than in the rest of the EU (Table 6.43).

Table 6.43 / Enforcing contracts indicators in Poland, 2016

Region (city)	Time (days)	Cost (% of claim)
Poland	685	19.4
EU average	594	22.0

Note: Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Poland; World Bank Doing Business 2017 – EU.

Getting electricity is also more difficult in Poland than in the majority of EU Member States. However, between 2012 and 2014, the cost of electricity was reduced by revising the charging structure and by responding more quickly to applications for connections. Access to electricity, however, is not seen as a major constraint by firms. According to the World Bank survey in 2013, there were fewer enterprises in Poland than in the rest of the EU13 which considered it to be so and even fewer in the lagging regions (Table 6.44).

Table 6.44 / Electricity and transport infrastructure as a problem for doing business in Poland, 2013

Region	Energy (% of firms identifying electricity as a major constraint)	Transport (% of firms identifying transportation as a major constraint)
Lubelskie		
Podkarpackie		
Świętokrzyskie	6.9	9.3
Podlaskie		
Poland	13.8	11.2
EU13*	22.2	14.2

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Data for Warmińsko-Mazurskie not available.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Poland.

Table 6.45 / Registering property indicators in Poland, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of property value)
Lubelskie (Lublin)	6	45	0.3
Podkarpackie (Rzeszów)	6	33	0.3
Świętokrzyskie (Kielce)	6	39	0.3
Podlaskie (Białystok)	6	18	0.4
Warmińsko-Mazurskie (Olsztyn)	6	28	0.4
Poland 2015	6	33	0.3
Poland 2016	6	33	0.3
EU average 2016	5	24	4.8

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.

Source: World Bank Doing Business 2017 – Poland; World Bank Doing Business 2015 – Poland, World Bank Doing Business 2017 – EU.

The situation in Poland with respect to '**property registration**' is only slightly less favourable than in the majority of EU countries (it is ranked 16th of the 28). This is perhaps at least in part because of intense reform activity between 2009 and 2012, which reduced the distance between the situation in the country

and that in the best performing countries (see Figure 6.8). While the time required remains longer than the EU average, the cost involved in registering property is only a small fraction. Lagging regions do not seem to be in a significantly less favourable position, except Lubelskie and Świętokrzyskie where the delays are longer (Table 6.45).

Dealing with construction permits is no more difficult in Poland than in other EU countries on average. The cost and the time involved are less, but only slightly so, as is the number of procedures, which were reduced markedly between 2015 and 2016. The situation is not very different in the lagging regions though in two of them there are more procedures involved, in one it takes longer and in another it costs more than the national average (Table 6.46).

Table 6.46 / Dealing with construction permits indicators in Poland, 2016

Region (city)	Procedures (number)	Time (days)	Cost (% of warehouse value)
Lubelskie (Lublin)	21	155	0.2
Podkarpackie (Rzeszów)	19	168	0.3
Świętokrzyskie (Kielce)	22	171	0.2
Podlaskie (Białystok)	20	196	0.2
Warmińsko-Mazurskie (Olsztyn)	22	154	0.2
Poland 2015	21	175	0.2
Poland 2016	12	153	0.3
EU average 2016	13	169	2.0

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey.
Source: World Bank Doing Business 2017 – Poland; World Bank Doing Business 2015 – Poland, World Bank Doing Business 2017 – EU.

Table 6.47 / Corruption, crime and the informal sector as problems for doing business in Poland and lagging regions, 2013

Region	Corruption (% of firms identifying corruption as a major constraint)	Crime (% of firms identifying crime, theft and disorder as a major constraint)	Informal sector (% of firms identifying practices of competitors in the informal sector as a major constraint)
Lubelskie			
Podkarpackie	8.0	3.5	8.7
Świętokrzyskie			
Podlaskie			
Poland	13.0	8.2	15.3
EU13*	18.5	9.3	19.3

Note: Values higher than the national average are shown in red. Values higher than the EU average are highlighted in grey. Data for Warmińsko-Mazurskie not available.

* EU13 average: own estimation based on World Bank Group data.

Source: World Bank Group – Enterprise Surveys 2013 Poland.

Other factors which might prevent or reduce the likelihood of doing business are **corruption, crime and the extent of the informal sector**. However, according to the 2013 World Bank survey, these are considered less of a problem in Poland than in the other EU13 countries. In addition, in all the NUTS 2 lagging regions covered (four out of the five, Warmińsko-Mazurskie is not covered), these issues are even less of a concern for businesses than in other parts of the country (Table 6.47).

6.3.1. Demography and dynamics of business enterprises

The concern here is to bring out the main differences in business structure and dynamics between lagging regions and others, focusing initially on the country-level differences since data available at regional level are less complete. The analysis concentrates on the tradable goods and services sector which covers production activities in which enterprises are most exposed to international competition and which is most important so far as investment and the potential for growth is concerned. The sector encompasses Manufacturing (Section C of NACE classification Rev. 2), Transportation and storage (Section H), Accommodation and food service activities (Section I), Information and communication (Section J) and Professional, scientific and technical activities (Section M). The sector, as defined, accounts for around 30% of total employment in the EU, though only 22% in Romania, 25% in Greece, 27% in Poland, and 28% in both Spain and Bulgaria (Table 6.48).

Table 6.48 / Employment share in the tradable sector

Tradable sector (% total employment, average 2010-2014)			
EL	25.2	BG	28.5
IT	32.3	HU	33.1
PT	30.1	PL	26.8
ES	28.4	RO	22.5
Low growth countries	30.1	Low income countries	26.6
EU15	30.7	EU13	29.4
EU28	30.4		

Source: Eurostat, Structural Business Statistics.

As indicated at the outset, the structure of this sector in terms of the balance between smaller and larger firms is likely to have a major effect on its growth potential, in terms not only of the ability of firms to comply with the various regulations which exist but also of their ability to exploit economies of scale and the most advanced technology. While small firms may have a role in helping to extend the frontier of knowledge in this respect, it is likely to require firms of at least a certain size – which will vary according to the sector concerned – to put many new technological advances into practice and to make the most of them. This implies, as also noted above, a balanced structure of enterprises and, in particular, one which is not heavily characterised by small firms, especially very small ones.

6.3.2. The structure of enterprises in the 8 Member States

There were 9.2 million enterprises which were active in the EU in 2014 in the tradable business sector (defined as above). This implies that there were 20.5 enterprises per thousand of population, around 10% more than in 2008, though all of the increase is accounted for by one-person businesses and micro-enterprises (those with less than 10 people employed) (Table 6.49). (It should be noted that, unlike the business demography analysis set out below, it is not possible from the data available to isolate ‘employer’ businesses (i.e. those that employ people) from one-person businesses which in general do not contribute to a region’s growth potential, or at most only to a limited extent.)

The low growth countries in the south of the EU had a higher enterprise density than in the rest of the Union. This, however, is entirely due to the large number of micro-sized enterprises (as well as small ones – those with 10-49 people employed – in Italy and Portugal). Indeed, the density of medium-sized

firms (those with 50-249 people employed) and large enterprises (those with 250 or more people employed) is lower in these countries than in other EU Member States.

Hungary and Bulgaria apart, the number of enterprises relative to population is smaller in the low income countries in Central and Eastern Europe than in the rest of the EU. Again this is primarily due to the number of micro-sized and small firms, which in this case is smaller than in the rest of the EU. In Hungary, the number of micro-sized enterprises is close to that in the southern countries and is the reason why the overall number of enterprises is large. This is not the case in Bulgaria, where there are relatively few micro-sized firms, but larger numbers of small and medium-sized enterprises than elsewhere.

In all four low income countries, the density of medium-sized and large enterprises is relatively similar to the EU average, which may be a favourable feature for the capacity of the economies to innovate and to export and, accordingly, to generate growth.

Table 6.49 / Business density in the tradable sector

Country	Number of enterprises per 1,000 population									
	Total		0-9 employees		10-49 employees		50-249 employees		≥ 250 employees	
	2008	2014	2008	2014	2008	2014	2008	2014	2008	2014
EL	35.5	30.3	34.4	29.2	0.9	0.9	0.15	0.13	0.02	0.02
IT	28.7	26.9	26.4	25.1	2.0	1.6	0.23	0.20	0.04	0.03
PT	32.3	28.8	30.1	26.8	1.9	1.6	0.32	0.29	0.04	0.04
ES	25.0	21.9	23.1	20.5	1.6	1.2	0.23	0.18	0.04	0.03
Low growth countries	28.2	25.5	26.2	23.9	1.8	1.4	0.23	0.20	0.04	0.03
BG	13.9	17.5	11.9	15.6	1.6	1.6	0.39	0.35	0.06	0.06
HU	26.3	25.4	24.7	23.9	1.2	1.2	0.25	0.25	0.06	0.06
PL	16.7	17.7	15.8	16.8	0.6	0.7	0.22	0.21	0.05	0.05
RO	9.5	9.5	8.2	8.2	1.0	1.0	0.25	0.23	0.06	0.05
Low income countries	15.7	16.5	14.5	15.3	0.9	0.9	0.25	0.23	0.06	0.05
EU28	18.5	20.5	16.8	18.8	1.4	1.4	0.26	0.25	0.05	0.05

Note: SBS include non-employer firms.

Source: Eurostat, Structural Business Statistics (SBS).

The division of employment between firms of different size tells a similar story. They show, in particular, that the majority of employment in Greece in the tradable goods and services sector is in micro-sized enterprises and a much smaller proportion in large enterprises than the average in the EU (Table 6.50). The latter is also true of the other southern countries where the share of employment in micro-sized firms is also, as in Greece, far larger than in the rest of the EU. Although firms of this size are major providers of employment, it is open to question how far they are important for innovation and competitiveness, the forces underlying growth. Indeed, many of the firms of this size are suppliers to larger enterprises and often dependent on them for technology.

The share of employment in the sector in micro-sized firms is also larger than the EU average in Poland and Hungary, in the former in contrast to the number of firms of this size relative to population, reflecting both the smaller proportion of the population in employment in Poland than elsewhere in the EU and the smaller size of the tradable sector. This is offset, however, by a smaller share of employment in small firms, the share in medium-sized and large firms being similar to the EU average. This is also the case in Hungary. In Bulgaria, on the other hand, there is a larger share of employment in medium-sized firms

which is offset by a much smaller share of employment in large ones. In Romania, the share of tradable sector employment in medium-sized firms is also larger than average, but in this case, so is the share in large firms. Indeed, Romania is the exact opposite to Greece in terms of the division of employment in the tradable sector between different sizes of enterprises.

The size of the tradable sector in terms of employment, however, is much smaller in Romania than in the rest of the EU, as noted above, with less than a quarter of the total in work being employed in it, the proportion showing no increase over the 2008-2014 period. It is relatively small in Poland, as noted above, as it is in Bulgaria, though less so. In Hungary, by contrast, the proportion employed in the sector is larger than in the rest of the EU, though it has declined since 2008.

The size of the sector is larger than the EU average in Italy too and it also diminished in relative size over the 2008-2014 period. In Portugal, it was much the same as the average, while in both Spain and Greece, it was smaller, especially in the latter. Moreover, in both cases, the relatively small size is not a consequence of the crisis, the share of employment in the tradable sector being almost the same in 2014 as in 2008.

Table 6.50 / Share of employment in the tradable sector and employment by firm size

Country	% Employed in tradable sector		Division of employment by enterprises class size (%)							
			Total		0-9 employees		10-49 employees		50-249 employees	
	2008	2014	2008	2014	2008	2014	2008	2014	2008	2014
EL	26.5	26.4	55.7	56.5	16.2	17.4	11.9	13.3	16.2	12.7
IT	34.0	31.8	37.5	39.0	24.7	23.1	15.6	15.6	22.1	22.4
PT	30.7	30.6	35.5	35.2	25.0	23.8	21.3	21.4	18.2	19.6
ES	28.9	28.3	36.1	38.0	23.7	21.2	16.6	16.3	23.6	24.5
Low Growth Countries	31.2	30.0	38.2	39.5	23.8	22.1	16.2	16.2	21.8	22.2
BG	28.1	29.3	19.4	23.6	22.8	23.0	27.6	25.1	30.2	28.3
HU	34.8	32.5	28.1	28.5	17.1	17.4	18.2	18.1	36.6	36.0
PL	27.4	27.2	29.6	30.2	12.1	13.0	21.2	20.6	37.1	36.1
RO	24.0	23.5	16.9	17.6	18.5	19.7	24.0	22.9	40.7	39.8
Low Income Countries	27.5	27.2	25.0	26.2	15.7	16.5	22.2	21.3	37.1	36.1
EU28	30.6	30.8	25.1	25.9	20.3	20.2	19.2	19.0	35.4	34.9

Note: SBS include non-employer firms.

Source: Eurostat Structural Business Statistics (SBS).

6.3.3. The business demography in the 8 Member States

The creation, or birth, of new enterprises (in this case 'employer' enterprises only) can to some extent be taken as an indicator of the dynamism of the business environment in a country, though the view cannot be pushed too far since there are other factors at work as well, so that there is no simple relationship between growth and the rate of birth of firms.

Among the four EU15 countries, the birth rate of enterprises in the tradable sector relative to population was higher in Spain and Portugal in 2014 than the average in the EU (Table 6.51). On the other hand, in Italy, the rate was below the EU average (there are no data for Greece) and it had declined over the preceding three years, whereas in Spain, it had increased. On the other hand, employment in newly

created enterprises in relation to total employment in Italy was in line with the average in the EU, implying that the average size of the firms created was slightly larger than the average.

Enterprise birth rates show marked differences between the four low income countries. The rate is over twice the EU average in Hungary but the average size of the newly created enterprises is much smaller as indicated by the smaller employment share in these. In Bulgaria and Romania the birth rates are close to the EU average but the employment share in newly created enterprises is larger. In Poland the birth rate of enterprises is far below EU average but the employment share in the newly created businesses was larger implying that their average size was also larger than average.

Table 6.51 / Enterprises birth rate and employment in the tradable sector

	Number of enterprise births per 1,000 population		Employed per birth	
	2011	2014	2011	2014
IT	1.0	0.9	2.7	2.8
ES	1.3	1.5	2.9	2.9
PT		1.5		2.8
Low growth countries	1.2	1.2	2.8	2.9
BG	1.3	1.5	3.2	3.1
HU	2.4	3.2	2.4	2.2
PL*		0.9		3.4
RO	0.8	1.2	4.2	3.4
Low income countries	1.3	1.8	3.1	2.8
EU (excl. IE, EL, FR, CY, RO)		1.2		2.8

Note: * Data for Poland refer to 2013. No data for Greece. Data for Portugal only for 2011.

Source: Eurostat, Employer Business Demography statistics for the tradable goods and services sector.

Table 6.52 / High-growth enterprises (growth in employment of 10% or more) in the tradable sector, 2012-2014

Country	Number of high-growth enterprises per 1,000 population average 2012-2014	Employed in high-growth enterprises as % total employment average 2012-2014
IT	0.11	6.1
ES	0.11	7.3
PT	0.16	9.0
Low growth countries	0.11	6.9
BG	0.21	14.6
HU	0.18	14.4
PL	0.12	11.5
RO	0.04	5.6
Low income countries	0.11	10.8
EU27 (EL not covered)	0.16	10.2

Note: No data for Greece.

Source: Eurostat Business Demography statistics.

The relative number of high-growth enterprises provides a further insight into the dynamism of the business environment, especially if the focus is confined to the tradable sector. A relatively high rate, therefore, at least indicates that the environment is conducive to growth, though there are other factors at work – the macroeconomic context, in particular – which can offset any favourable effect that the

business environment might have. Over the 2012-2014 period, the number of high-growth firms relative to population was much smaller than in the EU as a whole in both Italy and Spain among the low growth countries but much the same in Portugal (Table 6.52). The share of employment in high-growth firms shows a similar pattern, though in this case, the share is smaller than the EU average in Portugal as well as the other two countries, indicating that the relative size of the firms concerned was smaller than in other countries.

Among the low income countries, the number of high-growth enterprises relative to population was larger than in the rest of the EU in both Bulgaria and Hungary but much smaller in Poland and Romania, especially the latter. The share of employment in these enterprises was also above the EU average in the first two countries and well below average in Romania. In Poland, however, the share of employment was larger than average rather than smaller as in the case of the number of firms relative to population. This implies that the high growth firms in Poland were larger in employment size (as, noted above, were the new firms created) than in the rest of the EU instead of being smaller as in Portugal.

6.3.4. Business demography in the lagging regions

Employer business demography statistics are not available at the regional level for Greece, as in the case of national-level data, or for Poland. For Portugal the only data available are for 2014.

In all three southern EU15 countries for which data are available, lagging regions have a lower density of enterprises than other regions, although in Spain and Portugal it is higher than the EU average (Table 6.53). The average employment size of enterprises in the tradable sector is much smaller in the lagging regions than in the non-lagging ones in all three countries (Figure 6.10). In the lagging regions in Italy and Spain, it is only around half the EU average. Consequently, the employment concentration in the tradable sector is much lower in the lagging regions than in non-lagging ones and in Italy it is only slightly more than half of this (Figure 6.11). Only in Portugal is the employment concentration in the tradable sector in the lagging regions close to the EU average.

In the lagging regions in the four EU13 countries, the density of enterprises is also lower than in other regions in the countries. In this case, however, the density is significantly lower than the EU average, except in Hungary where the number of small enterprises is proportionally larger than in the other countries.

Enterprise density is overall lowest in the lagging regions in Romania where it is only half the average in the non-lagging one. While the average size of enterprises in the lagging regions is smaller than in the non-lagging ones as in the EU15 countries, the difference is less marked. In Hungary, the average size is smallest because of the larger number of small enterprises but this is also the case in the other regions of the country.

The share of employment in the tradable sector was smallest in the lagging regions in Romania where it accounted for less than 20% of total employment. In Bulgaria and Hungary, the share was much the same as the EU average, but smaller than in the rest of the country.

Table 6.53 / Enterprise density and employment

Country	Density Total no. of enterprises per 1,000 population		Employed in tradable sector as % of the total		Employment per enterprise	
	2011	2014	2011	2014	2011	2014
IT	12.6	12.0	33.4	33.0	11.0	11.0
lagging regions IT	9.5	9.4	19.8	19.6	6.9	6.6
non-lagging regions IT	14.3	13.4	38.7	38.0	12.4	12.6
ES	13.8	14.1	31.4	33.3	9.3	9.1
lagging regions ES	11.9	12.0	21.4	22.6	6.2	6.1
non-lagging regions ES	14.6	14.9	34.4	36.6	10.2	10.1
PT		14.2		33.7		10.3
lagging regions PT		13.8		29.8		9.1
non-lagging regions PT		15.1		41.3		12.5
IT, ES, PT	13.1	13.0	32.5	33.2	10.2	10.1
lagging regions	10.4	11.0	20.4	22.7	6.6	7.0
non-lagging regions	14.4	14.1	36.8	37.5	11.4	11.4
BG	10.9	11.7	32.8	33.8	14.5	13.8
lagging regions BG	9.0	9.6	29.3	30.1	14.2	13.7
non-lagging regions BG	15.4	16.7	39.1	40.6	15.0	14.0
RO	8.1	8.3	26.9	28.4	14.9	14.8
lagging regions RO	6.2	6.6	18.3	19.7	13.2	13.0
non-lagging regions RO	12.3	12.0	45.6	46.6	16.8	16.9
HU	16.8	17.9	37.8	38.9	9.1	8.9
lagging regions HU	11.5	12.1	32.5	32.6	8.7	8.4
non-lagging regions HU	21.8	23.5	41.0	42.6	9.2	9.2
PL*		7.0		27.6		15.8
BG, RO, HU	11.0	11.5	30.8	32.2	12.4	12.2
lagging regions	7.9	8.4	23.0	24.2	12.1	11.8
non-lagging regions	16.3	17.0	43.6	44.9	12.9	12.6
EU (excl. IE, EL, FR, CY, RO)		11.0		30.5		12.6

* Data for Poland refer to 2013 only.

Note: No data for Greece and for Poland at regional level.

Source: Eurostat, Employer Business Demography statistics for the tradable goods and service sector.

Figure 6.9 / Enterprise density, 2014

(number of enterprises per 1,000 inhabitants)

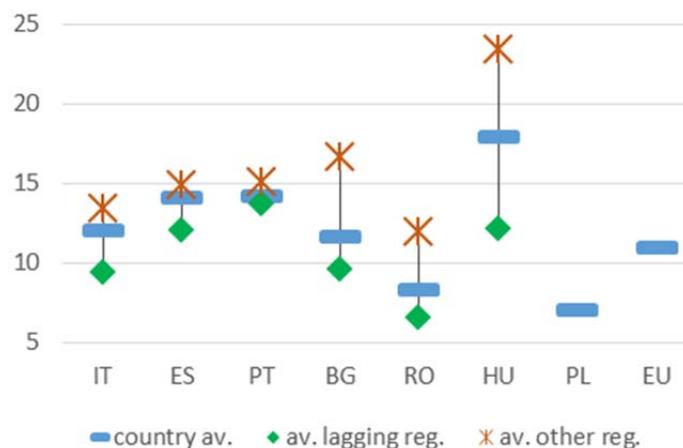
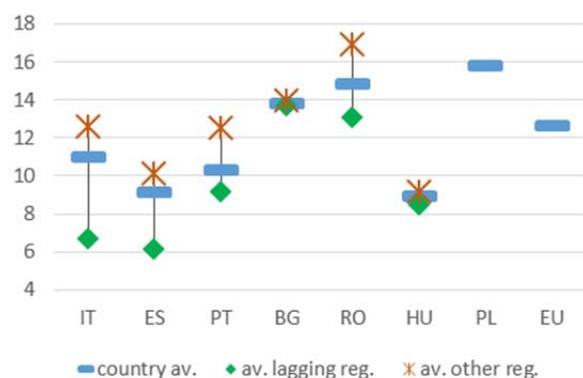
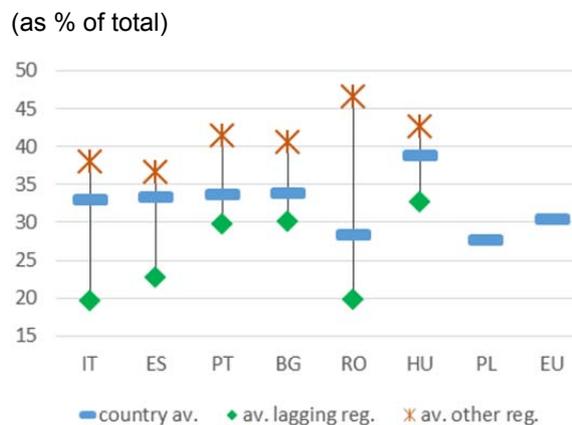


Figure 6.10 / Average employment size of enterprises in the tradable sector, 2014**Figure 6.11 / Employment concentration in the tradable sector, 2014**

Source and Note: see Table 1.73.

6.3.5. Enterprise birth rates

The birth of new enterprises is a key indicator of the dynamism of the business environment as noted above. It reflects not only the extent of entrepreneurial spirit in the economy concerned but also the extent to which the regulatory system makes it easy or otherwise to start a business.

Table 6.54 shows the rate of enterprise births in the lagging regions in relation to population and the number of employees in newly created enterprises both in comparison with the national and EU averages. Among the southern EU15 countries, enterprise births are lowest in the lagging regions of Italy and the employment per newly created enterprise is smallest (Figure 6.12, Figure 6.13). While the enterprise births in the other regions of the countries are equally low, the employment created by enterprise births is a third higher than in the lagging regions. In Spain and Portugal there is not much difference in the enterprise births rate between the lagging regions and the others; in both it is close to the EU average.

The difference in the enterprise birth rates between lagging and non-lagging regions is more marked in the three EU13 countries for which data at regional level are available. It is overall highest in Hungary where the birth rate of enterprises in the lagging regions is nearly twice the EU average but just half of that in the other regions. The new enterprises are however much smaller than the EU average in both, the lagging and non-lagging regions. They are also smaller than in the lagging regions in Romania and Bulgaria.

Table 6.54 / Enterprise birth rate and employment in new enterprises

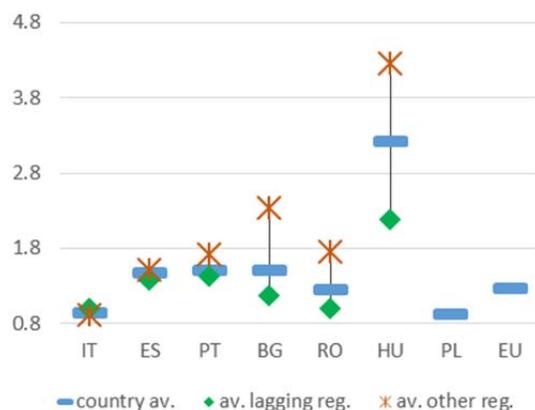
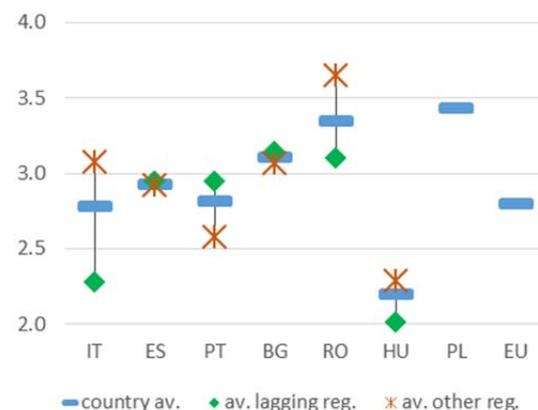
Country	Number of enterprise births per 1,000 population		Employed per birth	
	2011	2014	2011	2014
IT	1.0	0.9	2.7	2.8
lagging regions IT	1.0	1.0	2.2	2.3
non-lagging regions IT	1.1	0.9	2.9	3.1
ES	1.3	1.5	2.9	2.9
lagging regions ES	1.2	1.4	3.0	2.9
non-lagging regions ES	1.4	1.5	2.9	2.9
PT		1.5		2.8
lagging regions PT		1.4		2.9
non-lagging regions PT		1.7		2.6
IT, ES, PT	1.2	1.2	2.8	2.9
lagging regions	1.1	1.2	2.6	2.7
non-lagging regions	1.2	1.2	2.9	3.0
BG	1.3	1.5	3.2	3.1
lagging regions BG	1.0	1.2	3.3	3.1
non-lagging regions BG	2.0	2.3	3.1	3.1
RO	0.8	1.2	4.2	3.4
lagging regions RO	0.6	1.0	4.1	3.1
non-lagging regions RO	1.1	1.7	4.5	3.7
HU	2.4	3.2	2.4	2.2
lagging regions HU	1.5	2.2	2.1	2.0
non-lagging regions HU	3.2	4.2	2.5	2.3
Poland*		0.9		3.4
BG, RO, HU	1.3	1.8	3.1	2.8
lagging regions	0.9	1.3	3.2	2.7
non-lagging regions	2.1	2.8	3.1	2.8
EU (excl. IE, EL, FR, CY, RO)		1.3		2.8

Note: * Data for Poland refers to 2013. No data for Greece and no regional data for Poland.

Source: Eurostat, Employer Business Demography statistics for the tradable goods and service sector.

Figure 6.12 / Enterprise births, 2014

(per 1,000 inhabitants)

**Figure 6.13 / Employed per enterprise birth, 2014**

Source and Note: see Table 1.74.

Table 6.55 shows the enterprise 'churn' rates, measured by the sum of birth and death rates relative to the total number of enterprises. The latter to some extent reflects the competitive nature of the regional economy (it is used in the literature as an indicator of the rate of what Schumpeter' called 'creative destruction').

Table 6.55 / Churn rate in the lagging regions (% total enterprises)

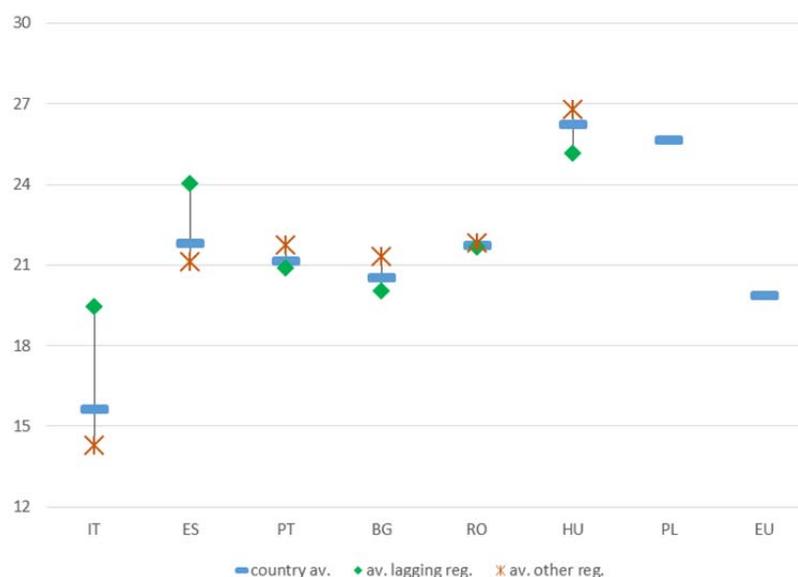
Country	Churn rate (birth rate + death rate)	
	2011	2013
IT	16.2	15.6
lagging regions IT	20.3	19.4
non-lagging regions IT	14.7	14.3
ES	19.1	21.8
lagging regions ES	20.6	24.0
non-lagging regions ES	18.6	21.1
PT		21.2
lagging regions PT		20.9
non-lagging regions PT		21.7
IT, ES, PT	17.5	18.8
lagging regions	20.5	21.3
non-lagging regions	16.5	17.7
BG	24.2	20.5
lagging regions BG	23.3	20.0
non-lagging regions BG	25.5	21.3
RO*	15.9	21.7
lagging regions RO*	16.4	21.6
non-lagging regions RO*	15.3	21.8
HU	29.0	26.2
lagging regions HU	28.1	25.2
non-lagging regions HU	29.4	26.8
Poland		25.6
BG, RO, HU	22.8	24.3
lagging regions	21.6	22.7
non-lagging regions	23.9	25.5
EU (excl. IE, EL, FR, CY, RO)		20.1

Note: * Data for Romania refer to 2011 and 2012.

Source: Eurostat, Employer Business Demography statistics for the tradable goods and services sector.

Figure 6.14 / Churn rate

(birth rate + death rate, % total enterprises, 2013)



Source and Note: See Table 6.55.

Table 6.56 / Number of enterprises, number of enterprise births, churn rate of enterprises and average size of enterprises, 2011 and 2014 (2013 for churn rate)

Country	Enterprises per 1,000 popn.		Enterprise births per 1,000 popn		Churn rate		Employed per birth	
	2011	2014	2011	2014	2011	2013	2011	2014
Low growth regions								
Italy	12.6	12.0	1.0	0.9	16.2	15.6	2.7	2.8
ITF1 – Abruzzo	13.1	12.5	1.4	1.2	19.3	18.5	2.4	2.8
ITF2 – Molise	10.4	10.3	1.2	1.1	21.2	21.4	1.9	2.0
ITF3 – Campania	8.9	9.1	1.0	1.1	21.0	20.1	2.4	2.6
ITF4 – Puglia	10.1	10.1	1.1	1.0	19.4	18.3	2.4	2.2
ITF5 – Basilicata	9.6	9.5	1.0	0.9	19.8	18.5	2.1	2.2
ITF6 – Calabria	8.6	8.4	1.0	1.0	22.3	21.1	2.0	1.8
ITG1 – Sicilia	8.5	8.3	0.9	0.9	20.4	19.8	2.1	2.1
ITG2 – Sardegna	11.2	10.5	1.1	1.0	19.2	18.4	2.1	2.1
Spain	13.8	14.1	1.3	1.5	19.1	21.8	2.9	2.9
ES42 – Castilla-la Mancha	12.4	12.6	1.0	1.4	17.8	21.4	2.9	2.9
ES43 – Extremadura	10.3	11.1	1.0	1.3	19.0	24.9	2.8	2.9
ES61 – Andalucía	11.9	11.9	1.3	1.4	21.6	24.8	3.0	3.0
ES62 – Región de Murcia	12.8	12.7	1.2	1.2	20.4	22.9	3.1	3.0
Portugal		14.2		1.5		21.2		2.8
PT11 – Norte		14.2		1.5		21.1		3.3
PT15 – Algarve		17.0		1.9		22.3		2.7
PT16 – Centro (PT)		13.1		1.2		19.8		2.6
PT18 – Alentejo		11.6		1.2		21.7		2.4
Low income regions								
Bulgaria	10.9	11.7	1.3	1.5	24.2	20.5	3.2	3.1
BG31 – Severozapaden	6.5	7.0	0.7	0.8	21.8	19.1	3.6	3.2
BG32 – Severen tsentralen	8.3	8.9	0.9	1.1	21.3	19.7	3.9	3.5
BG33 – Severoiztochen	9.8	10.3	1.2	1.3	26.0	22.1	3.3	2.9
BG34 – Yugoiztochen	9.8	10.4	1.3	1.3	25.3	20.7	2.9	2.7
BG42 – Yuzhen tsentralen	9.7	10.3	1.0	1.2	21.4	18.5	3.3	3.5
Romania	8.1	8.3	0.8	1.2	15.9	21.7*	4.2	3.4
RO11 – Nord-Vest	9.8	10.3	1.0	1.6	16.4	23.7*	4.0	3.0
RO21 – Nord-Est	4.9	5.2	0.5	0.8	15.7	23.6*	3.7	2.8
RO22 – Sud-Est	6.7	7.1	0.7	1.0	16.9	23.9*	3.9	3.5
RO31 – Sud – Muntenia	5.1	5.3	0.6	0.8	16.3	23.5*	4.6	3.4
RO41 – Sud-Vest Oltenia	5.2	5.3	0.5	0.8	16.8	26.1*	4.2	2.6
Poland*		7.0		0.9		25.6		3.4
Hungary	16.8	17.9	2.4	3.2	29.0	26.2	2.4	2.2
HU23 – Dél-Dunántúl	12.9	13.8	1.7	2.6	28.8	26.1	1.9	2.0
HU31 – Észak-Magyarország	9.6	10.1	1.3	1.9	28.9	27.0	2.6	2.0
HU32 – Észak-Alföld	10.8	11.2	1.5	2.0	28.4	24.5	2.0	2.1
HU33 – Dél-Alföld	13.0	13.9	1.7	2.3	26.7	24.0	2.1	2.0
EU (excl. IE, EL, FR, CY, RO)		10.8		1.3		19.9		2.8

Note: * Data for Poland refer to 2013. Churn rates for Romania refer to 2012. No regional data for Greece and for Poland. Churn rate = births plus deaths relative to total number of enterprises. Shaded figures indicate instances where the rate is above the national average.

Source: Eurostat, Employer Business Demography statistics for the tradable goods and service sector.

Table 6.56 summarises the information on business demography in all the lagging regions. Since there are no employer business demography data at the regional level for Poland, Table 6.57 compares the situation for all enterprises (i.e. including the firms with no employees) in the lagging regions with the national average, which is likely to be indicative of the relative situation for Employer businesses.

Table 6.57 / Business demography in Poland

Country	Enterprises per 1,000 popn. (average 2010-14)	Enterprise births per 1,000 popn. (2010)	Churn rate (2010)
Poland	60.6	7.5	24.7
PL31 – Lubelskie	45.2	6.9	25.1
PL32 – Podkarpackie	41.5	6.0	23.9
PL33 – Swietokrzyskie	47.5	6.8	25.4
PL34 – Podlaskie	46.4	6.5	23.7
PL62 - Warminsko-Mazurskie	49.0	7.3	26.0
Low income regions	34.7	4.0	22.5
EU13	60.8	7.4	23.7
EU28 (without EL)	59.8	5.8	18.5

Source: Eurostat, Business demography statistics – non-employer enterprises included.

The main features suggested by the data in Table 6.55, Table 6.56 and Table 6.57 are summarised for each country below and are linked to the challenges in the business environment identified and set out at the beginning of the section and the reforms carried out.

6.3.6. Country-specific summaries and conclusions

Low growth regions

Italy

The Italian lagging regions have on average a much lower enterprise density in the tradable sector than the other regions and a smaller employment share in these reflecting a relative ‘underdevelopment’ of the tradable sector in the economy in these regions. They also have a much smaller average size of enterprises which is only half of that in the other Italian regions. Since the size distribution of enterprises matters for economic growth as noted at the outset, the ‘overrepresentation’ of small firms in the lagging regions is likely to be an obstacle to growth.

Enterprise births relative to population in the lagging regions were not very different in the period 2011-2014 than in the rest of the country – in both, the lagging and non-lagging regions they are much below the EU average. The low enterprise birth rate in Italy as a whole might be related to the unfavourable position of the country with respect to the ease of starting a business. As noted, it takes longer in Italy than in most other EU countries to start a business and there are more procedures required. The cost involved is four times higher than the EU average. In a number of the lagging regions, in particular, Campania, Molise and Sardegna, the situation is even more problematic. It is also noteworthy that that newly created businesses in the lagging regions are much smaller than elsewhere in the country.

At the same time, the churn rate of enterprises was higher in lagging regions taken together than in the rest of the country and close to the EU average. It was higher in Molise, Campania, Sicilia and Calabria, though this is because of higher death rates.

Overall, the Italian economy seems to be burdened not only by the high cost of starting a business but also by an ineffective and time-consuming judicial system especially with respect to contract enforcement – which takes twice as long as the EU average and even longer in the lagging regions – and the difficulties posed by tax administration. In addition, business creation and development might be hindered as well by the long time it takes to comply with building regulation and the high cost involved. The situation in the lagging regions in many of these areas is more problematic than in Italy as a whole.

Spain

In Spain, the density of enterprises in the tradable sector relative to population was lower in the lagging regions than in others, though it was above the EU average. The average size of enterprises was also smaller in lagging regions, a third less on average than that in other regions. Since the size distribution of enterprises may affect the ability of enterprises to innovate and export, the relatively small share of medium and large enterprises may limit the potential for growth in the Spanish lagging regions.

In addition, the rate of birth of enterprises relative to population was slightly lower in lagging regions than in others, but slightly above the EU average. There was, however, a difference between the regions concerned, with a lower birth rate in Murcia especially.

The relative high enterprise birth rate in Spain as compared with the EU average might in part be a result of many reforms introduced over the past decade to make it easier to start a business. Nevertheless, according to the Doing Business Report 2017, the regulatory business environment in Spain remains less favourable than in the rest of the EU. Starting a business requires more time and more capital. In Murcia, Extremadura and Castilla-La Mancha the situation was even less favourable, as the number of procedures involved and the time needed were more than in the rest of the country.

The relatively high churn rate in three out of four lagging regions (Andalucía, Murcia and Extremadura) and the high death rate in Andalucía and Murcia reflect the difficulties that firms have in surviving perhaps more than in a highly competitive economy.

Obtaining electricity supply and registering property remains more expensive in Spain than in the rest of the EU and even more so in the lagging regions, which could further inhibit the development and growth of the business sector.

Portugal

As in Spain, lagging regions in Portugal had a lower density of enterprises in the tradable sector than others, though it is much higher than the EU average. At the same time, the average size of firms in these regions is much smaller than the EU average and slightly smaller than in the rest of the country. Although the average size is bigger than in Italy or Spain, the concentration of employment in small firms and the relative small share in medium-sized and large ones could be an obstacle to innovation and growth.

In 2014, the birth rate of enterprises relative to population was much the same in lagging regions as in the rest of the country and slightly higher than the EU average. The relatively high rate might be a

consequence of the reforms adopted in the last 10 years, which have made Portugal one of the easiest and least costly countries in the EU in which to start a business (according to the Doing Business Report).

There are differences, however, between regions. In both Alentejo and Centro, the business environment seems less favourable than in the other two lagging regions (Norte and Algarve) and the enterprise birth rates are below the national and the EU average. In both Norte and Algarve, a higher birth rate is accompanied by a lower death rate, indicating a business environment more conducive to enterprise growth and development.

On the other hand, although data at regional level are not available, there are problems as regards paying taxes, obtaining credit and protecting minority shareholders. Although a number of reforms have been undertaken with regard to the first, the time involved remains around 40% longer than the EU average.

Greece

Overall, Greece has a very high density of businesses, though this was reduced considerably between 2008 and 2014 as a result of the economic crisis. Most of the enterprises, however, are micro-sized and there are many fewer medium-sized and large enterprises relative to population than elsewhere in the EU. The majority of employment in the tradable sector, therefore, was concentrated in very small firms, which is likely to limit the potential for growth.

'Starting a business' has been one of the main focus areas of reforms in Greece over the past decade. As a result, it is only slightly more difficult to start a business here than everywhere in Europe and the cost involved and the number of procedures are below the EU average, though the time needed is still longer.

On the other hand, registering property and enforcing contracts is more difficult than in the rest of the EU. The number of procedures needed in respect of the first is double the EU average; while the time need for the second is twice as long as average, both potentially limiting the development of existing businesses.

Low income regions

Bulgaria

The density of enterprises in the tradable sector in lagging regions in Bulgaria is lower than in the capital city region (the non-lagging one), though only slightly lower than the EU average. The tradable sector in these regions, while smaller in terms of employment than in the capital city region is, however, much the same as in the EU on average. Accordingly, the lagging regions do not seem to be at a disadvantage in this respect. Nor do they seem to be disadvantaged in terms of the size distribution of enterprises since the average size of companies is much the same as in the capital city region.

The birth rate of enterprises in the tradable sector is, however, much lower in the lagging regions though higher than the EU average, which, accordingly, does not seem to be affected by the relative difficulty of starting a business.

The business environment in which Bulgarian firms operate, however, is in many respects less favourable than in most other EU countries and this is particularly so in the lagging regions. This is especially the case as regards obtaining electricity supply, an area where virtually no improvements have been made over the past few years and which seems to be a major constraint on business development in Severen tsentralen and Severoiztochen, especially. Enterprises also point to the problems caused by the complicated tax administration system, despite the measures taken over the past few years to make it easier to pay taxes. 'Obtaining construction permits' is much more costly and time-consuming than elsewhere as is 'registering property' and 'resolving insolvency', while the level of corruption and the influence of the informal sector are considered much more of an obstacle for doing business than in other EU13 countries.

Romania

The density of enterprises in the tradable sector in lagging regions in Romania is the lowest among the 8 countries covered by the study. It is only half of that in the non-lagging regions and much lower than the EU average. On the other hand, there is no marked difference between lagging and non-lagging regions in the average size of enterprises. Nevertheless, the size of the tradable sector in terms of the share of employment is only a third of the national and EU averages, which is likely to constrain the development of lagging regions.

The relative under-development of the tradable sector can be related to the very low birth rate of enterprises. Enterprise births per 1,000 population in lagging regions are (with those in Italy) the lowest in the 8 countries analysed. The lowest rates are in Sud-Muntenia Nord-Est and Sud-Vest Oltenia which have also lowest density of enterprises.

The rate of creation of new enterprises, however, does not seem to result from particularly cumbersome business start-up regulations (Romania is ranked around the EU average in this regard) but it could be a reflection in part of the difficulty in lagging regions to obtain business permits and licences, which is regarded as a major constraint on business activity by a relatively large proportion of enterprises, especially in Nord-Vest and the three lagging regions in the south of the country (Sud-Muntenia, Sud-Est and Sud-Vest Oltenia).

The extent of corruption, crime and the informal sector is also likely to limit development. The World Bank survey in 2013 indicates that over twice as many enterprises than the EU13 average considered corruption and crime as major constraints on business, while a third regarded practices of competitors in the informal sector in a similar way. In three of the lagging regions, Sud-Est, Sud-Muntenia and Sud-Vest Oltenia, crime and corruption was seen as more of a problem than elsewhere in the country, while this was the case with regard to the influence of the informal sector in Nord-Vest as well as Sud-Muntenia and Sud-Vest Oltenia,

In addition, the time and costs involved in getting electricity, obtaining construction permits and resolving insolvency is more in Romania than in most of the other EU countries and even more so in lagging regions.

Poland¹⁷

The density of enterprises in the tradable sector in Poland was the lowest among the low income countries covered and much lower than the EU average. At regional level, enterprise density in lagging regions seems to be much lower than in non-lagging ones, particularly in Podkarpackie, though the latest data relate to 2010 and cover all of the business sector rather than only the tradable sector. This may serve to limit growth potential in these regions.

The birth rate of enterprises relative to population in the tradable sector is also lower in Poland than the EU average, which suggests that the business environment is less conducive to business growth than in other parts of the EU. (The data for 2010 also suggest that the birth rate was even lower in lagging regions, especially in Podkarpackie and Podlaskie.) Starting a business seems to be more difficult than in most other EU countries, though no more so in lagging regions than elsewhere, except for Podkarpackie and Świętokrzyskie, where it takes longer than in the rest of the country.

A further factor with a potentially adverse effect on growth is the difficulty of resolving insolvency, which despite this being a focus of reforms and notwithstanding the narrowing of the gap with the situation in the most favourable EU countries in this respect, remains more of a problem in Poland than in most other EU countries. Unfortunately, there are no data available to assess the situation in the lagging regions specifically.

Hungary

The lagging regions in Hungary have a lower density of enterprises in the tradable sector than the non-lagging ones, though this is still higher than the average in the EU (markedly so in Dél-Alföld and Dél-Dunántúl). Similarly, the tradable sector is smaller in the lagging regions than in the non-lagging regions in terms of its share of employment, but again larger than the EU average. The average size of enterprises in the tradable sector, however, is smaller than in non-lagging ones and significantly smaller than the EU average, which could limit growth potential.

While the birth rate of firm in relation to population is lower in lagging regions than in non-lagging ones, it is higher than the EU average. At the same time, the average size of newly created enterprises is much smaller than in the rest of Hungary or elsewhere in the EU, which again could adversely affect growth potential.

As in most of the 8 countries covered by the study, it is more difficult in Hungary to start a business than in the majority of other EU countries and this is even more the case in lagging regions. This applies equally to obtaining business permits and licences and construction permits, securing creditor rights and

¹⁷ Data on regional basis for Poland come from the business demography statistics and refer to 2010 only, therefore, they allow for comparison on the national basis only.

paying taxes as well as getting connected to electricity supply, all of which are likely to hinder the development and growth of businesses.

6.3.7. Cross-country/region summary and conclusion

There is evidence that both the density of enterprises and their average size differ in lagging regions from those in others in most of the countries examined and that this adversely affects their growth potential. In all 8 countries, there are fewer enterprises in the tradable sector (which is of key importance for growth) in relation to population in lagging regions and they tend to be smaller in size, which might reflect the greater obstacles and costs which exist to both starting a business and operating one.

Across the low growth countries (excluding Greece for which there are no data), the difference between lagging and other regions was less pronounced than in low income countries. In Italy, where the difference was widest, enterprise density in the tradable sector in lagging regions was around 30% less than in the rest of the country, while, in the low income countries, in Romania and Hungary, it was close to 50% less.

On the other hand, the average size of enterprises in the tradable sector in lagging regions in low income countries was not much smaller than in other regions, whereas in low growth countries, it was substantially smaller. In Italy, it was only around half that in other regions and in Spain, only around 60%, while in Portugal, though the difference was less, firms on average were still only just over 70% of the size in the other regions in the country. This reflects the larger number of enterprises that are micro-sized or small in the lagging regions, which in the tradable sector is likely to put them at a significant disadvantage in terms of their growth potential.

In line with the evidence on the density of enterprises, the birth rate of firms in the tradable sector is not much lower in lagging regions in the low growth countries than elsewhere, at least in Spain and Portugal. In lagging regions in low income countries, however, the enterprise birth rate was substantially lower than in other regions, only just over half the rate in the latter in Bulgaria and Hungary.

The relatively small difference in the enterprise birth rate between lagging and other regions in the low growth countries, in particular, in Spain and Portugal, might reflect the effect of the reforms that have been implemented over the past 10 years or so to make it easier to do business and to reduce the obstacles to business creation. In Italy, on the other hand, where reforms have been less marked, the birth rate of enterprises is not only lower in lagging regions than elsewhere in the country but it is also well below the EU average.

In low income countries, on the contrary, where significant differences are evident between lagging and other regions in both the birth rate of enterprises and their density, major reforms have been implemented over the past decade to reduce the obstacles to starting a business as well as to operating one. These seem to have helped to improve the overall business environment in all regions, lagging and non-lagging alike, and this is reflected in an increase in both the enterprise birth rate and enterprise density over recent years. The large differences which remain between regions, however, suggests that the business environment in lagging regions continues to be less favourable than in others and that more needs to be done to close the gap.

7. Annexes

7.1. ANNEX A: CLASSIFICATION OF POLICIES IN THE LABREF DATABASE

The database covers 52 labour market and welfare policy fields, which are grouped in 9 broad policy domains as follows:

1. Active labour market programmes:

- › Public Employment Services (job assistance, job counselling etc.)
- › Training
- › Direct job creation and employment subsidies
- › Employment subsidies
- › Special schemes for the disabled
- › Special schemes for youth
- › Active labour market policies – Other

2. Early withdrawal

- › Early retirement
- › Disability schemes

3. Immigration and mobility

- › Immigration
 - Immigration control
 - Selective immigration policies
 - Measure to facilitate labour market integration of immigrants
- › Mobility
 - Internal mobility
 - Mobility – Other

4. Job protection

- › Permanent contracts
 - Procedural requirements
 - Notice and severance payments
 - Definition of fair dismissal
 - Permanent contracts – Other

- › Temporary contracts
 - Maximum number of renewals of fixed-term contracts
 - Maximum duration of fixed-term contracts
 - Temporary agency work
 - Definition of valid reasons for fixed-term contracts
 - Temporary contracts – Other
- › Collective dismissals
 - Collective dismissals

5. Labour taxation

- › Employers' social security contributions
- › Employees' social security contributions
- › Social security contributions of the self-employed
- › Income tax
- › Labour taxation – Other

6. Other welfare-related benefits

- › Short-time working schemes
- › In-work benefits (employment conditional benefit or tax credit)
- › Social assistance (housing, means-tested benefits)
- › Sick leave schemes
- › Family-related benefits

7. Unemployment benefits

- › Net replacement rate
- › Duration of unemployment benefits
- › Coverage and eligibility
- › Search and job availability requirements
- › Unemployment benefits – Other

8. Wage setting

- › Statutory minima (only derogations from existing rules and practice or changes in minimum wage setting modalities)
- › Social pacts, bipartite or tripartite framework agreements on wage setting
- › Regulation by the government of the wage bargaining framework (e.g. extension of collective agreements, representativeness of social partners, etc.)
- › Public wages (only derogations from existing rules and practice affecting large parts of the public sector or changes in wage setting modalities in substantial shares in general government or SOEs)
- › Wage setting – Other

9. Working time

- › Working hours management
- › Part-time work
- › Family-related working-time organisation
- › Sabbatical and other special leave schemes
- › Working time – Other

7.2. ANNEX B: DEFINITION OF REFORM DIRECTIONS

Labour taxation: Those measures that raise the tax burden on labour are called 'Increasing measures'. 'Decreasing measures' reduce the burden.

Unemployment benefits: 'Increasing measures' are those which increase the generosity of unemployment benefits (i.e. replacement rates, duration, coverage) or which relax entitlement conditions. 'Decreasing measures' have the opposite effect.

Other welfare-related benefits: 'Increasing measures' are those which increase the generosity of benefits or which relax entitlement conditions. 'Decreasing measures' reduce the generosity of benefits or tighten entitlement conditions.

Active labour market programmes: 'Expanding measures' increase the availability, generosity, or effectiveness of ALMPs. 'Contracting measures' aim at the opposite.

Job protection (EPL): 'Strengthening measures' increase protection against job dismissals (strengthening procedural requirements, increasing notice and severance payments, strengthening the definition of fair dismissal, or restricting the conditions for the use of temporary contracts and temporary agency work), increase rights of workers and improve working conditions. 'Weakening measures' do the opposite.

Early withdrawal schemes: 'Easing measures' increase the generosity of early withdrawal schemes (early retirement or disability benefits) or ease eligibility conditions. 'Tightening measures' do the opposite.

Wage setting: Measures, legislation or agreements that tighten the framework conditions for wage setting on the part of employers are likely to produce upward pressures on wages and are therefore called 'Increasing measures'. Relaxing conditions on the part of employers to set wages are likely to limit wage increases and are therefore called 'Moderating measures'.

Working time regulation: Measures tightening regulatory requirements on working time, increasing rights and conditions of part-time workers, tightening availability of or access to childcare, increasing generosity or duration of parental/paternity/maternity leaves, or increasing access to sabbatical or educational leaves are likely to result in reduced working time and are therefore called 'Reducing measures'. The antonym is 'Expanding measures'.

Immigration and mobility: Measures tightening regulatory restrictions on migration or reducing support to mobility are likely to result in less immigration and mobility and are therefore called 'Tightening measures'. 'Easing measures' relax regulatory restrictions and increase support to mobility.

7.3. ANNEX C: SPECIFICATIONS UNDERLYING THE PARTIAL CORRELATION ANALYSIS AND THE RESULTS FROM OLS REGRESSIONS

Table A 1 / Employment

Specification: *Annual average growth rate 2000-2014 of employment = f (number of LMP reform measures per kind in 2000-2014 period, Annual average growth rate 2000-2014 of GVA, GVA per person employed in 2000, Annual average growth rate 2000-2014 of GFCF, GFCF in GVA in 2000).*

Annual average growth rate (2000-14) of Employment	Coef.	Std. Err.	t	P>t
Contracting ALMP measures	0.19	0.06	3.08	0.00
Expanding ALMP measures	0.02	0.01	2.55	0.01
Easing Early withdrawal measures	0.05	0.03	1.78	0.08
Tightening Early withdrawal measures	0.00	0.03	0.15	0.88
Relaxing Immigration/Mobility measures	0.01	0.02	0.23	0.82
Tightening Immigration/Mobility measures	0.09	0.03	2.82	0.01
Relaxing Job Protection (EPL)	-0.01	0.01	-0.64	0.52
Strengthening Job Protection (EPL)	0.01	0.02	0.47	0.64
Decreasing Labour Taxation	0.01	0.01	2.27	0.02
Increasing Labour Taxation	-0.05	0.02	-2.80	0.01
Decreasing Welfare-rel. benefits	0.10	0.02	4.93	0.00
Increasing Welfare-rel. benefits	-0.05	0.03	-1.95	0.05
Decreasing Unemployment benefits	-0.13	0.02	-6.30	0.00
Increasing Unemployment. benefits	0.01	0.02	0.77	0.44
Moderating Wage Setting measures	0.01	0.01	0.55	0.58
Increasing Wage Setting measures	0.19	0.03	6.30	0.00
Annual average growth rate 2000-2014 of GVA	0.35	0.04	8.54	0.00
GVA per employed in 2000	0.02	0.00	9.41	0.00
Annual average growth rate 2000-2014 of GFCF	0.04	0.02	2.07	0.04
GFCF in GVA in 2000	2.15	0.65	3.32	0.00
Constant	-2.95	0.46	-6.44	0.00
Number of observations	259			
F(20, 238)	25.06			
Prob > F	0			
R-squared	0.678			
Adjusted R-squared	0.6509			
Root MSE	0.44089			

Note: Policy reforms concerning working time excluded because highly correlated with Wage Setting measures.

Source of data: Labour market reform measures – LABREF database; all other data – Cambridge Econometrics, European Regional Data.

Table A 2 / Investment

Specification: *Annual average growth rate 2000-2014 of GFCF = f (number of LMP reform measures per kind in 2000-2014 period, GFCF/GVA in 2000, GVA per hour worked in 2000, Annual average growth rate 2000-2014 of Compensation of employment per hour worked).*

Annual average growth rate in 2000-14 of GFCF	Coef.	Std. Err.	t	P>t
Contracting ALMP measures	-0.31	0.20	-1.59	0.11
Expanding ALMP measures	0.01	0.02	0.63	0.53
Easing Early withdrawal measures	-0.16	0.09	-1.73	0.09
Tightening Early withdrawal measures	0.16	0.10	1.62	0.11
Relaxing Immigration/Mobility measures	0.08	0.07	1.14	0.26
Tightening Immigration/Mobility measures	-0.05	0.10	-0.47	0.64
Relaxing Job Protection (EPL)	-0.10	0.05	-2.18	0.03
Strengthening Job Protection (EPL)	0.15	0.07	2.20	0.03
Decreasing Labour Taxation	0.02	0.02	0.90	0.37
Increasing Labour Taxation	-0.08	0.06	-1.37	0.17
Decreasing Welfare-rel. benefits	0.10	0.06	1.65	0.10
Increasing Welfare-rel. benefits	0.21	0.08	2.65	0.01
Decreasing Unemployment benefits	-0.01	0.07	-0.19	0.85
Increasing Unemployment. benefits	-0.07	0.06	-1.23	0.22
Moderating Wage Setting measures	-0.13	0.03	-4.00	0.00
Increasing Wage Setting measures	-0.24	0.09	-2.57	0.01
GFCF/GVA in 2000	-10.42	1.83	-5.69	0.00
GVA per hour worked in 2000	-0.05	0.01	-4.12	0.00
Annual average growth rate 2000-2014 of Compensation of empl. per hour worked	0.82	0.09	8.65	0.00
constant	1.77	1.53	1.16	0.25
Number of observations	259			
F(19, 239)	32.71			
Prob > F	0.00			
R-squared	0.72			
Adjusted R-squared	0.70			
Root MSE	1.42			

Note: Policy reforms concerning working time excluded because highly correlated with Wage Setting measures.

Source of data: Labour market reform measures – LABREF database; all other data – Cambridge Econometrics, European Regional Data.

Table A 3 / Productivity

Specification: *Annual average growth rate 2000-2014 of GVA per employment = f (number of LMP reform measures per kind in 2000-2014 period, Annual average growth rate 2000-2014 of GFCF, GVA per employment in 2000).*

Annual average growth rate 2000-2014 of GVA per employment	Coef.	Std. Err.	t	P>t
Contracting ALMP measures	-0.18	0.09	-2.05	0.04
Expanding ALMP measures	-0.03	0.01	-3.38	0.00
Easing Early withdrawal measures	-0.11	0.04	-2.69	0.01
Tightening Early withdrawal measures	0.07	0.04	1.67	0.10
Relaxing Immigration/Mobility measures	0.00	0.03	0.08	0.94
Tightening Immigration/Mobility measures	-0.11	0.05	-2.33	0.02
Relaxing Job Protection (EPL)	-0.02	0.02	-0.75	0.45
Strengthening Job Protection (EPL)	0.01	0.03	0.34	0.73
Decreasing Labour Taxation	-0.04	0.01	-4.99	0.00
Increasing Labour Taxation	0.08	0.02	3.18	0.00
Decreasing Welfare-rel. benefits	-0.08	0.03	-2.77	0.01
Increasing Welfare-rel. benefits	0.13	0.04	3.58	0.00
Decreasing Unemployment benefits	0.16	0.03	5.21	0.00
Increasing Unemployment. benefits	-0.02	0.03	-0.60	0.55
Moderating Wage Setting measures	-0.01	0.01	-0.45	0.65
Increasing Wage Setting measures	-0.30	0.04	-7.09	0.00
Annual average growth rate 2000-2014 of GFCF	0.11	0.02	4.99	0.00
GVA per employment in 2000	-0.03	0.00	-9.17	0.00
constant	3.87	0.60	6.50	0.00
Number of observations	259			
F(18, 240)	37.85			
Prob > F	0.00			
R-squared	0.74			
Adjusted R-squared	0.72			
Root MSE	0.63			

Note: Policy reforms concerning working time excluded because highly correlated with Wage Setting measures.

Source of data: Labour market reform measures – LABREF database; all other data – Cambridge Econometrics, European Regional Data.

Table A 4 / Cost competitiveness

Specification: *Change in real Unit labour cost (1-Compensation/GVA) over period 2000-2014 = f*
(number of LMP reform measures per kind in 2000-2014 period, Real Unit labour cost in 2000, Annual average growth rate 2000-2014 of GVA per employment).

Change in real unit labour cost (1-Compensation/GVA) over period 2000-2014	Coef.	Std. Err.	t	P>t
Contracting ALMP measures	0.004	0.01	0.77	0.44
Expanding ALMP measures	0.001	0.00	1.22	0.23
Easing Early withdrawal measures	0.004	0.00	1.51	0.13
Tightening Early withdrawal measures	0.002	0.00	0.85	0.40
Relaxing Immigration/Mobility measures	0.008	0.00	3.84	0.00
Tightening Immigration/Mobility measures	0.007	0.00	2.40	0.02
Relaxing Job Protection (EPL)	-0.002	0.00	-1.20	0.23
Strengthening Job Protection (EPL)	0.009	0.00	4.39	0.00
Decreasing Labour Taxation	-0.002	0.00	-4.33	0.00
Decreasing Welfare-rel. benefits	0.007	0.00	4.23	0.00
Increasing Welfare-rel. benefits	-0.003	0.00	-1.64	0.10
Decreasing Unemployment benefits	-0.004	0.00	-1.70	0.09
Increasing Unemployment. benefits	0.004	0.00	2.19	0.03
Decreasing Welfare-rel. benefits	-0.004	0.00	-2.50	0.01
Moderating Wage Setting measures	0.000	0.00	0.07	0.95
Increasing Wage Setting measures	0.005	0.00	1.89	0.06
Real Unit labour cost in 2000	-0.812	0.03	-23.23	0.00
Annual average growth rate 2000-2014 of GVA per employment	0.033	0.00	10.21	0.00
constant	0.201	0.04	4.84	0.00
Number of observations	259			
F(18, 240)	40.39			
Prob > F	0.00			
R-squared	0.75			
Adjustedj R-squared	0.73			
Root MSE	0.04			

Note: Policy reforms concerning working time excluded because highly correlated with Wage Setting measures.

Source of data: Labour market reform measures – LABREF database; all other data – Cambridge Econometrics, European Regional Data.

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