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Policy Brief

Growth and Jobs

Human Capital Leading Indicators: How Europe's Regions and Cities Can Drive Growth and Foster Social Inclusion

By Peer Ederer, Philipp Schuller and Stephan Willms

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Human Capital Leading Indicators for European Regions and Cities

The world is entering a new era – a time when economic value will be created not by land, labour and capital, but by the knowledge, skill and ingenuity with which those traditional economic inputs can be recombined into new products and services of ever greater value. It is a world where the depth of a city's, region's or nation's human capital will determine the winners from the losers, where the quality of our workforce will decide the degree of our prosperity, where our institutions will be judged not by the length of their tenure but by their ability to create, attract, retain, and deploy as much human talent as possible.¹

And yet our institutions are profoundly humbled. Faced with global challenges that will require revolutionarily different responses, they are sent into battle equipped with an outmoded statistical framework clearly designed for a different era – a time when the earth's resources were not vet understood to be ultimately finite; a moment when innovation took place mostly in laboratories, when a typical household was led by a single male breadwinner, when the average European lived about 15 years less than today and the average Chinese person might have thought "export" meant selling a bit of surplus produce in a neighbouring village.

That is the imbalance this study sets out to address. How can we arm policy makers particularly at the level of regions and cities - with the analytical framework they will need to thrive in a truly global, knowledge-

based economy? What are the tools and levers at policy makers' disposal? What policies deliver the best results? What are the most effective levers? And how can those levers be pulled in the most effective way? In other words, how can we help policy makers at the local level to ensure their region has the human capital it will need to deliver prosperity to citizens in an age of transformation?

The study you hold in your hands is the product of one year of intensive research, conducted by a team of 11 social scientists, working at the Lisbon Council.² Building on the original paradigms laid down in our ground-breaking studies The European Human Capital Index (2006) and The European Human Capital Index: The Challenge of Central and Eastern Europe (2007), which sought to look at humancapital policies at the national level, this policy brief takes a more granular approach.³ It seeks to look at human capital performance at the local and regional level, analysing the statistical database and the experience of seven broadly diverse regions in search of new insights into the humancapital policies that work best.

Among the key findings:

I. Of all the levers a policy maker has available at his or her disposal, there are four key indicators where good performance can be closely correlated to local prosperity. If a region can score well in all four, it means that region

^{1.} Paul Hofheinz, Europe 2020: Why Skills are Key for Europe's Future (Brussels: The Lisbon Council, 2009).

The project was made possible by a research grant from the European Community Programme for Employment and Social Solidarity – PROGRESS (2007-2013), managed by DG employment, social affairs and equal opportunities of the European Commission. Peer Ederer, The European Human Capital Index: Innovation at Work (Brussels: The Lisbon Council, 2006); Peer Ederer, Philipp Schuller and Stephan Willms, The European Human Capital Index: The Challenge of Central and Eastern Europe (Brussels: The Lisbon Council, 2007).

Chart 1: Top Performance in Human Capital Leading Indicators Closely Predicts Regional Income Differences The three columns show statistical comparisons of human capital indicators with regional levels of prosperity. In the chart at left, the first column uses the share of people with tertiary education (2007) as the only input variable, and shows a very low correlation between this common proxy for human-capital development and regional wealth. By contrast, the second column uses the four Human Capital Leading Indicators described in this paper: youth unemployment (2007), share of long-term unemployed among all unemployed (2007), share of complex jobs (2008) and number of patents and level of R&D spending (Innovation Index 2003), and shows a very high correlation with regional prosperity. The third column adds additional human-capital indicators to the measurement, including the share of people with tertiary education (2007), the employment rate of women aged 25-35 (2007) and the employment rate of the elderly aged 55-64 (2007), and shows little improvement in correlation or variation with the four Human Capital Leading Indicators. The output variable in each case is regional GDP in euro (PPP per capita 2007, measured in logarithms).





Regional GDP per Capita and Performance in Human Capital Leading Indicators



* Based on a multivariate linear regression

Source: Eurostat – European Regional and Urban Statistics Database

is likely to be a wealthy, prosperous and socially cohesive one. The four indicators are 1) the number of complex jobs in a region or city; 2) the number of jobs available for young people and the ease with which young people can find employment, 3) the ability to get the unemployed back to work (thereby avoiding high levels of longterm unemployment), and 4) the intensity of investment in research and development and the volume of local patent applications, a proxy for the "innovativeness" of the region. Statistical analysis shows that, taken together, these four indicators serve as an excellent forecaster of overall performance in the human-capital sphere, explaining fully 71% of regional

differences in gross domestic product per capita in a multivariate linear regression (see Chart 1 above for more).⁴ In other words, policy makers who can successfully deliver in these four areas are destined to do well in attracting, retaining and deploying human capital in ways that will give tangible economic and social results to their regions and cities. Other human capital indicators - such as the share of the local population with tertiary education, the employment of 25- to 35-yearold women or the employment rate of the elderly – are much less precise predictors of prosperity for a region. For this reason, we have chosen to call the four statistical checkpoints mentioned above the Human Capital Leading

^{4.} A multivariate linear regression looks at the way in which a variety of input data are connected to or can "explain" one outcome variable, in this case GDP per capita, purchasing power parity (PPP) adjusted. The linear regression describes the line through the multidimensional space formed by the input data and the outcome variable that is closest to all data points. If the fit of the line is good, the knowledge of the input variables allows us to imply the associated per-capita income even in cases where income cannot be measured. The "fit" of the line is called the "coefficient of determination," or "R²." An R² of 100% indicates that all observations lie on the line, while an R² of 0% indicates that there is no optimal line and no apparent statistical relationship between the data and the outcome.

Indicators, and we recommend that regional administrators build and develop their human-capital strategy around improving them.

II. Regions vary in human-capital performance more among themselves than countries do, based on close comparison of Human Capital Leading Indicators at the national and regional level (see Chart 2 on page 6 for more). What's more, the Human Capital Leading Indicators have less predictive value at the national level than they do at the local level due to the homogenizing effect of national statistics.⁵ This has important implications. Nations, because they are made of collections of regions, often contain vastly different levels of human-capital development within them – differences whose special characteristics are somehow lost when

statistics are aggregated at the national level. Therefore, it is particularly hard for national administrators to improve or target widely varying human capital situations with a single, one-size-fitsall human capital policy. Because of this, we recommend that many human capital development decisions and strategies be delegated to the regional level, where they can be most effective. Nations should also make sure that regions have the authority and resources they need to develop successful humancapital strategies.

III. The Europe 2020 strategy, adopted by European heads of state and government in March 2010, is half right: it is right to focus on human capital as a key component of European development; it is wrong to address the member states rather than the regions.⁶ Of Europe 2020's five explicit targets,

Europe 2020: Europe's Human-Capital Development Strategy

Of the five specific targets in the EU's flagship Europe 2020 agenda, four have a clear human-capital dimension.

- 1. Employment: Employ 75% of 20 to 64 year olds
- 2. R&D / innovation: Invest 3% of the EU's GDP (public and private) in R&D and innovation
- 3. Education: Reduce school drop-out rates to below 10%; at least 40% of 30 to 34 year olds should complete tertiary-level education (or equivalent)
- 4. Poverty / social exclusion: Reduce number of people in or at risk of poverty by 20 million
- 5. Climate change / energy: Cut greenhouse gas emissions by 20% of 1990 level (or 30% if a satisfactory international agreement can be achieved to follow Kyoto); produce 20% of all energy from renewables and increase energy efficiency by 20%

We tested the Human Capital Leading Indicators at the national level for the 27 European Union member states, and, after finding an intense correlation (71%) at the local level, we found a much weaker correlation of 63,5% at the national level.
 For more on Europe 2020, visit the European Commission website at http://ec.europa.eu/europe2020/index_en.htm.

'There are four key human capital indicators where good performance can be closely correlated to local prosperity.'

four highlight explicitly human-capital related goals (see the Europe 2020 box on page 4). This makes Europe truly unique: it is the only major global actor which has come out so clearly and forcefully with a strategy for future prosperity based on human-capital development. But the programme misses the larger point elaborated above - if you want success in human capital development, you will have more chances by going directly to the local level, where policy making is most direct and effective. Therefore, we believe the Europe 2020 programme should "ensure that each European Region tailors the Europe 2020 strategy to its particular situation and translates the EU goals into regional targets and trajectories."7

IV. Given the vast importance of local decisions to successful human-capital policy making – and the need to ensure that flagship national and European initiatives like Europe 2020 are effectively implemented – we believe cities and regions should appoint regional human capital managers to coordinate, evangelise and implement better human-capital-raising policies at the local level. Successful regions are already doing this, such as the seven regions studied in this paper (the case studies begin on page 16). In each of those regions and cities, this vital task was taken up by informal networks or formally responsible agencies, coordination groups, task forces, locally committed NGOs or

just enthusiastic individuals who, by their actions and agenda, have become largely self-appointed human capital managers for their region. Should the policy of appointing regional human capital managers ever be systematized and more broadly adopted, the human capital manager would design, develop and seek to implement a human capital strategy for the region. Such a strategy would steer and focus resources to those levers that achieve the most, and disregard levers that are not relevant. The kaleidoscope of coordination and prioritisation by the regional human capital manager could include: the shaping of educational institutions from kindergarten to adult learning towards the needs of the regional economy, the attraction of particular types of industries and businesses, the fostering of particular types of innovation and entrepreneurship, the provision of childcare facilities for working parents, the integration of peripheral social groups into the labour market, and more. By formulating and articulating a regional or local human capital strategy, the human capital manager will identify a few critical targets against which the public can hold him or her or all other decision makers in the region to account.

The Human Capital Matrix in European Regions and Cities

Human capital is a vital input to economic growth, standing alongside financial capital as one of two key determinants of GDP in classical growth models (see Chart 2 on

^{7.} *Ibid.*. The Europe 2020 programme sets out "to ensure that each Member State tailors the Europe 2020 strategy to its particular situation, and translates the EU goals into national targets and trajectories (emphasis added)."

Chart 2: The Human Capital Matrix

Human capital endowment (the amount of human capital a region possesses) x human capital utilisation (the amount of human capital that is active) x human capital productivity (the efficiency with which human capital is deployed) + financial capital = gross domestic product.



page 6 for more). The question, then, is how do we measure human capital? How do we determine the economic value of a region's, city's or country's know-how and skills – including the amount of human capital which a region naturally possesses or can attract and the effectiveness with which it is all deployed in the local economy?

A back of the envelope calculation already tells us a lot about the role skills play in modern economic life. In industrial societies, the amount of money invested in people's salaries is roughly twice as much as the return on financial capital (measured as interest payments and corporate profits).⁸ In other words, judging from the price signals the market is sending, nearly twothirds of all economic value in modern industrial economies is created through direct investment in the skills and human capital of our active workforce.

The difficulty modern societies face, and Europe in particular, is not a shortage of human capital – though even here employers tell us they cannot find skilled workers to do the jobs for which they have openings while overall demographic trends paint an ever more alarming picture for Europe's future. The difficulties are, in many ways, how do we better use the human capital that we have? How do we create and attract the human capital we will need to deliver the social and economic outcomes we seek? And how do we activate and deploy human capital in ways that will bring the most social good to society at large?

To help policy makers grapple with these separate but related policy objectives, the Lisbon Council created the Human Capital Matrix, a two-dimensional graphical representation of the key components that help us measure how much human capital a society has, and how well that human capital is being deployed (for more, see Chart 2 above). The chart is based on a simple formula. Stated plainly, it says the GDP of a country is the amount of human capital a region possesses (human capital endowment) times the amount of human capital that is active in the labour market (human capital utilisation) times the efficiency with which that human capital is deployed (human capital productivity) plus financial capital.

The model has already been deployed

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^{8.} Peer Ederer, Philipp Schuller and Stephan Willms, Geschäftsplan Deutschland (Stuttgart: Schäffer-Poeschel, 2008).

Chart 3: Regions Vary More Among Themselves on Key Human Capital Indicators than European Countries Do

Variance of three indicators between 269 regions and between 27 countries.



Source: Eurostat – European Regional and Urban Statistics Database

successfully in earlier studies, which measured the endowment, utilisation and productivity of human capital at the national level.⁹ For this study, we set out to adapt the model to the regional level, looking at what the matrix could tell us about the best, most effective way that local authorities could raise and improve human-capital strategies. We chose as our focus group 269 of the 271 regions of the NUTS2 category, the regions that taken together make up the modern 27-member EU.¹⁰ Inner London and Brussels were left out of the study due to performance anomalies (the depth and wealth of human capital in these two regions made them statistical outliers, sitting in a category of their own). The statistical analysis was tested in field research in seven diverse European regions, which will be presented and discussed in the second half of this paper.

The conclusions were in some ways surprising. First and foremost, we found that many regions have more in common with similar areas in other countries than they do with other regions in their own home country (See Chart 3 above for more). This has important implications for Human Capital Mangers. First and foremost, it means the specific problem a region might face is best analysed and understood through comparison with other European regions that have a similar profile and history. For example, the human capital challenges of a national capital can have few lessons for a human capital manager in a thinly populated, rural region. This, in turn, means that, if a region is to benchmark performance, it should look to other similar regions for ideas that have worked and the best comparisons on relative performance.

What's more, we found that, for all of their diversity, Europe's regions could be fairly easily clustered into four categories for purposes of benchmarking their humancapital performance (see the map on page 9 for a geographic rendering of the clustering and Chart 4 on page 8 for an economic snapshot of the four main groupings). The four groups are:

Ederer, European Human Capital Index; Ederer, Schuller and Willms, European Human Capital Index: The Challenge of Central and Eastern Europe.
 NUTS is the EU standard for referencing the subdivision of countries into regions and cities for statistical purposes. The acronym comes from the French nomenclature d'unités territoriales statistiques. NUTS2 is the broadest of the three NUTS classifications. It includes – but is not limited to – European regions with a population of 800,000 to 3 million inhabitants. There are 271 NUTS2 regions. For purposes of this study, we excluded London and Brussels because they are statistical outliers.

Chart 4: The Richest Regions Are in Western Europe and Densely Populated

Boxes show the medium 50% of the regions, whiskers show the medium 80% within each group.



Source: Eurostat - European Regional and Urban Statistics Database

- Densely-populated Continental European regions, such as Madrid (Spain) and Düsseldorf region (Germany). There are 30 European regions in this category, encompassing 97 million inhabitants.
- 2. Densely-populated Northern European regions, such as North Holland and Hovedstaden (Copenhagen), Denmark. This grouping is made up of similar regions from Ireland, the United Kingdom, Flanders, Netherlands and Scandinavia. It includes South Finland and South Ireland because of the strong dominance of Helsinki and Dublin in those areas. There are 37 regions in this category, encompassing 68 million people.
- 3. Thinly-populated West European regions such as South Sweden and Bretagne, France. Here, the average population density is around 76 people per square kilometre, compared with a densely-populated regions average of 417 people per square kilometre and an EU-27 average of 114 people per square kilometre. Malta and the French, Portuguese and Spanish island regions are included in this group as well, along with Slovenia because of its proximity to Austria and the relative openness of the former Yugoslavia. There are 141 regions

in this category, encompassing 210 million inhabitants.

4. All regions in formerly Communist countries, such as Prague (Czech Republic) and Estonia. Due to their history, these regions face truly unique human-capital challenges. Berlin and other former GDRbased regions are included in this group, as we found their statistical profile in human capital terms was closer to their ex-Communist neighbours than their West European counterparts. There are 16 regions in this category, encompassing 117 million citizens. What then does the Human Capital Matrix tell us about the human capital situation in these four categories?

Human Capital Endowment

Traditionally, many analysts and policy makers use educational attainment rates as a proxy for human capital endowment and a way of measuring human capital itself. This approach has several advantages; for example, the educational attainment of the local workforce is relatively easy to measure and the size of national university cohorts is well known. This, in turn, gives social scientists enough hard data to build a reasonably accurate data-based analysis. But is it the right one? The problem is, simply counting university graduates in

Economic Models at the Regional Level: Four Groups

Historical and geographical grouping of NUTS2 Regions across Europe.



- Continental Densely-Populated
- Northern Densely-Populated
- West European Thinly-Populated
- Ex-Communist

a country or region doesn't tell us nearly enough about how human capital is being deployed. And it tells us even less about the relationship of human capital to economic wealth generation. As part of this study, we conducted a bivariate regression looking at the statistical correlation of tertiary education attainment with regional prosperity (as measured by PPP-adjusted GDP per capita), and found the correlation was only 29% – considerably less than the fit we found with the four Human Capital Leading Indicators described in the first section of this paper (see Chart 1 on page 3 for more).

But there is another way of measuring human capital endowment – a way that brings together the key strands of both creating and attracting human capital: the share of complex jobs among overall employment. Complex jobs are managerial positions, entrepreneurial activities or professions that typically require a university education such as engineering, law or medical services. Across European regions, complex and managerial work account for around 22% of all jobs; in wealthier regions, the percentage soars to 33%; among the poorer regions, it falls to 13%. For a full ranking of European regions based on the share of complex jobs as a percentage of all jobs, see Table 1 on page 60.

What's more, we found that in denselypopulated regions, the tertiary education indicator and the share of complex jobs indicator are almost interchangeable (see Charts 5 and 6 on page 10 for more). The two indicators rise and fall alongside of each other.¹¹ But which comes first? Is it the university degrees that attract the complex jobs? Or the complex jobs that attract the university graduates?

We believe complex jobs is a better lever for local policy makers to target because it is a better magnet for talent, and offers concrete, instantly identifiable, and mutually reinforcing advantages to any human capital manager who can deliver. Specifically, complex, non-routine jobs generate high economic value to the region where they are found, and are accordingly well paid. But good jobs also create more human capital via more intensive on the job learning than less demanding jobs, ensuring employment and high salaries and wages in the future.¹² As has been shown elsewhere, two to three times as much human capital is created at the

^{11.} Uniquely, this is not the case for thinly-populated Western European regions, which show little fit between educational attainment and the prevalence of complex jobs. 12. Ederer, *European Human Capital Index*.

Charts 5 and 6: Education Leads to Better Jobs in Densely Populated Regions and in Ex-Communist Regions

Complex jobs and higher education in densely populated regions (excluding ex-communist).



Complex jobs and higher education in ex-communist regions.



Source: Eurostat – European Regional and Urban Statistics Database

workplace as in formal learning institutions such as schools and universities. These are skills such as team behaviour, problem solving, communications and leadership as well as the functional work skills that European workers continually learn at their work place. The more complex and demanding the jobs of engineers, lawyers and managers, the more opportunity there is for learning. And the more a person learns, the more he will earn and improve future employability. What is more, these jobs tend to have what economists call "positive externalities." Every lawyer or engineer requires or provides work for a number of other jobs, such as book keepers, production personnel, travel agents, hairdressers, and so will expand employment also in areas with less human capital endowment.

As the share of complex and non-routine jobs in the overall mix of jobs performed in a regional economy is the most important indicator for human capital endowment, how can a regional human capital manager attract such highly qualified jobs?

The best, most obvious way of doing this is by attracting inward and direct foreign investment. Companies bring jobs with

them, and a human capital manager who can attract a major investment to his or her region will see his or her human capital base rise proportionately. In this particular case, the chicken most certainly does follow the egg. But some regions - such as Bratislava and Helsinki, whose experience will be profiled in the case studies that begin on page 16 – have done extremely well by focusing on the egg – namely, the number of locally available graduates ready for work in complex jobs. In 1995, the government of Finland launched 67 graduate schools, employing 722 postgraduate trainees. The number of degrees conferred was used as an indicator for allocating funds among universities, giving universities a strong incentive to graduate more students. By 2006, the number of graduate schools in Finland had risen to 124, with 1458 student posts, a significant increase which had a tangible impact on human capital endowment in Helsinki, where about half of the degrees were based (for more, see Chart 7 on page 11 and the Helsinki Case Study, which begins on page 28). Similarly, Slovakia enacted a highly successful MBA programme, seeking to train local business executives as a way of attracting foreign investment – and raising the game of local

Chart 7: Helsinki Doubled the Number of PhD Students in Response to Nationally-Mandated Targets PhD students and target number (1989-2009).



Source: Ministry of education, Finland. The data for Helsinki region have been obtained by aggregating the data of eight universities in the region: University of Helsinki, Helsinki University of Technology, Helsinki School of Economics, Swedish school of Economics and Business Administration, University of Art and Design, Sibelius Academy, Theatre Academy and Academy of Fine Arts.

businesses as well (see the Bratislava Case Study, which begins on page 17).

In this game, densely populated regions have inherent advantages. Lower transaction costs and the possibility of higher specialisation make urban regions a natural magnet for highly skilled labour. But densely populated areas must work to retain and activate human capital, as well. One policy lever for raising the share of complex jobs could be to focus on the provision of childcare facilities, so women, who statistically make up a large proportion of the highly-educated in most modern societies, are not forced to leave their careers when they have a child, or can quickly re-enter the workforce if they do. Seemingly small levers like these can have a large effect; they make it possible for regions to retain and activate human capital that would otherwise be lost to them.

Human Capital Utilisation

Regions can have excellent human capital endowments, but they will fail to benefit if the human capital is left idle or underutilised. This insight has important implications for a regional human capital manager. Put simply, human capital managers must focus on utilising the human capital in their region, and not simply because there are very good moral reasons for doing so (unemployment is a social scourge, which ought not to be so readily accepted in some European regions). In fact, there are very good economic reasons why this must be done as well. When people work, they contribute to the region's economic wellbeing – both at the aggregate level, where their work adds to regional prosperity, but also at the individual level, where their personal income will improve and their human capital base expand thanks to on-the-job training and the routine exercising of vital social skills. But the flipside is also true. High unemployment is a major break on human-capital development. Not only do the unemployed fail to contribute to the economic advancement of the region, but their skills can deteriorate quickly, including vital social skills and equally important on-the-job training.

We tested unemployment indicators to gauge their effect on local human-capital development, and found two somewhat surprising results. First and foremost, to a much greater extent than we expected, levels of youth unemployment and long-



Chart 8: High Youth Unemployment Has a Telling Effect on Income Variation at the Regional Level Income variance explained by youth unemployment rates (2007).

¹ Excluding ex-communist regions

Source: European Regional and Urban Statistics Database

term unemployment show a remarkably close correlation with prosperity at the regional level – much more than a broad basket of other employment-based indicators, which we also tested.¹³ As Chart 8 above shows, youth unemployment alone shows a statistically significant 20% correlation with regional prosperity in densely populated regions; a 27% correlation in formerly communist regions and fully 44% in thinly populated regions. Among the 269 regions we analysed, the average rate of youth unemployment is 16%; in the richest regions, that rate falls to a much more acceptable 6.5%. But in the poorest regions, it soars to 31% - asocial scourge that Europe ought not to be willing to tolerate. See Table 2 on page 62 for a ranking of 269 European regions based on their youth unemployment rate.

Even more curiously, as the wages of young people are among the lowest in the workforce, the correlation we found hints at a deeper connection between youth unemployment and prosperity. Put simply, youth wages are too low to have much of a direct effect on regional prosperity. Instead, we must look deeper for what would have to be an important, indirect consequence of high youth unemployment – namely, the knock-on consequences of having so many young people out of the workforce at a key moment in their lives. Studies have shown - and the statistical evidence

presented in this paper confirms – that young people unable to gain entry to the labour market for prolonged periods of time are at a high risk of developing into permanently peripheral members of society. Having missed out on crucial human capital acquisition in their early careers, they become disenfranchised economically and socially, and are more likely to become dysfunctional or even criminal with all of the associated economic costs. Conversely, an early entry into the labour market forms the basis for a working career and corresponding life habits and is typically followed by family formation, homebuilding or home-making and the creation of community bonds, all of which have positive income effects. In this way, the rate of youth unemployment is a strong indicator of a region's likely level of prosperity, and an area of human-capital development to which a regional human capital manager would be well advised to pay attention.

The other surprisingly significant indicator of human-capital employment is the share of long-term unemployment, which on its own explains fully 18.7% of economic prosperity in European regions.¹⁴ Often, the social protection benefits available to the long-term unemployed are higher than the economic value these people could create if they were working; this is the primary reason why many of them are

Other employment-based indicators we tested, but which showed no strong statistical relationship with regional prosperity, include male employment rates, female employment rates, female employment rates of ages 25 to 35 (the mother group), elderly employment rates (both 55 to 64, and 65 and over), hours worked and labour market exit age.
 The calculations are based on 2007 employment figures. GDP is measured in logarithmic terms.

Northern v. Continental: Different Paths to a Similar Destination

The differing experience and performance of Europe's two types of densely-populated regions – the Northern European regions (namely Ireland, UK, Scandinavia and Dutch-speaking Benelux) and Continental European regions (namely Austria, France, Germany, Greece, Italy, Portugal and French-speaking Benelux) – on the Human Capital Leading Indicators sheds interesting light on an age-old question: which European social model gives the best results in human capital terms? The answer would appear to be both systems seem to work quite well, though they employ radically different ways of getting there. Northern European regions boast considerably more complex jobs, and universities – after three decades of reform – award considerably more degrees than their counterparts in Continental Europe. And yet, both areas get remarkably similar social outcomes: GDP per capita in the Northern European Regions is €29,300 and in Continental Regions it is €31,400 – a statistical dead heat. How is this possible? It seems likely that many jobs in Continental Europe have content comparable to similar jobs in Northern European regions, but the training for the Continental European region-based jobs occurs within companies rather than at universities. In other words, the two systems are delivering similar results, even if the pathways to them are very different.

| | GDP per capita (PPP adjusted) | Share of complex occupations | Share of highly educated | | | |
|--------------------------------------------------------------------|-------------------------------|------------------------------|--------------------------|--|--|--|
| Northern Regions | €29,292 | 30% | 30% | | | |
| Continental Regions | €31,357 | 23% | 24% | | | |
| Source: Eurostat – European Regional and Urban Statistics Database | | | | | | |

long-term unemployed in the first place, and why this problem is so difficult to resolve. As a result, GDP per capita should be almost unaffected by the level of longterm unemployed; the economic benefit of having these people in work would, a priori, be too small to matter. But the statistics tell us otherwise, indicating a close correlation between the rate of longterm unemployment in a region and the level of local prosperity.¹⁵ One possible explanation may be the ladder effect; if the lowest productivity workers stay off the working ladder, then more qualified people will occupy the lowest rung. If instead they get on the ladder, they force everyone else to move up one rung, in effect raising the productivity of the human capital already employed. See Chart 9 on page 14 for a comparison of the overall long-term unemployed situation in the four main regional classifications deployed throughout this study and see Table 3 on page 64 for a ranking of European regions based on the number of long-term unemployed as a percentage of overall unemployed.

the implications of this finding are fairly obvious. Regions that can attack the problems of youth unemployment - and long-term unemployment – stand to reap considerable gains, both in terms of overall prosperity as well as in terms of human capital utilisation. Successful regions have already focused on these areas, putting in place local schemes that help to employ and train the young and re-integrate the long-term unemployed into the workforce. Navarra is a case in point. Regional administrators there introduced a highly successful vocational training programme which did much to lower regional levels of youth unemployment and significantly improve the local skill base from which employers might draw. The results were impressive. Youth unemployment fell by nearly 3% between 2000 and 2007, and the proportion of skilled workers in the labour force rose by more than 33%, easily outpacing the Spanish national average of 26% in the same period. Likewise, Sofia - with the help of the United Nations Development Programme - launched a scheme to hire the long-term unemployed for regeneration of local building projects.

For the regional human capital manager,

15. The effect is not uniform. We found no statistically significant correlation between long-term unemployment rates and GDP per capita in denselypopulated or ex-communist regions. The effect was only observable for the 269 regions taken together as a whole and in thinly-populated regions.



Chart 9: Long-Term Unemployment is Most Widespread in Ex-Communist Regions

Boxes show the medium 50% of the regions, whiskers show the medium 80% within each group.

The programme particularly targeted local Roma, ethnic Turkish minority and other socially marginalised groups. In a nine-year period, it created 45,609 jobs and provided 12,475 people with vocational training. While many of the jobs were temporary, 10,471 men and women were reported to have found long-term employment after the project. For more on best practice from Navarra and Sofia, see the case studies that begin on pages 34 and 42, respectively.

Human Capital Productivity

The third dimension of the Human Capital Matrix is human capital productivity, or the efficiency and effectiveness with which active human capital is able to work. One way of measuring this would be to look at the rate of financial investment in a region and the returns that investment achieves - the resulting difference would serve as a simple proxy for the productivity of the human capital that was used to deliver that return. But this approach is deeply problematic. For starters, it is difficult to distinguish between long-term financial business investment and short-term capital flows (as Ireland and Iceland have recently shown). Second, the rate of financial return is hard to assess as companies often delay taxable profit, which is one of the variables we would most want to measure

for purposes of this indicator. And third, financial assets and financial returns are recorded poorly at the regional level.

However, we found a different variable which is an excellent proxy for expectations about the future success of regional business: the investment levels in research and development by both the public and private sectors, and the number of patents that flow from these investments. These are well recorded on the regional level, clearly attributable to regional activities and are closely tied to human capital investments. As proxies, R&D investment and patents do not create company or individual income directly. Rather, they indicate companies' and individuals' faith in the human-capital productivity of the region. And the effect – high investment in R&D and large numbers of patents existing side-by-side with high levels of regional prosperity - was observable across all four regional groupings. See Table 4 on page 66 for a ranking of European regions based on local investment in R&D and patent applications per one million members of the population.

What, then, are the lessons for a regional human capital manager? First and foremost, R&D and patents are only a

¹ Exclusing ex-communist regions ² Exclusing thinly populated regions

Source: Eurostat - European Regional and Urban Statistics Database

proxy for real productivity, so it is not enough to simply boost them. Rather, the indicator should be used to measure relative levels of success in other areas. namely, the region's ability to attract R&D and to build confidence in the local area as a business site. Put simply, the human capital manager should focus on improving the institutional, infrastructural and social quality of the economic environment and the integration of human capital creation with the productive process - and watch for rising R&D performance as an outcome of such institutional improvements. A case in point is Kista Science City outside of Stockholm, a locally developed science community that today is home to 8,500 companies and provides 67,172 jobs. Or Emilia Romagna, the Italian region, where local administrators created new networks of universities and employers to speed the adoption of innovation. Or West Midlands in the United Kingdom, which showed real ingenuity in creating new jobs to tackle contemporary social challenges. These initiatives are discussed in greater detail in the Emilia Romagna Case Study on page 24, the Stockholm Case Study on page 48 and the West Midlands' Case Study on page 53.

The Road Ahead

We began this essay by arguing that the times are evolving, tossing up new and everchanging social and economic challenges which policy makers today are sometimes ill equipped to address. But has the world really changed that much? In the Middle Ages, the main social institution was the village or manor. The average person would scarcely wander more than 20 kilometres beyond the place where they were born, unless their feudal lord called upon them to wage war or famine drove them out desperately in search of safer climes.

And yet, even in an age of globalisation, the village remains our principal point of contact with the outside world. It is the place where we raise our families, earn our livelihoods, build our homes, develop our social connections and invest the vast majority of our time. It is the first point of contact most people have with government, policy, regulation and public administration. And, precisely because so many of us now enjoy unprecedented choice in our decisions of where to live, it is still the place where policy makers should look first if they want to conceive and deliver the kind of improvements that will sustain our way of living for generations to come.

That is the central message of this policy brief. The challenge may indeed be global - but the solution is local. The evidence presented in these pages shows that human capital – and human-capital development - are areas where local policies can have the fastest and most direct effect. After all, nations are only collections of regions, many of them having less in common with their neighbour than with their peers in far-away lands. Nations may worry about human capital, but it is the cities and regions within them that do the most to determine how much of it there is, how effectively it is deployed and how much value it will be able to create.

Case Studies

As part of this study, the Lisbon Council visited seven European regions – Bratislava, Emilia Romagna, Helsinki, Navarra, Sofia, Stockholm and West Midlands – to learn about local initiatives and challenges in the human capital field. In each city and region, we applied the three vectors of the Human Capital Matrix, described on page 6, to local conditions. The results served as an important validation of the research presented in the first part of this paper, and offered unique insights into the human capital situation of the regions and cities themselves. The recommendations and views expressed in these case studies are those of the authors alone.

The Human Capital Challenge: Case Studies of Seven European Regions

As part of this study researchers analysed the human capital situation in seven vastly different, geographically dispersed European regions.



'We still have a lot of memorisation and not enough creative thinking.'

Ivan Miklos, minister of finance, Slovakia

Bratislava

Overview

- Bratislava's impressively high gross domestic product per capita (PPPadjusted) places it in the No. 10 position among the European Union NUTS2 regions (See Table 5 on page 68 for the full ranking). At €39,900, GDP per capita comes in just below Vienna (€40,600) and Stockholm (€41,000). Interestingly, there are no other Slovak regions before the No. 219 position in this ranking. Indeed, Bratislava's GDP per capita is 96% above the national average.
- Bratislava attracts the majority share of Slovakia's foreign direct investment. The region gathered 74% of the nation's foreign direct investment in 2009.¹⁶ Its attractiveness can be attributed to three main characteristics: 1) its convenient location allows it to serve both Western and Eastern Europe, 2) the tax system, which is based on a flat rate of 19%, simplifies business transactions, and 3) the level of educational attainment of its workforce (29%) – measured as the share of individuals with a tertiary degree – is noticeably higher than the national average (17%).
- Women, youth and elderly (aged 55-64) are utilised well. Compared to the figures for women and youth, which place Bratislava in the top 10% of all EU NUTS2 regions, there may be some room for improvement in elderly employment as the regional performance is lower than 24% of the EU NUTS2 regions.
- Bratislava posts figures in the upper echelon of the EU NUTS2 regions in

nearly every category except innovation. Bratislava's level of innovation surpasses the rest of the nation and other eastern European regions. However, it fares worse than 54% of the EU NUTS2 regions. This suggests the potential for significant returns to investment in innovation.

Bratislava is one of the wealthiest regions in Europe in terms of GDP per capita, PPP-adjusted. What policy areas can be addressed to sustain its position among the other European NUTS2 regions in the long run?

Human Capital Endowment

A large share of Bratislava's workforce is young, highly educated and has access to a relatively high percentage of demanding jobs. However, the quality of education and proximity to very attractive capital cities could pose problems for future regional growth.

Bratislava's share of workers with a graduate degree (29%) sets it apart among the rest of the nation and all of Eastern Europe. In fact, this figure raises the national average of 17% as the next closest region in Slovakia is Western Slovakia (Západné Slovensko) with 12.6%. While it is not the foremost leader among the rest of Europe, it fares well compared to the European average of 23%. This figure places it in the 78th percentile of all EU NUTS2 regions. In order to vie for a top spot, Bratislava would need to improve by 19 percentage points to overtake the leader, Walloon Brabant (48%) (See Table 6 on page 70

^{16.} All figures refer to the NUTS2 region Bratislavský Kraj (SKOI). FDI data is our elaboration on data from Slovak Investment and Trade Development Agency (SARIO), FDI Inflow Outflow 2009.

'There is the potential problem of "brain drain," where many students and highly-skilled people go to Prague or elsewhere in the Czech Republic due to language similarities. Prague poses a higher threat of brain drain than Vienna.'

Anton Marcincin, economist for the World Bank in Slovakia and Slovenia

for a ranking of NUTS2 regions by educational attainment).

It appears Bratislava will be able to take advantage of its educated population for some time as the share of elderly aged 65 and above is only 17% of the active population (15-64).¹⁷

According to the ISCO distribution - which measures the share of highly demanding positions in the region -27%of all jobs in Bratislava require a high level of skill. This percentage exceeds the national average (17%), as well as the European NUTS2 average (22%) and retains a place in the 83rd percentile of the EU NUTS2 regions.¹⁸ The large gap between the quality of the jobs available in Bratislava and the rest of the country provides an explanation of the attractiveness of Bratislava for natives of other Slovak regions, which was mentioned by several people we interviewed in the region. However, a majority of the jobs are classified under "medium" (47%) corresponding to the level of medium educational attainment in the majority of the working population (64%).¹⁹

According to local accounts, the quality of education is an area that could use improvement. Slovakia's Finance Minister Ivan Miklos described one issue: "We still have a lot of memorization and not enough creative thinking."20

The proximity to Vienna and Prague represents an additional potential threat to maintaining Bratislava's stock of human capital. There is a risk that individuals will migrate in order to seek higher wages elsewhere.

Human Capital Utilisation

Bratislava utilises women and youth well. Elderly employment surpasses the national average, but when compared to the European average could use some improvement. Longterm unemployment figures are poor.

Bratislava utilises vulnerable groups, such as women and youth, well. The regional youth unemployment rate is impressively low at 8%. This is notably below the national average (19%) and the Eastern European average (18%). Only 12% of the EU NUTS2 regions can claim a better result.

The female employment rate is 11 percentage points above the national average and surpasses the Lisbon Strategy goal of 60% with 73% of women employed. This is only 10 percentage points lower than the best performer of this category among EU NUTS2 regions: the Aland Island in Finland employs 83% of its women. These figures are even more encouraging considering the low share of women and men employed under parttime contracts. Only 4.35% of women and 1.85% of men have part-time contracts.

Elderly utilisation stands at 54%. Although decidedly higher than the national

For a comparison, in 2009 Emilia Romagna has a share of over 65 equal to 35% of the active population (15-64), Navarra is equal to 26%, Stockholm 21%, Sofia 20%, Helsinki, West Midlands 24% (data from 2008), Helsinki 23%.
 Measured as the average of Bratislava's 4 EU NUTS2 regions.
 ISCO and ISCED Eurostat data from 2008.
 Sector Disclose Devices and the average of Bratislava's 4 EU NUTS2 regions.

^{20.} Carter Dougherty, "In Slovakia Education Becomes Growth Engine," The New York Times 25 March 2005.

'Compared to traditional sectors, the automotive industry is characterized by faster changes and requires more analytical work.'

Jan Lešinský, academic director, STU

average (38%), Bratislava remains in the 76th percentile of all EU NUTS2 regions and farther still from the leading European regions. Bratislava would need to increase this figure by 19 percentage points to catch up with top performing Smaland and islands in Sweden. The region's exit age exacerbates these figures. Bratislava follows the national trend by exhibiting the shortest working life among all EU NUTS2 regions with an exit age from the job market of 58.7 years old. Over time, the early average retirement age will inevitably reduce the total number of hours spent working. Currently total hours worked are still considerable and lie above 89% of EU NUTS2 regions. Employees in Bratislava work 69% of the available hours. The room for improvement is more evident if we consider 20% of Eastern European regions post higher figures for total hours worked.

At 54%, Bratislava records the lowest longterm unemployment rate among all Slovak regions and is about 30% lower than the national average. However, this performance diminishes when compared to the other EU NUTS2 regions. In fact, it appears to be a threat to regional growth as only 21% of the other European NUTS2 regions have a higher long-term unemployment rate.

Human Capital Productivity

Innovation should be a top priority for future regional growth.

Our innovation indicator – based on public R&D expenditures, business R&D expenditures, and EPO patents – ranks Bratislava above 82% of other Eastern European regions. This impressive performance is severely reduced when compared to all European NUTS2 regions as it falls behind 54% of the regions. This assessment is consistent with the Regional Innovation Scoreboard which ranks Bratislava's innovativeness as "average" on a scale of low, average, medium high and high. The other Slovakian regions score as "low" innovators.

Government expenditure on R&D is particularly detrimental to the ranking as only 0.44% of GDP is allocated to R&D through government mandate. Although expenditures by universities have increased over time, this contribution is still insignificant at 0.26% of GDP. Possibly the most worrisome figure is that of private businesses and enterprises. Expenditures in R&D as a share of GDP have decreased from 0.39% in 2002 to 0.14% in 2007.

Best Practice from Bratislava: MBAs and the University of the Third Age

MBA automotive sector

Bratislava and its surrounding regions produce more than four million cars every year.²¹ While Bratislava has a sufficient number of graduates, the carmakers and their suppliers have trouble filling managerial positions with candidates of appropriate experience and skills. A new MBA solves this challenge.

21. Slovak University of Technology, Professional MBA – Automotive Industry.

'The MBA gave me a helicopter view inside the factory and made me able not only to produce information, but also to use that information, to connect the information together and to give the complete story.'

Participant in the automotive MBA master edition started in March 2009

It was the summer of 2006 when Jan Lešinský, academic director of the Slovak University of Technology in Bratislava, began to apply himself to finding a solution. He also intended to discover how university teaching time should be structured to meet the real needs of the automotive industry. Together with the Automotive Cluster Vienna Region, which was looking for a cooperative partner, he decided to conduct a survey in 17 automotive companies in Slovakia and Austria.²² The aim was to better understand the skills and expertise required of the ideal automotive manager or technician. The answers to the surveys represented the basis for setting up a professional MBA programme for the automotive industry, which was open to recent graduates as well as candidates with work experience. The MBA, tailored on the companies' surveyed needs, is a part-time Master requiring four days a month and ten hours per day.²³

This initiative is likely to create value for both participants and employers. Participants are more likely to find a job aligned with their skills and training and feel more prepared to enter the job market. Employers obtain personnel with the right skills to raise the companies' productivity and facilitate growth.

University of the Third Age

As a person's productivity is likely to start decreasing after a certain age, the ageing process could lead to a decline in macroeconomic productivity. However, such a pattern is not inevitable.²⁴ The establishment of the University of the Third Age at Comenius University in Bratislava in 1990 is a good example of a future-oriented strategy in this regard. The UTA offers a three-year programme for people over 50. During the first year the students are offered basic lectures in each of the offered disciplines. The courses of study range from pharmacy to economics, from computers and information to law. Second and third year students can enrol in specialised fields. Moreover, in addition to lectures and seminars, the University organises other activities to complement the pedagogical process such as: excursions, panel discussions, visits to other universities, informal meetings, visit to theatres and thematically conceptualised trips. The interest in the programme has increased over time. The number of senior students enrolled went from 235 in the academic year 1990/91 to more than 1800 in the academic year 2009/2010.²⁵ After completing their study the students are given certificates.

This initiative helps the elderly maintain an agile mind and update their skills. Both characteristics represent necessary pre-conditions to promote long-term utilisation of elderly in the job market without decreasing their productivity and competitiveness.

^{22.} The overriding objective of the ACVR activities is to concentrate automotive expertise in the Vienna Region and to initiate innovative projects, in order to The overline of the Area watching to be offended and the value creation and innovation level of the partner enterprises.
 Slovak University of Technology, *Professional MBA – Automotive Industry*.
 Slovak University of Technology, *Professional MBA – Automotive Industry*.
 See Centre of Continuing Education, University of the Third Age 2010/2011 (Bratislava: University of the Third Age, 2010).

'I feel I am appreciated and not a burden on society. Instead, I can be useful and also teach something to my nephews or people in general.'

Student at the University of the Third Age, Comenius University

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help Bratislava develop and deploy its human capital.

Bratislava's overall performance is exemplary compared to the other regions of Slovakia and all of the Eastern European regions. However, public and private R&D expenditures should be increased or else the region risks losing its competitive edge in the near future.

Fostering innovation, increasing cooperation between universities and businesses and youth entrepreneurship is critical.

Given the attractiveness of the region for foreign businesses the region could create value by emulating Stockholm's creation of Kista (See the Stockholm Case Study, which begins on page 48). The creation of a business cluster can reduce obstacles to innovative efforts. The lack of financial resources is one example. Additionally, closeness between universities and businesses could facilitate the alignment of educational curricula with the needs of employers. This would eventually smooth the hiring process for high skilled positions in their companies. The Automotive MBA is an interesting and valid project. It can serve as a lighthouse project to lead the way for tailoring other educational paths to businesses' needs. Increasing internship opportunities during studies could be an additional method to enhance students' preparation for entering the job market.

Encouraging youth entrepreneurship could be a way to retain graduates while simultaneously maintaining and enhancing the competitive strength of an economy. The entrance of a new firm into a particular market forces the incumbent firms to react by improving efficiency or introducing innovation.²⁶ A best practice example for fostering youth entrepreneurship is the creation of the Aalto society in Helsinki (see the Helsinki Case Study, which begins on page 28).

Increase the working life of the population.

The University of the Third Age is a beneficial initiative because it assists elderly in maintaining a youthful mentality that is a pre-condition for productive utilisation of this demographic group. This also increases the incentive for employers to hire and employ elderly longer. Additional policies should be adopted that aim to increase retirement ages.

^{26.} Isabelle de Voldere, Eva Janssens, Jonas Onkelinx, Leo Sleuwaegen, The Creative Economy Challenges and Opportunities for the DC Regions, (Ghent: Flanders District of Creativity, 2006).

Emilia Romagna

Overview

- Emilia Romagna is among the wealthiest regions in Europe. Its GDP per capita (PPP-adjusted) of €31,900 is 27% above the national average and has steadily increased over the past 10 years. This puts the region in the 88th percentile of all EU NUTS2 regions. It is flanked by Cataluña (85th percentile) and Antwerp (91st percentile) and among our sample of regions it approaches Navarra (€32,900 per capita) and Helsinki (€33,800 per capita).
- However, compared to these regions, educational attainment in Emilia Romagna is relatively low. Only 15% of its working population has engaged in higher education. This figure is not only significantly lower than regions with similar GDP per capita, but it is also low when compared to all of the EU NUTS2 regions. Only 20% of the cases present figures lower than Emilia Romagna.²⁷
- Emilia Romagna's share of demanding jobs (18%), measured by the ISCO distribution, is lower than the Italian average (19%) and the EU NUTS2 average (22%). This places the region in the 37th percentile of all European NUTS2 regions.
- Youth unemployment and female employment place the region in the upper-middle of all EU NUTS2 regions, but the elderly employment figure remains in the lower echelon. Compared to the EU NUTS2 regions, Emilia Romagna is in the 76th percentile for youth unemployment, 58th percentile for female employment and the 31st

percentile with regard to elderly employment.

What regional dynamics enable Emilia Romagna to post such high GDP figures in the face of medium-level educational attainment of its workforce?

Human Capital Endowment

Matching the needs of local industries by requiring more specialised technicians than graduates, means lowering the educational attainment level of the region's working age population. Although learning on the job holds great importance, the high quality of education provided suggests that the region has huge potential in terms of its workforce. If tapped, an educated workforce could boost the productivity of the region.

While the performance in terms of ISCED share is weak, the quality of education in Emilia Romagna is high. According to the 2006 PISA survey Emilia Romagna's performance is above the OECD average, with 510 vs. 500 points scored and well above the national score of 475.

The region's ability to match the needs of its industrial sector with the supply from its educational institutions is remarkable. According to the ISCO distribution, a majority of the jobs are classified under "medium" (52%) and thus correspond to the educational attainment level of the majority of the population. Businesses in the region do not necessarily need

27. For a comparison: Cataluña and Antwerp have an ISCED share twice as high as Emilia Romagna.

graduates. Graduates are too expensive and often too far from the entrepreneurial tradition of the region's businesses. The size of the region's SMEs does not enable them to fully exploit the potential of a graduate. Instead, businesses usually employ young, specialised technicians, coming from the many professional schools of the region. Technicians who will end up working as middle-managers, thus testifying the profitability of their occupations.

The key in Emilia Romagna is the role of learning on the job. Professionals enter businesses and basically complete and expand their education there, tailoring it to the needs of the enterprise. Says Chiara Bentivoglio of the Banca d'Italia: "Our small companies produce niche goods and require youth with work experience. Learning on the job has a great importance in these realities."

Human Capital Utilisation

Although the region lacks highly qualified human capital, it utilises women, youth and immigrants well. There is room for large improvements in elderly employment figures.

Emilia Romagna well utilises vulnerable groups, such as women and youth. The female employment rate is well above the national average and with 67% of women employed surpasses the Lisbon Strategy goal of 60%.²⁸ The region's tradition of providing child care facilities compliments this figure. Emilia Romagna boasts the highest number of kindergarten places of any region in Italy.²⁹ The utilisation of youth in the region is also notable. With an 11% youth unemployment rate, only 24% of the EU NUTS2 regions can claim a lower number.

Figures for elderly performance are low. Emilia Romagna lays claim to one of the highest proportion of elderly to working age populations in Italy.³⁰ As this trend does not show signs of changing in the immediate future, elderly workforce participation is key to maximizing human capital utilization in the region. Currently, only 38% of elderly participate in the regional workforce. Considering about 30% of the European NUTS2 regions perform worse, this suggests there is significant room for improvement. Despite these figures, the region's total hours worked remain above the European average, placing Emilia Romagna in the 64th percentile.³¹ This result is partly due to the region's proactive efforts to increase the integration of migrants who make up a large share of the regional population.³² Not only do immigrants contribute to the local economy by performing jobs which may be considered unappealing to native Italians, they offer an additional benefit. The low average age of migrants (31 versus 45 in the autochthonous population) may help alleviate the issues arising from an ageing population.

^{28.} First region in Italy for female employment; national average: 46.6% (2007).
29. Emilia Romagna also shows best results among Italian regions both for the number of children attending kindergartens (24% of children between 0-2), and for the percentage of municipalities offering childcare services (81.8% of the municipalities, which account for 96.8% of the children in the region). ISTAT, L'offerta comunale di asili nido e altri servizi socio-educativi per la prima infanzia, p.3, 2010 (http://www.istat.it/salastampa/comunicati/no_calendario/20100614_00/testointegrale20100614_odf)
30. The elderly dependence ratio, which indicates the number of elderly (65 and over) per 100 people in the active population, is equal to 34.7 against a patient aucrose of 20.7. This indicates that in Employment of elderly (65 and over) per 100 people in the active population, is equal to 34.7 against a patient purchase of 20.7. This indicates the number of elderly (65 and over) per 100 people in the active population, provide the providence provide more.

national average of 30.7. This indicates that in Emilia Romagna 34.7% of the active population are over 65 years old. This is 4 percentage points more than in Italy as a whole. *Indicatori demografici* 2009, ISTAT, February 2010 31. The European average refers to the average performance of the European NUTS2 regions.

^{32.} In 2008, 8.62% of the population were immigrants

Human Capital Productivity

A strong focus on innovation and the ability of local businesses to compete on international markets through quality and niche products balance out rather weak educational attainments and allow the region to be among the wealthiest in Europe.

The Regional Innovation Scoreboard classifies Emilia Romagna as a mediumhigh innovating region. This is consistent with our innovation indicator – based on public R&D expenditures, business R&D expenditures and EPO patents – which rates Emilia Romagna higher than 79% of the European NUTS2 regions. The industrial sector is permeated by small businesses which represent the engine of economic expansion and wealth creation. Small businesses – family-run or

organised in cooperatives - are centres of employment, development and learning. They are the locus of working and social life.³³ The regional productive system is characterised by some important clusters composed mainly of SMEs, but also larger companies or co-operatives. The main clusters are automotive, industrial machinery, agricultural machinery, engines, biomedical and precision mechanics, shipbuilding, construction, agro-food and fashion. World-leading brands in the automotive sector, such as Ferrari, Ducati, Lamborghini and Maserati, are located in Emilia-Romagna Region and represent the best-known regional champions. The region maintains its competitive edge on international markets through high quality and niche products.

Best Practice from Emilia Romagna: Research and Social Integration

Regional Programme for Industrial Research, Innovation and Technology Transfer (PRRIITT)

In 2002, Emilia-Romagna adopted a law aimed at facilitating and supporting the collaboration between enterprises and the research system and promoting the qualification of human capital in universities, research centres and enterprises in the research, innovation and technology transfer fields. In 2003, the Productive Activities Office of the Emilia-Romagna regional government started the Regional Programme for Industrial Research Innovation and Technology Transfer (PRRIITT) to implement the law. The High Technology Network was created, composed by a number of specialised industrial research laboratories and innovation centres dedicated to applied research based on interests, needs and technology transfer.

The High Technology Network, organised into thematic technology platforms, has evolved towards the so called Technopoles, ten research facilities hosting the existing 34 industrial research laboratories of the High Technology Network of Emilia-Romagna.

^{33.} In June 2009, there were 5,545 cooperatives with 175,554 people working (8.98% of the working population of individuals aged 15 years and over in the whole region). Data from Eurostat and II sole 24 ore, COOP più forti della recessione, January 2010.

'We have improved a lot in the last years. We have more workers, more families, more long term residence permits...it means that we start to have a history of successful migration.'

Andrea Stuppini, head of social policy services for the acceptance and integration of immigrants

It is organised in 43 different locations. Currently 1600 researchers are at work, of which 560 are new staff, committed to finding solutions for companies in the region, to transfering technology and knowledge and to translating them into innovative products and processes. The Technopoles are oriented towards the most significant industries in the region: high-tech mechanics, food, buildings, energy and environment, navigation, biotechnologies, ICT and multimedia. The total commitment for this regional research infrastructure amounts to \in 137 million (of which \in 94m come from the ROP ERDF), which, together with the contribution of universities and research institutes (\notin 90 million) and from the local authorities (\notin 14 million), brings the total investment to \notin 241million for the 2007-2013 programming period.

Regional programme for the social integration of immigrants

Emilia Romagna has the highest international net migration in Italy: in 2009, 10,5% of the population came from other EU or non-EU countries compared to a national average of 7%.³⁴ Migration implies positive human capital externalities for the receiving region only if it is combined with social and cultural integration. In recognition of this, the region took action in 2000 by partnering with local authorities. As a result of their combined efforts, they launched a specific regional programme for the social integration of immigrants. The aim of this programme was to curb discrimination of migrants, raise the trust level in the community and foster growth. Emilia Romagna adopted regional law 5/2004 which was the first system-wide reform of the legal system with regard to immigration issues to be approved in Italy. In February 2006, the regional government complied with the law by adopting a three-year programme 2006-2008 to identify actions that would increase the social inclusion of foreigners. This was followed in 2009 by the launch of a second three-year programme. The priority action-items identified by the programmes to foster immigrant integration focus on language skills, antidiscrimination and cultural mediation measures. It introduced 40 indicators which measure the integration level of foreigners in the region to monitor the program and its results.

The figures show evidence of improvements between 2004 and 2008 along most of the indicators. The graduation rate of foreign students in high school increased 13%, the gap between graduation rates of foreigners and Italians in high school reduced to one-eighth and the number of foreign children in socio-educational services (0-3 years) increased by 32%.³⁵ These results highlight the ability of the region to improve equality, skills and access to services for migrants. These qualities are vital to promoting a diverse, socially cohesive community where the benefits of immigration flow more freely and quickly.

^{34.} Osservatorio regionale sul fenomeno migratorio, L'immigrazione straniera in Emilia Romagna, 2010 and local interviews 35. Data from Osservatorio regionale sul fenomeno migratorio

Recommendations

Evaluating the performance of the region through the human capital dimensions allows us to focus on the main challenges and provide concrete policy recommendations that could help Emilia Romagna develop and deploy its human capital.

Despite having reached an advanced level of development, the region lags behind with respect to the expected level of education. This should be seen as an opportunity to improve the region's competitiveness, rather than an obstacle.

Increase the human capital endowment. The region has the potential to increase its human capital stock by increasing the educational attainment level of its workforce. This would translate into higher productivity for businesses. In this respect, the West Midlands approach of showing businesses the benefits of graduates within the company should be a good example for Emilia Romagna (see the West Midlands Case Study on page 53).

It will be difficult to increase the stock of human capital without adjustments in the skill requirements of employers.

Stress the approach promoted within the Technopoles project which aims at sharing knowledge, skills and persons, with an interdisciplinary logic that needs to be valorised. This will lead to a better share of resources between businesses.

Increase the cooperation between universities and entrepreneurs in order to better reach the regional development objectives and to promote a stronger knowledge based economy. Universities' commercialisation of products and collaboration of businesses with research institutions is still low. A good step forward is represented by SPINNER 2013, the programme launched by Emilia Romagna to support individuals interested in developing innovative business ideas in collaboration with universities, research centres and enterprises³⁶. Emilia Romagna could also benefit from referencing the Kista approach in this respect (see the Stockholm Case Study on page 48).

The large share of immigrants working in low-skilled jobs for low wages represents an additional constraint on the region's attempt to increase the quality of jobs because they increase the comparative advantages of medium-low technology sectors.

Attract more qualified migrants. Despite the lack of a full coverage statistical system for these figures, Emilia Romagna appears to share some national trends by attracting immigrants without sophisticated competencies or high educational attainment. The region should increase its efforts to attract more qualified immigrants so that beyond the increase in the fertility rate, migration could also produce a growth effect on wealth where, on average, a rise in the human capital level increases GDP per capita.³⁷

36. Spinner 2013 is an action of the Regional Operational Programme (ROP) 2007-2013 of the European Social Fund (ESF), Axis IV Human Capital, Objective 2 "Regional Competitiveness and Employment" supported by the Regional Department for Education, Professional Training, University and Research, Labor of Emilia-Romagna Region

^{37.} Tito Boeri, Immigrazione e crescita (Milan: Fondazione Rodolfo de Benedetti, 2010).

According to a survey of 41 Italian universities (where 91% of foreign PhD students are enrolled) the main obstacles discouraging students from studying in the country are red tape and low English proficiency even among the public administration.³⁸

Emilia Romagna should prepare for the eventual aging of its population by improving the utilisation of its elderly workforce.

Deal with demographic change. In order to counter the negative effects of an ageing population, the region should implement measures promoting longer work lives. These measures should provide incentives to employers to hire older workers and motivate the elderly to work longer. Promoting life-long learning is fundamental to maintaining high elderly productivity. Highly educated workers have considerably higher chances to remain employed at older ages than those with lower education. Furthermore, frequent training and mobility during one's working life reduces the chances of unemployment and inactivity later in life.³⁹ If a system of life-long learning functions well, elderly employees could serve as mentors for youth entering their companies. This would enable elderly employees to transfer knowledge and experience, speed up onthe-job training and simultaneously reduce their incentive to retire early by lightening their workload.

The survey was carried out by the Fondazione Rodolfo de Benedetti between April and May 2009.
 Jaap de Koning, Incentives to Take up Work and Remain at Work Longer (Rotterdam: Erasmus University, 2005).

Helsinki

Overview

- Helsinki is a top performer in terms of its highly educated workforce and share of demanding, high-skilled jobs. With 40% of its working population engaged in tertiary education, Helsinki exceeds the national average (33%) as well as the European NUTS2 average (23%) and retains a place in the 98th percentile of all NUTS2 regions.⁴⁰ According to ISCO, 33% of Helsinki's jobs are classified as high-skilled positions compared to 22% in the EU NUTS2 regions.
- Utilisation of human capital among different demographics reveals inconsistencies. While Helsinki remains in the highest percentiles for its female employment rate (97th) and elderly (aged 55-64) employment rate (14%) is higher than 45% of the EU NUTS2 regions. Compared with other densely populated regions, this number fares worse as 56% have lower youth unemployment.
- Innovation aids Helsinki's regional competitiveness. Helsinki ranks No. 5 and No. 6 out of 268 European NUTS2 regions in the Regional Competitiveness Index for innovation and overall competitiveness, respectively. This is consistent with our indicator which places Helsinki in the 95th percentile among densely populated regions.
- Helsinki's GDP per capita (PPP adjusted) is strong overall; however, comparing figures to other densely populated regions reveals some room for improvement. GDP per capita from

2007 shows a strong overall performance at \in 33,800. This places the region in the 91st percentile of all EU NUTS2 regions. However, the figure falls to the 76th percentile when compared to similar densely populated regions.

Helsinki is well endowed with educated human capital and highly demanding jobs and is considered one of the foremost regions in terms of innovation. What policy areas can be addressed to raise GDP per capita to the level of other top performing regions?

Human Capital Endowment

Helsinki has a high rate of tertiary education and large share of high-skilled jobs.

Helsinki boasts one of the most educated working populations in Europe and has the highest share in Finland as a whole. Forty per cent of its workers have taken part in post-secondary education compared with a national average of just 32.7%. This puts Helsinki in the 98th percentile of all European NUTS2 regions and not far behind the top performer, Brabant Wallon (48%). According to the ISCO distribution - which measures the region's share of highly-demanding occupations -33% of the positions available to these skilled workers are highly-demanding jobs. Compared with an EU NUTS2 regional average of 22%, this suggests economic conditions in Helsinki are quite favourable.

40. All figures refer to the NUTS2 region Etelä-Suomi (FI18).

'We are a small country, therefore it's important to gain the best from what we have focusing on education. We have good skills, good people to be hired. It's not about how clever Finns are, but about how well the society is able to educate the population.'

Tatu Laurila, CEO, Greater Helsinki Promotion Ltd.

Not only does Helsinki have a high share of educated workers, their overall educational attainment level is high as well. The number of graduates pursuing PhD's has doubled since 1994 (from 315 in 1994 to 671 in 2009).⁴¹ Locals attribute this to the following factors:

- 1. Lack of time limits. Traditionally, there were no time limits set for students to complete a PhD in Finland. There was also a lack of monitoring of dissertation research. This meant students who could not devote the majority of their time to studies were able to passively pursue a degree without the pressure of finishing within a certain number of years or showing progress in their research. Thus, part-time students entered and remained in the educational system while new students added to their numbers. Students received lifetime status as PhD students until their studies were completed. Maintaining status was very easy - even when not actively researching. During the past 4-5 years, there have been some attempted changes (e.g. a tracking system that monitored students' progresses). "The aim is to finish in four years with a full-time study," says Dr. Kirsi Phylato, senior researcher at the Research and Development Center for Higher Education.
- 2. Absence of monetary obligations. Introduction of tuition fees has recently been discussed, but was opposed by students and student unions. The low cost of education reduces barriers to entry and increases the number of

students who can afford to pursue a PhD. Says Anna Parpala, project manager at the Centre for Research and Development of Higher Education: "A reason that explains Finland's high number of PhD students is the absence of time limits and fees."

- 3. Education as a cultural and societal priority. More than one interviewee mentioned that the pursuit of higher education is revered in Finnish society. To that end, the Ministry of Education set targets for PhDs and gave a higher weight to PhDs when determining how to distribute government funding. Universities responded by increasing the number of PhD programmes offered. "In the last 10-15 years, the Ministry of Education has given substantial resources to universities to increase the number of PhD students and has decided the exact amount of PhDs to reach in each discipline," says Ulla Maija Forsberg, vice rector at the University of Helsinki. Locals also expressed the importance of maximising the productivity and quality of the country's inputs – essentially, making the most out of available resources.
- 4. Market value and job security. PhD holders in Finland are not restricted to careers in research at universities, but are commonly employed in the private sector. The demand for PhD graduates is evident in that firms such as Nokia have formed their own programmes and few graduates remain unemployed after receiving their degree. "There is almost no unemployment among PhD

^{41.} The data for Helsinki region have been obtained by aggregating the data of eight Universities in the region: University of Helsinki, Helsinki University of Technology, Helsinki School of Economics, Swedish School of Economics and Business Administration, University of Art and Design, Sibelius Academy, Theatre Academy and Academy of Fine Arts. Ministry of Education, Finland.

'Childcare is provided by the municipalities, prices are income dependent and there are enough places for all children.'

Ulla-Mari Karhu, expert on social environment, welfare and planning, Uuismaa Regional Council

graduates – around 1%. Researchers are quite commonly used as experts and consultants in different fields," says Dr. Kirsi Pyhalto senior researcher at the Research and Development Center for Higher Education.

Human Capital Utilisation

Women's potential is well used and total hours worked by the labour force are above average. However, late labour market entry combined with a relatively early average retirement age reduces the total number of years Helsinki can utilise its highly educated workforce.

The Helsinki region employs 77% of its female labour force. This places it in the 97th percentile of all EU NUTS2 regions and in the 98th percentile of other densely populated regions. This is consistent with, and even slightly above, the national average of 74% with Aland at 83% and Helsinki putting up the next highest figure. Locals tend to partially attribute this to an adequate availability of childcare.

In contrast to female employment figures, youth unemployment rates in Finland are high. Helsinki's youth unemployment comes in at 14%. While this is notable because it is lower than the national average of 19%, it remains slightly higher than other urban regions. Whereas Helsinki enjoys a top spot in performance for women's employment figures, it comes in at the middle of the pack for youth unemployment rates. 56% of other densely-populated regions manage to employ a higher percentage of their working age youth. Helsinki performs quite well in terms of elderly (aged 55-64) employment. With an employment rate of 59%, this places it in the 89th percentile of all EU NUTS2 regions and in the 83^{trd} percentile when compared to other densely populated regions.

Although the stock of human capital is quite high in Helsinki, and in Finland as a whole, the amount of time spent working by this stock is reduced by late entry (reflected in high youth unemployment rates and long duration of studies) and early retirement. The median age for graduation from tertiary education in Finland is nearly 27 and the average retirement age is 62 years (quite low when compared to the EU NUTS2 regions) putting Helsinki in the 41th percentile of all regions.⁴² These figures limit the benefits that such a highly-educated population can provide.

Human Capital Productivity

Prioritising innovation and research in both the private and public arena enhances Helsinki's productivity. Concentration of financial capital among large corporations in this area may hinder the potential of smalland medium-sized entrepreneurs.

Helsinki is a leader in innovation among its European and densely-populated counterparts. Our innovation indicator places it in the 97th percentile of all European NUTS2 regions. Similarly, the Regional Competitiveness Index for innovation places Helsinki in the No.5 position among 268 regions. This success is partly driven by public expenditure, but

42. OECD, Highlights From Education at a Glance 2010, (Paris: OECD, 2010).

'Not only is the private share [of R&D expenditure] very high, the state's participation is also quite considerable. Companies see that it's very fruitful to invest in R&D and follow the example of Nokia in directing funds towards research.'

Olli-Pekka Hatanpää, planning manager, Uusimaa Regional Council

also by the efforts of private corporations. Further evidence of Helsinki's emphasis on innovation can be witnessed by partnerships and cooperation between universities, research centres, and the public and private sectors. The triple or quadruple helix systems – which are joint ventures that attempt to facilitate user-driven innovation – are good examples of such partnerships. Universitylevel focus on research, competition for top students and international reputation also speaks in favour of the local priorities for innovation and growth.

While Helsinki's innovative prowess is well established, there may be room for growth through further support of small- and medium-sized entrepreneurs. Locals have suggested that these SME's lack venture capital and foreign direct investment. Efforts to increase funding in these areas could increase Helsinki's productivity.

Best Practice from Helsinki: Entrepreneurship and Higher Education

Aalto Entrepreneurship Society

Encouraging youth entrepreneurship became a regional goal after the recession of the early 1990s because it was believed that entrepreneurship helps create jobs and economic growth.⁴³ However, even for well-qualified students, entrepreneurship remains less attractive than traditional positions in large corporations.⁴⁴ To gain ideas on how to change this some universities included traveling to other countries in order to learn from their entrepreneurial culture.

On one of these trips in 2008, a group of students from the Helsinki School of Economics traveled to the United States to examine how entrepreneurship was supported by American educational institutions. Upon return, their vice-rector suggested doing a concrete project in lieu of the traditional summary paper. Based on this suggestion, the group established the Aalto Entrepreneurship Society in 2009. They began by arranging events with experienced entrepreneurs and fellow students who wished to develop their business ideas. The society gradually expanded and increased the number of events offered including meetings with more entrepreneurs as well as "pitching" competitions to convince others of their business ideas. Major initial obstacles identified by members of the Aalto society included limited access to public funding and support from the university. After presenting these results, they eventually received support from the Design Faculty and later the rector of Aalto University granted the society the use of a 700 square meter Aalto Venture Garage. The society has seen an increase in student interest in entrepreneurship which it mainly tracks via its Facebook group. Current estimates place membership at 5,000 students and around 400 students usually attend events. Attendance at meetings has also fostered the development of students' startup projects.

Antti Pelkonen, The Finnish Competition State and Entrepreneurial Policies in the Helsinki Region, (Helsinki: University of Helsinki, Department of Sociology, 2008).
 Tommi Pukkinen, Jarna Heinonen, Anne Kovalainen and Pekka Stenholm, Global Entrepreneruship Monitor: Finnish 2008 Report (Turku School of Economics, A 1/2009).

'The strategy of the University of Helsinki focuses on top research, interaction with society, internationalisation (e.g. attraction of foreign staff, researchers, and students), and visibility on a local and global level.'

Ulla Maija Forsberg, vice rector, University of Helsinki

One example is a project formerly called Cityard – currently known as Heimoi. It is a location-based web service that engages local activities in the neighbourhoods of the city.

Government Targets for PhD's

In 1987, the OECD released a report concluding that the postgraduate educational system in Finland was poorly organised.⁴⁵ In 1989, the Ministry of Education responded by forming a Postgraduate Education Committee to draft a new plan for researcher training. The committee submitted recommendations to universities citing the need to double PhD output and to form special programmes to improve training in all faculties.⁴⁶ Shortly after, in the early 1990's, Finland faced an economic decline characterised by 15% unemployment and declining industrial output.⁴⁷ In 1994, the Academy of Finland sought to increase educational opportunities for youth who had become unemployed during the economic crisis and simultaneously recommended that graduate schools, a new form of post-graduate programme, be implemented with funds from the state. Reforms were put in place that adjusted the way institutions were funded and set their budgets. This involved degree targets being set by government agencies (which gave preference to PhDs), but allowed individual universities to allocate resources according to their own prerogative.

This case represents an effective policy intervention to increase the quality and attainment levels of higher education. As a result of the programme, the number of PhD's awarded increased from 402 in 1989 to 1,527 in 2008. The number of people employed in research and development fields increased by more than 50% from 1991 to 2001. Additionally, PhD students enrolled in graduate school post-doctoral programmes obtain their degrees at an earlier age than those from other forms of PhD programmes.

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help Helsinki develop and deploy its human capital.

Overall economic performance in Helsinki is exemplary compared to the European NUTS2 regions. Helsinki is a leader in terms of endowment with human capital. There appears to be some room for growth in terms of GDP per capita which might be remedied with increased utilisation of youth and elderly and by focusing even stronger on high value added activities.

Policies should be adopted aiming to increase the retirement ages and reduce the labour market entry ages of Helsinki's highly educated workforce.

Innovation and R&D are key to Helsinki's economy. Continuing support of young

Sakari Ahola and Osmo Kivinen, Postgraduate Education in Europe: Harmonising with a Dissonance? (Linköping: University of Linköping, 2001).
 OECD, Research Training: Present and Future (Paris: OECD, 1995).
 Statistics Finland, The Growing Years of Finland's Industrial Production.

entrepreneurs could exploit some untapped potential in these areas.

Fostering youth entrepreneurship through the creation of the Aalto society is an interesting and valid project. However, it could be improved through further support and funding from the region. This would serve to engage graduates while simultaneously maintaining and enhancing the competitive strength of an economy through job creation and increasing utilisation of Helsinki's highly skilled workforce. Next to young entrepreneurs it might make sense to look at more senior employees with the potential of becoming an entrepreneur. This could include MBO, spin-offs or the development of businesses based on university research.

An interesting case for Helsinki to reference to increase the partnerships between businesses and universities that result in new ideas and products would be the Kista approach in Stockholm (see the Stockholm Case Study, which begins on page 48).

'In Spain, all parents wanted their kids to go to the University'

Maria Antonia Del Burgo, director, Government of Navarra

Navarra

Overview

- Navarra is a consolidated and dynamic region. As a hub of renewable energies in Europe, it is among the top 10% of the wealthiest European NUTS2 regions with a GDP per capita of €32,900.⁴⁸
- Navarra has strong educational attainments and met the Lisbon objectives for its employment rate ahead of schedule in 2006. However, the relative lack of demanding, well-paid jobs prevents the region from fully exploiting the benefits of its graduates. The ISCO distribution shows only 20% of all jobs in Navarra are categorised as highly-demanding positions. Instead, the majority of jobs fall in the medium- to low-skilled sectors where technical personnel with specific theoretical and practical training make a better fit than tertiary graduates.
- The region's efforts to increase its share of skilled workers to meet labour demand are a good first step. However, future efforts should address graduates' job expectations in order to avoid a detrimental pattern of brain drain which would be difficult to reverse.

Navarra is one of the wealthiest regions in Europe in terms of GDP per capita. What policy areas can be addressed to sustain its position among the other European NUTS2 regions in the long-run?

Human Capital Endowment

A large share of Navarra's workforce is highly educated. However, this still does not match the mix of available jobs well. Until recently, vocational training in Navarra – and all of Spain – did not enjoy a particularly positive reputation. Interviews with locals suggest that the population doubted whether engaging in vocational training would provide the best opportunities in the future. This may have contributed to the demand for tertiary education and thus, the build up of a highly educated human capital stock in the region.

Educational attainment measured in share of ISCED "high" shows that 38% of the working age population have engaged in higher education. This performance is only surpassed by 3% of the EU NUTS2 regions. Unfortunately, the education attainment levels in Navarra are not aligned to the skills demanded by existing employers. According to ISCO – which measures the region's share of highdemanding occupations - the majority of the jobs in the region are classified under "low" (44%) and "medium" (35%). This job market mismatch prevents Navarra from fully exploiting the potential of its human capital stock.

Human Capital Utilisation

Total hours worked is high compared to other regions, but there is room to improve the utilisation of women, youth and the elderly.

Navarra's labour force works 67% of the available working hours. This figure for total hours worked is higher than 80% of all the European NUTS2 regions and

48. Its GDP occupies the 89th percentile among all EU NUTS2 regions.
'Companies, research institutes and universities tend to follow different direction'

Emilio Huerta, professor, Public University of Navarra

suggests that Navarra makes good use of its human capital. However, utilisation of vulnerable groups such as women, youth and elderly should be considered before drawing conclusions about the region's human capital utilisation.

The female employment rate in Navarra is well above the national average of 56% and outreaches the Lisbon Strategy goal of 60% with 64% of women employed. 49 However, this rate is worse than in most EU NUTS2 regions. 57% of the EU NUTS2 regions have a higher share of women working. Moreover, 27% of women working have part time contracts compared with 3.5% of men. So-called "glass ceilings" in the work environment are still quite common and lead to vertical segregation. As a result, women tend to concentrate in the lower professional categories. Women only account for 31.3% of company director and administration positions in Navarra. This may indicate that division of care and household duties still follow strict gender patterns which prevent women from acquiring the highest level positions.⁵⁰

Despite the apparent mismatch between the overly educated workforce and the skills required by businesses, the youth unemployment is only equal to 12%. This is relatively low given that only 30% of the other NUTS2 EU regions manage to achieve a better result. However, it indicates some room for improvement.

Only half of Navarra's elderly population (aged 55-64) participate in the labour force. Whether this is due to policy interventions, a general culture of preference for younger employees or other factors could not be verified, but with the development towards an aging population, the need for more involvement of older employees will rise and the region should take this into consideration.

Human Capital Productivity

Navarra invests more in R&D than any other region in Spain, but lags behind other European regions.

In 2009, Navarra invested 2.13% of its GDP in R&D expenditures. This places it above any other region in Spain with Madrid and the Basque region following closely at 2.06%.⁵¹ The innovativeness of the region is quite high compared to the nation's average performance. According to our innovation scoreboard, based on public R&D expenditures, business R&D expenditures and EPO patents, Navarra scores 49% higher than the national average.52

While Navarra fares well compared to the national average, its performance is less impressive on a European regional basis. 48% of all EU NUTS2 regions post higher innovation scores whereas 47% of similar EU thinly populated regions perform better.

The average refers to the average performance of the Spanish regions at NUTS2 level.
 Government of Navarra, ESF 2007-2013. Programmea Operativo Comunidad Foral de Navarra (Pamplona: Government of Navarra, November 2007).
 Innovation Agency of Navarra (ANAIN), Estadistica Sobre Actividades en I+D 2009.
 The average refers to the average performance of the Spanish regions at NUTS2 level.

'Navarra is now one of the most industrialised regions in Spain with 28% of its jobs in the industrial sector compared with a national average of 16-17%'

Jose Javier Armendariz, director general, National Centre for Renewable Energy (CENER)

Best Practice from Navarra: New Economic Models, Better Job Matching and Entrepreneurship

MODERNA: The New Economic Development Model for Navarra

The Europe 2020 growth strategy can be successful only if the regions embrace it as their own. The Navarra region is a good example to emulate in this regard. Although it is one of the wealthiest and most cohesive regions in Europe, Navarra recognised the necessity to move from an industrial economy to a knowledge-based economy in order to maintain and enhance its economic and social development in the 21st century.⁵³ In November 2008, a committee of representatives of the government of Navarra and other political, social and educational actors carried out a diagnosis to analyse the current status of Navarra's economy and to identify its main challenges. Some of the weaknesses identified were low entrepreneurship activity, an insufficient command of English, a low number of scientists and a poor cooperation between companies, universities and technology centres, all of which could prevent a shift or make it more difficult.

To address the weaknesses and move forward, Navarra launched the New Economic Development Model MODERNA in October 2010. MODERNA is a medium and long term strategic plan in line with the Europe 2020 Strategy, aiming at allowing the region to successfully compete not only locally but worldwide. It has three main objectives for the future of Navarra: (i) greater prosperity, (ii) greater quality of life and (iii) greater sustainability measured by GDP per capita, the Human Development Index and Environmental Sustainability index,⁵⁴ respectively. MODERNA's success depends on the improvement of seven transversal factors considered as critical. Six of the seven are focused on human capital policy: (1) talent and human capital, (2) entrepreneurship, (3) research and development and innovation, (4) public administration efficiency, (5) internationalisation and (6) collaborative environment.⁵⁵ Each of these factors has actions defined and their effectiveness will be tested by a system of continuous evaluation and monitoring of objectives along set timeframes.⁵⁶ Programme administrators developed a set of 25 indicators which will serve to measure the progress of MODERNA and the gap with the set goals.

Navarra's regional government, private companies, social actors, educational system, universities and technology centres are the main drivers involved in the model development. They have the responsibility to make the change possible in their areas of work. These joint efforts are likely to help the region to be better equipped for competing

An European synthetic indicator of economic-environmental sustainability is now under construction. Until available they will use a partial indicator: the reduction of energy consumption.
 The seventh transversal factor which must be improved for the development of the New Model is energy infrastructure.

^{53.} Innovation Agency of Navarra (ANAIN), New Economic Development Model for Navarra. Executive Summary (Pamplona: ANAIN, 2010).

^{56.} Innovation Agency of Navarra (ANAIN), New Economic Development Model for Navarra. Executive Summary (Pampiona: ANAIN, 2010).

'The MODERNA strategy on one hand identifies the problems to tackle and the sectors to invest in, on the other it focuses on transversal factors, such as Human Capital, to improve the productivity of Navarra and its prosperity.'

Emilio Huerta, professor, Public University of Navarra

| Chart 1: Sample of indicators to measure the progress of MODERNA | | | | | | | | |
|------------------------------------------------------------------|---------|---------|--|--|--|--|--|--|
| Indicator | 2010 | 2030 | | | | | | |
| Level of Educational achievement (PISA) | 502 | 550 | | | | | | |
| Level of English | 7% | 90% | | | | | | |
| Investment in R&D | 1.92% | 4% | | | | | | |
| Export (Million of Euros) | 5.450 | 10.000 | | | | | | |
| Exporting companies | 711 | 2000 | | | | | | |
| Employment | 284.000 | 365.000 | | | | | | |
| Number of new companies | 943 | 1.600 | | | | | | |

Source: New Economic Development Model for Navarra

globally in the knowledge economy. In short, MODERNA is attempting to construct a people-oriented, idea-based economic system, a system which will be attractive for business as well as social development and which will function as a complete system.⁵⁷

Improving job market matching

The mismatch between labour supply, made up of graduates with a theoretical background, and labour demand, generated by local industry seeking workers with technical and vocational qualifications, represented a dangerous constraint to regional competitiveness and growth. In 2000, the regional government created the Navarra Council for Vocational Training to tackle this issue. Its purpose was to improve the vocational training system and its reputation by increasing youth awareness of the high probability that the graduates of this system would find a qualified job afterwards. Moreover, programme administrators initiated a study among employers to identify their needs for skilled labour. The programme made a particular effort to offer specialised vocational training programmes to support successful regional economic sectors. The creation of CENIFER, a training centre for the development of skilled personnel for the renewable energy sector, is a prime example. Through these initiatives, Navarra has managed to reduce the demand-supply skills mismatch noticeably. Between 2000 and 2008, the proportion of skilled workers in its labour force increased by more than 50%, easily outpacing the increase at the national level (28%).

Entrepreneurship

Tribucan is an educational project conducted by Caja Navarra which is part of Banca Civica. This unique programme fosters solidarity and entrepreneurship among children and is a part of the educational curricula in more than 60 schools. One of its most impressive achievements is that all of the groups involved – NGOs, entrepreneurs, teachers, educators, CAN employees – collaborate voluntarily. The Tribucan programme

'We took giant steps. Now, people who want to learn a job know that they have a specific path and they can also go to University afterward.'

Maria Antonia Del Burgo, director, Government of Navarra

lasts for one school year. It begins by introducing the students to a developing country and an NGO that works in the country. Later, they gain a closer view of entrepreneurial activities through personal experience through visits to an entrepreneur's enterprise. During the final stages, they create their own enterprise and draft a business plan. The profits they obtain are sent to the NGO they studied at the beginning of the course. Since 2007, over 7,000 students have participated in Tribucan, as well as 250 educators, 70 entrepreneurs and 120 CAN professionals who have worked as subject tutors. Tribucan's value has also been recognised by the Market Place–Spain's main event regarding Corporate Social Responsibility (CSR). The event is organised by Forética at Madrid's Museo del Ferrocarril (Train Museum). In 2010, the Tribucan project won an award by obtaining the highest number of votes in the Dialogue with Interested Parties category at Spain's Corporate Social Responsibility (CSR) event.⁵⁸

The Centro Europeo de Empresas e Innovación de Navarra, S.A. (CEIN, S.A.) was established by the Government of Navarra in 1988. Its main mission was to diversify the industrial and economic fabric of Navarra and contribute to the region's development by stimulating entrepreneurship, creating and consolidating new businesses and promoting innovation in small and medium sized companies. The centre helps entrepreneurs turn their ideas into viable, consolidated and innovative businesses. It trains entrepreneurs to be effective, committed to innovation and open to change. CEIN promotes entrepreneurial values among students of all ages. It identifies new business opportunities for the region and introduces innovation in SME's. CEIN carried out a study to identify strategic sectors in the region. As a result of this study, CEIN Navarra has stimulated the creation of clusters in auto, ICT and renewable energies and linguistic competences over the last few years. Since 1991, 1,977 companies and 4,285 jobs have been created through its support.⁵⁹

SODENA is the business development organisation operated by the government of Navarra. It owns a private equity fund and supports the growth of business projects and investments in the region through venture capital strategy. SODENA was instrumental in the region's effort to enter new sectors. Private companies would have hesitated to enter without government support because of their high investment risks. A success story, in which SODENA had a key role, concerns the renewable energy sector. In 1989, through SODENA, the regional government bought a stake in EHN (Energia Hidroelectrica de Navarra). EHN was founded by Esteban Morras with the goal of being a leader in the development process of renewables in the region.⁶⁰ SODENA's initial involvement encouraged other stakeholders to invest based on the rationale that the new sector would lead to a lasting economic impact on the region. Navarra currently produces

 [&]quot;Caja Navarra Wins Two Awards at Spain's CSR Event," CajaNavarra.es, 30 September 2010.
 European Business & Innovation Centre Network, Case Study – CEEI Navarra.
 The EHN was founded both with public (48%) and private capital (52%). See especially Miguel Albertolchaso, "Wind Power Development in Spain: The Model of Navarra," DEWI Magazine No.17, 2000.

'The usage of SODENA was pivotal. SODENA also looks at social and societal return, not only financial return.'

Jose Javier Armendariz, director general, National Centre for Renewable Energy (CENER)

approximately 65% of its electricity from renewable-energy. This figure is matched internationally by very few regions with as high a degree of socioeconomic development as Navarra which itself lies above the European average.⁶¹

Currently the region is repeating what they did with renewable energies this time in the biomedical sector which in 2010 provided about 1000 job opportunities in Navarra, above all in the area of R&D. SODENA once again had a key role in the development and consolidation of this high-risk, high-returns sector through a direct investment in most of the biomedical companies currently operating in the region. The growth of this well-established and recognised cluster is the result of the active participation of many different drivers. Caja Navarra, the main financial institution in the region, invests in the biomedical sector and so do many other private investors. Further critical support comes from the Innovation Agency of Navarra (ANAIN)⁶²; since its creation in 1999 this public enterprise made proactive efforts to promote the quantitative and qualitative increase of innovation in Navarra for example by managing the creation and the development of promising clusters, communicating and disseminating the benefits of innovation to the Navarra society and coordinating the definition of the development model MODERNA, its start-up, monitoring and constant updating.

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help Navarra develop and deploy its human capital.

While Navarra posts strong figures for GDP per capita, more companies with high level jobs are needed to support the skill set of the region. Only jobs like these will enable the region to raise GDP per capita further and provide jobs for highly skilled graduates and its normal work force. Attract and create high quality jobs. There is room for improved utilisation of Navarra's human-capital stock. Efforts should be made to increase the quality of the jobs available to its highly educated workforce. This would serve a number of purposes. It increases the attractiveness of the region and reduces emigration of skilled workers ("brain drain"). It also increases the human capital stock of this group through learning on the job which tends to be higher for more complex and demanding jobs. Indeed, it is apparent that the region has recognised the importance of such initiatives through its TALENT Declaration which states four specific regional goals

Government of Navarra, ANAIN, *Renewable Energies in Navarra*, (Pamplona: Government of Navarra, 2010).
 Government of Navarra, ANAIN, *Biomedicine in Navarra*, (Pamplona: Government of Navarra, 2010).

with regards to human capital (creation and identification, attraction, retention, and activation). While the Declaration cites the significance of these goals, concrete action and implementation of programmes should follow.

- We suggest referencing the MBA for the automotive industry, tailored on industry needs of managers in Bratislava (see the Bratislava Case Study on page 17).
- The West Midlands approach of showing businesses the potential contributions of graduates also provides a useful example of policy options (see the West Midlands Case Study on page 53).
- Assist especially the SMEs by enabling the set-up of clusters. More consideration should be given to the area's large group of SMEs. The region should attend to specific challenges such as: lack of financial, human and organisational resources and difficulties in collaborating with other firms. One strategy could be the development of business clusters that facilitate the development and access to technologies and innovations that are traditionally more difficult for small companies to accomplish on their own. The cluster approach fostered by the MODERNA strategy, in order to increase the competitiveness of several industries such as renewables, biomedicine and mechatronics, is a good step forward and should also create more complex jobs with the positive effects on the

human capital stock highlighted above. Navarra could benefit from referencing Stockholm's creation of Kista in this respect (see the Stockholm Case Study on page 48).

The region should implement measures promoting longer work lives. These measures should provide incentives to employers to hire older workers and motivate the elderly to work longer. Promoting life-long learning is fundamental to maintaining high elderly productivity. Highly educated workers have considerably higher chances to remain employed at older age than those with lower education. Furthermore, frequent training and mobility during one's working life reduces the chances of unemployment and inactivity later in life. Therefore, a life-long learning strategy is certainly important.⁶³ If a system of life-long learning functions well, elderly employees could serve as mentors for youth entering their companies. This would enable elderly employees to transfer knowledge and experience, speed up on-the-job training and simultaneously reduce their incentive to retire early by lightening their workload.

Foster young entrepreneurs. Fostering youth entrepreneurship could be a way to use graduates effectively while simultaneously maintaining and enhancing the competitive strength of the economy. The entrance of a new firm into a particular market forces the incumbent firms to react by improving

^{63.} Jaap de Koning, Incentives to Take Up Work and Remain at Work Longer (Rotterdam: Erasmus University, 2005).

efficiency or introducing innovation.⁶⁴ The two initiatives of Navarra are good steps forward. This is also consistent with the region's MODERNA framework which specifically points to enhancing the entrepreneurial spirit of individuals as a main root for fostering education, talent and human capital. • A best practice example for fostering youth entrepreneurship is the creation of the Aalto society in Helsinki (see the Helsinki Case Study on page 28).

^{64.} Isabelle de Voldere, Eva Janssens, Jonas Onkelinx, Leo Sleuwaegen, The Creative Economy Challenges and Opportunities for the DC Regions (Ghent: Flanders District of Creativity, 2006).

Sofia

Overview

- The Sofia region is a best practice example of human capital utilisation in Europe in terms of hours worked. Its citizens work 76% of the hours available, putting the region in the 99th percentile of all EU NUTS2 regions.⁶⁵ Part-time work is minimal.⁶⁶
- Sofia also fares well concerning human capital utilisation measured by the number of people working. Youth unemployment is impressively low at 7% with only 8% of the European NUTS2 regions performing better. Female employment outreaches the original Lisbon Strategy goal of 60% and the national average of 64%, with 74% of women employed.
- Sofia performs better than 92% of the European NUTS2 regions in its stock of human capital. Thirty-three per cent of the working population is engaged in tertiary education.
- Although Sofia's economic development significantly outstrips the other Bulgarian regions, its GDP per capita performance is poor by comparison. The region only reaches the 16th percentile of all EU NUTS2 regions in this category.

With such positive Human Capital Indicators, what is stifling Sofia's development, preventing it from increasing its GDP per capita and causing it to lag behind other regions in these two areas?

Human Capital Endowment

Sofia has a high rate of tertiary education, but very few high skilled jobs leading to a low GDP per capita. Problems of high drop-out rates and low quality of education hinder the rate of development.

Educational attainment in Sofia is higher than Bulgaria as a whole; however, investigating other regional factors reveals underlying problems. According to the ISCO distribution, the quality of jobs available is noticeably poor. Nearly half of the positions are classified as lowskilled (40%) and the share of demanding jobs comes in at only 26%. Given the high weight that the quality of jobs has in determining GDP performance in the Eastern regions cluster, the ISCO distribution sheds some light on why there appears to be a contradictory combination of relatively high human capital utilisation and tertiary education in Sofia and low GDP. Even though Sofia has a high rate of tertiary education, it has not yet managed to transform this into high-skilled quality jobs, which basically comes down to people working in positions below their skill set.

The high school drop-out rates among young people is an additional regional factor which may explain Sofia's low GDP performance. High drop-out rates contribute to the migration of skilled workers and to youth unemployment in Sofia. Large quantities of early school leavers reduce the area's ability to attract knowledge-oriented businesses which would invest in the region. Tackling this issue could increase the quality of jobs available and discourage many graduates

65. All figures refer to the NUTS2 region Yugozapaden (BG41). 66. 2.6% of women working have part time contracts compared to only 1.4% of men.

'The municipality supports the process of desegregation, like providing education for children living in ghettos, so they are taken by buses and put in mixed schools. However Roma communities inclusion still represents an huge issue for Sofia.'

Milen Milanov, national coordinator of the Decade on Roma Inclusion 2005-2015

from leaving in search of more attractive career opportunities abroad.

Also from another perspective, a high number of drop-outs is one of the region's main challenges. Young people lacking educational basics will find it difficult to get jobs that provide adequate pay and security. Many of them will stay unemployed or become employed in very low skilled and insecure jobs, making it difficult to set up a decent life. These circumstances, with little hope of a full time job and no chance of further education, have the potential to tempt young people to either enter into criminal behavior or work on the black market in order to provide for themselves and increase their quality of life.

Finally, issues exist in terms of quality of available education and a mismatch between skills taught in schools and universities and those required by businesses. According to many local employers, schools and universities are not able to provide students with the skills and competences required by the job market, especially practical skills.

Human Capital Utilisation

Women's potential is well used, but lack of child-care facilities endangers this success and simultaneously reduces elderly employment. Insufficient integration and education of Roma endangers further development.

Perhaps following their communist heritage, a large number of women – even mothers – work full-time. However, the municipality lags behind in providing childcare. Kindergartens exist, but as the demand is higher than the number of places available, children are usually left with their grandparents. In turn, the grandparents must sometimes give up their jobs or retire early. The so-called "babasitter phenomenon" thus negatively affects elderly employment. While elderly employment is not extremely low at 49%, Sofia lags behind 40% of the European NUTS2 regions. Some businesses, like Siemens, provide childcare for employees; however, the necessities of the families cannot be covered by these isolated cases.

Another issue for Sofia, as well as Bulgaria as a whole, is the insufficient integration of Roma communities. Public services for the Roma are scarcer and of lower quality than for the general population. Access to education and the job market is also more difficult.

The low inclusion of the Roma people means that only very few are economic actors, able to increase the region's wealth. Therefore, the untapped potential of this group would be quite high if they succeeded in acquiring a high level of education. In Sofia, there are more than 100,000 Roma, and they form the youngest population with the biggest share of working aged people, according to Milen Milanov, national coordinator of the Decade on Roma Inclusion 2005-2015.

Human Capital Productivity

Lack of modern infrastructure and strong internal migration hamper human capital productivity. According to the Regional Innovation Scoreboard, Sofia follows the national trend of rather low innovativeness. Poor infrastructure deprives the environment of its potential for high human capital productivity. Existing issues have been made worse by an inflow of migrants, especially from other Bulgarian regions, which have made Sofia over-crowded and rendered its infrastructure insufficient to cope with so many people.

Best Practice from Sofia: New Skills and New Jobs

Beautiful Sofia

In July 1997, the Municipality of Sofia and UNDP commenced implementation of a pilot project – Beautiful Sofia – which was designed to address the city's unemployment problem by funding works dedicated to improving its dilapidated urban buildings. The project simultaneously generated temporary jobs, refurbished historic facades, monuments and parks, and trained long-term unemployed men and women in basic construction and "Start Your Own Business" skills. The pilot project proved to be a helpful contribution towards alleviating the city's unemployment problem and a successful solution to reconditioning a rundown urban landscape. The project received local and international funding. UNDP allocated \in 155,625, while Sofia Municipality contributed \notin 219,375.

The project is interesting as an example of good practice because it introduces a new planning approach to urban renewal through which unemployed individuals are recruited into the labour force and a positive social outcome is achieved. The project also sought to improve the situation of marginalised groups. It succeeded in involving many such groups with a majority of Roma and ethnic Turks being represented. Therefore, the programme's achievements should also be evaluated in terms of social integration and reintegration of the long-term unemployed involved in the programme. Moreover, Beautiful Sofia provided support for the development of the private sector and entrepreneurship in the field of construction.

Its achievements inspired the conception of Beautiful Bulgaria which started in 1998 and targeted four of Bulgaria's largest cities in addition to Sofia. The success of Beautiful Bulgaria I paved the way for a larger and still more ambitious second phase called Beautiful Bulgaria II, which included six additional cities. The total temporary occupation created at the time of the evaluation mission (first half of December 2000) thus reached 23,582 people per month. Evaluations updated in June 2007 show this figure later increased to 45,609. Of these, 12,453 were from minority groups. Moreover, 10,471 people were reported to have found long-term employment after the project and 12,475 unemployed individuals were provided with vocational training.⁶⁷

^{67.} UNDP, Beautiful Bulgaria Programme. Project Factsheet (New York: UNDP, 2007).

'The aim is to move the region toward a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion.'

Kristina Petkova, sociologist and social psychologist, Institute of Sociology

Municipal Guarantee Fund for Small and Medium Enterprises

Small- and medium-sized enterprises (SMEs) generate new jobs, while helping to increase the competitiveness of the market through high and sustainable economic growth. Unfortunately, fostering entrepreneurship is often difficult because of limited access to credit for youth and other disadvantaged groups. The purpose of the Municipal Guarantee Fund for Small and Medium Enterprises (MGFSME) is to actively support and encourage SMEs within the Sofia Municipality, which is a prerequisite for increased economic efficiency of business. The Fund provides guarantees to SMEs especially those falling under the following categories: female entrepreneurs, disabled individuals or young entrepreneurs up to 30 years old. The Fund is also useful as a tool to improve the innovativeness of the region. In Business projects involving information technology and information services are considered with priority. From its inception and to the present day the MGFSME has examined 348 requests for guaranteed support and has made a commitment to 276 SMEs for loans totalling €18,744,398.⁶⁸ Says Irina Yordanova, chair of the managing board of Sofia's Municipal Guarantee Fund for SMEs: "So far, the default rate has been zero. The business plans of applicants are examined by experts in risk analysis within the fund. However, there is a further check by the banks."

The Fund also consults SMEs in accounting services, legal services, management services, services related to obtaining international certificates – ISO 9001, 14001 awarding of initial credit rating, services for development of projects as well as applying for open grants in operational programmes. Clients do not pay for consultation. Other minor initiatives to foster youth entrepreneurship involve some credit institutions like Procredit Bank. This approach targets entrepreneurs and helps them with the provision of bank services free of charge for young people up to 25 years of age.

Sofia 2020

The Europe 2020 growth strategy focuses heavily on human capital as a driver of competitiveness. However, unless the strategy is developed at a regional level, it will struggle to be successful. Indeed, each region should make itself available for connection to the Europe 2020 growth strategy. The Sofia region is a good example to emulate in this regard. The region has developed the Sofia 2020 strategy as a platform to better reach the Europe 2020 targets. It addresses regional issues concerning human capital development, such as high number of drop-outs, the lack of qualitative components in the education system, and too few adults involved in life-long learning.

Sofia 2020:

- Promote early childhood development programmes to support school readiness
- Intensify efforts to prevent early school leaving and boost retention in education and training

68. European Central Bank, 13 December 2010.

- Complete ongoing school education reform to improve quality and relevance
- Encourage tertiary participation
- Enhance labour market relevance of university degree programmes
- Pilot-test adult learning approaches
- Ease alternative entry routes into higher education for adults⁶⁹

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help Sofia develop and deploy its human capital.

The economy is not strong enough to support the skill set of the region. More companies and especially companies with high-level jobs are needed in the Sofia region. Only jobs of this type will enable the region to raise GDP per capita, be attractive for returning emigrants and provide jobs for highly skilled graduates and normal work force.

Fostering (youth) entrepreneurship could be a way to retain graduates while simultaneously maintaining and enhancing the competitive strength of an economy. The entrance of a new firm into a particular market forces the incumbent firms to react by improving efficiency or introducing innovation. A best practice example for fostering youth entrepreneurship is the creation of the Aalto society in Helsinki (see the Helsinki Case Study on page 28).

Improving vocational training and creating a specialised vocational training centre like CENIFER in Navarra could attract foreign industries by establishing a base of skilled workers (see the Navarra Case Study on page 34). This would alleviate the lack of experts in some sectors and entice foreign companies to invest in the region which would benefit high and low wage earners.

A major hurdle to increased foreign investment seems to be the difficult and non-transparent administration procedures in public offices. The issue of corruption was also mentioned several times in the interviews as representing a major hurdle for the development of independent businesses.

Beautiful Sofia and now Beautiful Bulgaria are interesting and valid projects. However, they could be improved and tailored to the new needs of the regions. According to our calculations, increasing the quality of jobs would have more visible effects on regional wealth and growth. Good examples include the two initiatives of the West Midlands in the regeneration sector (see the West Midlands Case Study on page 53). Sofia could enlarge the target groups of the project by providing more demanding positions in the urban renewal sector for graduates. This would serve two-fold by retaining graduates - which is a driver of growth

^{69.} Based on interview with Kristina Petcova held in July 2010.

in the Eastern European regions – and improving the region's image and infrastructure.

Develop approaches to tackle youth unemployment in order to improve future outcomes. Lack of labour market entry for young people will hinder their ability to lead self-sufficient lives. This will make it more difficult for them to support their children, invest in their homes or become active members of society.

Reducing drop outs is therefore vital for the region. Building childcare facilities could create learning environments for the very young. This would enable them to build an educational foundation, especially in those cases where parents are incapable of providing guidance. This would also foster the permanence of elderly in the job market and increase female employment (although already high). Both of which are important as examples for the young to follow. If economic growth leaves groups of people marginalised – without a chance to participate in the benefits of growth – desperation and despair will take over and lead to a parallel society. This has already happened with the Roma people many decades ago and is developing into a major difficulty for Sofia and Bulgaria as a whole.

Increasing the integration of Roma communities would prevent the waste of economic development potential and help avoid security problems. Although Bulgaria joined the Decade of Roma Inclusion 2005–2015, integration also needs to be implemented at a regional level to be effective.⁷⁰

The Employment Pathway developed by the West Midlands to deal with refugees could be replicated in Sofia to cope with the exclusion of Roma people (see West Midlands Case Study on page 53).

^{70.} The Decade of Roma Inclusion 2005-2015 is a political commitment by European governments to improve the socio-economic status and social inclusion of Roma. See http://www.romadecade.org/about.

Stockholm

Overview

- The Stockholm region is among the most competitive regions in Europe. The Regional Competitiveness Index ranks it No. 5 among the 268 NUTS2 European regions. Its GDP per capita is among the highest in Europe reaching €41,000 and puts the region in the 98th percentile of all the EU NUTS2 regions next to Vienna (97th percentile) and Bratislava (97th percentile).
- A well-educated labour force, a high share of demanding jobs and a strong focus on innovation contribute most in making the Stockholm region one of the most successful regions in Europe.
- Utilisation of human capital presents

 a weakness that could undermine
 Stockholm's long-run competitiveness.
 While Stockholm is in the 99th percentile
 for female and 100th for elderly employment
 rates among the European NUTS2 regions,
 youth unemployment presents itself as an obstacle to elevated utilisation.

Stockholm is considered one of the foremost regions in Europe in terms of competitive strength. What policy areas can be addressed to sustain Stockholm's competitiveness in the long-run?

Human Capital Endowment

Educational attainment measured in share of ISCED high shows that 39% of the working population in Stockholm have a tertiary degree. This is less than ten percentage points from the top-performer Walloon Brabant (48%) and well above the EU NUTS2 average (23%) and the densely-populated average (28%). This figure places Stockholm in the 90th percentile among densely-populated regions and the 97th percentile among all European NUTS2 regions. Stockholm's ISCED percentage is also impressive compared to the national average of 30% and is the highest among all regions in Sweden.

The quality of jobs in Stockholm is equally impressive. The ISCO distribution shows that in the Stockholm region demanding jobs represent 34% of all jobs. This surpasses the national average of 23% and places Stockholm in the 98th percentile among all EU NUTS2 regions. This figure loses some ground when compared to other densely-populated regions. Stockholm's ISCO share places it in the 93th percentile among its densely-populated counterparts. Considering the high percentage of educated individuals in its workforce, this suggests supply and demand of high skills are well aligned. This should provide the additional benefit of encouraging graduates to remain in the region and thereby contribute to growth.

Human Capital Utilisation

With 81% of the female labour force employed, Stockholm ranks No. 3 among all EU NUTS2 regions and No. 1 compared to other densely-populated regions. Stockholm also enjoys top spots for its elderly (aged 55-64) employment rate of 72%: No. 2 among the European NUTS2 regions and No. 1 among densely-populated regions. 'Social capital is a key element in our society. Our experience tells us that the State is there to support you as an individual, that the authorities are your humble servant, that the tax you pay will be used in an efficient way for the best of the society and that your neighbour will not steal your property.'

Mats Essemyr, employee, Swedish Confederation of Professional Employees (TCO)

The development of public child and elderly care facilities has allowed women - who have traditionally been the primary caretakers of children and elderly relatives at home – to go from unpaid domestic work to paid employment on the labour market. The expansion of the public sector also meant an increased demand for labour and women were, in large part, recruited into these positions.⁷¹

However, while the employment figures for women and the elderly are encouraging, youth unemployment remains a big problem in the Stockholm region as well as in the country itself. In 2007, it stood at 20%, almost three times more than in the Sofia or Bratislava regions and higher than 75% of all the European NUTS2 regions. One explanation for the high level of youth unemployment could be the unique characteristics of the labour market: high minimum wages, set in collective agreements, and stringent employment protection rules. Those with low productivity have little chance to find a job and employers are cautious about hiring youth whose skills are often hard to assess, in particular youth with an immigrant background.⁷²

Sweden's integration policies were the only policies among 28 countries to score high enough to be considered 'favourable' for promoting integration according to the Migrants Integration Policy Index.⁷³ However, migrants still face difficulties

accessing the labour market. In the Stockholm region, only 40% of foreign-born university graduates from non-EU countries have a qualified job compared to 90% for native Swedes.74

Moreover, although the Stockholm region is one of the European regions with the highest percentage of part time workers - especially among women (33%) – on average its population works 73% of the possible hours available. Only 2% of the NUTS2 European regions manage to do better.

Human Capital Productivity

The Stockholm region successfully competes through high performance in innovation and creativity.⁷⁵ Indeed, the Innovation pillar of the Regional Competitiveness Index, which is based on 11 factors highlighting "innovation performance," ranks the Stockholm region as No.1 in Europe. This is consistent with our innovation indicator – based on public R&D expenditures, business R&D expenditures and EPO patents – which shows that only 2% of the EU NUTS2 regions perform better.

The Stockholm region has developed a strong position in innovative and knowledge-intensive activities in manufacturing and services.⁷⁶ In 2007, the percentage of employees in high technology sectors was 9.28% of total employment – well above the national average of 5.93% and second only to the EU NUTS2 regions Berkshire,

Ministry of Health and Social Affairs, Sweden, Report by the Government of Sweden on the Follow-Up to the Regional Implementation Strategy (RIS) of the Madrid International Plan of Action on Ageing (MIPAA) in Sweden (Stockholm: Ministry of Health and Social Affairs, 2007).
 OECD, OECD Economic Surveys: Sweden 2008 (Paris: OECD, 2008).
 Jan Niessen, Thomas Huddleston and Laura Citron, Migrant Integration Policy Index (Brussels: British Council and Migration Policy Group, 2007).
 The unit of analysis for the Stockholm region in the 2006 review was the aggregation of two NUTS3 administrative unit (referring to as Uppsala Län and Stockholm Läh). See OECD, OECD Territorial Reviews: Stockholm 2006 (Paris: OECD, 2006).
 Segions Benefiting from Globalisation and Increased Trade. Final Report. Volume 2 – Case Studies, (Milan: Polytechnics of Milan, Bocconi University, 2009).

⁷⁶ Ibid

'In a start-up, you need experts in different fields. However, especially for a small company, it is not easy to find all the competences it needs. In KISTA, you just have to go next door and ask for help."

Patrik Moller, CEO, Replisaurus Technologies, Stockholm

Buckinghamshire and Oxfordshire also considered in this study.

However, the region follows the national trend by suffering from the so called "Swedish paradox" characterised by strong R&D investment and relatively low levels of new firm creation and entrepreneurship. As the two latter factors are essential to enhancing the competitive strength of an economy, this implies that in spite of its strong knowledge potential, the Stockholm region has not succeeded in exploiting its knowledge advantage.⁷⁷

Underdeveloped transport infrastructure represents one of the major threats to the region. Stockholm is not connected with the other two metropolitan regions in Sweden by means of its high-speed trains and the Arlanda airport offers too few direct international flight connections. This implies that both the insufficient internal and external accessibility of the region are globalisation threats and could reduce the attractiveness of the region as a location.⁷⁸

Best Practice from Stockholm: Innovation and Clusters

Kista

Located between the city of Stockholm and the international Stockholm-Arlanda Airport, on relatively inexpensive grounds, the area of Kista was a great spot to create an innovation cluster. In the 1960s, the Wallenberg family, a well-known Swedish industry dynasty, collaborated with Stockholm's mayor, Hjalmar Mehr, to develop an industrial park on a former military training ground north-west of Stockholm. However, in the 1980s, highlyskilled employees were urgently needed and universities were asked to provide educational training for students.⁷⁹ Consequently, Stockholm University and the Royal Institute of Technology (KTH) moved their facilities from central Stockholm to Kista. It was transformed from an industrial production site into a science park. Cooperation between the business sector, public authorities, and academia increased during the following years and led to a new common vision. Rather than limiting Kista to a science park, the three players - Mayor of Stockholm, Carl Cederschiöld, Principal of KTH, Anders Flodström, and Vice-President of Telefonaktiebolaget LM Ericsson Johan Siberg – decided to develop a science city. They hoped this would increase the attractiveness of the city and so transform the park into a living city with cultural and social activities.⁸⁰ Today, Kista is home to 8,500 companies and provides 67,172 jobs. More than one third of the employees work in ICT companies.⁸¹ Due to the development of Kista, the Stockholm region has benefited from the strong presence of major players in the ICT sector including Ericsson, Nokia, hp, Microsoft, Sun Microsystems, Intel, Apple, IBM and Oracle. This diverse clusters of firms cover a broad range of products

^{77.} Ibid 78 Ibid

^{79.} Based on the interview with Pär Hedberg held on 30 August 2010. 80. More information (in Swedish only) on the common vision of Kista is available at http://www.sbk.stockholm.se/Kista/index.htm. 81 2010 data

'In Kista, they merge good ideas with good entrepreneurs.'

Erik Oden, CEO, Mantex AB

and services and are active in software, content, hardware, telecommunications, and research as well as other services.⁸² The ICT cluster stimulates entrepreneurship and innovation through localised positive externalities in labour market pooling, input and output linkages and knowledge spillovers.83

Most companies are attracted to Kista because of the enormous amount of highly-skilled individuals in the city. Cooperation with universities and research institutes is easy to establish and the denseness of the city favours lively intercommunication. The value-add of Kista is that it helps transforming knowledge from universities into innovation incorporated in products and services.

The Programme for Employment

Stockholm faced a labour shortage in some occupational fields in 2000 – especially in elderly care services. At the same time, the number of unemployed immigrants and refugees was very high. To combat both issues, the Integration Department of the City of Stockholm, Stockholm City Administration (department of personnel policy) and different district councils, partnered to launch The Programme for Employment.⁸⁴ It was designed to remedy the labour shortage in elderly care services through the employment of refugees and immigrants.

The Programme for Employment has three parts: Introduction, Apprenticeship and Evaluation. The introduction includes vocational training and information about work etiquette, work culture and general advice on the labour-market outlook. During the apprenticeship period, participants complete practical work placements and learn work routines and tasks by shadowing an assigned facilitator.

Most of the immigrants and refugees require intensive language training before they can begin the programme. In 2001, Specific Swedish Language Skills Training was introduced. The language training was tailored to match the terminology used in elderly care services. The programme provided training for 20 participants at the time. Nearly 100% of the participants became employed after completion of the Programme for Employment.

One positive aspect of this programme is the ease with which it can be transferred. As a result of its initial success and political support, the programme was expanded in terms of geography and scope. It has spread from the two original District Councils of Stockholm to all 18 district councils and has been used to assist other sectors experiencing labour shortages without problems.85

^{82.} Regions Benefiting from Globalisation and Increased Trade. Final Report. Volume 2 – Case Studies, (Milan: Polytechnics of Milan, Bocconi University, 2009).

Biological States, Innovation and Entrepreneurship, (Paris: OECD, 2009).
 The Swedish Integration Board and the European Refugee Fund supported the project in 2001.
 Entrepreneurship of Good practice in Local Employment Development and Promoting Better Governance (IDELE), Programme for Content of Conten Employment, Stockholm - Sweden,

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help Stockholm develop and deploy its human capital.

Overall economic performance in Stockholm is strong compared to the European NUTS2 regions. To increase firm creation, entrepreneurial awareness and entrepreneurial culture should be taught from an early age.

In order to successfully start and run a business, youth need training courses to develop entrepreneurial skills. A best practice to reference is the creation of the Aalto society in Helsinki (see the Helsinki Case Study on page 28).

Young people should enter the workforce earlier.

Providing incentives to promote youth employment through tax arrangements to encourage businesses to employ young people or offering apprenticeships could be effective in creating jobs. Graduates would gain vital work experience while employers would have the chance to 'try-before-they-buy' and in most cases gain innovative inputs. The employment programme approach could be used more effectively to target the young. An interesting regional case to cite is the Placement Programme in the West Midlands (see the West Midlands Regional Case Study on page 53).

Lack of infrastructure threatens and limits the growth potential of the region.

Efforts should be made to increase investment into the currently weak transport infrastructure.

West Midlands

Overview

- Once the birthplace of the Industrial Revolution, the West Midlands now struggles to move its economy towards more knowledge-intensive sectors and lags behind the rest of the nation. In the face of globalisation, the region is currently coping with a challenging restructuring process: moving from primarily manufacturing low-cost products to the design and manufacture of new knowledge-intensive products and services. One factor which makes the struggle more difficult is that the percentage of employed individuals with tertiary education in high-technology sectors stands at 6.2% compared to the national level average of 6.8%. The gap in performance is larger when compared to other English regions such as London (6.9%) or the South East (11.2%) where many West Midlands graduates move to seek better careers.⁸⁶
- Unlike all other regions in our sample, West Midlands experienced an increase in the proportion of the population listed as "low educated" over time. The region hosts some top-notch universities and the educational attainments of its working age population are high with only 26% of the EU NUTS2 regions posting higher figures. However, the West Midlands perform poorer than the UK average in this category. Moreover, the region failed to cut its share of low-educated people which is still significant and equal to 25% of its

active population. Instead, this figure increased between 2000 and 2008 by 7.3 percentage points compared to an increase in highly educated people of just 3.5 percentage points.

- The West Midlands' more vulnerable groups may present untapped potential. The percentage of women working parttime, at 42%, is notably higher than any other region in our sample. However, with youth unemployment equal to 16% it is higher than the national figure and most of EU NUTS2 regions. These two groups have difficulties in finding full time employment. In effect, the region is wasting its human capital and should do everything to make sure that this untapped potential is being used.
- Some important weaknesses lead to a poor economic performance. GDP per capita, equal to €24,800, is 17% lower than the national average and falls behind 47% of the EU NUTS 2 regions.

What policy areas should the West Midlands address in order to align its performance to the national average?

Human Capital Endowment

The demanding jobs found in the region are not always occupied by highly-educated people, but by those with specific skills. The lack of demand for graduates' skills may cause them to seek more lucrative opportunities in other regions. This cycle could be difficult to reverse and ultimately lowers the competitiveness of the region.

^{86.} The West Midlands region is composed of three NUTS2 regions: Herefordshire, Worcestershire and Warwickshire (UKG1), Shropshire and Staffordshire (UKG2) and West Midlands (UKG3). All figures refer to the unweighted average performance of the three. See also Andy Phillips, Graduate Retention Attraction and Employment 2008: Key Findings, (Birmingham: West Midlands Regional Observatory, 2008). According to this study 12% of West Midlands graduates found their first job in London, 8% in the South East and 20% in other places.

'The most ambitious graduates tend to leave the West Midlands in search of higher skilled, better paid jobs. Employers complain that the problem in hiring graduates is that they have academic qualification, but a lack of practical skills that are more useful inside an enterprise.'

Andy Philipps, head of skills research, West Midlands Regional Observatory

On educational attainment, the West Midlands region performs better than most of the EU NUTS2 regions, although with 28% of its working age population engaged in higher education, it is still below the national average of 30%.87 Attainment of skills is particularly low among older people and certain ethnic minority communities. The gap between better and poorer performing areas of the region has widened over time.88

Due to the lack of communication between universities and businesses, graduate education in the region is often too theoretical or focused on subjects which are not asked for by local industry. Twenty per cent of all employers and a quarter of the higher value-added private sector industries feel that graduates tend to lack the work-based and business-specific skills they require. This perception leads to low demand for higher-level skills, especially in the region's private sector. This results in significant numbers of graduates and other "knowledge workers" leaving the region to secure employment in better paid, higher skilled and higher value-added sectors of the economy.

Only 28% of all employers in the region and 14% of those in higher value-added private sector industries invest in training to address the skill deficiencies of graduates.

Gaps and deficiencies in the skills of many of the region's managers and limited

investment in training inhibit businesses' ability to effectively harness and deploy the skills and technologies available to them.⁸⁹ The West Midlands Economic Strategy states: "Even where strong skill sets are available to business, we do not have sufficient people with the leadership and management abilities to innovate, drive change and get the maximum out of the knowledge available to them."90

Job quality, measured in terms of ISCO "high," shows that the region's share of high-demanding occupations is 28%. This is above the EU NUTS2 region average (22%). However, it is worse than other English regions like London (42%) and South East (32%).

Human Capital Utilisation

Regional human capital utilisation is insufficient.

Female employment is quite high and surpasses the Lisbon objectives with 69% of women employed. However, 42% have part-time contracts. The percentage of men working part-time is 11%. This is one of the highest percentages among our sample of regions, but is still much lower compared to the share of women working part-time.

Youth unemployment is high at 16%. This is two percentage points above the national average and higher than 54% of EU NUTS2 regions.

^{87.} The England average is calculated as average performance of the NUTS2 UK regions. 88. West Midlands Regional Observatory, Developing the Region's Knowledge Economy: Key Issues and Policy Implications, (Birmingham: West Midlands

Regional Observatory, 2009). 89. Ibid. 90. West Midlands Regional Observatory, Management and Leadership Skills Balance Sheet: Key Issues and Policy Implications, (Birmingham: West Midlands Regional Observatory, 08 May 2008).

Consistent with the national trend, the region is in the highest percentiles for its elderly employment among the EU NUTS2 regions (No. 88). However, utilising 59% of its elderly is still quite far from the top performers in the EU NUTS2 regions. Sweden's regions employ more than 70% of its workforce aged 55-64.

The West Midlands region is the second largest host to refugees and asylum seekers in the UK.⁹¹ However, a study stated that only 12% of refugees in Coventry and 24% in Birmingham were employed, compared to a sub-regional average employment rate of non-refugees of 68% and 74%, respectively. Half of the people we interviewed were employed in their countries of origin and of these around half had been employed in skilled or professional work. Particularly, those employed in the UK were exclusively employed in unskilled jobs.⁹²

The West Midlands has a large untapped potential in the form of its female and non-native workers. This is compounded by its figures for total hours worked. West Midlands' labour force only works 64% of the total possible hours, lagging

behind Latvia the top performer in the EU NUTS2 with 77% of total hours worked, suggesting there is room for improvement.

Human Capital Productivity

The innovative efforts of the region are low.

The large share of SME's existing in the region, as well as in the country as a whole, suggest the region lacks benefits from economies of scale which could partly explain its mediocre performance.93 West Midlands' innovativeness – measured by our scoreboard based on public R&D expenditures, business R&D expenditures and EPO patents – is slightly below the national average and worse than 53% of the European NUTS2 regions. Its score on our innovation indicator is 0.473 which is rather far behind Karlsruhe, Germany, the top performer among the EU NUTS2 regions regarding innovation with a score of 0.968.

The negative perception of the West Midlands' living and working environment was mentioned by many interviewees as an additional weaknesses of the region. This should be addressed to attract businesses and skilled workers.

^{91.} Political asylum seekers first enter the country as asylum seekers and apply for refugee status, which then grants legal permission to work and to access public services. 92. The study was undertaken for the Learning and Skills Councils in West Midlands by the Centre for Urban and Regional Studies (CURS) and the National

Institute for Adult Continuing Education. See Jenny Phillimore, Employability Pathways an Integrated Approach to Recognizing the Skills and Experiences of New Migrants (Birmingham: University of Birmingham, Centre for Urban and Regional Studies, 2007).
 SMEs account for the 99.8% of enterprises in UK and for 99.9% in the West Midlands regions. Data from Department for Business and Innovation (BIS),

Small and Medium-Sized Enterprise (SME) Statistics for the UK and Regions 2009 (SME Statistics)," 13 October 2010

'I was struck by how much time you need to establish an action like this, but positively by the impact it can have.'

Jenny Phillimore, senior lecturer, Institute of Applied Social Studies, Birmingham University

Best Practice from West Midlands: Job Placement and Integration

Graduate placement programme

RegenWM⁹⁴ decided to simultaneously address two issues plaguing the West Midlands region. First was the negative image which affected West Midlands' attractiveness to both skilled workers and businesses. Second, it tackled the low demand for high skills by companies. It launched the Graduate Placement Programme with the aim of building a bridge between companies in the regeneration sector and graduates.⁹⁵ RegenWM essentially acts as a "broker" between students (graduates and current undergraduates) and hosts (employers in the regeneration sector in the West Midlands region). When employers set up an internship, RegenWM receives a short description and sends it to all students in its database. This enables those interested to apply without delay. The programme provides graduates with the opportunity to gain vital work experience while giving employers the chance to "try-beforethey-buy." Says Conrad Parke, head of skills development at RegenWM: "The employer wins by attracting high calibre student. Students win by getting a foot in the door. The university wins because their students get jobs and the region wins by retaining graduates." About 70% of students were hired by the host of their placement after they completed an internship or were referred to jobs in other organisations within the West Midlands area. Ninety per cent of the students involved in an internship decided to stay in the region afterward to search for work.

Employability pathways for refugees

Surveys have indicated that a sizeable proportion of refugees arriving in the UK possess high levels of skills and education. However, they struggle to get their skills and experience recognised because they lack employers' references or certificates. Local employers were said to be nervous of non-UK qualifications because they didn't understand them.⁹⁶ In order to reduce part of the untapped potential in the region, the Birmingham University Centre for Urban and Regional Studies (CURS) became a partner in the PROGRESS GB EQUAL Development Partnership in 2004 and launched a model named "The employability pathway" in 2006. The aim of the project is to give migrants a real chance to integrate themselves in society. Pathways are offered in five different vocational areas: construction, social research, general maintenance, business administration, and health care. Each pathway provides various trainings to help refugees gain employment. These include language courses, recognition of certificates and skills, and providing work experience and networking contacts in the area. As a result, an impressive 44% of the participants who have completed the programme secured permanent employment in a skilled job through the "employability pathway" initiative. The results are remarkable because increased employment of skilled refugees, no matter how small the number, represents a major break through. When the labour is skilled, this has a very positive effect in terms of growth.

^{94.} RegenWM is the first Regional Centre of Excellence for Sustainable Communities (RCE) in England set up in 2003 to address the skills shortages in the

Birmingham, Centre for Urban and Regional Studies, 2007).

Recommendations

Evaluating the performance of the region through the human capital dimension allows us to focus on the main challenges and provide concrete policy recommendations that could help the West Midlands develop and deploy its human capital.

The economy is not strong enough to support the skill set of the region, especially when compared to other English regions. More companies and especially companies with high-level jobs are needed in the West Midlands region. Only jobs of this kind will enable the region to raise GDP per capita, be attractive for returning emigrants and provide jobs for highly skilled graduates and normal work force.

Fostering (youth) entrepreneurship could be a way to retain graduates while simultaneously maintaining and enhancing the competitive strength of an economy. The entrance of a new firm into a particular market forces the incumbent firms to react by improving efficiency or introducing innovation.⁹⁷ A best practice example for fostering youth entrepreneurship is the creation of the Aalto society in Helsinki (see the Helsinki Case Study on page 28).

Improve the reputation of the region's living and working environment. Encouraging cooperation between universities and businesses is key to regional competitiveness. Programmes should be put in place which increase demand of highly educated labourers. These individuals represent potential untapped human capital.

Survey companies about desired skills. This could guide students into study paths which will translate into real career opportunities after completing their studies.

The Graduate Placement Programme is an interesting and valid project. However, it could be expanded by increasing the availability of internships. This would help additional graduates acquire the skills they need to obtain gainful employment. At the same time, this would counteract the perception of employers about the scarce competences of graduates.

The region should address the lack of managerial and leadership competences as they represent a huge obstacle to regional development. Referencing Bratislava's MBA for the automotive industry could be fruitful (see the Bratislava Case Study on page 17). This programme was tailored to the industry's need for managers with MBAs in the hope that this would provide companies' managers with the right skills to exploit regional potential. A similar approach, based on cooperation between businesses and universities, could help alleviate the mismatching between the skills demanded and graduate competencies in the West Midlands.

The West Midlands should prepare for the eventual ageing of its population by

^{97.} Isabelle de Voldere, Eva Janssens, Jonas Onkelinx, Leo Sleuwaegen, The Creative Economy Challenges and Opportunities for the DC Regions, (Ghent: Flanders District of Creativity, 2006).

improving the utilisation of its elderly workforce.

Maintain elderly productivity, and thus the competitiveness of companies, through a life-long learning strategy.

Promoting and increasing the innovativeness of the region could be pivotal for the creation of more demanding jobs and for increasing the attractiveness of the region for high skilled workers.

Address the challenges faced by the large number of SMEs: lack of financial, human and organisational resources and difficulties in collaborating with other firms. These are major obstacles to regional innovation. One strategy could be the development of business clusters that facilitate the development and access to technologies and innovations that are traditionally more difficult for small companies to accomplish on their own. Emulating Stockholm's creation of Kista could be helpful (see the Stockholm Case Study on page 48). Attending to these obstacles could improve the innovativeness of the region, lead to the creation of more demanding jobs, and increase the attractiveness of the region for high skilled workers.

League Tables: Regions Ranked by Human Capital Leading Indicators

Table 1: Share of Complex Jobs in Workforce (2008)*

| Rank | Region | ISCO | Percentile | Rank | F |
|-----------|--------------------------------------------------|------|------------|------|-----|
| 4 | Duran Durah anat Marillana | 0.42 | 10000 | 60 | ŀ. |
| 1 | Prov. Brabant Wallon | 0,43 | 100% | 69 | |
| 2 | Prov. Vlaams-Brabant | 0,39 | 100% | 70 | L E |
| 3 | Utrecht | 0,38 | 99% | /1 | H |
| 4 | Berkshire, Buckinghamshire and Oxfordshire | 0,36 | 99% | /2 | (|
| 5 | Bedfordshire and Hertfordshire | 0,36 | 99% | /3 | ŀ |
| 6 | lle de France | 0,34 | 98% | /4 | 2 |
| 7 | Stockholm | 0,34 | 98% | /5 | ſ |
| 8 | Noord-Holland | 0,34 | 98% | 76 | |
| 9 | Cheshire | 0,34 | 98% | // | ŀ |
| 10 | Surrey, East and West Sussex | 0,34 | 98% | /8 | ľ |
| 11 | Outer London | 0,34 | 98% | /9 | |
| 12 | Praha | 0,33 | 96% | 80 | (|
| 13 | Southern and Eastern | 0,33 | 96% | 81 | \ |
| 14 | Etela-Suomi (Helsinki) | 0,33 | 96% | 82 | |
| 15 | Zuid-Holland | 0,31 | 95% | 83 | - |
| 16 | Gloucestershire, Wiltshire and Bristol/Bath area | 0,31 | 95% | 84 | 2 |
| 17 | Hampshire and Isle of Wight | 0,31 | 95% | 85 |) |
| 18 | East Wales | 0,31 | 95% | 85 | ľ |
| 19 | Prov. Oost-vlaanderen | 0,31 | 95% | 8/ | |
| 20 | North Yorkshire | 0,31 | 95% | 88 | |
| 21 | Border, Midland and Western | 0,31 | 95% | 89 | |
| 22 | Prov. Luxembourg (B) | 0,31 | 95% | 90 | |
| 23 | Luxembourg (Grand-Ducne) | 0,3 | 92% | 91 | |
| 24 | Hovedstaden | 0,3 | 92% | 92 | ľ |
| 25 | Kozep-Magyarorszag | 0,3 | 92% | 93 | 2 |
| 26 | Heretordshire, worcestershire and warwickshire | 0,3 | 92% | 94 | 6 |
| 27 | Berlin | 0,3 | 92% | 95 | 4 |
| 28 | Prov. Liége | 0,3 | 92% | 96 | |
| 29 | Prov. Namur | 0,3 | 92% | 97 | , |
| 30 | Prov. Antwerpen | 0,29 | 89% | 98 | |
| 31 | Noord-Brabant | 0,29 | 89% | 99 | |
| 32 | Eastern Scotland | 0,29 | 89% | 100 | |
| 33 | Leicestershire, Rutland and Northamptonshire | 0,29 | 89% | 101 | |
| 34 | Gelderland | 0,29 | 89% | 102 | |
| 35 | East Anglia | 0,29 | 89% | 103 | |
| 30 | | 0,29 | 89% | 104 | |
| 37 | ESSEX | 0,29 | 89% | 105 | 5 |
| 38 | București – litov | 0,29 | 89% | 106 | |
| 39 | Groningen North Eastern Scotland | 0,28 | 80% | 107 | |
| 40 | | 0,20 | 0070 | 100 | 5 |
| 41 | ALLIKI / ALLIKI | 0,20 | 0070 | 109 | Ĺ |
| 42 | Prov. Haipaut | 0,20 | 80% | 110 | |
| 43 | Liotuvo | 0,20 | 86% | 117 | 7 |
| 44 | Braticlaucký kraj | 0,20 | 80/0 | 112 | 2 |
| 45 | | 0,27 | 03/0 | 112 | k |
| 40 | Zahodna Slovenija | 0,27 | 83% | 114 | |
| 47 | West Midlands | 0,27 | 83% | 116 | 6 |
| 40 /19 | Drenthe | 0,27 | 83% | 117 | Ì |
| 50 | West Yorkshire | 0,27 | 83% | 118 | |
| 51 | Derbyshire and Nottinghamshire | 0.27 | 83% | 119 | F |
| 52 | Dorset and Somerset | 0.27 | 83% | 120 | |
| 53 | Prov. Limburg (B) | 0.27 | 83% | 121 | ¢ |
| 54 | Devon | 0.27 | 83% | 122 | 0 |
| 55 | Mazowieckie | 0.27 | 83% | 123 | ŀ |
| 56 | Βόρειο Αιναίο / Voreio Aigaio | 0.27 | 83% | 124 | r |
| 57 | Hamburg | 0.26 | 79% | 125 | E |
| 58 | Oberbavern | 0.26 | 79% | 126 | Ή |
| 59 | Åland | 0.26 | 79% | 127 | C |
| 60 | Limburg (NL) | 0,26 | 79% | 128 | 0 |
| 61 | Flevoland | 0,26 | 79% | 129 | |
| 62 | Greater Manchester | 0,26 | 79% | 130 | ł |
| 63 | Ciudad Autónoma de Ceuta | 0.26 | 79% | 131 | E |
| 64 | East Yorkshire and Northern Lincolnshire | 0,26 | 79% | 132 | r |
| 65 | Lancashire | 0,26 | 79% | 133 | 0 |
| 66 | Shropshire and Staffordshire | 0,26 | 79% | 134 | F |
| 67 | Lincolnshire | 0,26 | 79% | 135 | ŀ |
| 68 | Merseyside | 0,26 | 79% | 136 | F |
| | | | | | |

| Rank | Region | ISCO | Percentile in Ranking |
|----------------|--------------------------------------------------------|------|--------------------------|
| 59 | Κεντρική Μακεδονία / Kentriki Makedonia | 0,26 | 79% |
| 70 | Eesti | 0,26 | 79% |
| 71 | Югозападен / Yugozapaden (Sofia) | 0,26 | 79% |
| 72 | Comunidad de Madrid | 0,25 | 73% |
| 73 | Friesland (NL) | 0,25 | 73% |
| 74 | South Western Scotland | 0,25 | 73% |
| 75 | Νότιο Αιγαίο / Notio Aigaio | 0,25 | 73% |
| /6 77 | Cumbria | 0,25 | /3% |
| 70 70 | Highlands and Islands | 0,25 | 73% |
| 70 | Tees Valley and Durham | 0,25 | 73% |
| 30 | | 0,25 | 73% |
| 31 | Wien | 0,23 | 70% |
| 32 | Darmstadt | 0,24 | 70% |
| 33 | País Vasco | 0,24 | 70% |
| 34 | Zeeland | 0,24 | 70% |
| 35 | Västsverige | 0,24 | 70% |
| 35 | Köln | 0,24 | 70% |
| 37 | Sydsverige | 0,24 | 70% |
| 38 | Länsi-Suomi | 0,24 | 70% |
| 39 | Pohjois-Suomi | 0,24 | 70% |
| 90 | Northumberland and Tyne and Wear | 0,24 | 70% |
|) 1 | Midi-Pyrènèes | 0,24 | /0% |
| 1Z | Northern Ireland | 0,24 | 70% |
| 13 14 | | 0,24 | 70% |
| 94 25 | Οεοοαλία / Thessalia Διστικό Ελλάδα / Dutiki Ellada | 0,24 | 70% |
| 96 | | 0,24 | 70% |
| 97 | Östra Mellansverige | 0.23 | 64% |
| 98 | West Wales and The Valleys | 0,23 | 64% |
| 99 | Śląskie | 0,23 | 64% |
| 100 | Pomorskie | 0,23 | 64% |
| 101 | Małopolskie | 0,23 | 64% |
| 102 | Övre Norrland | 0,22 | 62% |
| 103 | Mellersta Norrland | 0,22 | 62% |
| 104 | Liguria | 0,22 | 62% |
| 105 | Lisboa | 0,22 | 62% |
| 106 | Alsace | 0,22 | 62% |
| 107 | Provence-Alpes-Côte d'Azur | 0,22 | 62% |
| 108 | Principado de Asturias | 0,22 | 62% |
| 109 | Autergne Auturé MarsSovía / Dytiki Makedonia | 0,22 | 62% |
| 111 | Jóvia Nació / Jonia Nisia | 0,22 | 62% |
| 112 | Zachodniopomorskie | 0.22 | 62% |
| 113 | Stuttgart | 0,21 | 58% |
| 114 | Karlsruhe | 0,21 | 58% |
| 115 | Düsseldorf | 0,21 | 58% |
| 116 | Cataluña | 0,21 | 58% |
| 117 | Lazio | 0,21 | 58% |
| 118 | Aragón | 0,21 | 58% |
| 119 | Rheinhessen-Pfalz | 0,21 | 58% |
| 120 | Aquitaine | 0,21 | 58% |
| 121 | Sjælland | 0,21 | 58% |
| 122 | | 0,21 | 58% |
| 123 | Ita-Suomi | 0,21 | 58% |
| 124 | IVIdild Pacificata | 0,21 | 58% |
| 125 | | 0,21 | 58% |
| 120 | Campania | 0,21 | 58% |
| 128 | Calabria | 0.21 | 58% |
| 129 | Dolnoślaskie | 0.21 | 58% |
| 130 | Łódzkie | 0,21 | 58% |
| 131 | Bremen | 0,2 | 51% |
| 132 | Mittelfranken | 0,2 | 51% |
| 133 | Comunidad Foral de Navarra | 0,2 | 51% |
| 134 | Freiburg | 0,2 | 51% |
| 135 | Hannover | 0,2 | 51% |
| 136 | Rhône-Alpes | 0,2 | 51% |

*excludes Brussels and London due to performance anomalies

Lisbon Council Policy Brief: Human Capital in Regions and Cities

| Rank | Region | ISCO | Percentile in Ranking | Rank | Regio |
|------|-------------------------------------|------|--------------------------|------|---------|
| 137 | Cantabria | 0,2 | 51% | 203 | Umbr |
| 138 | Leipzig | 0,2 | 51% | 204 | Bourg |
| 139 | Nord-Pas-de-Calais | 0,2 | 51% | 205 | Franci |
| 140 | Abruzzo | 0,2 | 51% | 206 | Poitou |
| 141 | Ziepea Enada / Sierea Ellada | 0,2 | 51% 51% | 207 | Picard |
| 1/12 | Ts)ontówngoc / Pelononnisos | 0,2 | 51% | 208 | Lünek |
| 144 | Puglia | 0,2 | 51% | 210 | Castil |
| 145 | Sicilia | 0,2 | 51% | 210 | Algan |
| 146 | Ανατολική Μακεδονία, Θράκη / | 0,2 | 51% | 212 | Středr |
| | Anatoliki Makedonia, Thraki | | | 213 | Jihový |
| 147 | Opolskie | 0,2 | 51% | 214 | Kujaw |
| 148 | Tübingen | 0,19 | 45% | 215 | Dél-D |
| 149 | Midtjylland | 0,19 | 45% | 216 | Święto |
| 150 | Toscana | 0,19 | 45% | 217 | Podla |
| 151 | Braunschweig | 0,19 | 45% | 218 | Vorar |
| 152 | Gießen | 0,19 | 45% | 219 | Provir |
| 153 | Castilla y León | 0,19 | 45% | 220 | Venet |
| 154 | Schleswig-Holstein | 0,19 | 45% | 221 | Schwa |
| 155 | Trier | 0,19 | 45% | 222 | Friuli- |
| 156 | Κύπρος/ Kıbrıs | 0,19 | 45% | 223 | Oberf |
| 157 | Basse-Normandie | 0,19 | 45% | 224 | Nordj |
| 158 | Dresden | 0,19 | 45% | 225 | Kärnt |
| 159 | Brandenburg-Sudwest | 0,19 | 45% | 226 | VVese |
| 160 | Languedoc-Roussillon | 0,19 | 45% | 227 | Cham |
| 161 | Corse | 0,19 | 45% | 228 | Pays c |
| 162 | Anualucia | 0,19 | 45% | 229 | Canar |
| 164 | Wielkopolskie | 0,19 | 4370 | 230 | Purgo |
| 165 | Lubuskie | 0,19 | 45% | 231 | Brand |
| 166 | Warmińsko-Mazurskie | 0,19 | 45% | 232 | |
| 167 | Salzburg | 0.18 | 37% | 233 | Středr |
| 168 | Lombardia | 0,18 | 37% | 235 | Север |
| 169 | Provincia Autonoma Bolzano/Bozen | 0,18 | 37% | 236 | Север |
| 170 | Emilia-Romagna | 0,18 | 37% | 237 | Niede |
| 171 | Kassel | 0,18 | 37% | 238 | Steier |
| 172 | La Rioja | 0,18 | 37% | 239 | March |
| 173 | Norra Mellansverige | 0,18 | 37% | 240 | Niede |
| 174 | Münster | 0,18 | 37% | 241 | Sachs |
| 175 | Centre | 0,18 | 37% | 242 | Jihozá |
| 176 | Comunidad Valenciana | 0,18 | 37% | 243 | Mora |
| 177 | Bretagne | 0,18 | 37% | 244 | Sever |
| 178 | Ciudad Autónoma de Melilla | 0,18 | 37% | 245 | Nyuga |
| 1/9 | Region de Murcia | 0,18 | 37% | 246 | Stredr |
| 180 | Chemnitz | 0,18 | 37% | 247 | Югоиз |
| 101 | Sardegna | 0,18 | 3/% | 248 | Lorral |
| 102 | V2NOUNA SIOVENIJA Közép Dupáptúl | 0,18 | 37% 270/ | 249 | Norto |
| 18/ | Dál-Alföld | 0,18 | 37 /0 | 250 | Южен |
| 104 | Észak-Magyarország | 0,18 | 37 /0 | 251 | Oberé |
| 186 | Észak-Alföld | 0.18 | 37% | 252 | Zánac |
| 187 | Lubelskie | 0.18 | 37% | 254 | Vest |
| 188 | Podkarpackie | 0.18 | 37% | 255 | Výcho |
| 189 | Североизточен / Severoiztochen | 0.18 | 37% | 256 | Regiã |
| 190 | Tirol | 0,17 | 29% | 257 | Sever |
| 191 | Oberpfalz | 0,17 | 29% | 258 | Centr |
| 192 | Valle d'Aosta/Vallée d'Aoste | 0,17 | 29% | 259 | Nord- |
| 193 | Unterfranken | 0,17 | 29% | 260 | Centr |
| 194 | Saarland | 0,17 | 29% | 261 | Sud-V |
| 195 | Illes Balears | 0,17 | 29% | 262 | Sud-E |
| 196 | Piemonte | 0,17 | 29% | 263 | Nord- |
| 197 | Syddanmark | 0,17 | 29% | 264 | Sud-N |
| 198 | Småland med öarna | 0,17 | 29% | 265 | Regiã |
| 199 | Detmold | 0,17 | 29% | | Marti |
| 200 | Arnsberg | 0,17 | 29% | | Guad |
| 201 | Haute-Normandie | 0,17 | 29% | | Réuni |
| 202 | Koblenz | 0,17 | 29% | | Guya |

| 203 Umbria 0,17 29% 204 Bourgogne 0,17 29% 205 Franche-Comté 0,17 29% 206 Poitou-Charentes 0,17 29% 207 Limousin 0,17 29% 208 Picardie 0,17 29% 209 Lüneburg 0,17 29% 210 Castilla-La Mancha 0,17 29% 211 Algarve 0,17 29% 212 Stédní Cechy 0,17 29% 213 Jihovýchod 0,17 29% 214 Kujawsko-Pomorskie 0,17 29% 213 Deb-Dunahrúl 0,17 29% 214 Kviajwsko-Pomorskie 0,17 29% 215 Deb-Dunahrúl 0,17 29% 216 Swietokrzyskie 0,17 29% 218 Vorarlberg 0,16 18% 220 Veneto 0,16 18% <td< th=""><th>Rank</th><th>Region</th><th>ISCO</th><th>Percentile in Ranking</th></td<> | Rank | Region | ISCO | Percentile in Ranking |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------|------|--------------------------|
| 204 Bourgogne 0,17 29% 205 Franche-Comté 0,17 29% 207 Limousin 0,17 29% 208 Picardie 0,17 29% 209 Lüneburg 0,17 29% 210 Castille-La Mancha 0,17 29% 211 Algarve 0,17 29% 212 Stréchnic Cechy 0,17 29% 213 Jihovýchod 0,17 29% 215 Dél-Dunántúl 0,17 29% 218 Vorariberg 0,16 18% 219 Polackie 0,17 29% 210 Veneto 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Charpagne-Ardenne 0,16 18% 223 Oberfranken 0,16 18% 224 Narde Ardenne 0,16 18% 225 | 203 | Umbria | 0,17 | 29% |
| 205 Franche-Comté 0,17 29% 206 Poitou-Charentes 0,17 29% 208 Picardie 0,17 29% 209 Lüneburg 0,17 29% 201 Castille-La Mancha 0,17 29% 211 Algane 0,17 29% 212 Stiedni Čachy 0,17 29% 213 Jinovýchod 0,17 29% 214 Kujawsko-Pomorskie 0,17 29% 215 Del-Dunántúl 0,17 29% 216 Swigtokrzyskie 0,17 29% 217 Podiaskie 0,17 29% 218 Vorarberg 0,16 18% 220 Veneto 0,16 18% 221 Fuli-Venezia Giulia 0,16 18% 222 Fuli-Venezia Giulia 0,16 18% 223 Alordylland 0,16 18% 224 Nordylland 0,16 18% <t< td=""><td>204</td><td>Bourgogne</td><td>0,17</td><td>29%</td></t<> | 204 | Bourgogne | 0,17 | 29% |
| 206 Poitou-Charentes 0,17 29% 207 Limousin 0,17 29% 208 Picardie 0,17 29% 209 Lüneburg 0,17 29% 210 Castilla-La Mancha 0,17 29% 211 Algarve 0,17 29% 212 Stréchi Cechy 0,17 29% 213 Jihovýchod 0,17 29% 214 Kujawsko-Pomorskie 0,17 29% 215 Del-Dunántúl 0,17 29% 216 Swiętokrzyskie 0,17 29% 218 Vorariberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Vereto 0,16 18% 221 Schwaben 0,16 18% 222 Oberfranken 0,16 18% 223 Derfranken 0,16 18% 224 Nardeneburg-Nordost 0,16 18% | 205 | Franche-Comté | 0,17 | 29% |
| 207 İmousin 0,17 29% 208 Picardie 0,17 29% 204 Lineburg 0,17 29% 210 Castilla-La Mancha 0,17 29% 211 Algarve 0,17 29% 212 Stechni Cechy 0,17 29% 213 Jihovýchod 0,17 29% 215 Del-Dunántíl 0,17 29% 216 Świętokrzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Konziberg 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 223 Soberfanken 0,16 18% 224 Nordfylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Chamagne-Ardenne 0,16 18% 228 | 206 | Poitou-Charentes | 0,17 | 29% |
| 208Picarclie0,1729%209Lüneburg0,1729%210Castila-La Mancha0,1729%211Algarve0,1729%212Stredni Cechy0,1729%213Jihovýchod0,1729%214Kujawsko-Pomorskie0,1729%215Del-Dunántúl0,1729%216Switekorzyskie0,1729%217Podlaskie0,1729%218Vorarlberg0,1618%220Veneto0,1618%221Frül-Venezia Guila0,1618%222Frül-Venezia Guila0,1618%223Oberfranken0,1618%224Nordylland0,1618%225Karnen0,1618%226Weser-Ems0,1618%227Champagne-Ardenne0,1618%238Burgenland (A)0,1618%239Ganarias0,1618%230Thüringen0,1618%231Burgenland (A)0,1618%233Alentejo0,1618%234Stedni Morava0,1618%235Ceneposanagent / Severen tsentralen0,1618%236Alentejo0,1511%237Niederbayern0,1511%238Steiermark0,1511%239Marche0,1511%241Moravsko | 207 | Limousin | 0,17 | 29% |
| 209Lüneburg0,1729%210Castilla-La Mancha0,1729%211Algave0,1729%212Stredni Cechy0,1729%213Jihovýchod0,1729%214Kujavsko-Pomorskie0,1729%215Del-Dunántúl0,1729%216Swiętokrzyskie0,1729%217Podlaskie0,1729%218Vorarlberg0,1618%220Veneto0,1618%221Schwaben0,1618%222Friuli-Venezia Giulia0,1618%223Oberfranken0,1618%224Nordylland0,1618%225Kärnten0,1618%226Weser-Ems0,1618%227Champagne-Ardenne0,1618%228Pays de la Loire0,1618%239Burgenland (A)0,1618%231Burgenland (A)0,1618%233Alertejo0,1618%234Stredni Morava0,1618%235Ceesepvanage+/ Severozapaden0,1511%236Ceesepvanage+/ Severozapaden0,1511%237Niederbsterreich0,1511%238Steiermark0,1511%239Marche0,1511%244Severovýchod0,1511%245Korder Slovensko0,1511% <td>208</td> <td>Picardie</td> <td>0,17</td> <td>29%</td> | 208 | Picardie | 0,17 | 29% |
| 110 Castilla-La Mancha 0,17 29% 211 Algarve 0,17 29% 212 Strední Cechy 0,17 29% 213 Jihovýchod 0,17 29% 215 Dei-Douňantúl 0,17 29% 216 Swiętokrzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Vorafberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Srhwaben 0,16 18% 222 Früli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordylland 0,16 18% 225 Karnten 0,16 18% 226 Canarias 0,16 18% 227 Champagne-Ardenne 0,16 18% 238 Brandenburg-Nordots 0,16 18% | 209 | Lüneburg | 0,17 | 29% |
| 211Algarve0,1729%212Sitední Cechy0,1729%213Jihovýchod0,1729%214Kujavsko-Pomorskie0,1729%215Dél-Dunántúl0,1729%216Switekorzyskie0,1729%217Podlaskie0,1729%218Vorariberg0,1618%200Provincia Autonoma Trento0,1618%221Schwaben0,1618%222Veneto0,1618%223Oberfranken0,1618%224Nordjylland0,1618%225Kärnten0,1618%226Weser-Ems0,1618%227Champagne-Ardenne0,1618%228Panarias0,1618%230Thüringen0,1618%231Burgenland (A)0,1618%232Stedení Morava0,1618%233Alentejo0,1618%234Stelermark0,1511%235Cesepen µentrpanen / Severen tsentralen0,1618%236Cesepen µentrpanen / Severen tsentralen0,1618%237Niederösterreich0,1511%248Marche0,1511%240Niederösterreich0,1511%241Sachsen-Anhalt0,1511%242Ihoraskoslezsko0,1511%243Marche0,15 <td< td=""><td>210</td><td>Castilla-La Mancha</td><td>0,17</td><td>29%</td></td<> | 210 | Castilla-La Mancha | 0,17 | 29% |
| 212 Stredni Cechy 0,17 29% 213 Jihovýchod 0,17 29% 215 Dél-Dunántúl 0,17 29% 216 Swiętokrzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Vorarlberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Friuli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordylkland 0,16 18% 225 Kärnten 0,16 18% 226 Veser-Erns 0,16 18% 227 Champagne-Ardenne 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% | 211 | Algarve | 0,17 | 29% |
| 213Jihovýchod0,1729%214Kujavsko-Pomorskie0,1729%215Dél-Dunántúl0,1729%216Świętokrzyskie0,1729%217Podlaskie0,1729%218Vorafberg0,1618%219Provincia Autonoma Trento0,1618%220Veneto0,1618%221Schwaben0,1618%223Oberfranken0,1618%224Nordjylland0,1618%225Kärnten0,1618%226Weser-Ems0,1618%227Champagne-Ardenne0,1618%228Pays de la Loire0,1618%230Thúringen0,1618%231Burgenland (A)0,1618%232Strední Morava0,1618%233Alentejo0,1618%234Strední Morava0,1618%235Ceaseposanagent/ Severen tsentralen0,1618%236Niederbayern0,1511%239Marche0,1511%241Sachsen-Anhalt0,1511%243Moravskoalezsko0,1511%244Severovýchod0,1511%245Kyugat-Dunántúl0,1511%246Stredné Slovensko0,1511%247Kovatovsko/Noron0,1511%248Soversko0,1511%< | 212 | Střední Čechy | 0,17 | 29% |
| 214 Kujawsko-Pomorskie 0,17 29% 215 Dél-Dunántúl 0,17 29% 216 Swiętokrzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Vorariberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Veneto 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Rays de la Loire 0,16 18% 230 Thúringen 0,16 18% 231 Burgenland (A) 0,16 18% 233 Jatedenlayer 0,16 18% | 213 | Jihovýchod | 0,17 | 29% |
| 215 Del-Dunántúl 0,17 29% 216 Świętokzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Vorarlberg 0,16 18% 210 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Fruli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 238 Pays de la Loire 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Stréermark 0,15 11% 235 Ceseposanage+/ Severozapaden 0,16 18% 236 Ceseposanage+/ Severozapaden 0,15 11% 234 Moravkeslezsko | 214 | Kujawsko-Pomorskie | 0,17 | 29% |
| 216 Świętokrzyskie 0,17 29% 217 Podlaskie 0,17 29% 218 Vorarlberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Fruli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Erns 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Bradnehburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Stiedmi Morava 0,16 18% 235 Ceaepen Hertpanent / Severozapaden 0,16 18% 237 Niederösterreich 0,15 11% 238 Stiedmi Morava | 215 | Dél-Dunántúl | 0,17 | 29% |
| 217 Podlaskie 0,17 29% 218 Vorariberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Fruli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Erns 0,16 18% 227 Champagne-Ardenne 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Steidni Morava 0,16 18% 235 Ceepeposanage+/ Severen tsentralen 0,16 18% 236 Steiermark 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 241 Sachsen-Anhalt 0,15 | 216 | Świętokrzyskie | 0,17 | 29% |
| 218 Vorarlberg 0,16 18% 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Friuli-Venezia Guilia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Stiedmi Morava 0,16 18% 235 Ceeepenaanage+/ Severozapaden 0,16 18% 237 Niederösterreich 0,15 11% 238 Steiermark 0,15 11% <t< td=""><td>217</td><td>Podlaskie</td><td>0,17</td><td>29%</td></t<> | 217 | Podlaskie | 0,17 | 29% |
| 219 Provincia Autonoma Trento 0,16 18% 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Friuli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordiylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Strédní Morava 0,16 18% 235 Ceeepau uertpranet/ Severozapaden 0,16 18% 236 Ceeepoanaaget/ Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 243 Moravskosleszko 0,15 11% | 218 | Vorarlberg | 0,16 | 18% |
| 220 Veneto 0,16 18% 221 Schwaben 0,16 18% 222 Friuli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kærren 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Stredmi Morava 0,16 18% 235 CeseptosanageH / Severozapaden 0,16 18% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 243 Morayskoslezsko 0,15 11% | 219 | Provincia Autonoma Trento | 0,16 | 18% |
| 221 Schwaben 0,16 18% 222 Friuli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Strédní Morava 0,16 18% 235 Ceaeposanagen / Severozapaden 0,16 18% 236 Ceaeposanagen / Severozapaden 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Stochsen-Anhalt 0,15 | 220 | Veneto | 0,16 | 18% |
| 222 Friuli-Venezia Giulia 0,16 18% 223 Oberfranken 0,16 18% 224 Nordiylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepceu централен / Severon tsentralen 0,16 18% 236 Cesepceu централен / Severozapaden 0,15 11% 237 Niederősterreich 0,15 11% 238 Steiermark 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jhozápad 0,15 11% 243 Moravskoslezsko 0,15 | 221 | Schwaben | 0,16 | 18% |
| 223 Oberfranken 0,16 18% 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Strédní Morava 0,16 18% 235 Cesepen uertrpanet / Severon tsentralen 0,16 18% 236 Cesepeosanagen / Severozapaden 0,15 11% 237 Niederösterreich 0,15 11% 238 Steiermark 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% | 222 | Friuli-Venezia Giulia | 0,16 | 18% |
| 224 Nordjylland 0,16 18% 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 234 Strēdni Morava 0,16 18% 235 Ceæeposanagen/ Severozapaden 0,16 18% 236 Ceæeposanagen/ Severozapaden 0,15 11% 237 Niederösterreich 0,15 11% 238 Steiermark 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,1 | 223 | Oberfranken | 0,16 | 18% |
| 225 Kärnten 0,16 18% 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepcen централен / Severozapaden 0,16 18% 236 Cesepcanagen / Severozapaden 0,15 11% 237 Niederösterreich 0,15 11% 238 Steiermark 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% | 224 | Nordjylland | 0,16 | 18% |
| 226 Weser-Ems 0,16 18% 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepen централен / Severen tsentralen 0,16 18% 236 Ceseposanagen / Severozapaden 0,16 18% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% | 225 | Kärnten | 0,16 | 18% |
| 227 Champagne-Ardenne 0,16 18% 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepen uerrpanen / Severozapaden 0,16 18% 236 Cesepoanagen / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Stredné Slovensko 0,15 11% | 226 | Weser-Ems | 0,16 | 18% |
| 228 Pays de la Loire 0,16 18% 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepoanagen/ Severozapaden 0,16 18% 236 Cesepoanagen/ Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Sovensko 0,15 11% 245 Nyugat-Dunántúl 0,15 | 227 | Champagne-Ardenne | 0,16 | 18% |
| 229 Canarias 0,16 18% 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cesepeau querrpanen / Severen tsentralen 0,16 18% 236 Ceseposanagen / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,13 5% <td>228</td> <td>Pays de la Loire</td> <td>0,16</td> <td>18%</td> | 228 | Pays de la Loire | 0,16 | 18% |
| 230 Thüringen 0,16 18% 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Cebepeh централен / Severen tsentralen 0,16 18% 236 Cebeposanageh / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Slovensko 0,15 11% 247 Moravstoslezsko 0,15 11% 248 Lorraine 0,14 7% <td>229</td> <td>Canarias</td> <td>0,16</td> <td>18%</td> | 229 | Canarias | 0,16 | 18% |
| 231 Burgenland (A) 0,16 18% 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 CesepeH централен / Severo Isentralen 0,16 18% 236 CeseposanageH / Severozapaden 0,16 18% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Iorowsrovenk / Yugoiztochen 0,14 7% 250 Norte 0,13 | 230 | Thüringen | 0,16 | 18% |
| 232 Brandenburg-Nordost 0,16 18% 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Ceверен централен / Severen tsentralen 0,16 18% 236 Ceверозаладен / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Iorowsroчen / Yugoiztochen 0,14 7% 250 Norte 0,14 7% 251 Iowen централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,12 4% <t< td=""><td>231</td><td>Burgenland (A)</td><td>0,16</td><td>18%</td></t<> | 231 | Burgenland (A) | 0,16 | 18% |
| 233 Alentejo 0,16 18% 234 Střední Morava 0,16 18% 235 Северенцентрален / Severen tsentralen 0,16 18% 236 Северозападен / Severozapaden 0,16 18% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Iorowaroven / Yugoiztochen 0,14 7% 250 Norte 0,14 7% 251 Iowen централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko <t< td=""><td>232</td><td>Brandenburg-Nordost</td><td>0,16</td><td>18%</td></t<> | 232 | Brandenburg-Nordost | 0,16 | 18% |
| 234 Střední Morava 0,16 18% 235 Северен централен / Severen tsentralen 0,16 18% 236 Северозападен / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Slovensko 0,15 11% 244 Slovensko 0,15 11% 244 Severovýchod 0,14 7% 247 Korowstroven / Yugoiztochen 0,14 7% 250 Norte 0,14 7% 251 Koxen централен / Yuzhen tsentralen <td>233</td> <td>Alentejo</td> <td>0,16</td> <td>18%</td> | 233 | Alentejo | 0,16 | 18% |
| 235 Северен централен / Severen tsentralen 0,16 18% 236 Северозападен / Severozapaden 0,15 11% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Stredné Slovensko 0,13 7% 250 Norte 0,14 7% 251 Kozen централен / Yuzhen tsentralen | 234 | Střední Morava | 0,16 | 18% |
| 236 Северозападен / Severozapaden 0,16 18% 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Lorraine 0,14 7% 250 Norte 0,14 7% 251 Kökelheburg-Vorpommern 0,13 5% <td>235</td> <td>Северен централен / Severen tsentralen</td> <td>0,16</td> <td>18%</td> | 235 | Северен централен / Severen tsentralen | 0,16 | 18% |
| 237 Niederbayern 0,15 11% 238 Steiermark 0,15 11% 239 Marche 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Stredné Slovensko 0,15 11% 244 Lorraine 0,14 7% 250 Norte 0,14 7% 251 KOxeH централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% | 236 | Северозападен / Severozapaden | 0,16 | 18% |
| 238 Stelermark 0,15 11% 239 Marche 0,15 11% 239 Marche 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 248 Lorraine 0,14 7% 250 Norte 0,14 7% 251 KOxeH централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,12 4% | 237 | Niederbayern | 0,15 | 11% |
| 239 Магсне 0,15 11% 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Югоизточен / Yugoiztochen 0,14 7% 250 Norte 0,14 7% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,12 4% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0, | 238 | Stelermark | 0,15 | 11% |
| 240 Niederösterreich 0,15 11% 241 Sachsen-Anhalt 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Korovaroven/ Yugoiztochen 0,14 7% 248 Lorraine 0,14 7% 250 Norte 0,14 7% 251 KOжen централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 254 Vest 0,13 5% 255 Východně Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 </td <td>239</td> <td>Marche</td> <td>0,15</td> <td>11%</td> | 239 | Marche | 0,15 | 11% |
| 241 Sacrisen-Annalit 0,15 11% 242 Jihozápad 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Югоизточен / Yugoiztochen 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,13 5% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 254 Vest 0,13 5% 255 Východně Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0, | 240 | Niederosterreich | 0,15 | 11% |
| 242 ЛПО2494 0,15 11% 243 Moravskoslezsko 0,15 11% 244 Severovýchod 0,15 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Югоизточен / Yugoiztochen 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východně Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,11 2% 261 Sud-Vest Oltenia 0,11 2% | 241 | Sacrisen-Annait | 0,15 | 11% |
| 243 Noravsolie2sko 0,13 11% 244 Severovýchod 0,15 11% 245 Nyugat-Dunántúl 0,15 11% 246 Stredné Slovensko 0,15 11% 247 Korovistoven / Yugoiztochen 0,15 11% 248 Lorraine 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,13 5% 251 KOæn uentpanen / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0, | 242 | Jinozapau Marzyskoslazsko | 0,15 | 11% |
| 244 Develoy(1)00 0,15 11 /a 245 Nyugat-Dunántúl 0,15 11 % 246 Stredné Slovensko 0,15 11 % 247 KOrowstroven / Yugoiztochen 0,15 11 % 248 Lorraine 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 251 KOxen централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 | 245 | Savarawichod | 0,15 | 11 /0 |
| 243 Nyugat-Durantur 0,13 11 /a 246 Stredné Slovensko 0,15 11% 247 KOrowsto-ven / Yugojztochen 0,15 11% 248 Lorraine 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 251 KOkel централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Stat 0,1 2% 263 Nord-Est 0,1 | 244 | Nyugat Dupántúl | 0,15 | 11 /0 |
| 247 Котонзточен / Yugoiztochen 0,15 11 / 0 248 Lorraine 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,11 2% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,09 1% 265 Região Autónoma dos Açores 0,08 | 245 | Stradná Slovensko | 0,15 | 11 /6 |
| 248 Lorraine 0,14 7% 248 Lorraine 0,14 7% 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guadeloupe n/a | 240 | Orouztoueu / Yugoiztochen | 0,15 | 11% |
| 249 Mecklenburg-Vorpommern 0,14 7% 250 Norte 0,14 7% 250 Norte 0,14 7% 251 Kökel централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Stat 0,1 2% 263 Nord-Est 0,1 2% 264 Sud-Montenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe | 247 | | 0,13 | 7% |
| 245 Norte 0,14 7% 250 Norte 0,14 7% 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Guadeloupe n/a Guadeloupe n/ | 240 | Mecklenburg-Vornommern | 0,14 | 7% |
| 251 Южен централен / Yuzhen tsentralen 0,14 7% 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guadeloupe n/a Réunion n/a Guadeloupe n/a | 250 | Norte | 0.14 | 7% |
| 252 Oberösterreich 0,13 5% 253 Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centru 0,12 4% 261 Sud-Vest 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Stat 0,1 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a 4 6uadeloupe n/a Réunion n/a Guadeloupe n/a 6uyane n/a | 251 | Южен централен / Yuzhen tsentralen | 0.14 | 7% |
| Západné Slovensko 0,13 5% Západné Slovensko 0,13 5% 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guadeloupe n/a Réunion n/a Guayane n/a | 252 | Oberösterreich | 0.13 | 5% |
| 254 Vest 0,13 5% 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Mutenia 0,1 2% 264 Sud-Mutenia 0,0 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guadeloupe n/a Réunion n/a Guayane n/a | 253 | Západné Slovensko | 0.13 | 5% |
| 255 Východné Slovensko 0,13 5% 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Muntenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Adrinique n/a Guadeloupe n/a Réunion n/a Guayane n/a | 254 | Vest | 0.13 | 5% |
| 256 Região Autónoma da Madeira 0,12 4% 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Muntenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guayane n/a | 255 | Východné Slovensko | 0,13 | 5% |
| 257 Severozápad 0,12 4% 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Muntenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guayane n/a | 256 | Região Autónoma da Madeira | 0.12 | 4% |
| 258 Centru 0,12 4% 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-Vest Oltenia 0,11 2% 263 Nord-Est 0,1 2% 264 Sud-Muntenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Réunion n/a Guyane n/a | 257 | Severozápad | 0,12 | 4% |
| 259 Nord-Vest 0,12 4% 260 Centro (P) 0,11 2% 261 Sud-Vest Oltenia 0,11 2% 262 Sud-St 0,1 2% 263 Nord-Est 0,1 2% 264 Sud-Muntenia 0,09 1% 265 Região Autónoma dos Açores 0,08 0% Martinique n/a Guadeloupe n/a Guyane n/a | 258 | Centru | 0,12 | 4% |
| 260Centro (P)0,112%261Sud-Vest Oltenia0,112%262Sud-Est0,12%263Nord-Est0,12%264Sud-Muntenia0,091%265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 259 | Nord-Vest | 0,12 | 4% |
| 261Sud-Vest Oltenia0,112%262Sud-Est0,12%263Nord-Est0,12%264Sud-Muntenia0,091%265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/an/a1Guyanen/a1 | 260 | Centro (P) | 0,11 | 2% |
| 262Sud-Est0,12%263Nord-Est0,12%264Sud-Muntenia0,091%265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 261 | Sud-Vest Oltenia | 0,11 | 2% |
| 263Nord-Est0,12%264Sud-Muntenia0,091%265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 262 | Sud-Est | 0,1 | 2% |
| 264Sud-Muntenia0,091%265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 263 | Nord-Est | 0,1 | 2% |
| 265Região Autónoma dos Açores0,080%Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 264 | Sud-Muntenia | 0,09 | 1% |
| Martiniquen/aGuadeloupen/aRéunionn/aGuyanen/a | 265 | Região Autónoma dos Açores | 0,08 | 0% |
| Guadeloupe n/a Réunion n/a Guyane n/a | | Martinique | n/a | |
| Réunion n/a Guyane n/a | | Guadeloupe | n/a | |
| Guyane n/a | | Réunion | n/a | |
| | | Guyane | n/a | |

Source: Eurostat – European Regional and Urban Statistics Database

n/a= data not available

Table 2: Youth Unemployment Rate (Aged 15-24, 2007)*

| Rank | Region | Youth Unem- | Percentile | Rank | Region | Youth Unem- | Percentile |
|--------|-------------------------------------------------|-------------|------------|------|----------------------------------------------------|-------------|------------|
| 1 | California | | | 60 | Line foundation (Advanced and the analysis) of the | | |
| 1 | Gelderland | 0,049 | 100% | 69 | Herefordshire, Worcestershire and Warwickshire | 0,117 | /1% |
| 2 | Utrecht | 0,05 | 99% | 70 | Berksnire, Buckingnamsnire and Oxfordsnire | 0,118 | 71% |
| 3 | Overijssei Freiburg | 0,051 | 98% | 71 | Comunidad Foral do Navarra | 0,118 | 71% |
| 4 | Freiburg Neord Brahant | 0,051 | 98% | 72 | Comunidad Foral de Navarra | 0,12 | 70% |
| 5 | NOOFG-Brabant | 0,052 | 98% | 73 | Nyugal-Dunantui East Apalia | 0,12 | 70% |
| 0 | Zeelanu Neord Helland | 0,052 | 9070 | 74 | Last Aligila Phoiphosson Dfolz | 0,121 | 60% |
| / Q | Friesland (NIL) | 0,056 | 97% | 75 | Surroy East and West Suscey | 0,121 | 69% |
| 9 | lihozánad | 0,00 | 96% | 70 | | 0,122 | 68% |
| 10 | Tirol | 0,00 | 96% | 78 | Vzhodna Slovenija | 0,123 | 68% |
| 10 | Schwaben | 0,004 | 95% | 79 | Pays de la Loire | 0,125 | 67% |
| 12 | Praba | 0,005 | 94% | 80 | Prov. Limburg (B) | 0,125 | 67% |
| 13 | Oberbavern | 0,000 | 94% | 81 | Gießen | 0,120 | 66% |
| 14 | Zuid-Holland | 0,000 | 94% | 82 | Umbria | 0,127 | 66% |
| 15 | Oberösterreich | 0.066 | 94% | 83 | Kassel | 0.128 | 65% |
| 16 | Tübingen | 0.067 | 93% | 84 | Leicestershire. Rutland and Northamptonshire | 0.128 | 65% |
| 17 | Niederbavern | 0.07 | 92% | 85 | Lombardia | 0.129 | 64% |
| 18 | Midtivlland | 0.07 | 92% | 85 | Schleswig-Holstein | 0 129 | 64% |
| 19 | Flevoland | 0.07 | 92% | 87 | Západné Slovensko | 0.13 | 64% |
| 20 | Югозапален / Yugozapaden (Sofia) | 0.071 | 92% | 88 | South Western Scotland | 0 132 | 64% |
| 20 | Karlsruhe | 0.073 | 91% | 89 | Cataluña | 0.135 | 62% |
| 27 | Limburg (NL) | 0.074 | 91% | 90 | Braunschweig | 0.135 | 62% |
| 23 | Obernfalz | 0.075 | 90% | 91 | Bretagne | 0 135 | 62% |
| 20 | Střední Čechy | 0,075 | 90% | 92 | Aragón | 0,136 | 61% |
| 25 | Bratislavský kraj | 0,075 | 88% | 93 | Lancashire | 0,136 | 61% |
| 26 | Stuttgart | 0.076 | 88% | 94 | Chempitz | 0,136 | 61% |
| 20 | Zahodna Slovenija | 0,076 | 88% | 95 | Centro (P) | 0,130 | 61% |
| 28 | Niederösterreich | 0.076 | 88% | 96 | Toscana | 0 137 | 60% |
| 29 | Drenthe | 0.079 | 88% | 97 | Cantabria | 0.138 | 59% |
| 30 | Siælland | 0.08 | 88% | 98 | Prov. Oost-Vlaanderen | 0 138 | 59% |
| 31 | Hovedstaden | 0.081 | 87% | 99 | Lincolnshire | 0 138 | 59% |
| 32 | Kärnten | 0.081 | 87% | 100 | Южен централен / Yuzhen tsentralen | 0.138 | 59% |
| 33 | Nordivlland | 0.082 | 86% | 101 | Hannover | 0.139 | 57% |
| 34 | Steiermark | 0.082 | 86% | 102 | Devon | 0.139 | 57% |
| 35 | Lietuva | 0.082 | 86% | 103 | Końτn / Kriti | 0.139 | 57% |
| 36 | Svddanmark | 0.083 | 85% | 104 | Malta | 0 139 | 57% |
| 37 | Veneto | 0.084 | 85% | 105 | East Wales | 0.14 | 56% |
| 38 | Gloucestershire Wiltshire and Bristol/Bath area | 0.085 | 84% | 106 | South Yorkshire | 0.14 | 56% |
| 39 | Střední Morava | 0.088 | 84% | 107 | Bedfordshire and Hertfordshire | 0.141 | 55% |
| 40 | Southern and Eastern | 0.089 | 83% | 108 | Nord-Vest | 0,141 | 55% |
| 41 | Groningen | 0.089 | 83% | 109 | Etelä-Suomi (Helsinki) | 0,143 | 55% |
| 42 | Provincia Autonoma Trento | 0,089 | 83% | 110 | Piemonte | 0,143 | 55% |
| 43 | Prov. West-Vlaanderen | 0,09 | 82% | 111 | Prov. Vlaams-Brabant | 0,144 | 54% |
| 44 | Münster | 0,092 | 81% | 112 | Shropshire and Staffordshire | 0,144 | 54% |
| 45 | Northern Ireland | 0,092 | 81% | 113 | Düsseldorf | 0,145 | 52% |
| 46 | Marche | 0,093 | 81% | 114 | Friuli-Venezia Giulia | 0,145 | 52% |
| 47 | Koblenz | 0,093 | 81% | 115 | Basse-Normandie | 0,145 | 52% |
| 48 | Mittelfranken | 0,096 | 80% | 116 | Югоизточен / Yugoiztochen | 0,145 | 52% |
| 49 | Border, Midland and Western | 0,098 | 80% | 117 | Arnsberg | 0,146 | 51% |
| 50 | Severovýchod | 0,099 | 79% | 118 | West Yorkshire | 0,146 | 51% |
| 51 | Eesti | 0,1 | 79% | 119 | West Wales and The Valleys | 0,147 | 50% |
| 52 | Prov. Antwerpen | 0,101 | 79% | 120 | Nord-Est | 0,147 | 50% |
| 53 | Κύπρος / Kıbrıs | 0,102 | 78% | 121 | Northumberland and Tyne and Wear | 0,148 | 50% |
| 54 | Közép-Magyarország | 0,103 | 77% | 122 | Länsi-Suomi | 0,149 | 49% |
| 55 | Weser-Ems | 0,103 | 77% | 123 | Centre | 0,149 | 49% |
| 56 | Unterfranken | 0,106 | 77% | 124 | Thüringen | 0,149 | 49% |
| 57 | Latvija | 0,107 | 76% | 125 | East Yorkshire and Northern Lincolnshire | 0,15 | 48% |
| 58 | Emilia-Romagna | 0,108 | 76% | 126 | Illes Balears | 0,151 | 48% |
| 59 | Lüneburg | 0,109 | 76% | 127 | Luxembourg (Grand-Duché) | 0,152 | 47% |
| 60 | Oberfranken | 0,111 | 75% | 128 | Moravskoslezsko | 0,152 | 47% |
| 61 | Dorset and Somerset | 0,111 | 75% | 129 | Wien | 0,153 | 46% |
| 62 | Detmold | 0,112 | 74% | 130 | Eastern Scotland | 0,153 | 46% |
| 63 | Darmstadt | 0,113 | 73% | 131 | Brandenburg-Südwest | 0,154 | 46% |
| 64 | Jihovýchod | 0,113 | 73% | 132 | Greater Manchester | 0,156 | 45% |
| 65 | Közép-Dunántúl | 0,113 | 73% | 133 | Castilla-La Mancha | 0,157 | 45% |
| 66 | Cheshire | 0,114 | 72% | 134 | Småland med öarna | 0,158 | 44% |
| 67 | Köln | 0,114 | 72% | 135 | Kent | 0,158 | 44% |
| 68 | Hamburg | 0,116 | 72% | 136 | Rhône-Alpes | 0,159 | 43% |

*excludes Brussels and London due to performance anomalies

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| Rank | Region | Youth Unem- | Percentile | Rank | Region | Youth Unem- | Percentile |
|------|----------------------------------------|---------------|--------------|------|-----------------------------------------|---------------|------------|
| | | ployment Rate | in Ranking | | | ployment Rate | in Ranking |
| 137 | Bourgogne | 0,159 | 43% | 204 | Molise | 0,238 | 16% |
| 138 | Galicia | 0,159 | 43% | 205 | Κεντρική Μακεδονία / Kentriki Makedonia | 0,239 | 15% |
| 139 | Dresden | 0,159 | 43% | 206 | Sud-Muntenia | 0,239 | 15% |
| 140 | Alsace | 0,16 | 42% | 207 | Itä-Suomi | 0,24 | 14% |
| 141 | București-Ilfov | 0,161 | 42% | 208 | Małopolskie | 0,242 | 14% |
| 142 | La Rioja | 0,162 | 41% | 209 | Lubelskie | 0,243 | 14% |
| 143 | Derbyshire and Nottinghamshire | 0,163 | 40% | 210 | Podkarpackie | 0,244 | 13% |
| 144 | Lorraine | 0,163 | 40% | 211 | Πελοπόννησος / Peloponnisos | 0,245 | 12% |
| 145 | Limousin De si fra de Mansie | 0,164 | 40% | 212 | Zachodniopomorskie | 0,245 | 12% |
| 146 | Region de Murcia | 0,165 | 40% | 213 | Stredne Slovensko | 0,247 | 12% |
| 147 | Norte | 0,166 | 39% | 214 | Centru | 0,247 | 12% |
| 148 | Outer London | 0,167 | 39% | 215 | Lazio | 0,249 | 11% |
| 149 | | 0,17 | 38% | 210 | Ceвероизточен / Severoiztocnen | 0,25 | 100/ |
| 150 | | 0,171 | 38% | 217 | LUDUSKIE | 0,251 | 10% |
| 151 | Abruzzo | 0,172 | 38% | 218 | | 0,251 | 10% |
| 152 | Vest Castilla y Loén | 0,173 | 2770 270/ | 219 | Prov. Namur | 0,252 | 10% |
| 153 | Casulla y Leon | 0,174 | 3/% | 220 | Makedonia Thraki | 0,255 | 9% |
| 154 | Sidskie De de France | 0,175 | 30% | 221 | Languadas Baussillan | 0.256 | 0.0/ |
| 155 | Värtsvorige | 0,177 | 30% 2E0/ | 221 | Langueuoc-Roussilion | 0,250 | 970 |
| 150 | Vasisverige | 0,177 | 2270 2E0/ | 222 | FIOV. Liege | 0,257 | 070 |
| 157 | | 0,177 | 2270 2E0/ | 225 | Extremedure | 0,202 | 7 70 |
| 158 | Łodzkie Francha Comté | 0,178 | 30% 240/ | 224 | Extremadura | 0,202 | 7 70 |
| 159 | Pranche-Comte | 0,179 | 34% 240/ | 225 | SUG-ESI | 0,205 | 7% |
| 160 | Opoiskie | 0,183 | 34% | 220 | ESZAR-AITOIO | 0,271 | /% 60/ |
| 101 | Norra ivieliansverige | 0,187 | 33% | 227 | | 0,275 | 070 |
| 162 | Lisboa | 0,187 | 33% | 228 | ESZAK-IVIAGYATOTSZAG | 0,277 | 6% F0/ |
| 103 | Leipzig | 0,187 | 33% | 229 | Swiętokrzyskie | 0,278 | 5% |
| 164 | Principado de Asturias | 0,188 | 32% | 230 | východne Slovensko | 0,296 | 5% |
| 165 | Comunidad Valenciana | 0,191 | 31% | 231 | Ηπειρος / Ipeiros | 0,304 | 5% |
| 166 | Auvergne | 0,191 | 31% | 232 | Basilicata | 0,314 | 4% |
| 167 | Ovre Norrland | 0,192 | 31% | 233 | | 0,316 | 3% |
| 168 | Sachsen-Anhalt | 0,193 | 30% | 234 | Δυτική Ελλάδα / Dytiki Ellada | 0,316 | 3% |
| 169 | Severozápad | 0,193 | 30% | 235 | Puglia | 0,318 | 3% |
| 170 | Wielkopolskie | 0,193 | 30% | 236 | Sardegna | 0,325 | 2% |
| 171 | Mecklenburg-Vorpommern | 0,194 | 29% | 237 | Campania | 0,325 | 2% |
| 172 | Dél-Alföld | 0,195 | 29% | 238 | Prov. Hainaut | 0,345 | 2% |
| 173 | Poitou-Charentes | 0,196 | 29% | 239 | Sicilia | 0,372 | 1% |
| 1/4 | Podlaskie | 0,197 | 28% | 240 | Martinique | 0,4/8 | 1% |
| 1/5 | Provence-Alpes-Côte d'Azur | 0,198 | 27% | 241 | Reunion | 0,5 | 0% |
| 1/6 | Brandenburg-Nordost | 0,198 | 27% | 242 | Guadeloupe | 0,557 | 0% |
| 1// | Mellersta Norrland | 0,2 | 27% | | Bremen | n/a | |
| 1/8 | Stockholm | 0,201 | 25% | | North Eastern Scotland | n/a | |
| 1/9 | Αττική / Attiki | 0,201 | 25% | | Aland | n/a | |
| 180 | Merseyside | 0,201 | 25% | | Salzburg | n/a | |
| 181 | Alentejo | 0,201 | 25% | | Provincia Autonoma Bolzano/Bozen | n/a | |
| 182 | Ustra Mellansverige | 0,202 | 24% | | | n/a | |
| 183 | Aquitaine | 0,202 | 24% | | Valle d'Aosta/Vallee d'Aoste | n/a | |
| 184 | West Midlands | 0,205 | 24% | | Saarland | n/a | |
| 185 | Liguria | 0,207 | 24% | | Prov. Brabant Wallon | n/a | |
| 186 | Pomorskie | 0,208 | 23% | | North Yorkshire | n/a | |
| 187 | Midi-Pyrénées | 0,21 | 23% | | Ciudad Autonoma de Ceuta | n/a | |
| 188 | Champagne-Ardenne | 0,211 | 22% | | Νότιο Αιγαίο / Notio Aigaio | n/a | |
| 189 | Северен централен / Severen tsentralen | 0,211 | 22% | | Região Autónoma da Madeira | n/a | |
| 190 | Berlin | 0,212 | 21% | | Ciudad Autónoma de Melilla | n/a | |
| 191 | Mazowieckie | 0,213 | 21% | | Irier | n/a | |
| 192 | Pohjois-Suomi | 0,22 | 21% | | Cumbria | n/a | |
| 193 | Sydsverige | 0,221 | 20% | | Highlands and Islands | n/a | |
| 194 | Sud-Vest Oltenia | 0,221 | 20% | | Corse | n/a | |
| 195 | Северозападен / Severozapaden | 0,223 | 19% | | Burgenland (A) | n/a | |
| 196 | Canarias | 0,224 | 19% | | Algarve | n/a | |
| 197 | Picardie | 0,227 | 18% | | Prov. Luxembourg (B) | n/a | |
| 198 | Θεσσαλία / Thessalia | 0,227 | 18% | | Δυτική Μακεδονία / Dytiki Makedonia | n/a | |
| 199 | Haute-Normandie | 0,228 | 17% | | Cornwall and Isles of Scilly | n/a | |
| 200 | Dolnośląskie | 0,228 | 17% | | Ιόνια Νησιά / Ionia Nisia | n/a | |
| 201 | Kujawsko-Pomorskie | 0,229 | 17% | | Kegião Autônoma dos Açores | n/a | |
| 202 | Dèl-Dunántúl | 0,231 | 17% | | Βόρειο Αιγαίο / Voreio Aigaio | n/a | |
| 203 | Andalucía | 0,233 | 16% | | Guyane | n/a | 1 |

Source: Eurostat – European Regional and Urban Statistics Database

n/a= data not available

Table 3: Long-Term Unemployment as Percentage of Overall Unemployment (2007)*

| Rank | Region | Long-Term Unem- ployment Rate | Percentile in Ranking | Rank | Region | Long-Term Unem- ployment Rate | Percentile in Ranking |
|------|--------------------------------------------------|----------------------------------|--------------------------|------|------------------------------------------|----------------------------------|--------------------------|
| 1 | Sydsverige | 0,091 | 100% | 69 | Extremadura | 0,251 | 74% |
| 2 | Illes Balears | 0,093 | 99% | 70 | Salzburg | 0,252 | 74% |
| 3 | Mellersta Norrland | 0,109 | 99% | 71 | East Yorkshire and Northern Lincolnshire | 0,254 | 74% |
| 4 | Norra Mellansverige | 0,116 | 99% | 72 | Galicia | 0,255 | 73% |
| 5 | Cornwall and Isles of Scilly | 0,12 | 98% | 73 | Northumberland and Tyne and Wear | 0,261 | 72% |
| 6 | Småland med öarna | 0,13 | 98% | 74 | Burgenland (A) | 0,261 | 72% |
| 7 | Tirol | 0,132 | 97% | 75 | Latvija | 0,264 | 72% |
| 8 | Västsverige | 0,135 | 97% | 76 | Merseyside | 0,265 | 72% |
| 9 | Gloucestershire, Wiltshire and Bristol/Bath area | 0,139 | 97% | 77 | Essex | 0,266 | 71% |
| 10 | Övre Norrland | 0,143 | 96% | 78 | Outer London | 0,269 | 71% |
| 11 | Comunidad Foral de Navarra | 0,144 | 96% | 79 | Ιόνια Νησιά / Ionia Nisia | 0,279 | 71% |
| 12 | Región de Murcia | 0,144 | 96% | 80 | Emilia-Romagna | 0,285 | 70% |
| 13 | Midtjylland | 0,145 | 95% | 81 | Cumbria | 0,286 | 70% |
| 14 | Herefordshire, Worcestershire and Warwickshire | 0,148 | 95% | 82 | Luxembourg (Grand-Duché) | 0,287 | 69% |
| 15 | North Eastern Scotland | 0,149 | 94% | 83 | Κρήτη / Kriti | 0,287 | 69% |
| 16 | Devon | 0,15 | 94% | 84 | Niederösterreich | 0,295 | 69% |
| 17 | Highlands and Islands | 0,15 | 94% | 85 | Southern and Eastern | 0,299 | 68% |
| 18 | La Rioja | 0,155 | 93% | 85 | Border, Midland and Western | 0,302 | 68% |
| 19 | Stockholm | 0,156 | 92% | 87 | Principado de Asturias | 0,305 | 68% |
| 20 | Hovedstaden | 0,156 | 92% | 88 | Prov. West-Vlaanderen | 0,315 | 67% |
| 21 | Dorset and Somerset | 0,156 | 92% | 89 | Liguria | 0,316 | 66% |
| 22 | Sjælland | 0,156 | 92% | 90 | Alsace | 0,316 | 66% |
| 23 | Comunidad Valenciana | 0,16 | 91% | 91 | West Midlands | 0,32 | 66% |
| 24 | Pohjois-Suomi | 0,164 | 91% | 92 | Lietuva | 0,32 | 66% |
| 25 | Syddanmark | 0,166 | 91% | 93 | Zeeland | 0,321 | 65% |
| 26 | Kärnten | 0,169 | 90% | 94 | Prov. Limburg (B) | 0,327 | 65% |
| 27 | Aragón | 0,171 | 90% | 95 | Friuli-Venezia Giulia | 0,339 | 65% |
| 28 | Surrey, East and West Sussex | 0,173 | 90% | 96 | Franche-Comté | 0,34 | 64% |
| 29 | Comunidad de Madrid | 0,174 | 89% | 97 | Lubuskie | 0,341 | 64% |
| 30 | Oberösterreich | 0,185 | 89% | 98 | Valle d'Aosta/Vallée d'Aoste | 0,342 | 63% |
| 31 | Κύπρος / Kibris | 0,186 | 88% | 99 | Wien | 0,344 | 63% |
| 32 | Ostra Mellansverige | 0,188 | 88% | 100 | Lombardia | 0,344 | 63% |
| 33 | Hampshire and Isle of Wight | 0,191 | 88% | 101 | Veneto | 0,346 | 62% |
| 34 | Castilla-La Mancha | 0,193 | 87% | 102 | Basse-Normandie | 0,346 | 62% |
| 35 | West Wales and The Valleys | 0,194 | 87% | 103 | Rhône-Alpes | 0,349 | 62% |
| 36 | East Anglia | 0,198 | 87% | 104 | Prov. Vlaams-Brabant | 0,35 | 61% |
| 37 | Berkshire, Buckinghamshire and Oxfordshire | 0,201 | 86% | 105 | Aquitaine | 0,352 | 61% |
| 38 | Cantabria | 0,202 | 86% | 106 | Limburg (NL) | 0,353 | 60% |
| 39 | Cataluña | 0,205 | 85% | 107 | Bretagne | 0,353 | 60% |
| 40 | Leicestershire, Rutland and Northamptonshire | 0,206 | 85% | 108 | Champagne-Ardenne | 0,354 | 60% |
| 41 | North Yorkshire | 0,207 | 85% | 109 | Marche | 0,356 | 59% |
| 42 | Nordjylland | 0,209 | 84% | 110 | Alentejo | 0,358 | 59% |
| 43 | Stelermark | 0,211 | 84% | 112 | Otrecht | 0,36 | 59% |
| 44 | East viales | 0,212 | 84% | 112 | Fidild Midi Durénéos | 0,501 | JO 70 E 00/ |
| 45 | Cheshire | 0,215 | 83% | 113 | Autorano | 0,505 | 5070 |
| 40 | Anualucia Derbyshire and Nottinghamshire | 0,210 | 03 /0 | 114 | Northern Ireland | 0,303 | 57% |
| 47 | Caparias | 0,217 | 02 /0 | 115 | Podkarpackie | 0,300 | 57% |
| 40 | South Western Scotland | 0,210 | 02 /0 Q1% | 117 | Bourgoape | 0,370 | 56% |
| 50 | Nótio Angio / Notio Aigaio | 0,219 | 81% | 118 | Gelderland | 0,370 | 56% |
| 51 | Fastern Scotland | 0,213 | 81% | 119 | Centre | 0,379 | 56% |
| 52 | Castilla y León | 0,223 | 80% | 120 | Pays de la Loire | 0,373 | 55% |
| 52 | Shropshire and Staffordshire | 0,224 | 80% | 120 | Algarye | 0,384 | 54% |
| 54 | Tees Valley and Durham | 0,227 | 80% | 127 | Região Autónoma dos Acores | 0 384 | 54% |
| 55 | Itä-Suomi | 0.228 | 79% | 123 | Freiburg | 0.385 | 54% |
| 56 | Lincolnshire | 0,229 | 79% | 124 | Picardie | 0.385 | 54% |
| 57 | Provincia Autonoma Bolzano/Bozen | 0.23 | 78% | 125 | Toscana | 0.386 | 53% |
| 58 | Bedfordshire and Hertfordshire | 0.23 | 78% | 126 | Drenthe | 0,389 | 53% |
| 59 | Länsi-Suomi | 0.234 | 78% | 127 | Poitou-Charentes | 0.39 | 53% |
| 60 | Provincia Autonoma Trento | 0,235 | 77% | 128 | Groningen | 0,393 | 52% |
| 61 | Lancashire | 0,235 | 77% | 129 | Zuid-Holland | 0,394 | 51% |
| 62 | Greater Manchester | 0.237 | 77% | 130 | Friesland (NL) | 0,394 | 51% |
| 63 | Vorarlberg | 0,238 | 76% | 131 | Ciudad Autónoma de Melilla | 0,401 | 51% |
| 64 | West Yorkshire | 0,24 | 76% | 132 | Prov. Antwerpen | 0,402 | 50% |
| 65 | South Yorkshire | 0,243 | 76% | 133 | Lorraine | 0,402 | 50% |
| 66 | País Vasco | 0,249 | 75% | 134 | Noord-Brabant | 0,403 | 50% |
| 67 | Etelä-Suomi (Helsinki) | 0,25 | 75% | 135 | Umbria | 0,405 | 50% |
| 68 | Kent | 0,251 | 74% | 136 | Βόρειο Αιγαίο / Voreio Aigaio | 0,409 | 49% |

*excludes Brussels and London due to performance anomalies

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| Rank | Region | Long-Term Unem- ployment Rate | Percentile in Ranking | Rank | Region | Long-Term Unem- ployment Rate | Percentile in Ranking |
|------|-----------------------------------------|----------------------------------|--------------------------|------|-----------------------------------------|----------------------------------|--------------------------|
| 137 | Limousin | 0,41 | 49% | 204 | Югоизточен / Yugoiztochen | 0,525 | 24% |
| 138 | Provence-Alpes-Côte d'Azur | 0,411 | 49% | 205 | Braunschweig | 0,526 | 23% |
| 139 | Noord-Holland | 0,412 | 48% | 206 | Jihovýchod | 0,526 | 23% |
| 140 | Közép-Dunántúl | 0,412 | 48% | 207 | Norte | 0,526 | 23% |
| 141 | Opolskie | 0,414 | 47% | 208 | Koblenz | 0,529 | 22% |
| 142 | Prov. Oost-Vlaanderen | 0,417 | 47% | 209 | Puglia | 0,53 | 22% |
| 143 | Trier | 0,417 | 47% | 210 | Vest | 0,533 | 22% |
| 144 | Malta | 0,42 | 46% | 211 | Bratislavský kraj | 0,536 | 21% |
| 145 | Jihozápad | 0,422 | 46% | 212 | Darmstadt | 0,536 | 21% |
| 146 | Pomorskie | 0,424 | 46% | 213 | Prov. Brabant Wallon | 0,536 | 21% |
| 147 | Nord-Vest | 0,427 | 45% | 214 | Weser-Ems | 0,54 | 20% |
| 148 | Île de France | 0,428 | 44% | 215 | Πελοπόννησος / Peloponnisos | 0,541 | 20% |
| 149 | Centro (P) | 0,428 | 44% | 216 | Campania | 0,542 | 19% |
| 150 | Haute-Normandie | 0,43 | 44% | 217 | Североизточен / Severoiztochen | 0,544 | 19% |
| 151 | Flevoland | 0,431 | 44% | 218 | Basilicata | 0,545 | 18% |
| 152 | Střední Čechy | 0,432 | 43% | 219 | Κεντρική Μακεδονία / Kentriki Makedonia | 0,545 | 18% |
| 153 | Piemonte | 0,434 | 43% | 220 | Łódzkie | 0,545 | 18% |
| 154 | Mazowieckie | 0,437 | 43% | 221 | Morava | 0,548 | 18% |
| 155 | Unterfranken | 0,438 | 42% | 222 | Hamburg | 0,549 | 17% |
| 156 | Dél-Dunántúl | 0,438 | 42% | 223 | Münster | 0,551 | 17% |
| 157 | Oberbayern | 0,44 | 41% | 224 | Wielkopolskie | 0,552 | 16% |
| 158 | Overijssel | 0,442 | 41% | 225 | Calabria | 0,555 | 16% |
| 159 | Nyugat-Dunàntùl | 0,444 | 41% | 226 | Zachodniopomorskie | 0,556 | 16% |
| 160 | Dél-Alfold | 0,448 | 40% | 227 | Avaτολική Μακεδονία, Θράκη / | 0,559 | 15% |
| 161 | Schwaben | 0,454 | 40% | 220 | | 0.50 | 150/ |
| 162 | Vzhodna Slovenija Zaka dva Slovenija | 0,457 | 40% | 228 | Dusseldort | 0,56 | 15% |
| 163 | Zanodna Slovenija | 0,458 | 39% | 229 | Prov. Liege | 0,56 | 15% |
| 164 | Lisboa | 0,459 | 39% | 230 | Detmold | 0,561 | 14% |
| 165 | Languedoc-Roussilion | 0,462 | 38% | 231 | Obertranken | 0,565 | 14% |
| 100 | Ciudad Autonoma de Ceuta | 0,463 | 38% | 232 | Hannover Kuisuulus Demensio | 0,568 | 13% |
| 107 | Regido Autonoma da Madeira | 0,464 | 37% | 233 | Kujawsko-Pomorskie | 0,568 | 13% |
| 168 | Corse | 0,464 | 37% | 234 | l üneburg | 0,508 | 13% |
| 169 | Sardegha | 0,464 | 37% 27% | 255 | Kölp | 0,509 | 12.70 |
| 170 | Abruzzo | 0,404 | 260/ | 230 | Korrol | 0,572 | 12.70 12.0/ |
| 171 | Severovýchod | 0,407 | 36% | 237 | Moravskoslazsko | 0,572 | 12 /0 |
| 172 | Tübingen | 0,407 | 35% | 230 | Arnshera | 0,575 | 11% |
| 174 | Niederbavern | 0,472 | 35% | 240 | Podlaskie | 0,573 | 10% |
| 175 | Prov. Luxembourg (B) | 0,473 | 34% | 240 | Świetokrzyskie | 0,585 | 10% |
| 176 | Észak-Alföld | 0.477 | 34% | 242 | Ślaskie | 0.588 | 10% |
| 177 | Észak-Magyarország | 0.478 | 34% | 243 | Dresden | 0.593 | 9% |
| 178 | Θεσσαλία / Thessalia | 0.481 | 34% | 244 | Warmińsko-Mazurskie | 0,593 | 9% |
| 179 | Stuttgart | 0,485 | 33% | 245 | Brandenburg-Nordost | 0,596 | 9% |
| 180 | Bucuresti-Ilfov | 0,493 | 32% | 246 | Brandenburg-Südwest | 0,598 | 8% |
| 181 | Molise | 0,493 | 32% | 247 | Ήπειρος / Ipeiros | 0,598 | 8% |
| 182 | Eesti | 0,495 | 32% | 248 | Mecklenburg-Vorpommern | 0,608 | 7% |
| 183 | Nord-Pas-de-Calais | 0,497 | 32% | 249 | Prov. Hainaut | 0,608 | 7% |
| 184 | Στερεά Ελλάδα / Sterea Ellada | 0,498 | 31% | 250 | Sicilia | 0,609 | 7% |
| 185 | Lubelskie | 0,499 | 31% | 251 | Severozápad | 0,611 | 6% |
| 186 | Αττική / Attiki | 0,5 | 31% | 252 | Bremen | 0,62 | 6% |
| 187 | Rheinhessen-Pfalz | 0,503 | 30% | 253 | Δυτική Μακεδονία / Dytiki Makedonia | 0,63 | 6% |
| 188 | Gießen | 0,504 | 30% | 254 | Berlin | 0,632 | 5% |
| 189 | Sud-Muntenia | 0,51 | 29% | 255 | Thüringen | 0,639 | 5% |
| 190 | Lazio | 0,511 | 29% | 256 | Sachsen-Anhalt | 0,641 | 4% |
| 191 | Югозападен / Yugozapaden (Sofia) | 0,511 | 29% | 257 | Chemnitz | 0,646 | 4% |
| 192 | Mittelfranken | 0,514 | 28% | 258 | Северен централен / Severen tsentralen | 0,652 | 4% |
| 193 | Közép-Magyarország | 0,514 | 28% | 259 | Северозападен / Severozapaden | 0,653 | 3% |
| 194 | Prov. Namur | 0,514 | 28% | 260 | Leipzig | 0,654 | 3% |
| 195 | Nord-Est | 0,515 | 27% | 261 | Южен централен / Yuzhen tsentralen | 0,654 | 3% |
| 196 | Karlsruhe | 0,516 | 26% | 262 | Guyane | 0,67 | 2% |
| 197 | Δυτική Ελλάδα / Dytiki Ellada | 0,516 | 26% | 263 | Západné Slovensko | 0,698 | 2% |
| 198 | Oberpfalz | 0,517 | 26% | 264 | Stredné Slovensko | 0,748 | 1% |
| 199 | Sud-Est | 0,518 | 26% | 265 | Réunion | 0,752 | 1% |
| 200 | Saarland | 0,519 | 25% | 266 | Východné Slovensko | 0,795 | 1% |
| 201 | Sud-Vest Oltenia | 0,519 | 25% | 267 | Guadeloupe | 0,808 | 0% |
| 202 | Schleswig-Holstein | 0,52 | 24% | 268 | Martinique | 0,854 | 0% |
| 203 | Dolnośląskie | 0,52 | 24% | 1 | Aland | n/a | |

Source: Eurostat – European Regional and Urban Statistics Database

n/a= data not available

Table 4: Innovation (Measured as Public and Private R&D as a Percentage of Overall GDP and Patent Applications per One Million Inhabitants, 2003)*

| Rank | Region | Innovation Score | Percentile in Ranking | |
|----------|--------------------------------------------------|---------------------|--------------------------|--|
| 1 | Karlsruhe | 0,968 | 100% | |
| 2 | Oberbayern | 0,965 | 100% | |
| 3 | Vorarlberg | 0,951 | 99% | |
| 4 | Sydsverige | 0,943 | 99% | |
| 5 | Stockholm | 0,943 | 98% | |
| 6 | Braunschweig | 0,942 | 98% | |
| 7 | Köln | 0,934 | 98% | |
| 8 | Etelä-Suomi (Helsinki) | 0,932 | 97% | |
| 9 | Tübingen | 0,927 | 97% | |
| 10 | Östra Mellansverige | 0,916 | 97% | |
| 11 | Västsverige | 0,915 | 96% | |
| 12 | Prov. Brabant Wallon | 0,915 | 96% | |
| 13 | Rheinhessen-Pfalz | 0,915 | 95% | |
| 14 | Île de France | 0,914 | 95% | |
| 15 | Länsi-Suomi | 0,907 | 95% | |
| 16 | Pohjois-Suomi | 0,906 | 94% | |
| 17 | Freiburg | 0,903 | 94% | |
| 18 | Stuttgart | 0,891 | 94% | |
| 19 | Mittelfranken | 0,887 | 93% | |
| 20 | East Anglia | 0,887 | 93% | |
| 21 | Prov. Vlaams-Brabant | 0,875 | 92% | |
| 22 | Rhône-Alpes | 0,873 | 92% | |
| 23 | Berlin | 0,872 | 92% | |
| 24 | Hannover | 0,868 | 91% | |
| 25 | Darmstadt | 0,866 | 91% | |
| 26 | Wien | 0,859 | 90% | |
| 27 | Unterfranken | 0,853 | 90% | |
| 28 | Gielšen | 0,853 | 90% | |
| 29 | Oberosterreich | 0,847 | 89% | |
| 30 | Hamburg | 0,835 | 89% | |
| 31 | Dresden | 0,824 | 89% | |
| 52 22 | Stelefillark | 0,025 | 0070 | |
| 20 | Obernfalz | 0,025 | 0070 | |
| 24 25 | Prov. Antworpon | 0,010 | 07 70 070/ | |
| 36 | Berkshire, Buckinghamshire and Oxfordshire | 0,813 | 87% | |
| 30 | Hampshire and Isle of Wight | 0,014 | 86% | |
| 38 | Salzburg | 0,004 | 86% | |
| 39 | Midi-Pyrénées | 0,802 | 86% | |
| 40 | Düsseldorf | 0.792 | 85% | |
| 41 | Alsace | 0.786 | 85% | |
| 42 | Tirol | 0,779 | 84% | |
| 43 | Arnsberg | 0,774 | 84% | |
| 44 | Limburg (NL) | 0,772 | 84% | |
| 45 | Prov. Luxembourg (B) | 0,771 | 83% | |
| 46 | Bremen | 0,771 | 83% | |
| 47 | Utrecht | 0,752 | 83% | |
| 48 | Prov. Oost-Vlaanderen | 0,746 | 82% | |
| 49 | Oberfranken | 0,746 | 82% | |
| 50 | Bedfordshire and Hertfordshire | 0,743 | 81% | |
| 51 | Niederösterreich | 0,742 | 81% | |
| 52 | Bretagne | 0,741 | 81% | |
| 53 | Zuid-Holland | 0,739 | 80% | |
| 54 | Gloucestershire, Wiltshire and Bristol/Bath area | 0,735 | 80% | |
| 55 | Thüringen | 0,735 | 79% | |
| 56 | Emilia-Romagna | 0,731 | 79% | |
| 57 | Prov. Limburg (B) | 0,722 | 79% | |
| 58 | Provence-Alpes-Côte d'Azur | 0,721 | 78% | |
| 59 | Prov. Liège | 0,718 | 78% | |
| 60 | Detmold | 0,718 | 78% | |
| 61 | Cheshire | 0,706 | 77% | |
| 62 | Schwaben | 0,706 | 77% | |
| 63 | Schleswig-Holstein | 0,705 | 76% | |
| ю4 сг | | 0,703 | /6% | |
| 60 | Gelderland | 0,703 | /6% | |
| 00 67 | riemonie | 0,700 | /5% 750/ | |
| 68 | | 0,099 | 75% | |
| 50 | , where give | 0,001 | , 570 | |

| Rank | Region | Innovation | Percentile in |
|------------|------------------------------------------------|------------|---------------|
| 60 | Örung Manufara d | Score | Ranking |
| 69 70 | Ovre Norrland | 0,689 | 74% 74% |
| 71 | Saarland | 0,685 | 74% |
| 72 | Noord-Holland | 0,682 | 73% |
| 73 | Lancashire | 0,680 | 73% |
| 74 | Lombardia | 0,671 | 72% |
| 75 | Franche-Comté | 0,671 | 72% |
| 76 | Kärnten | 0,670 | 71% |
| // 70 | Prov. vvest-vlaanderen Propdophurg Südwost | 0,658 | /1% 710/ |
| 70 79 | Centre | 0,058 | 71% |
| 80 | Herefordshire, Worcestershire and Warwickshire | 0,649 | 70% |
| 81 | Eastern Scotland | 0,644 | 70% |
| 82 | Flevoland | 0,641 | 69% |
| 83 | Zahodna Slovenija | 0,636 | 69% |
| 84 | Haute-Normandie | 0,636 | 68% |
| 85 | Kent Friuli Vapazia Giulia | 0,632 | 68% |
| 87 | | 0,627 | 67% |
| 88 | Norra Mellansverige | 0,620 | 67% |
| 89 | Toscana | 0,613 | 67% |
| 90 | North Eastern Scotland | 0,603 | 66% |
| 91 | Prov. Namur | 0,602 | 66% |
| 92 | Languedoc-Roussillon | 0,599 | 65% |
| 93 | Groningen | 0,596 | 65% |
| 94 95 | Liguria | 0,592 | 65% 64% |
| 96 | Burgenland (A) | 0,586 | 64% |
| 97 | Leipzig | 0,584 | 63% |
| 98 | Itä-Suomi | 0,583 | 63% |
| 99 | Lorraine | 0,581 | 63% |
| 100 | Derbyshire and Nottinghamshire | 0,579 | 62% |
| 101 | Cataluña | 0,577 | 62% |
| 102 | Lazio | 0,566 | 62% |
| 103 | Kassel | 0,504 | 61% |
| 105 | Småland med öarna | 0,562 | 60% |
| 106 | Veneto | 0,561 | 60% |
| 107 | Tees Valley and Durham | 0,560 | 60% |
| 108 | Koblenz | 0,559 | 59% |
| 109 | Comunidad de Madrid | 0,559 | 59% |
| 110 | ESSEX Prov. Haipaut | 0,559 | 59% 50% |
| 112 | Βόρειο Αιναίο / Voreio Aigaio | 0,553 | 58% |
| 113 | Praha | 0,552 | 57% |
| 114 | Dorset and Somerset | 0,546 | 57% |
| 115 | Aquitaine | 0,545 | 57% |
| 116 | North Yorkshire | 0,541 | 56% |
| 117 | Sachsen-Anhalt | 0,540 | 56% |
| 118 110 | rays ue la LOIRe | 0,540 | 56% |
| 120 | Weser-Ems | 0,550 | 55% |
| 121 | Basse-Normandie | 0,538 | 54% |
| 122 | Southern and Eastern | 0,536 | 54% |
| 123 | Közép-Magyarország | 0,534 | 54% |
| 124 | Provincia Autonoma Trento | 0,534 | 53% |
| 125 | Mazowieckie | 0,533 | 53% |
| 126 127 | ricardie Comunidad Foral de Navarra | 0,531 | 52% |
| 127 | Border, Midland and Western | 0,527 | 52% |
| 129 | Lüneburg | 0,527 | 52% |
| 130 | Cumbria | 0,519 | 51% |
| 131 | Niederbayern | 0,514 | 51% |
| 132 | Poitou-Charentes | 0,510 | 50% |
| 133 | Mecklenburg-Vorpommern | 0,508 | 50% |
| 134 | Irier | 0,506 | 49% |
| 135 | | 0,502 | 49% /\Q% |
| -50 | , W. WELU | 0,001 | |

*excludes Brussels and London due to performance anomalies

Lisbon Council Policy Brief: Human Capital in Regions and Cities

| Rank | Region | Innovation Score | Percentile in Ranking | R | ank | Region |
|------------|--------------------------------------------------------|---------------------|--------------------------|---|-----------|---------------------------------|
| 137 | East Wales | 0,493 | 48% | 2 | 03 | Devon |
| 138 | Limousin | 0,493 | 48% | 2 | 04 | Centro (P) |
| 139 | País Vasco | 0,482 | 48% | 2 | 05 | Lietuva |
| 140 | Ήπειρος / Ipeiros | 0,482 | 47% | 2 | 06 | Jihozápad |
| 141 | Champagne-Ardenne | 0,475 | 4/% | 2 | 07 | Norte |
| 142 | Proticlavský kroj | 0,4/1 | 40% | 2 | 08 | IVIOIISe Highlands an |
| 145 | Brandenburg-Nordost | 0,400 | 40% | 2 | 09 10 | Highlianus and Kúποος / Kibr |
| 144 | lihovýchod | 0,407 | 40% | 2 | 10 | Região Autór |
| 146 | Střední Čechv | 0,451 | 45% | 2 | 12 | Wielkopolskie |
| 147 | Marche | 0,450 | 44% | 2 | 13 | Castilla-La Ma |
| 148 | Umbria | 0,450 | 44% | 2 | 14 | Malta |
| 149 | Northern Ireland | 0,447 | 44% | 2 | 15 | Közép-Dunár |
| 150 | Cornwall and Isles of Scilly | 0,447 | 43% | 2 | 16 | Dél-Dunántú |
| 151 | Campania | 0,444 | 43% | 2 | 17 | Západné Slov |
| 152 | Shropshire and Staffordshire | 0,436 | 43% | 2 | 18 | Podkarpackie |
| 153 | Zeeland | 0,434 | 42% | 2 | 19 | Východné Slo |
| 154 | Greater Manchester | 0,431 | 42% | 2 | 20 | Calabria |
| 155 | Nord-Pas-de-Calais | 0,429 | 41% | 2 | 21 | Illes Balears |
| 156 | Comunidad Valenciana | 0,416 | 41% | 2 | 22 | Guyane |
| 157 | Lisboa | 0,404 | 41% | 2 | 23 | Pomorskie |
| 158 | Castilla y León | 0,403 | 40% | 2 | 24 | Latvija |
| 159 | Mellersta Norrland | 0,402 | 40% | 2 | 25 26 | Reunion |
| 160 | Aland | 0,402 | 40% | 2 | 20 27 | Nyugat-Duna |
| 101 | Marcovcido | 0,401 | 39% | 2 | 27 28 | Alentejo |
| 162 | Sicilia | 0,595 | 39% | 2 | 20 20 | Éczak Magya |
| 164 | West Midlands | 0,391 | 38% | 2 | 30 | |
| 165 | Bucuresti-Ilfov | 0,390 | 38% | 2 | 31 | λιgαι να Ιόνια Νησιά / Ι |
| 166 | Friesland (NL) | 0,388 | 37% | 2 | 32 | Severozápad |
| 167 | Extremadura | 0,387 | 37% | 2 | 33 | Δυτική Μακεδ |
| 168 | Andalucía | 0,379 | 37% | 2 | 34 | Śląskie |
| 169 | Galicia | 0,377 | 36% | 2 | 35 | Dolnośląskie |
| 170 | Aragón | 0,374 | 36% | 2 | 36 | Stredné Slove |
| 171 | Αττική / Attiki | 0,371 | 35% | 2 | 37 | Podlaskie |
| 172 | Severovýchod | 0,371 | 35% | 2 | 38 | Lubelskie |
| 173 | La Rioja | 0,367 | 35% | 2 | 39 | Североизточ |
| 174 | East Yorkshire and Northern Lincolnshire | 0,366 | 34% | 2 | 40 | Região Autór |
| 175 | Moravskoslezsko | 0,365 | 34% | 2 | 41 | Centru |
| 1/6 | Eesti | 0,357 | 33% | 2 | 42 | Θεσσαλία / ΤΡ |
| 177 | Κρήτη / Kriti | 0,352 | 33% | 2 | 43 | Sud-Munteni |
| 170 | Region de Murcla | 0,348 | 33% | 2 | 44 45 | Северен цент |
| 1/9 | Észak Alföld | 0,339 | 3270 | 2 | 45 46 | Kuisweko-Por |
| 181 | South Yorkshire | 0,335 | 32% | 2 | 40 //7 | Югоизтонен / |
| 182 | Югозапален / Yugozanaden (Sofia) | 0,330 | 31% | 2 | -, 48 | Ciudad Autór |
| 183 | Vzhodna Slovenija | 0.331 | 31% | 2 | 49 | Świetokrzyskie |
| 184 | Puglia | 0.329 | 30% | 2 | 50 | Vest |
| 185 | Valle d'Aosta/Vallée d'Aoste | 0,329 | 30% | 2 | 51 | Guadeloupe |
| 186 | Northumberland and Tyne and Wear | 0,328 | 30% | 2 | 52 | Южен центра |
| 187 | Δυτική Ελλάδα / Dytiki Ellada | 0,327 | 29% | 2 | 53 | Северозапад |
| 188 | Łódzkie | 0,325 | 29% | 2 | 54 | Zachodniopo |
| 189 | Principado de Asturias | 0,322 | 29% | 2 | 55 | Nord-Vest |
| 190 | Provincia Autonoma Bolzano/Bozen | 0,315 | 28% | 2 | 56 | Νότιο Αιγαίο / |
| 191 | Corse | 0,313 | 28% | 2 | 57 | Nord-Est |
| 192 | South Western Scotland | 0,305 | 27% | 2 | 58 | Opolskie |
| 193 | Dél-Alföld | 0,305 | 27% | 2 | 59 | Sud-Est |
| 194 | Małopolskie | 0,304 | 27% | 2 | 60 | Sud-Vest Olte |
| 195 | Basilicata | 0,302 | 26% | 2 | 61 | Warmińsko-M |
| 196 | Sardegna | 0,299 | 26% | 2 | 62 | Martinique |
| 19/ | vvest vvales and The Valleys | 0,295 | 25% | 2 | ъЗ | ∠τερεά Ελλάδ |
| 198 | LINCOINSNIRE | 0,294 | 25% | | | Hovedstaden |
| 199 | Calialias Střední Morava | 0,289 | 25% | | | svddapmark |
| 200 201 | οιτεατη Ινισιανα Δνατολική Μακεδουία Θράκη / | 0,280 | 24% | | | Nordivlland |
| 201 | Anatoliki Makedonia, Thraki | 0,200 | 24 /0 | | | Ciudad Autó |
| 202 | Cantabria | 0,279 | 24% | | | Sjælland |

| Rank | Region | Innovation Score | Percentile in Ranking |
|-------------|-------------------------------------|---------------------|--------------------------|
| 03 | Devon | 0,275 | 23% |
| .04 | Centro (P) | 0,272 | 23% |
| 05 | Lietuva | 0,269 | 22% |
| 06 | Jihozápad | 0,268 | 22% |
| 07 | Norte | 0,267 | 22% |
| 808 | Molise | 0,254 | 21% |
| 09 | Highlands and Islands | 0,252 | 21% |
| 10 | Κύπρος / Kıbrıs | 0.243 | 21% |
| 11 | Região Autónoma dos Acores | 0,243 | 21% |
| 12 | Wielkopolskie | 0,240 | 20% |
| 13 | Castilla-La Mancha | 0,237 | 19% |
| 14 | Malta | 0,234 | 19% |
| 15 | Közép-Dunántúl | 0,226 | 19% |
| 16 | Dél-Dunántúl | 0,223 | 18% |
| 17 | Západné Slovensko | 0,217 | 18% |
| 18 | Podkarpackie | 0,210 | 17% |
| 19 | Východné Slovensko | 0,190 | 17% |
| 20 | Calabria | 0,185 | 17% |
| 21 | Illes Balears | 0,184 | 16% |
| 22 | Guyane | 0,180 | 16% |
| 23 | Pomorskie | 0,175 | 16% |
| 24 | Latvija | 0,174 | 15% |
| 25 | Réunion | 0,172 | 15% |
| 26 | Nyugat-Dunántúl | 0,172 | 15% |
| 27 | Alentejo | 0,165 | 14% |
| 28 | Lubuskie | 0,164 | 14% |
| 29 | Észak-Magyarország | 0,155 | 13% |
| 30 | Algarve | 0,147 | 13% |
| 31 | Ιόνια Νησιά / Ionia Nisia | 0,142 | 13% |
| 32 | Severozápad | 0,141 | 12% |
| 33 | Δυτική Μακεδονία / Dytiki Makedonia | 0,141 | 12% |
| 34 | Sląskie | 0,140 | 11% |
| 35 | Dolnośląskie | 0,136 | 11% |
| 36 | Stredné Slovensko | 0,136 | 11% |
| 37 | Podlaskie | 0,135 | 10% |
| 38 | Lubelskie | 0,131 | 10% |
| 39 | CeBepoustoven / Severoiztochen | 0,131 | 10% |
| .40 | Contru | 0,121 | 970 |
| .41 1/12 | Osoga)ia / Thessalia | 0,110 | 370 8% |
| | Sud-Muntenia | 0,114 | 8% |
| | | 0,114 | 8% |
| 44 | | 0,114 | 7% |
| 46 | Kujawsko-Pomorskie | 0,113 | 7% |
| 47 | Proverouge / Yugoiztochen | 0.095 | 6% |
| 48 | Ciudad Autónoma de Ceuta | 0.094 | 6% |
| 49 | Świetokrzyskie | 0.092 | 6% |
| 50 | Vest | 0.090 | 5% |
| 51 | Guadeloupe | 0.088 | 5% |
| 52 | Южен централен / Yuzhen tsentralen | 0.084 | 5% |
| 53 | Северозапален / Severozapaden | 0.074 | 4% |
| 54 | Zachodniopomorskie | 0.072 | 4% |
| 255 | Nord-Vest | 0,067 | 3% |
| 56 | Νότιο Αιγαίο / Notio Aigaio | 0,058 | 3% |
| 57 | Nord-Est | 0,049 | 3% |
| 58 | Opolskie | 0,048 | 2% |
| 59 | Sud-Est | 0,047 | 2% |
| 60 | Sud-Vest Oltenia | 0,039 | 2% |
| 61 | Warmińsko-Mazurskie | 0,037 | 1% |
| 62 | Martinique | 0,036 | 1% |
| 63 | Στερεά Ελλάδα / Sterea Ellada | 0,020 | 0% |
| | Hovedstaden | n/a | |
| | Midtjylland | n/a | |
| | Syddanmark | n/a | |
| | Nordjylland | n/a | |
| | Ciudad Autónoma de Melilla | n/a | |
| | Sjælland | n/a | |

Source: Eurostat – European Regional and Urban Statistics Database

n/a= data not available

Annex: Additional Indicator-Based Rankings

Table 5: Regions Ranked by GDP per Capita (PPP-Adjusted, 2007)*

| Rank | Region | GDP per | Percentile | Rank | Region | GDP per | Percentile |
|--------|--------------------------------------------------|---------------------|---------------|------|------------------------------------------------|--------------|---------------|
| | | capita, PPP- | in Panking | | | capita, PPP- | in Panking |
| | | aujusteu | панкіну | | | aujusteu | панкіну |
| 1 | Luxembourg (Grand-Duché) | €68.500 | 100% | 69 | Gelderland | €28.300 | 75% |
| 2 | Hamburg | € 47.800 | 100% | 70 | Piemonte | €28.300 | 75% |
| 3 | Prana Na da Franca | € 42.800 | 99% | /1 | Obertranken | € 28.200 | 74% |
| 4 | lie de France | €42.000 | 99% | 72 | | € 28.200 | 74% |
| 5 | Southern and Eastern | €41.400 € 41.100 | 99% | 75 | | £ 27.000 | 7570 |
| 7 | Oberbayern | £41.100 | 90% | 74 | La Noja Prov. Brahant Wallon | € 27.900 | 73% |
| 2 2 | Stockholm | €41.000 €41.000 | 90 /0 | 76 | Braunschweig | € 27.700 | 72/0 |
| 9 | Wien | €41.000 | 97% | 77 | Hannover | € 27.600 | 72% |
| 10 | Bratislavský kraj | € 39 900 | 97% | 78 | Fast Anglia | € 27.500 | 71% |
| 11 | Bremen | € 39 500 | 96% | 79 | East Wales | € 27.500 | 71% |
| 12 | Berkshire. Buckinghamshire and Oxfordshire | € 38.900 | 96% | 80 | Prov. West-Vlaanderen | € 27.400 | 71% |
| 13 | Darmstadt | €38.900 | 96% | 81 | Sydsverige | €27.400 | 71% |
| 14 | Utrecht | € 38.700 | 95% | 82 | Nordjylland | €27.400 | 71% |
| 15 | North Eastern Scotland | € 38.100 | 95% | 83 | Småland med öarna | €27.400 | 71% |
| 16 | Noord-Holland | € 37.400 | 94% | 84 | Rhône-Alpes | €27.300 | 69% |
| 17 | Hovedstaden | € 37.400 | 94% | 85 | Detmold | €27.200 | 69% |
| 18 | Åland | € 35.700 | 94% | 85 | Mellersta Norrland | €27.000 | 68% |
| 19 | Stuttgart | € 35.200 | 93% | 87 | Norra Mellansverige | €26.900 | 68% |
| 20 | Salzburg | € 34.700 | 93% | 88 | Friesland (NL) | €26.800 | 68% |
| 21 | Comunidad de Madrid | € 34.100 | 93% | 89 | Gießen | €26.800 | 68% |
| 22 | País Vasco | € 34.100 | 93% | 90 | Flevoland | €26.700 | 67% |
| 23 | Zuid-Holland | €34.000 | 92% | 91 | Zahodna Slovenija | €26.600 | 67% |
| 24 | Prov. Antwerpen | €33.800 | 91% | 92 | Outer London | €26.600 | 67% |
| 25 | Etelä-Suomi (Helsinki) | €33.800 | 91% | 93 | Liguria | €26.600 | 67% |
| 26 | Lombardia | €33.600 | 91% | 94 | Rheinhessen-Pfalz | €26.500 | 65% |
| 27 | Noord-Brabant | € 33.500 | 90% | 95 | Östra Mellansverige | €26.500 | 65% |
| 28 | Provincia Autonoma Bolzano/Bozen | € 33.500 | 90% | 96 | Arnsberg | €26.500 | 65% |
| 29 | Mittelfranken | € 33.000 | 90% | 97 | Steiermark | €26.400 | 64% |
| 30 | Karlsruhe | € 32.900 | 89% | 98 | Marche | €26.300 | 64% |
| 31 | Comunidad Foral de Navarra | € 32.900 | 89% | 99 | Greater Manchester | €26.200 | 64% |
| 32 | Gloucestershire, Wiltshire and Bristol/Bath area | € 31.900 | 88% | 100 | West Midlands | €26.200 | 64% |
| 33 | Vorarlberg | € 31.900 | 88% | 101 | Cantabria | €26.200 | 64% |
| 34 | Tirol | € 31.900 | 88% | 102 | Prov. Oost-Vlaanderen | €26.100 | 62% |
| 35 | Emilia-Romagna | € 31.900 | 88% | 103 | Länsi-Suomi | €26.100 | 62% |
| 36 | Αττική / Attiki | € 31.900 | 88% | 104 | Kärnten | €26.100 | 62% |
| 37 | Düsseldorf | € 31.800 | 87% | 105 | Lisboa | €26.100 | 62% |
| 38 | Bedfordshire and Hertfordshire | € 31.600 | 86% | 106 | Drenthe | €25.800 | 61% |
| 39 | Tübingen | € 31.200 | 86% | 107 | West Yorkshire | €25.800 | 61% |
| 40 | Cheshire | € 30.800 | 86% | 108 | South Western Scotland | €25.800 | 61% |
| 41 | Cataluña | € 30.700 | 85% | 109 | Közép-Magyarország | €25.600 | 60% |
| 42 | Prov. Vlaams-Brabant | € 30.500 | 85% | 110 | Alsace | €25.500 | 59% |
| 43 | Surrey, East and West Sussex | € 30.500 | 85% | 111 | Pohjois-Suomi | €25.500 | 59% |
| 44 | Lazio | € 30.500 | 85% | 112 | Provence-Alpes-Côte d'Azur | €25.500 | 59% |
| 45 | Oberpfalz | € 30.400 | 84% | 113 | Castilla y León | €25.300 | 58% |
| 46 | Provincia Autonoma Trento | € 30.400 | 84% | 114 | North Yorkshire | €25.200 | 58% |
| 47 | Zeeland | € 30.300 | 83% | 115 | Weser-Ems | €25.200 | 58% |
| 48 | Veneto | € 30.300 | 83% | 116 | Herefordshire, Worcestershire and Warwickshire | €25.100 | 57% |
| 49 | Schwaben | € 30.100 | 82% | 117 | Derbyshire and Nottinghamshire | €25.000 | 57% |
| 50 | Eastern Scotland | €29.900 | 82% | 118 | Niederösterreich | €24.900 | 57% |
| 51 | Oberösterreich | €29.900 | 82% | 119 | Champagne-Ardenne | €24.900 | 57% |
| 52 | Limburg (NL) | €29.700 | 81% | 120 | Schleswig-Holstein | €24.800 | 56% |
| 53 | Västsverige | € 29.700 | 81% | 121 | Border, Midland and Western | €24.700 | 55% |
| 54 | Valle d'Aosta/Vallée d'Aoste | €29.500 | 80% | 122 | Münster | €24.500 | 55% |
| 55 | Köln | €29.400 | 80% | 123 | Aquitaine | €24.500 | 55% |
| 56 | Unterfranken | €29.300 | 80% | 124 | Haute-Normandie | €24.500 | 55% |
| 57 | Hampshire and Isle of Wight | €29.100 | 79% | 125 | Essex | €24.400 | 54% |
| 58 | Friuli-Venezia Giulia | €29.000 | 79% | 126 | Berlin | € 24.400 | 54% |
| 59 | Niederbayern | €28.800 | 78% | 12/ | Northumberland and Tyne and Wear | € 24.400 | 54% |
| 60 | Midtjylland | € 28.700 | 78% | 128 | Pays de la Loire | € 24.400 | 54% |
| 61 | Ovre Norrland | € 28.700 | 78% | 129 | Kopienz | €24.300 | 52% |
| 62 | Kassel | € 28.700 | 78% | 130 | Dorset and Somerset | € 24.200 | 52% |
| 63 | Overijssel | €28.600 | 77% | 131 | Ciudad Autonoma de Ceuta | € 24.200 | 52% |
| 64 | Leicestershire, Rutland and Northamptonshire | €28.500 | 77% | 132 | Midi-Pyrènèes | €24.200 | 52% |
| 65 | Saariand | €28.500 | /7% | 133 | Umpria Deire de la Astalia | €24.100 | 51% |
| 66 | Aragon | €28.500 | /7% | 134 | Principado de Asturias | €24.100 | 51% |
| 6/ | Freiburg | €28.400 | /5% | 135 | | € 24.000 | 50% |
| 68 | lies balears | €28.400 | /5% | 136 | kegiao Autonoma da Madeira | €24.000 | 50% |

*excludes Brussels and London due to performance anomalies

| Rank | Region | GDP per | Percentile | Ran | nk Region |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|--------------------------|-----------------------------------------------------------------------------------|
| | | capita, PPP- | in | | |
| | | adjusted | Ranking | | |
| 137 | Prov. Limburg (B) | €23.900 | 49% | 204 | West Wales ar |
| 138 | Centre | €23.700 | 49% | 205 | Vzhodna Slove |
| 139 | Comunidad Valenciana | €23.700 | 49% | 206 | Κεντρική Μακεά |
| 140 | Bretagne | €23.600 | 48% | 207 | Extremadura |
| 141 | Ciudad Autónoma de Melilla | €23.500 | 48% | 208 | Jihovýchod |
| 142 | Trier | €23.500 | 48% | 209 | Alentejo |
| 143 | Bourgogne | €23.500 | 48% | 210 | Jihozápad |
| 144 | Kent | €23.300 | 47% | 211 | Eesti |
| 145 | Κύποος / Kibris | €23.300 | 47% | 212 | Guadeloupe |
| 146 | Northern Ireland | € 23.100 | 46% | 213 | Ήπειοος / Ipeiro |
| 147 | Canarias | € 23 100 | 46% | 213 | Θεσσαλία / The |
| 148 | Bucuresti-Ilfov | € 23,000 | 45% | 215 | Região Autóno |
| 1/19 | Siælland | € 22 800 | 45% | 215 | Moravskoslazs |
| 150 | | € 22.800 | 45% | 210 | Péosio Awaio / |
| 150 | East Vorkshire and Northern Lincolnshire | £ 22.500 | 4570 | 217 | Buglio |
| 151 | Courth Vorkshire | £ 22.500 | 44 /0 | 210 | rugila Západná Slova |
| 152 | | € 22.500 | 4470 | 219 | |
| 153 | Pranche-Comte | € 22.500 | 44% | 220 | Severovychod |
| 154 | Poltou-Charentes | € 22.500 | 44% | 221 | Campania |
| 155 | Lancashire | € 22.400 | 43% | 222 | Sicilia |
| 156 | | €22.300 | 42% | 223 | Calabria |
| 157 | Shropshire and Staffordshire | €22.200 | 42% | 224 | Centro (P) |
| 158 | Devon | €22.100 | 42% | 225 | Réunion |
| 159 | Leipzig | €22.100 | 42% | 226 | Střední Morava |
| 160 | Galicia | €22.100 | 42% | 227 | Ανατολική Μακ |
| 161 | Itä-Suomi | €22.100 | 42% | | Anatoliki Make |
| 162 | Lorraine | €22.100 | 42% | 228 | Югозападен / Ү |
| 163 | Basse-Normandie | €22.000 | 40% | 229 | Severozápad |
| 164 | Nord-Pas-de-Calais | €22.000 | 40% | 230 | Nyugat-Dunán |
| 165 | Limousin | €21.900 | 39% | 231 | Norte |
| 166 | Dresden | €21.800 | 39% | 232 | Δυτική Ελλάδα |
| 167 | Highlands and Islands | €21.700 | 38% | 233 | Lietuva |
| 168 | Brandenburg-Südwest | €21.700 | 38% | 234 | Dolnośląskie |
| 169 | Mazowieckie | €21.700 | 38% | 235 | Közép-Dunánt |
| 170 | Región de Murcia | €21.600 | 37% | 236 | Śląskie |
| 171 | Picardie | €21.400 | 37% | 237 | Wielkopolskie |
| 172 | Languedoc-Roussillon | €21.300 | 36% | 238 | Latviia |
| 173 | Prov. Liège | €21,200 | 36% | 239 | Pomorskie |
| 174 | Abruzzo | € 21 200 | 36% | 240 | Stredné Sloven |
| 175 | Corse | € 21 100 | 35% | 241 | łódzkie |
| 176 | Στερεά Ελλάδα / Storea Ellada | € 20 900 | 35% | 2/1 | Zachodnionon |
| 177 | Końth / Kriti | € 20,900 | 35% | 242 | Guyana |
| 170 | Lüpoburg | £ 20.800 | 250/ | 245 | Lubuckio |
| 170 | Sachson Anhalt | £ 20.800 | 3570 2E0/ | 244 | Voct |
| 100 | Jaciseli-Allian | € 20.800 | 2270 | 245 | Vest Kuisuuska Dam |
| 101 | Lincoinsnire | € 20.700 | 33% | 240 | Na kaya a la ki a |
| 101 | nunngen Manzausia | € 20.700 | 33% | 24/ | IVIatopolskie |
| 182 | Nerseyside | € 20.700 | 33% | 248 | vycnodne Slov |
| 183 | Chemnitz | € 20.600 | 32% | 249 | Opolskie |
| 184 | Burgenland (A) | €20.300 | 32% | 250 | Dél-Dunántúl |
| 185 | Tees Valley and Durham | € 20.300 | 32% | 251 | Centru |
| 186 | Castilla-La Mancha | €20.300 | 32% | 252 | Dél-Alföld |
| 187 | Andalucía | €20.200 | 31% | 253 | Świętokrzyskie |
| 188 | Mecklenburg-Vorpommern | €20.200 | 31% | 254 | Podlaskie |
| 189 | Prov. Namur | € 19.800 | 30% | 255 | Warmińsko-Ma |
| 190 | Algarve | € 19.800 | 30% | 256 | Nord-Vest |
| 191 | Prov. Luxembourg (B) | € 19.500 | 29% | 257 | Észak-Magyaro |
| 192 | Sardegna | € 19.500 | 29% | 258 | Észak-Alföld |
| 193 | Molise | € 19.400 | 29% | 259 | Lubelskie |
| 194 | Malta | € 19.000 | 28% | 260 | Podkarpackie |
| 195 | Brandenburg-Nordost | € 19.000 | 28% | 261 | Sud-Muntenia |
| | Δυτική Μακεδονία / Dytiki Makedonia | € 18.900 | 28% | 262 | Sud-Est |
| 196 | | € 18,900 | 28% | 263 | Североизточе |
| 196 197 | Ι Ιελοπόννησος / Peloponnisos | | ,0 | 200 | |
| 196 197 198 | Γιελοπόννησος / Peloponnisos Cornwall and Isles of Scilly | € 18 700 | 27% | 1/64 | Sud-vest Offer |
| 196 197 198 199 | Tελοπόννησος / Peloponnisos Cornwall and Isles of Scilly Střední Čechy | € 18.700 € 18.700 | 27% 27% | 264 | - Sud-Vest Olter |
| 196 197 198 199 200 | l Ιελοποννησος / Peloponnisos Cornwall and Isles of Scilly Střední Čechy Prov. Hainaut | € 18.700 € 18.700 € 18.700 | 27% 27% 27% | 264 265 | Sud-Vest Olter Югоизточен / \ |
| 196 197 198 199 200 201 | l Ιελοποννησος / Peloponnisos Cornwall and Isles of Scilly Střední Čechy Prov. Hainaut Basilicata | € 18.700 € 18.700 € 18.700 € 18.700 | 27% 27% 27% 27% | 264 265 266 | Sud-Vest Olter Югоизточен / \ Южен централ Nord-Ect |
| 196 197 198 199 200 201 202 | TEλοποννησος / Peloponnisos Cornwall and Isles of Scilly Střední Čechy Prov. Hainaut Basilicata | € 18.700 € 18.700 € 18.700 € 18.700 € 18.700 | 27% 27% 27% 27% 27% | 264 265 266 267 | Sud-Vest Offer Югоизточен / \ Южен централ Nord-Est |

| Rank | Region | GDP per | Percentile |
|-------------|------------------------------------------------------------|----------------------|---------------|
| | | capita, PPP- | in Panking |
| | | aujusteu | Ranking |
| 204 | West Wales and The Valleys | € 18.300 | 25% |
| 205 | Vzhodna Slovenija | € 18.200 | 24% |
| 206 | Kevtpikn Makedovia / Kentriki Makedonia | € 18.000 | 24% |
| 207 | Extremadura | € 18.000 € 17.000 | 24% |
| 200 | | £ 17.900 | 2370 |
| 209 | Alentejo | € 17.900 € 17.700 | 2370 |
| 210 | Fosti | € 17.700 € 17.100 | 22 /0 |
| 212 | Guadeloupe | € 17.100 € 17.100 | 2270 |
| 212 | 'Hπειοοc / Ineiros | € 17,000 | 21% |
| 214 | Θεσσαλία / Thessalia | € 17.000 | 21% |
| 215 | Região Autónoma dos Acores | € 16.800 | 20% |
| 216 | Moravskoslezsko | € 16.800 | 20% |
| 217 | Βόρειο Αιγαίο / Voreio Aigaio | € 16.600 | 20% |
| 218 | Puglia | € 16.600 | 20% |
| 219 | Západné Slovensko | € 16.500 | 19% |
| 220 | Severovýchod | € 16.400 | 19% |
| 221 | Campania | € 16.400 | 19% |
| 222 | Sicilia | € 16.400 | 19% |
| 223 | Calabria | € 16.400 | 19% |
| 224 | Centro (P) | € 16.100 | 17% |
| 225 | Réunion | € 15.600 | 17% |
| 226 | Střední Morava | € 15.500 | 16% |
| 227 | Ανατολική Μακεδονία, Θράκη/ Δροτολική Μοκεδονία, Τρισκί | € 15.500 | 16% |
| 228 | Anatoliki Makedonia, Milaki | € 15 /00 | 16% |
| 220 | Severozánad | € 15.400 € 15.400 | 16% |
| 230 | Nyugat-Dunántúl | € 15.300 | 15% |
| 230 | Norte | € 15.000 | 14% |
| 232 | Λυτική Ελλάδα / Dytiki Ellada | € 14.900 | 14% |
| 233 | Lietuva | € 14.800 | 14% |
| 234 | Dolnośląskie | € 14.700 | 13% |
| 235 | Közép-Dunántúl | € 14.500 | 13% |
| 236 | Śląskie | € 14.400 | 13% |
| 237 | Wielkopolskie | € 14.200 | 12% |
| 238 | Latvija | € 13.900 | 12% |
| 239 | Pomorskie | € 13.300 | 12% |
| 240 | Stredné Slovensko | € 13.300 | 12% |
| 241 | Łódzkie | € 12.500 | 11% |
| 242 | Zachodniopomorskie | € 12.200 | 10% |
| 243 | Guyane | € 12.100 | 10% |
| 244 | Lubuskie | € 12.000 | 10% |
| 245 | Vest Kuisuska Damarakia | € 12.000 | 10% |
| 246 | Kujawsko-Pomorskie | € 11.800 € 11.600 | 9% |
| 247 | | £ 11.000 | 9% |
| 240 2/19 | Opolskie | € 11.300 € 11.200 | 0 /0 8% |
| 249 | Dél-Dunántúl | € 10.600 | 7% |
| 250 | Centru | € 10.000 € 10.500 | 7% |
| 252 | Dél-Alföld | € 10.400 | 7% |
| 253 | Świętokrzyskie | € 10.400 | 7% |
| 254 | Podlaskie | € 10.100 | 6% |
| 255 | Warmińsko-Mazurskie | € 10.100 | 6% |
| 256 | Nord-Vest | € 10.000 | 5% |
| 257 | Észak-Magyarország | € 10.000 | 5% |
| 258 | Észak-Alföld | €9.800 | 4% |
| 259 | Lubelskie | €9.200 | 4% |
| 260 | Podkarpackie | €9.100 | 4% |
| 261 | Sud-Muntenia | €8.500 | 3% |
| 262 | Sud-Est | €8.400 | 3% |
| 263 | Североизточен / Severoiztochen | €8.100 | 3% |
| 264 | Sud-Vest Oltenia | € 8.100 | 3% |
| 265 | Югоизточен / Yugoiztochen | € 7.600 | 2% |
| 266 | южен централен / Yuzhen tsentralen | €6.800 | 1% |
| 20/ | | € b.600 | 1% |
| 200 269 | Северен централен / земегетт iseniralen | € 0.000 € 6.400 | 1% ∩% |

Source: Eurostat – European Regional and Urban Statistics Database

Table 6: Educational Attainment (25-64 Year Olds, 2008)*

| Internation Internation 1 Prox Brabant Wallon 0.405 100% 3 Hovedstaden 0.405 99% 4 Prox Viams-Brabant 0.401 99% 4 Prox Viams-Brabant 0.403 99% 5 Etelà-Suomi (Heslink) 0.403 99% 6 Utrecht 0.389 99% 7 Ile de France 0.389 99% 8 Stockholm 0.382 97% 10 Comunidad Foral de Navara 0.382 97% 11 Surrey, East and West Sussex 0.37 99% 12 Berchine, Buckingharmskre and Oxfordshire 0.361 95% 13 Eastern Scotland 0.361 93% 14 Nord-Holand 0.36 93% 15 Outer London 0.361 93% 16 Outer London 0.331 93% 17 Aragón 0.331 93% 28 Stockhorg 0.331 93 | Rank | Region | ISCED | Percentile | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------|----------------|---------------|--|
| 1 Prox Brabant Wallon 0.475 100% 2 Paki Vasco 0.405 99% 3 Hovedstaden 0.404 99% 5 Etaki-Scomi (Heslink) 0.403 99% 6 Utrecht 0.399 99% 7 Ile de France 0.383 97% 90 Comunidad foral de Navara 0.382 97% 10 Comunidad foral de Navara 0.362 96% 13 Eastern Socthand 0.361 95% 14 Noord-Holland 0.361 95% 15 North Eastern Socthand 0.361 95% 16 Outer London 0.361 93% 17 Berlin 0.333 92% 18 Gioucestershire, Wiltshire and Bristol/Bath area 0.333 92% 10 Duresiden 0.333 92% 21 Aragón 0.333 92% 22 Eesti 0.333 92% 23 Outer and Eastern | | | | in Ranking | |
| 2 Pais Vasco 0.425 100% 3 Howestaden 0.405 99% 5 Etela-Suomi (Helsinki) 0.403 99% 6 Utrecht 0.389 98% 7 Ile de France 0.380 97% 10 Comunidad de Madrid 0.382 97% 10 Comunidad de Madrid 0.362 96% 11 Surrey, East and West Susex 0.361 95% 12 Berkshire, Buckinghamshire and Oxfordshire 0.362 96% 14 Noord-Holland 0.361 95% 15 North Eastern Scotland 0.345 94% 16 Outer London 0.335 93% 20 Dresden 0.333 92% 21 Aragón 0.333 92% 22 Esti 0.333 92% 23 Cheshire 0.332 92% 24 Lansi-Suomi 0.331 91% 25 Korosanazert/ Yugozapaden (Sofia) | 1 | Prov. Brabant Wallon | 0,476 | 100% | |
| 3 Howestraden 0,405 99% 4 Prox. Vlaams-Brabant 0,404 99% 5 Etela-Suomi (Heslinki) 0,403 98% 6 Utrecht 0,389 98% 7 Ile de France 0,380 97% 10 Comunidad de Madrid 0,382 97% 11 Surrey, East and West Sussex 0,37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0,362 96% 13 Eastern Scotland 0,361 95% 14 Noord-Holland 0,361 95% 15 Outer London 0,356 94% 17 Berlin 0,333 93% 20 Dresden 0,333 93% 21 Aragón 0,331 93% 22 Eesti 0,333 92% 23 Cheshire 0,331 91% 24 Länsi-Suomi 0,331 91% 25 North Aragón 0,332 | 2 | País Vasco | 0,425 | 100% | |
| 4 prov. Maams.etanant 0.404 99% 5 Etela-Soumi (Heslinki) 0.303 98% 6 Utrecht 0.389 98% 7 Ile de France 0.381 97% 9 Comunidad foral de Navara 0.382 97% 10 Comunidad foral de Navara 0.382 97% 11 Surey, East and West Sussex 0.37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0.362 96% 13 North Eastern Scotland 0.361 95% 14 Noord-Holland 0.361 93% 15 North Eastern Scotland 0.335 93% 16 Outer London 0.333 92% 18 Giloucestershire, Wiltshire and Bristol/Bath area 0.341 94% 18 Giloucestershire, Wiltshire and Bristol/Bath area 0.332 92% 10 Leiprig 0.333 92% 21 Caratonia 0.331 91% 22 Eesti 0.331 </td <td>3</td> <td>Hovedstaden</td> <td>0,405</td> <td>99%</td> <td></td> | 3 | Hovedstaden | 0,405 | 99% | |
| b. Lede-Subtril (Healmink) 0.403 98% Comunidad certification 0.389 98% Stockholm 0.383 97% Comunidad de Madrid 0.382 97% Comunidad de Madrid 0.382 97% Stockholm 0.382 97% De Comunidad de Madrid 0.362 96% Lastern Scotland 0.361 95% North Eastern Scotland 0.361 95% Stockholm 0.335 93% Lippig 0.335 93% Lippig 0.335 93% Lippig 0.335 93% Cheshire 0.332 92% Lippig 0.331 91% Cheshire 0.332 92% Storthern and Eastern 0.331 91% Storthern and Eastern 0.331 91% Storthern and Eastern 0.32 88% Storthern and Eastern 0.331 91% Storthern and Eastern 0.331 91% Stor | 4 | Prov. Vlaams-Brabant | 0,404 | 99% | |
| 0.10001 0.339 98% 7 Ile de France 0.389 98% 8 Stockholm 0.382 97% 9 Comunidad de Navara 0.382 97% 11 Surrey, East and West Sussex 0.37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0.362 96% 13 Eastern Scotland 0.361 95% 14 Noord-Holland 0.361 95% 15 North Eastern Scotland 0.361 94% 16 Outer London 0.335 93% 17 Berlin 0.333 92% 18 Icina-Scomi 0.333 92% 14 Lansi-Scomi 0.331 93% 14 Lansi-Scomi 0.331 93% 14 Lansi-Scomi 0.331 93% 15 North Sastern 0.331 93% 16 Sotthwerige 0.331 93% 17 Pohjöp-Scomi 0.332 92 | 5 | Etela-Suomi (Hesiinki) | 0,403 | 98% | |
| Integen (a) 0.366 0.37% Stockholm 0.383 97% 9 Comunidad Foral de Navara 0.382 97% 10 Comunidad Foral de Navara 0.382 97% 11 Surey, East and West Sussex 0.37 66% 12 Berkshire, Buckinghamshire and Oxfordshire 0.362 96% 13 Nord-Holland 0.361 95% 14 Noord-Holland 0.361 95% 15 North Eastern Scotland 0.335 93% 16 Outer London 0.335 93% 17 Berlin 0.332 92% 18 Gloucestershire, Wiltshire and Bristol/Bath area 0.343 92% 10 Dresiden 0.332 92% 21 Aragón 0.332 92% 22 Eeti i 0.333 92% 23 Cheshire 0.332 92% 24 Laris-Suomi 0.332 92% 25 Norod Noroshine 0. | 7 | Île de France | 0,399 | 9070 | |
| Decommidad de Madrid 0,383 97% 10 Comunidad of Ale Navara 0,382 97% 11 Surrey, East and West Sussex 0,37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0,362 96% 13 Eastern Scotland 0,362 96% 14 Noorth Eastern Scotland 0,361 95% 15 North Eastern Scotland 0,361 95% 16 Outer London 0,363 93% 19 Leipzig 0,333 93% 20 Dresden 0,333 92% 21 Aragón 0,332 92% 22 Eesti 0,333 92% 23 Cheshire 0,331 91% 25 IOrosangner/ Yugozapaden (Sofia) 0,332 92% 26 Souther and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Sogrerig 0,313 91% 29 South Western Sc | 8 | Stockholm | 0,389 | 90 % | |
| 10 Comunidad Foral de Navarra 0,322 97% 11 Surrey, East and West Sussex 0,37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0,362 96% 14 Noord-Holland 0,361 95% 15 North Eastern Scotland 0,365 94% 17 Berlin 0,335 94% 18 Gloucestershire, Wiltshire and Bristol/Bath area 0,343 94% 19 Lejzig 0,333 92% 20 Dresden 0,333 92% 21 Aragón 0,333 92% 22 Eesti 0,333 92% 23 Cheshire 0,331 91% 24 Länsi-Suomi 0,331 91% 25 Kurpoc / Khrs 0,331 91% 26 South Western Scotland 0,322 88% 33 North Yotshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,328 89% | 9 | Comunidad de Madrid | 0.383 | 97% | |
| 11 Surrey, East and West Sussex 0,37 96% 12 Berkshire, Buckinghamshire and Oxfordshire 0,362 96% 14 Noord-Holland 0,361 95% 15 North Eastern Scotland 0,365 94% 16 Outer London 0,345 94% 17 Berlin 0,345 94% 18 Gloucestershire, Wiltshire and Bristol/Bath area 0,344 94% 19 Lejzig 0,333 92% 20 Dresden 0,333 92% 21 Aragón 0,333 92% 223 Cheshire 0,332 92% 234 Länsi-Suomi 0,331 91% 235 Kurpoc/ Kubrs 0,331 91% 236 Southern and Eastern 0,331 91% 237 Pohjois-Suomi 0,331 91% 238 Kurpoc/ Kubrs 0,322 88% 330 Sydsverige 0,321 87% 333 Poticy 93% 93 344 Bedfordshire and Hertfordshire <td>10</td> <td>Comunidad Foral de Navarra</td> <td>0.382</td> <td>97%</td> <td></td> | 10 | Comunidad Foral de Navarra | 0.382 | 97% | |
| 12Berkshire, Buckinghamshire and Oxfordshire0.36296%13Eastern Scotland0.36195%14North-Eastern Scotland0.36195%15North Eastern Scotland0.34594%16Otter London0.34594%17Berlin0.34593%18Gloucestershire, Wiltshire and Bristol/Bath area0.34494%19Leipzig0.33392%21Aragón0.33392%22Eesti0.33392%23Cheshire0.33292%24Länsi-Suomi0.33191%25IOrosanager / Yugozapaden (Sofia)0.33292%26Southern and Eastern0.33191%27Pohjois-Suomi0.33191%28Kunpoc / Kubrs0.33191%29South Western Scotland0.32488%30Softweirge0.32788%31Highlands and Islands0.31288%33North Yorkshire0.31386%34Bedfordshire and Hertfordshire0.31386%35Herefordshire, Worcestershire and Warwickshire0.31386%36Prov. Ocst-Valanderen0.31386%37Zuid-Holland0.31386%38Prov. Ocst-Valanderen0.30483%39Vatsverige0.30584%41La Koja0.30483%42Brandbubrg-Stödwest0.305< | 11 | Surrey, East and West Sussex | 0,37 | 96% | |
| 13Eastern Scotland0,36296%14Noord-Holland0,36195%15North Eastern Scotland0,36594%17Berlin0,34494%18Leipzig0,34393%20Dresden0,33392%21Aragón0,33392%22Eesti0,33392%23Cheshire0,33191%24Länsi-Suomi0,33191%25Korsanagen/ Yugozapaden (Sofia)0,33191%27Pohjois-Suomi0,33191%28Southern and Eastern0,33191%29South Western Scotland0,32888%30Sydsverige0,32789%31Highlands and Islands0,32688%33North Yorkshire0,33186%34Bedfordshire and Hertfordshire0,31386%35Herefordshire, Worcestershire and Warwickshire0,31386%36East Wales0,31787%37Zuid-Holland0,30885%38Prov. Oost-Vaanderen0,30885%39Västsverige0,30186%30Oberbayern0,30584%31Bradenburg-Südwest0,30785%32Prov. Antwerpen0,30584%34Bradenburg-Südwest0,30584%35Morderland0,29483%36Prov. Läge0,29582% | 12 | Berkshire, Buckinghamshire and Oxfordshire | 0,362 | 96% | |
| 14Noord-Holland0,3695%15North Eastern Scotland0,3695%16Outer London0,35694%17Berlin0,34594%18Gloucestershire, Wiltshire and Bristol/Bath area0,34393%20Dresden0,33392%21Aragón0,33392%23Cheshire0,33292%24Länsi-Suomi0,33292%25Orosanagen / Yugozapaden (Sofia)0,33191%27Pohjois-Suomi0,33191%28Kumpoc / Kibris0,33191%29Southern and Eastern0,33191%20Southern and Eastern0,32289%30Sydsverige0,32289%31Highlands and Islands0,32488%33North Yorkshire0,32488%34Bedfordshire and Hertfordshire0,31386%35Herefordshire, Worcestershire and Warwickshire0,31386%36Vätsverige0,31787%37Zuid-Holland0,31386%38North Yorkshire0,30385%39Vätsverige0,30785%39Vätsverige0,30785%30Vätsverige0,30584%31Prov. Oats/Vaanderen0,30584%33Prov. Antwerpen0,30584%34Bretagne0,30584%35Moldyland <t< td=""><td>13</td><td>Eastern Scotland</td><td>0,362</td><td>96%</td><td></td></t<> | 13 | Eastern Scotland | 0,362 | 96% | |
| 15North Eastern Scotland0,3695%16Outer London0,34594%17Berlin0,34594%18Gloucestershire, Wiltshire and Bristol/Bath area0,34494%19Leipzig0,33393%20Dreschen0,33392%21Aragón0,33392%22Eesti0,33292%23Cheshire0,33292%24Lansi-Suomi0,33292%25IOrozanager, Yugozapaden (Sofia)0,33292%26Southern and Eastern0,33191%27Pohjois-Suomi0,33191%28Kúmpoc, Kibris0,32189%30Sydsverige0,32189%31Highlands and Islands0,32288%33North Yorkshire0,32488%34Bedfordshire and Hertfordshire0,32388%35Herefordshire, Worcestershire and Warwickshire0,31386%36Frov. Oost-Vlaanderen0,31386%37Vädsverige0,31386%38Prov. Oost-Vlaanderen0,30885%41La Rioja0,30584%42Bradonburg-Stodwest0,30584%43Prov. Antwerpen0,30684%44Bretagne0,20782%45Prov. Marur0,20883%46Prov. Marur0,20983%47Castila y León <td< td=""><td>14</td><td>Noord-Holland</td><td>0,361</td><td>95%</td><td></td></td<> | 14 | Noord-Holland | 0,361 | 95% | |
| 16 Outer London 0,356 94% 17 Berlin 0,345 94% 18 Gloucestershire, Wiltshire and Bristol/Bath area 0,344 94% 19 Leipzig 0,338 93% 20 Dresden 0,333 92% 21 Aragón 0,333 92% 22 Eesti 0,332 92% 23 Cheshire 0,332 92% 24 Läns-Suomi 0,331 91% 25 KoroanageH / Yugozapaden (Sofia) 0,332 92% 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Kürpoc / Kıbrs 0,331 91% 29 South Western Scotland 0,322 88% 30 Sydswerige 0,331 88% 31 Hiefordshire and Hertfordshire 0,324 88% 33 North Yorkshire 0,321 88% 34 Prov. Ost-Vlaanderen< | 15 | North Eastern Scotland | 0,36 | 95% | |
| 17 Berlin 0,345 94% 18 Gloucestershire, Wiltshire and Bristol/Bath area 0,344 94% 19 Leipzig 0,333 92% 20 Dresden 0,333 92% 21 Aragón 0,333 92% 22 Eesti 0,332 92% 23 Cheshire 0,332 92% 24 Länsi-Suomi 0,332 92% 25 lorozanageu / Yugozapaden (Sofia) 0,331 91% 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Körpoc / Kıbrıs 0,322 88% 30 Sydsverige 0,324 88% 31 Highlands and Islands 0,326 88% 32 Cantabria 0,311 87% 33 North Yorkshire 0,321 88% 34 Bedfordshire and Hertfordshire 0,321 88% 35 Herefordshire(Worcestershire and Warwickshire 0,313 86% 36 Prov. Oost-Vla | 16 | Outer London | 0,356 | 94% | |
| 18 Gloucestershire, Wiltshire and Bristol/Bath area 0,344 9449 19 Leipzig 0,338 93% 10 Dresden 0,333 92% 21 Aragón 0,333 92% 22 Eesti 0,333 92% 23 Cheshire 0,332 92% 24 Länsi-Suomi 0,331 91% 25 Korsanager/ /Vugozapaden (Sofia) 0,331 91% 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Kürpoc/ Kibris 0,331 91% 29 South Western Scotland 0,322 89% 30 Sydsverige 0,331 91% 31 Heifordshire and Hertfordshire 0,324 88% 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,31 86% 35 Herefordshire, Worcestershire and Warwickshire 0,31 86% | 17 | Berlin | 0,345 | 94% | |
| Lalp2g 0.338 9.338 9.338 20 Dresden 0.333 92% 21 Aragón 0.333 92% 22 Eesti 0.333 92% 23 Cheshire 0.332 92% 24 Läns-Suomi 0.332 92% 25 Norsanagen/ Yugozapaden (Sofia) 0.332 92% 26 Southern and Eastern 0.331 91% 27 Pohjois-Suomi 0.331 91% 28 Kürpoc/ Kıbrs 0.331 91% 29 South Western Scotland 0.322 89% 30 Sydsverige 0.321 88% 31 Hirdhands and Islands 0.322 88% 32 Cantabria 0.324 88% 33 North Yorkshire and Hertfordshire 0.31 86% 34 Bedfordshire and Hertfordshire 0.31 86% 35 Herefordshire, Worcestershire and Warwickshire 0.31 86% 36 | 18 | Gloucestershire, Wiltshire and Bristol/Bath area | 0,344 | 94% | |
| 20 Drescent 0,333 93% 21 Aragón 0,333 92% 23 Cheshire 0,332 92% 24 Länsi-Suomi 0,332 92% 25 Drozanager/ / Vugozapaden (Sofia) 0,332 92% 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Körnoc / Kibris 0,331 91% 29 South Western Scotland 0,322 88% 30 Sydsverige 0,321 89% 31 Highlands and Islands 0,322 88% 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,32 88% 35 Herefordshire, Worcestershire and Warwickshire 0,319 87% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 39 Västsverige 0,31 86% 41 < | 19 | Leipzig | 0,338 | 93% | |
| Aragon 0,333 92% 22 Esti 0,333 92% 23 Cheshire 0,332 92% 24 Länsi-Suomi 0,332 92% 25 Korsanagen / Yugozapaden (Sofia) 0,331 91% 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Korpoc / Klors 0,331 91% 29 South Western Scotland 0,321 89% 30 Sydwerige 0,327 89% 31 Highlands and Islands 0,324 88% 33 North Yorkshire 0,323 88% 34 Bedfordshire and Hertfordshire 0,324 88% 35 Herefordshire, Worcestershire and Warwickshire 0,313 86% 36 Prov. Oost-Vlaanderen 0,313 86% 37 Zuid-Holland 0,308 85% 41 La Rioja 0,308 85% 42 Bradopeburg-Sü | 20 | Dresden | 0,335 | 93% | |
| 12.1 Chashire 0,323 0,22% 24 Länsi-Suomi 0,332 0,22% 24 Länsi-Suomi 0,332 0,22% 25 Korsana,en/Yugozapaden (Sofia) 0,331 0,1% 26 Southern and Eastern 0,331 0,1% 27 Pohjois-Suomi 0,331 0,1% 28 Körpoc/Kibris 0,331 0,1% 29 South Western Scotland 0,324 88% 30 Sydsverige 0,324 88% 31 Highlands and Islands 0,325 89% 32 Cantabria 0,324 88% 33 North Yorkshire 0,313 86% 34 Bedfordshire and Hertfordshire and Warwickshire 0,313 86% 35 Herefordshire, Worcestershire and Warwickshire 0,313 86% 36 Prov. Oost-Vlaanderen 0,313 86% 37 Zuid-Holland 0,313 86% 38 Prov. Antwerpen 0,305 84% | 21 | Eesti | 0,555 | 92 % | |
| Description Description 1 Lansi-Suomi 0.332 92% 25 Korosanagen / Yugozapaden (Sofia) 0.332 92% 26 Southern and Eastern 0.331 91% 27 Pohjois-Suomi 0.331 91% 28 Kinpoc/ Klors 0.331 91% 29 South Western Scotland 0.322 88% 30 Sydswerige 0.321 88% 31 Highlands and Islands 0.324 88% 32 Cartabria 0.324 88% 33 North Yorkshire 0.321 88% 34 Bedfordshire and Hertfordshire 0.321 88% 35 Herefordshire, Worcestershire and Warwickshire 0.313 86% 36 East Wales 0.313 86% 37 Zuid-Holland 0.313 86% 38 Prov. Ost-Vlaanderen 0.308 85% 39 Västsverige 0.305 84% 41 La Rioja | 22 | Cheshire | 0,332 | 92% | |
| Norsanagen / Yugozapaden (Sofia) 0.32 92% 26 Southern and Eastern 0.331 91% 27 Pohjois-Suomi 0.331 91% 28 Kürpoc/ Kıbrs 0.331 91% 29 South Western Scotland 0.321 89% 30 Sydsverige 0.327 89% 31 Highlands and Islands 0.324 88% 32 Cantabria 0.324 88% 33 North Yorkshire 0.324 88% 34 Bedfordshire and Hertfordshire 0.324 88% 35 Herefordshire, Worcestershire and Warwickshire 0.317 87% 36 East Wales 0.313 86% 37 Zuid-Holland 0.313 86% 38 Prov. Ost-Vlaanderen 0.308 85% 39 Västsverige 0.31 86% 40 Oberbayern 0.306 84% 41 La Rioja 0.305 84% 42 Bradn | 24 | Länsi-Suomi | 0.332 | 92% | |
| 26 Southern and Eastern 0,331 91% 27 Pohjois-Suomi 0,331 91% 28 Künpoc/Klbrs 0,331 91% 29 South Western Scotland 0,328 89% 30 Sydsverige 0,327 89% 31 Highlands and Islands 0,324 88% 32 Cantabria 0,324 88% 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,322 88% 35 Herefordshire, Worcestershire and Warwickshire 0,313 86% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,301 86% 40 Oberbayern 0,303 84% 41 La Rioja 0,300 84% 42 Brandenburg-Südwest 0,307 84% 43 Prov. Namur 0,304 83% 45 < | 25 | Югозападен / Yugozapaden (Sofia) | 0,332 | 92% | |
| 27 Pohjois-Suomi 0,331 91% 28 Kurpoc/Kıbrs 0,331 91% 29 South Western Scotland 0,328 89% 30 Sydsverige 0,327 89% 31 Highlands and Islands 0,324 88% 32 Cantabria 0,324 88% 33 North Yorkshire 0,321 88% 34 Bedfordshire and Hertfordshire 0,32 88% 35 Herefordshire, Worcestershire and Warwickshire 0,317 87% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,301 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 88% 43 Prov. Antwerpen 0,306 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,301 82% 46 Prov. Anmur 0,291 | 26 | Southern and Eastern | 0,331 | 91% | |
| 28 Kúmpoc / Kibris 0,331 91% 29 South Western Scotland 0,328 89% 30 Sydsverige 0,327 89% 31 Highlands and Islands 0,324 88% 32 Cantabria 0,324 88% 33 North Yorkshire 0,31 88% 34 Bedfordshire and Hertfordshire 0,32 88% 35 Herefordshire, Worcestershire and Warwickshire 0,31 86% 36 East Wales 0,313 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,31 86% 39 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,307 84% 42 Brandenburg-Südwest 0,307 84% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liage 0,291 83% 45 Prov. Liage 0,291 <td>27</td> <td>Pohjois-Suomi</td> <td>0,331</td> <td>91%</td> <td></td> | 27 | Pohjois-Suomi | 0,331 | 91% | |
| 29 South Western Scotland 0,328 89% 30 Sydsverige 0,327 89% 31 Highlands and Islands 0,324 88% 32 Cantabria 0,324 88% 34 Bedfordshire and Hertfordshire 0,32 88% 34 Bedfordshire and Hertfordshire 0,31 88% 35 Herefordshire, Worcestershire and Warwickshire 0,31 87% 36 East Wales 0,311 88% 37 Zuid-Holland 0,313 86% 39 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,308 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 45 Prov. Namur 0,304 83% 45 Midi-Py | 28 | Κύπρος / Kıbrıs | 0,331 | 91% | |
| 30 Sydsverige 0,327 89% 31 Highlands and Islands 0,326 89% 32 Cantabria 0,324 88% 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,321 88% 35 Herefordshire, Worcestershire and Warwickshire 0,319 87% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,303 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 46 Prov. Namur 0,209 83% 47 Castilla y León 0,293 80% 54 Genoingen | 29 | South Western Scotland | 0,328 | 89% | |
| 31 Highlands and Islands 0,326 89% 32 Cantabria 0,324 88% 33 North Yorkshire 0,321 88% 34 Bedfordshire and Hertfordshire 0,319 87% 35 Herefordshire, Worcestershire and Warwickshire 0,319 87% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 39 Västsverige 0,311 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,306 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 46 Prov. Namur 0,291 82% 47 Garolingen 0,297 82% 50 Hampshire and Isle of Wight 0,292 81% 51 Itä-Suomi 0,28 | 30 | Sydsverige | 0,327 | 89% | |
| 32 Cantabria 0,324 88% 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,319 87% 35 Herefordshire, Worcestershire and Warwickshire 0,319 87% 36 East Wales 0,311 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,306 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 46 Prov. Namur 0,293 82% 47 Castilla y León 0,297 82% 48 Chernnitz 0,293 80% 50 Hampshire and Isle of Wight 0,291 81% 51 Ità-Suorni | 31 | Highlands and Islands | 0,326 | 89% | |
| 33 North Yorkshire 0,324 88% 34 Bedfordshire and Hertfordshire 0,312 88% 35 Herefordshire, Worcestershire and Warwickshire 0,317 87% 36 East Wales 0,313 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 39 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 86% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,204 83% 47 Castilla y León 0,297 82% 48 Chemnitz 0,298 82% 50 Hampshire and Isle of Wight 0,291 80% 51 Itá-Suomi< | 32 | Cantabria | 0,324 | 88% | |
| 34 Bedfordsnire and Hertfordsnire 0,32 88% 35 Herefordshire, Worcestershire and Warwickshire 0,313 86% 36 East Wales 0,313 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 39 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 84% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,298 82% 48 Chernnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,293 80% 51 Itä-Suomi | 33 | North Yorkshire | 0,324 | 88% | |
| 35 Herefordshille, wordestershille and warwickshille 0,319 87% 36 East Wales 0,311 87% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 39 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,298 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,293 80% 52 Övre Norrland 0,293 80% 54 Gelderland 0, | 34 25 | Bedfordshire and Hertfordshire | 0,32 | 88% | |
| 30 Last wates 0,317 86% 37 Zuid-Holland 0,313 86% 38 Prov. Oost-Vlaanderen 0,313 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Namur 0,304 83% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,293 80% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% | 30 26 | Fereiorushire, vvorcestershire and vvarwickshire | 0,319 | 87% 070/ | |
| 57 Lata House and Prove Name 0,313 86% 38 Prov. Oost-Vlaanderen 0,311 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,307 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,297 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,293 80% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,281 78% 56 Principado de Asturias 0,292 79% | 37 | Zuid-Holland | 0,317 | 86% | |
| Solution Description Description 9 Västsverige 0,31 86% 40 Oberbayern 0,308 85% 41 La Rioja 0,307 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,297 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,293 80% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midt-Pyrénées 0,293 78% < | 38 | Prov. Oost-Vlaanderen | 0 313 | 86% | |
| 40 Oberbayern 0,308 85% 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,297 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,281 78% <td>39</td> <td>Västsverige</td> <td>0,31</td> <td>86%</td> <td></td> | 39 | Västsverige | 0,31 | 86% | |
| 41 La Rioja 0,308 85% 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,305 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,297 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Ičá-Suomi 0,292 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,211 78% 61 Östra Mellansverige 0,283 77% | 40 | Oberbayern | 0,308 | 85% | |
| 42 Brandenburg-Südwest 0,307 85% 43 Prov. Antwerpen 0,306 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,299 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,298 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,293 78% 58 Bratislavský kraj 0,219 78% 59 Noord-Brabant 0,289 78% 61 Östra Mellansverige 0,287 77% <td>41</td> <td>La Rioja</td> <td>0,308</td> <td>85%</td> <td></td> | 41 | La Rioja | 0,308 | 85% | |
| 43 Prov. Antwerpen 0,306 84% 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,211 78% 59 Noord-Brabant 0,289 78% 61 Östra Mellansverige 0,281 | 42 | Brandenburg-Südwest | 0,307 | 85% | |
| 44 Bretagne 0,305 84% 45 Prov. Liège 0,305 84% 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,297 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Kita-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,211 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,281 77% | 43 | Prov. Antwerpen | 0,306 | 84% | |
| 45 Prov. Liège 0,305 84% 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,284 75% | 44 | Bretagne | 0,305 | 84% | |
| 46 Prov. Namur 0,304 83% 47 Castilla y León 0,299 83% 48 Chemnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,294 81% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Priocipado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,287 77% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,284 | 45 | Prov. Liège | 0,305 | 84% | |
| 47 Castilia y León 0,299 88% 48 Chemnitz 0,298 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,287 77% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,284 <t< td=""><td>46</td><td>Prov. Namur</td><td>0,304</td><td>83%</td><td></td></t<> | 46 | Prov. Namur | 0,304 | 83% | |
| 48 Chemmiz 0,288 82% 49 Groningen 0,297 82% 50 Hampshire and Isle of Wight 0,297 82% 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,284 76% 64 Cataluña 0,284 76% 65 Prov. West-Vlaanderen 0,284 | 47 | Castilla y Leon | 0,299 | 83% | |
| 43 0,297 82,76 Hampshire and Isle of Wight 0,297 82,76 50 Hampshire and Isle of Wight 0,297 82,76 51 Itä-Suomi 0,296 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,287 77% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,285 76% 65 Prov. West-Vlaanderen 0,284 75% < | 40 70 | Groningen | 0,290 | 02.70 8.7% | |
| 51 Itanpante and isc of virgin 0,296 81% 51 Itä-Suomi 0,294 81% 52 Övre Norrland 0,293 80% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,284 75% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 | 50 | Hampshire and Isle of Wight | 0,297 | 82% | |
| 52 Övre Norrland 0,294 81% 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,291 78% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,287 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 51 | Itä-Suomi | 0.296 | 81% | |
| 53 Midtjylland 0,293 80% 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,293 80% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,288 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 52 | Övre Norrland | 0,294 | 81% | |
| 54 Gelderland 0,293 80% 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,288 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 53 | Midtjylland | 0,293 | 80% | |
| 55 Midi-Pyrénées 0,293 80% 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,288 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 54 | Gelderland | 0,293 | 80% | |
| 56 Principado de Asturias 0,292 79% 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 55 | Midi-Pyrénées | 0,293 | 80% | |
| 57 Prov. Luxembourg (B) 0,292 79% 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 56 | Principado de Asturias | 0,292 | 79% | |
| 58 Bratislavský kraj 0,291 78% 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 57 | Prov. Luxembourg (B) | 0,292 | 79% | |
| 59 Noord-Brabant 0,289 78% 60 Lietuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 58 | Bratislavský kraj | 0,291 | 78% | |
| but UEtuva 0,289 78% 61 Östra Mellansverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 59 | Noord-Brabant | 0,289 | 78% | |
| OT Osta Intellaritsverige 0,288 77% 62 Dorset and Somerset 0,287 77% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 0U 61 | Lietuva Östra Mallanguarias | 0,289 | /8% | |
| 02 Diset and Somerset 0,267 71% 63 Galicia 0,287 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 01 62 | Ostra Mellansverige | U,288 ∩ 207 | //% | |
| Cataluña 0,207 77% 64 Cataluña 0,286 76% 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 0∠ 63 | Galicia | 0,20/ 0 787 | 770/- | |
| 65 Prov. West-Vlaanderen 0,285 76% 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 64 | Cataluña | 0.286 | 76% | |
| 66 East Anglia 0,284 75% 67 Brandenburg-Nordost 0,284 75% 68 Cornwall and Isles of Scilly 0,284 75% | 65 | Prov. West-Vlaanderen | 0,285 | 76% | |
| 67Brandenburg-Nordost0,28475%68Cornwall and Isles of Scilly0,28475% | 66 | East Anglia | 0,284 | 75% | |
| 68 Cornwall and Isles of Scilly 0,284 75% | 67 | Brandenburg-Nordost | 0,284 | 75% | |
| | 68 | Cornwall and Isles of Scilly | 0,284 | 75% | |

Rank Region Percentile in Ranking 69 Rhône-Alpes 0,282 74% 70 74% Cumbria 0.282 71 Shropshire and Staffordshire 0,282 74% 73% 72 Leicestershire, Rutland and Northamptonshire 0.28 73 Northern Ireland 0,279 73% 74 Prov. Limburg (B) 0.278 72% 75 Praha 0,277 72% 76 Åland 0,277 72% 77 Devon 0,277 72% 78 Greater Manchester 0,276 71% 79 Közép-Magyarország 0.276 71% 80 Mellersta Norrland 0,274 70% 81 Mazowieckie 0,273 70% 82 Zahodna Slovenija 0,271 69% 83 Darmstadt 0,27 69% 84 Kent 0,27 69% 85 Thüringen 0,27 69% 85 Αττική / Attiki 0.269 68% 87 Sjælland 0,269 68% 88 Lancashire 0,268 67% 89 Overijssel 0,267 67% 90 Derbyshire and Nottinghamshire 0,267 67% 91 Luxembourg (Grand-Duché) 0,265 66% 92 Hamburg 0,265 66% Languedoc-Roussillon 93 0,265 66% 94 Karlsruhe 0,264 65% 95 Stuttgart 0,263 65% 96 București-Ilfov 0,263 65% 97 Svddanmark 0.262 64% 98 Drenthe 0,261 63% 99 Comunidad Valenciana 0,261 63% West Yorkshire 100 0,26 63% 101 Tübingen 0,259 62% 102 Köln 0,259 62% 103 Border, Midland and Western 0,259 62% 104 Northumberland and Tyne and Wear 0.258 61% 105 Freiburg 0,253 61% 106 Flevoland 0,252 60% 107 Alsace 0,251 60% 108 0,251 60% Merseyside 109 Friesland (NL) 0,25 59% 110 Mecklenburg-Vorpommern 0,25 59% 111 Småland med öarna 0,249 58% 112 Prov. Hainaut 0,248 58% 113 Mittelfranken 0,247 58% 114 West Midlands 0,247 58% 0,246 57% 115 Gießen 116 Provence-Alpes-Côte d'Azur 0,245 57% 117 0,244 56% Canarias 118 Nordjylland 0,242 56% 119 Essex 0,242 56% 120 South Yorkshire 0,241 55% 121 West Wales and The Valleys 0,24 55% 54% 122 Limburg (NL) 0,238 123 Aquitaine 0,238 54% 124 Andalucía 0,238 54% 125 Rheinhessen-Pfalz 0.236 53% 126 Lincolnshire 0,236 53% 127 Región de Murcia 0.235 52% 128 Tees Valley and Durham 0,235 52% 129 Norra Mellansverige 0,231 52% 130 Sachsen-Anhalt 0,231 52% 131 Wien 0,23 51% 132 Unterfranken 0,228 51% 133 Nord-Pas-de-Calais 0,228 51% 134 0 227 50% Κεντοική Μακεδονία / Kentriki Makedonia 135 East Yorkshire and Northern Lincolnshire 0,226 49% 136 Pays de la Loire 0,225 49%

*excludes Brussels and London due to performance anomalies

Lisbon Council Policy Brief: Human Capital in Regions and Cities
| Rank | Region | ISCED | Percentile in Ranking | Rank | Regio |
|------|-------------------------------------|-------|--------------------------|-------------|--------------------|
| 137 | Latvija | 0,225 | 49% | 203 | Liguria |
| 138 | Ciudad Autónoma de Melilla | 0,224 | 48% | 204 | Wielko |
| 139 | Auvergne | 0,223 | 48% | 205 | Steiern |
| 140 | Basse-Normandie | 0,222 | 4070 //8% | 200 | Opolsk |
| 142 | Castilla-La Mancha | 0,222 | 437% | 207 | Dél-Alf |
| 143 | Bremen | 0,22 | 46% | 209 | Saarlar |
| 144 | Kassel | 0,22 | 46% | 210 | Nieder |
| 145 | Hannover | 0,22 | 46% | 211 | Jihovýc |
| 146 | Champagne-Ardenne | 0,218 | 45% | 212 | Umbria |
| 147 | Lorraine | 0,218 | 45% | 213 | Warmir |
| 148 | Extremadura | 0,217 | 45% | 214 | Emilia- |
| 149 | Braunschweig | 0,215 | 44% | 215 | Toscan |
| 150 | | 0,214 | 4470 | 210 | Provinc |
| 152 | Θεσσαλία / Thessalia | 0.213 | 43% | 217 | Molise |
| 153 | Oberfranken | 0,211 | 43% | 219 | Közép- |
| 154 | Schwaben | 0,21 | 42% | 220 | Észak-/ |
| 155 | Centre | 0,209 | 42% | 221 | Lomba |
| 156 | Limousin | 0,209 | 42% | 222 | Abruzz |
| 157 | Κρήτη / Kriti | 0,209 | 42% | 223 | Στερεά |
| 158 | Düsseldorf | 0,205 | 41% | 224 | Marche |
| 159 | Niederbayern | 0,205 | 41% | 225 | Nyuga |
| 160 | LISDOd Haute-Normandie | 0,205 | 41% | 220 | Friuli-V Burger |
| 162 | Franche-Comté | 0,203 | 40% | 227 | Calabri |
| 163 | Североизточен / Severoiztochen | 0,203 | 40% | 229 | Dél-Du |
| 164 | Schleswig-Holstein | 0,202 | 38% | 230 | Piemor |
| 165 | Münster | 0,2 | 38% | 231 | Észak-I |
| 166 | Oberpfalz | 0,198 | 38% | 232 | Jihozáp |
| 167 | Małopolskie | 0,197 | 37% | 233 | Malta |
| 168 | Ήπειρος / Ipeiros | 0,195 | 37% | 234 | Západr |
| 169 | Zachodniopomorskie | 0,195 | 3/% | 235 | Střední |
| 170 | Podlaskie Autriká Eliláda | 0,195 | 3/% | 230 | Basilica |
| 171 | | 0,194 | 30% | 237 | Výchor |
| 173 | Poitou-Charentes | 0,193 | 35% | 239 | Ιόνια Ν |
| 174 | Bourgogne | 0,189 | 35% | 240 | Stredne |
| 175 | Corse | 0,189 | 35% | 241 | Veneto |
| 176 | Koblenz | 0,187 | 34% | 242 | Νότιο Α |
| 177 | Dolnośląskie | 0,186 | 34% | 243 | Centro |
| 178 | Lubelskie | 0,186 | 34% | 244 | Alente |
| 1/9 | Pomorskie | 0,185 | 33% | 245 | Morav |
| 181 | Salzburg Weser-Ems | 0,164 | 3270 | 240 | Sicilia |
| 182 | Łódzkie | 0,184 | 32% | 247 | Vest |
| 183 | Lazio | 0,182 | 31% | 249 | Campa |
| 184 | Detmold | 0,182 | 31% | 250 | Região |
| 185 | Vzhodna Slovenija | 0,182 | 31% | 251 | Puglia |
| 186 | Lüneburg | 0,18 | 30% | 252 | Centru |
| 187 | Югоизточен / Yugoiztochen | 0,177 | 30% | 253 | Sud-Ve |
| 188 | Северозападен / Severozapaden | 0,175 | 29% | 254 | Sardeg |
| 189 | Świętokrzyskie | 0,173 | 29% | 255 | Střední |
| 190 | Picardie | 0,172 | 29% | 256 | Severo |
| 191 | Απορική Μακεδονία Θράκη (| 0,171 | 2070 | 257 | Norte |
| 152 | Anatoliki Makedonia, Thraki | 0,171 | 2070 | 259 | Algary |
| 193 | Δυτική Μακεδονία / Dvtiki Makedonia | 0,169 | 28% | 260 | Provinc |
| 194 | Βόρειο Αιγαίο / Voreio Aigaio | 0,168 | 27% | 261 | Nord-E |
| 195 | Ciudad Autónoma de Ceuta | 0,167 | 27% | 262 | Sud-Es |
| 196 | Vorarlberg | 0,166 | 26% | 263 | Sud-M |
| 197 | Śląskie | 0,166 | 26% | 264 | Região |
| 198 | Южен централен / Yuzhen tsentralen | 0,166 | 26% | 265 | Severo |
| 199 | lirol Obarëstarraish | 0,165 | 25% | | Martin |
| 200 | Kärnten | 0,164 | 25% 250/ | | Réunio |
| 201 | Podkarpackie | 0,104 | 20% 25% | | Guvan |
| | | | 20/0 | · · · · · · | Judyun |

| | D | ICCER | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------|
| Rank | Region | ISCED | Percentile in Ranking |
| 203 | Liguria | 0,162 | 24% |
| 204 | Wielkopolskie | 0,162 | 24% |
| 205 | Steiermark | 0,161 | 23% |
| 206 | Πελοπόννησος / Peloponnisos | 0,159 | 23% |
| 207 | Opolskie | 0,157 | 22% |
| 208 | Dél-Alföld | 0,155 | 22% |
| 209 | Saarland | 0,153 | 22% |
| 210 | Niederösterreich | 0,153 | 22% |
| 211 | Jihovýchod | 0,153 | 22% |
| 212 | | 0,151 | 20% |
| 213 | Warminsko-Mazurskie | 0,149 | 20% |
| 214 | Emilia-Romagna | 0,148 | 20% |
| 215 | TOSCANA | 0,147 | 19% |
| 210 | Revincia Autonoma Tranto | 0,147 | 1970 |
| 217 | Molise | 0,144 | 10 /0 |
| 210 | Közén-Dunántúl | 0,143 | 18% |
| 270 | Észak-Alföld | 0,143 | 18% |
| 220 | Lombardia | 0 142 | 1070 |
| 227 | Abruzzo | 0.142 | 17 % |
| 223 | Στερεά Ελλάδα / Sterea Ellada | 0.139 | 16% |
| 224 | Marche | 0,138 | 16% |
| 225 | Nyugat-Dunántúl | 0,137 | 15% |
| 226 | Friuli-Venezia Giulia | 0,136 | 15% |
| 227 | Burgenland (A) | 0,136 | 15% |
| 228 | Calabria | 0,135 | 14% |
| 229 | Dél-Dunántúl | 0,133 | 14% |
| 230 | Piemonte | 0,13 | 14% |
| 231 | Észak-Magyarország | 0,128 | 13% |
| 232 | Jihozápad | 0,127 | 13% |
| 233 | Malta | 0,126 | 12% |
| 234 | Západné Slovensko | 0,126 | 12% |
| 235 | Střední Morava | 0,126 | 12% |
| 236 | Basilicata | 0,125 | 11% |
| 237 | Kujawsko-Pomorskie | 0,125 | 11% |
| 238 | Východné Slovensko | 0,124 | 11% |
| 239 | Ιόνια Νησιά / Ionia Nisia | 0,123 | 10% |
| 240 | Stredné Slovensko | 0,123 | 10% |
| 241 | Veneto | 0,122 | 9% |
| 242 | Nóτιο Αιγαίο / Notio Algaio | 0,121 | 9% |
| 243 | Centro (P) | 0,119 | 9% |
| 244 | Alentejo | 0,117 | 8% |
| 245 | Molection of the second s | 0,117 | 8% 0% |
| 240 | | 0,115 | 0 /0 8% |
| 247 | Vort | 0,113 | 0 /0 7% |
| 240 | Campania | 0,114 | 7 70 6% |
| 250 | Região Autónoma da Madeira | 0 112 | 6% |
| 251 | Puglia | 0 112 | 6% |
| 252 | Centru | 0.111 | 5% |
| 253 | Sud-Vest Oltenia | 0,111 | 5% |
| 254 | Sardegna | 0,11 | 5% |
| 255 | Střední Čechy | 0,11 | 5% |
| 256 | Severovýchod | 0,11 | 5% |
| 257 | Nord-Vest | 0,11 | 5% |
| 258 | Norte | 0,109 | 3% |
| 259 | Algarve | 0,108 | 3% |
| 260 | Provincia Autonoma Bolzano/Bozen | 0,103 | 2% |
| 261 | Nord-Est | 0,103 | 2% |
| 262 | Sud-Est | 0,088 | 2% |
| 263 | Sud-Muntenia | 0,086 | 1% |
| 264 | Região Autónoma dos Açores | 0,074 | 1% |
| 265 | Severozápad | 0,073 | 0% |
| | Martinique | n/a | |
| | Guadeloupe | n/a | |
| | Réunion | n/a | |
| | Guyane | n/a | |

Source: Eurostat – European Regional and Urban Statistics Database

n/a= data not available

Note on Methodology and Data

This policy brief aims to advise regional policy-makers on how they can foster economic growth, in particular along the parameters of the European growth strategy until 2020. The model is designed to explain income differences measured in per capita gross domestic product, adjusted for purchasing power parity, in logarithmic terms through simple ordinary least squares (OLS). OLS is a standard estimation technique that is used very widely due to its good statistical properties and its easy interpretation. It estimates parameters in a linear regression model by minimizing the sum of squared errors in the data. OLS is potentially vulnerable to issues of endogeneity, for example from reverse causality. The investigation of reverse causality through time lag analysis - using the expected explanatory variable from an earlier point in time than the output variable to ensure that causality can only go one way - did not yield conclusive evidence. For youth unemployment, causality runs in the expected direction: Youth unemployment in 2000 does explain differences in GDP per capita in 2007 controlled for GDP per capita in 2000. However, GDP per capita in 2000 does not explain differences in the youth unemployment rates in 2007, controlled for youth unemployment rates in 2000. For the other variables this relationship is not so clear, also because the time lag of just eight years is not long enough.

Another source of endogeneity, omittedvariable bias, could arise from third factors influencing the human capital of a region

as well as its income. Typical examples of third factors that might drive both human capital performance and income independently are fixed capital formation, financial market systems, regulatory quality, dominant religious orientation, climate or history. In this analysis, some of these factors were taken into account by grouping the regions according to their a priori conditions. Others, such as the availability of financial capital, were ruled out a priori due to the generally well developed financial infrastructure in Europe. Still others should be covered at least indirectly by the innovation indicator.

A more elaborate model design to avoid omitted-variable bias (for time-constant unobserved variables) could have been fixed-effects estimators. A fixed-effects estimator ignores any variation in the level of outcomes across regions and only focuses on changes over time.98 As data was available only for a maximum of nine years, it may have been sufficient to show some of the effects of adult human capital variables such as the proportion of complex jobs or long-term unemployment but it was unlikely to do justice to their long-term effects or any of the effects of schooling or tertiary education. The analysis is presented without time lags because the level of GDP is not sensitive to single years due to the high intertemporal correlation of each variable.99

Another model design that would allow unbiased results even in the case of endogeneity is the use of instrumental

Martin Schlotter, Guido Schwerdt and Ludger Woessmann, "Econometric Methods for Causal Evaluation of Education Policies and Practices: A Non-Technical Guide", IZA, Discussion Paper No. 4725, January 2010. Fixed-effects estimators have some disadvantages, too. In the academic literature different generalized method of moments (GMM) estimators are usually applied.
 In contrast, by regarding growth rates, the chosen time lag influences the results considerably.

variables. A valid instrument needs strong assumptions and a generalisation of the results can be difficult. For easier comprehension, this policy brief only reports OLS results.

All references to the coefficient of determination (\mathbb{R}^2) or the explained variation in income refer to the unadjusted \mathbb{R}^2 . The results are not sensitive to the choice of \mathbb{R}^2 , adjusted \mathbb{R}^2 or the Akaike information criterion. The dependent variable is the logarithm of per-capita GDP, but the results are qualitatively similar to the per-capita GDP. The logarithm is preferable because of its approximate normal distribution and its coefficients as being interpretable as semi-elasticities. GDP data were adjusted for purchasing power parity. Eurostat provides this data as purchasing power standards (PPS).

Many similar studies look at the income growth rates as the dependent variable. However, growth rates are more susceptible to measurement error than income levels.¹⁰⁰ Also, a number of European economies such as Ireland, Spain and United Kingdom have seen housing or property bubbles between 1999 and 2007. So the GDP growth rates may not be a valid proxy for potential long-term growth. In fact, this policy brief's independent variables had no robust explanatory power for growth whether with OLS or with fixed-effects estimation. The GDP level rather than GDP growth rates were also chosen so as to retain the information of GDP levels in the analysis.

More than 30 input variables were examined. Some of the variables not presented in this policy brief are working hours, population, migration, broadband accesses or social capital proxies from the European Social Survey (ESS 2006 / 2008) such as questions on trust.

The Human Capital Leading Indicators were selected by the following three criteria. First, there are intuitive reasons to suppose that each variable affects the regional wealth creation in line with the Human Capital Matrix. Second, for each indicator there is a sufficient number of regions providing data – a reason why social capital or broadband were not included. Third, each indicator is significant and important as determined by a statistical selection procedure. The significance and the effect size of every variable were checked to avoid making statements for variables where effects were only weak.

Complex jobs are those with starting digits 1 and 2 according to the ISCO classification of the International Labour Organization (ILO); Eurostat prepared a detailed data set for this study consisting primarily of the year 2008 and 2009. The share of complex jobs among total employment is closely related to the share of the population with a tertiary degree. However, the share of complex jobs provides greater explanatory power than the share of tertiary education. In addition, complex should be less susceptible to reverse causality: higher income may make higher education more affordable,

100. The correlation of all relevant variables is considerably higher between 2006 and 2007 than between 1999 and 2000.

but income by itself cannot directly create more complex jobs.¹⁰¹ A regional human capital manager should seek a high share of complex jobs in the work force, and tertiary degree holders are one but not the only means to that end.

The innovation variable is built up of three sub-indicators in 2003: public R&D expenditures, private R&D expenditures (in % of GDP) and patent applications per million of inhabitants, for each of which the regions are ranked. A region's innovation score is the numerical average of the ranks of the three sub-indicators. The maximum number of observations of all three sub-indicators in all regions was available for 2003. The choice of this year is corroborated by very high temporal correlation of each sub-indicator between 2003 and 2007. Some would argue that R&D and patents may not be sufficiently satisfactory as a proxy for the productivity of human capital. Unfortunately, there is no obviously better proxy. The results might be improved by focusing on business R&D expenditures and excluding public R&D expenditures or by using a composite indicator.¹⁰²

An early version of the regional groupings divided the thinly populated regions into two groups: those with a strong share of manufacturing industries, and those which are mostly agricultural and touristic. Surprisingly, the importance of R&D spending and patent awards was nearly the same, even though one might expect that manufacturing operations would need to rely more on patents than hotels and restaurants on sea shores. The rejection of this hypothesis supports the conclusion that investments in innovation such as R&D are symptoms of high capital productivity, rather than their cause. In some cases, we refer to the national average as the (unweighted) average of all regions within a country.

Data Availability and Reliability

Data availability on European regions is improving but has limited historical reach. The data used for this policy brief has been provided by Eurostat, the statistical office of the European Union. There are many variables available from Eurostat at the NUTS2 or NUTS3 level but few before 1999, and others only for very recent years. Some variables are not available for all regions even in 2007. Youth unemployment rates, for example, are missing for 27 out of 269 regions in 2007. There are 234 regions that have data for all four Human Capital Leading Indicators as well as the share of highly educated.

There are 271 NUTS-2 regions but Brussels and London were omitted from the analysis because these cities are statistical outliers with an unusually high GDP and high leverage on the estimated coefficients. 234 regions provide data for all eight indicators investigated. In addition, capital cities were controlled for, although Valletta and Nicosia were not considered in the capital city group, as they are indistinguishable from their region due to their small size. For each regression, the

 Compare also on the robustness of highly-skilled labour statistics in Jesus Crespo-Cuaresma, Neil Foster and Robert Stehrer, "The Determinants of Regional Economic Growth by Quantile," Vienna Institute for International Economic Studies, Working Paper 54, May 2009.
 Hugo Hollanders and Funda Celikel Esser, "Measuring innovation Efficiency," INNO-Metrics Thematic Paper, December 2007. impact of individual regions on the size of the coefficient was checked so that outlier regions could be identified.

The finding that regional variance is greater than national variance and therefore a better guide to good practice is also backed up by the distribution of an indicator that was not included in the analysis. The Programme for International Student Assessment (PISA) is an internationally standardised assessment that was jointly developed by participating economies and administered to 15 year olds in schools. Only a few European countries provide regional data but where such data exists it strongly supports one of the key findings of this analysis: there are large differences within countries in student competencies driven by, for example, regional human capital policies.

Interviews

Researchers visited the following regions, and interviewed the following people, as part of the research and fact gathering for this year-long study. The Lisbon Council would like to thank them for their warm hospitality, and for taking so much time to share their wisdom and insights with us. As always, errors of fact or judgment remaining in the study are the authors' sole responsibility.

Bratislava, Slovakia

12-15 December 2010

- Vladimir Baláž, head, scientific committee, institute for forecasting, Slovak Academy of Science
- Kvetoslava Blahová, project manager, FDI section, Slovak Investment and Trade Development Agency (SARIO)
- Kvetoslava Blahová, project manager, nationwide employment initiative Bratislava-Vienna, Central Office of Labour, Social Affairs and Family
- Denisa Brighton, manager, know-how centre, Slovak University of Technology
- Peter Chudoba, student, MBA automotive industry programme, Slovak University of Technology
- Agmar Csomò, student, University of the Third Age
- Lenka Demovicova, project manager, FDI section, Slovak Investment and Trade Development Agency (SARIO)
- Katarína Dubovanová, director,
- employment services, Office of Labour Katarína Grunwald, student, University of the Third Age
- Nadežda Hrapková, director, University of the Third Age
- Ivana Kondášová, project manager,

Commerce and Industry Jan Lešinský, academic director, Slovak University of Technology Lenka Lutonskà, student, University of the Third Age Anton Marcincin, economist, Slovakia and Slovenia, World Bank Michal Matusek, student, MBA automotive industry programme, Slovak University of Technology Lenka Mikulikova, manager, know-how centre, Slovak University of Technology Marek Moška, office of the president, Department of Foreign Relations, Protocol and EU Affairs Peter Plavčan, general director, Ministry of Education Juraj Poledna, head, foreign affairs department, Slovak Chamber of Commerce and Industry Robert Redhammer, vice-rector, Slovak University of Technology Arnaud Segretain, head, EU office **Emilia Romagna**, Italy

Regionfemme, Slovak Chamber of

29-30 June 2010

- Sergio D'Alesio, Labour and Migration Andrea Antonelli, director, Technopolis
- Interdepartmental Centre
- Valeria Bandini, Aster
- Matteo Beghelli, economist, Chamber of Commerce
- Chiara Bentivoglio, Banca d'Italia
- Francesca Bergamini, Programming and Evaluation Service for Officers within Culture, Training and Labour
- Silvano Bertini, Economic Development Policies Unit
- Gianluca Bladoni, Department for

Productive Activities Rocco Luigi Bubbico, PhD student, SED Manchester Andrea Facchini, head, social policy, Service for Welcome and Integration of Immigrants Patrizia Fava, professor, University of Modena and Reggio Cinzia Ioppi, Social Services Planning and Development Aki Ishiwa, officer Paola Maccani, head, department for local development initiatives, Territorial Development Agency (ERVET S.p.a) Rita Malavasi, EU policy officer, Regional Office of Emilia Romagna Maurizio Marengon, Statistical Data Federico Margelli, researcher, Regional Laboratory for Innovation in Air Quality Control (LARIA) Annamaria Mucchi, communication, media relations and publishing department, Reggio Children Valentina Polylas, EU policy officer, Regional Office of Emilia Romagna Sonia Di Silvestre, manager, Programmes on Female Entrepreneurship Andrea Stuppini, head, social policy, Service for Welcome and Integration of Immigrants Lorella Trancossi, pedagogist, Reggio Children

Helsinki, Finland

02-03 September 2010 Ulla Maija Forsberg, vice-rector, University of Helsinki Tarja Hartikainen, director, regional development Olli Pekka Hatanpää, planning chief,

Housing Policy and Welfare Services Kauko Huhtinen, project manager, Culminatum Innovation Mikko Ikola, developer, Aalto Entrepreneurship Society Hilkka Jylli, senior adviser for education Jarmo Kallunki, educational officer, National Union of University Students Finland Ulla Mari Karhu, expert, social environment, welfare and planning, Uusimaa Regional Council Ari Lainevuo, research chief, METREX Tatu Laurila, CEO, Greater Helsinki Promotion Markus Nuotto, developer, Aalto Entrepreneurship Society Anna Parpala, project manager, centre for research and development for higher education, University of Helsinki Kirsi Pyhalto, senior researcher, centre for research and development for higher education, University of Helsinki Jens Sørensen, chairman, Aalto Entrepreneurship Society Adrian Solitander, head, EU office Pertti Vuorela, senior advisor, Culminatum Innovation

Navarra, Spain

31 May-02 June 2010 Francisco Arasanz, member, Council for Vocational Training Cristina Arcaya, director, Observatory for Employment and Training Jose Javier Armendariz, director-general, National Centre for Renewable Energy (CENER) María Beunza, project director, Innovation Agency of Navarra (ANAIN) Ramon Bulto, Sodena María Antonia Del Burgo, director, Government of Navarra Alberto Clerigué, Sodena Roberto Ducay, member, committee of direction, Caja Navarra Fernando Egidio, Caja Navarra Iñigo Goenaga, employee, Academic Hospital of Navarra Belén Goñi, general manager, Innovation Agency of Navarra (ANAIN) Pedro Gonzales, general director, vocational training and universities, DG education, Government of Navarra Emilio Huerta, professor, Public University of Navarra María Pilar Ibiricu, Caja Navarra Javier Izcue, DG education, Government of Navarra Carmen Leza, director, European Centre for Business and Innovation (CEIN) Enrique De Mulder, independent consultant, De Mulder Consulting Gaizka Nicuesa, Gamesa Araceli Parres Serrano, assistant, Caja Navarra Fernando De La Puente, managing director, Centre for Applied Medical Research (CIMA) Katrin Simon, professor, Public University of Navarra Cristina Urdanoz, director, training and intermediation, DG employment, Government of Navarra Begoña Urien, DG enterprise, Government of Navarra

Sofia, Bulgaria

19-21 July 2010

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Stockholm, Sweden

30-31 August 2010 Jonatan Dannemann, project manager, higher education and research, KISTA Science City AB Mats Ershammar, member, County Administrative Board of Stockholm Mats Essemyr, Swedish Confederation of Professional Employees Pär Hedberg, CEO, Stockholm Innovation and Growth (STING) Jenny Kallstenius, PhD student, Stockholm University Patrik Möller, CEO, Replisaurus Technologies Erik Oden, CEO, Mantex Mikael Östling, member, Council for Innovation, New Growth Businesses and **Global Expansion** Michael Tahlin, professor of sociology, Swedish institute for social research (SOFI), Stockholm University Bengtsson Torbjörn, Stockholm Business Region Development

West Midlands, United Kingdom 28-30 July 2010

Elaine Bird, project officer, RegenWM Farhana Darwich, senior policy officer, West Midlands Leaders Board Elen Higson, professor, higher education management, Aston Business School Stephen Howarth, deputy chief executive, West Midlands Regional Observatory Geoff Hyde, Birmingham University Pat Jackson, director for skills, Advantage West Midlands Barry Knights, Business Link Sophie Lainé, European policy officer, West Midlands European Service Dally Panesar, West Midlands Leaders Board

Conrad Parke, head, skills development, RegenWM

Jenny Phillimore, senior lecturer, institute of applied social studies, Birmingham University

Andy Phillips, head, skills research, West Midlands Regional Observatory

James Watkins, executive director, Business Voice

Sherman Wong, head, economic and social policy, West Midlands Leaders Board

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