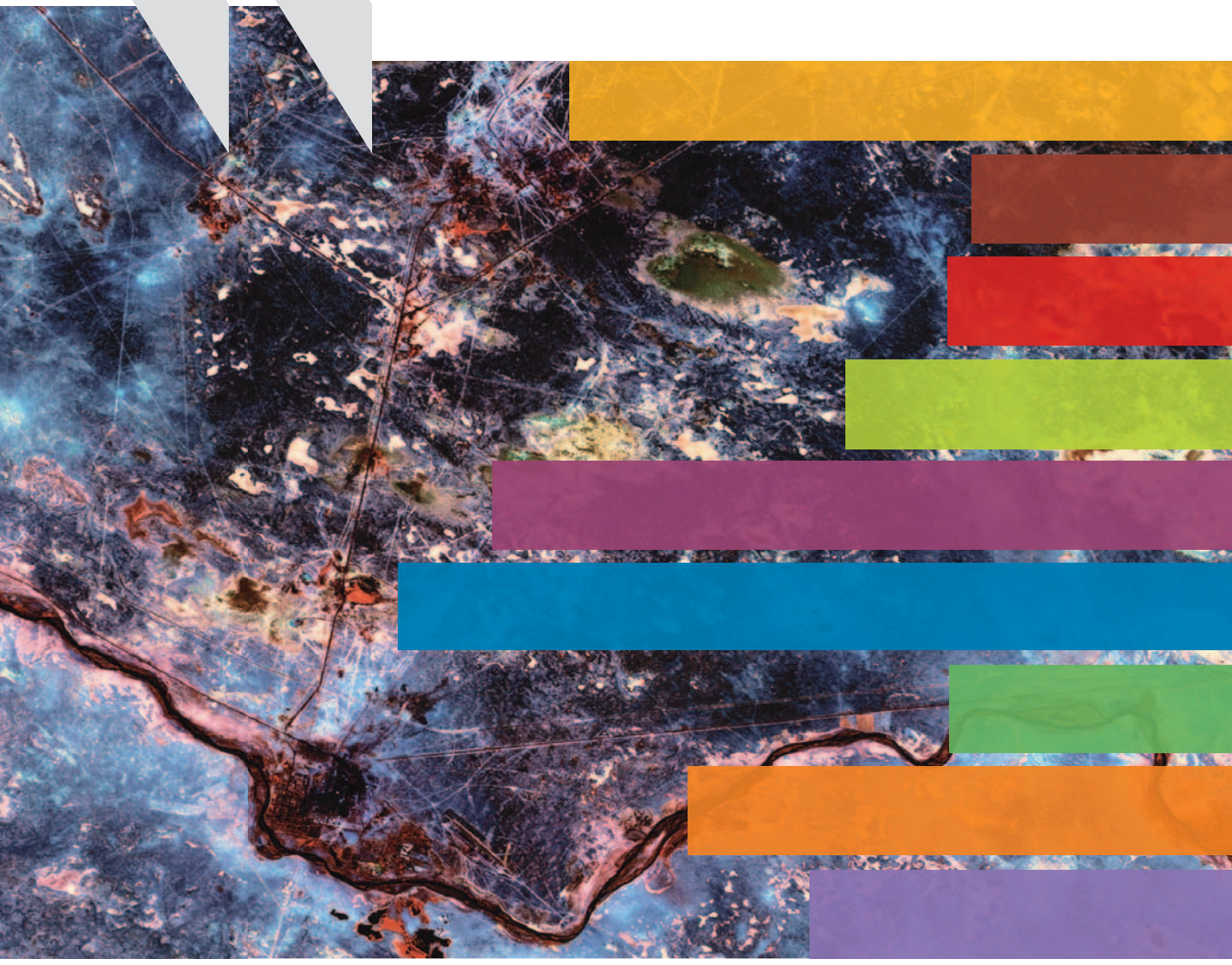
OECD Regions at a Glance 2009



OECD

OECD Regions at a Glance

2009

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

Also available in French under the title:
Panorama des régions de l'OCDE
2009

Photos credits:
Cover illustration: © InterNetwork Media/Photodisc/Getty Images
Chapter 1: © Image Source Limited/Inmagine ltd.
Chapter 2: © image100/Corbis/Inmagine ltd.
Chapter 3: © Corbis/Inmagine ltd.
Chapter 4: © Radius Images/Corbis
Chapter 5: © Corbis/Inmagine ltd.

Corrigenda to OECD publications may be found on line at: *www.oecd.org/publishing/corrigenda*.

Foreword

With the right development policies, regional economies can boost national growth. Comparing and improving a region's competitiveness in the global arena requires sound statistics and data, but such information is often limited and difficult to compare across countries.

Regions at a Glance *aims to respond to this need. It is a unique source of information for policy makers, researchers and citizens illustrating, with the use of graphs and maps drawn from the OECD Regional Database, trends and differences among OECD regions on demography, economics, employment, education, health care, environmental outputs and knowledge based activities.*

This edition of Regions at a Glance *is organised around four major themes, with a special focus on regional innovation. Part I looks at the role of innovation in regional competitivity and national economic growth. Part II highlights how regional assets tend to be concentrated geographically, and the impact on national growth of such an economic agglomeration. Part III examines the often large and persistent economic disparities among regions of the same country, suggesting that market mechanisms and prosperity spillover effects may be insufficient or slow to take root. It identifies unused resources that can be mobilised to maximize regions' competitive edge and improve economic performance. The geographic concentration of resources and the ability to exploit them are drawn together in Part IV, where a region's economic growth is examined in detail in order to highlight the impact of certain key factors. Finally, Part V underlines the important interplay between individual well-being and the collective good. Improved access to high quality public services – such as health, education, quality of environment and security – not only gives citizens the possibility of sharing the benefits of economic growth, but also strengthens a region's competitiveness.*

Regions at a Glance *is co-ordinated by Monica Brezzi, Directorate of Public Governance and Territorial Development. This edition was prepared by Brunella Boselli, Monica Brezzi, Enrique Garcilazo and Vicente Ruiz. Eric Gonnard contributed to the statistical data needed for the publication. Delegates of the Territorial Development Policy Committee (TDPC) and its Working Party on Territorial Indicators (WPTI) helped to shape the policy framework and the statistical tools to measure regional economies used in this publication.*

Table of Contents

Executive Summary 7

Defining and Describing Regions 11

Symbols and Abbreviations 13

I. Focus on Regional Innovation 15

1. Research and development expenditures 16
2. Personnel employed in research and development activities 22
3. Regional concentration of patents 24
4. Regional patent co-operation 30
5. Student enrolment in tertiary education 34
6. Advanced educational qualifications 40
7. Employment in knowledge-oriented sectors 46

II. Regions as Actors of National Growth 53

8. Distribution of population and regional typology 54
9. Geographic concentration of population 60
10. Regional contribution to growth in national GDP 62
11. Regional contributions to change in employment 68
12. Geographic concentration of the elderly population 74
13. Geographic concentration of GDP 80
14. Geographic concentration of industries 86

III. Making the Most of Regional Assets 89

15. Regional disparities in GDP per capita 90
16. Regional disparities in labour productivity 96
17. Regional disparities in specialisation 102
18. Regional disparities in unemployment rates 108
19. Regional disparities in participation rates 114

IV. Key Drivers of Regional Growth 121

20. Overall regional performance 122
21. Regional factors and performance 124
22. Regional factors: Population and GDP per capita 128
23. Regional factors: Labour productivity 130
24. Regional factors: Employment, participation and ageing 134

V. Competing on the Basis of Regional Well-being 139

25. Health: Age-adjusted mortality rate 140
26. Health resources: Number of physicians 144
27. Safety: Reported crimes against property 146
28. Safety: Reported murders 150
29. Environment: Municipal waste 154
30. Environment: Private vehicle ownership 156
31. Voter turnout in national elections 160
32. Access to education 164

Annex A. **Regional Grids and Typology** 167
Annex B. **Sources and Data Description** 173
Annex C. **Indexes and Formulas** 191

ISBN 978-92-64-05582-7
OECD Regions at a Glance 2009

Executive Summary

International comparisons of economies and societies tend to be undertaken at the country level; statistics refer to gross national product, for example, while health and education levels tend similarly to be measured and debated in national terms. However, economic performance and social indicators can vary within countries every bit as much as they do between countries – think of the contrast between the north and the south of Italy, the dynamism of Silicon Valley and the stagnation of the "Rust Belt" in the United States, or highly urbanised London and the rural Shetland Islands. Understanding the differences and similarities in regional economic structures is essential for designing effective strategies which improve regional competitiveness and in turn increase national growth.

OECD Regions at a Glance aims to make these variations visible, providing region-by-region indicators that help to identify areas that are outperforming or lagging behind their country, as well as the 30-country OECD area. Patterns of growth and the persistence of inequalities are analyzed over time highlighting the factors responsible for them.

This is the third issue of the *OECD Regions at a Glance* series and it contains five parts:

- **Focus on regional innovation** highlights the role of innovation in the regional economy and presents indicators on several aspects from spending on research and development, to patent output and co-operation among regions, to the skills of the regional labour force that make it able to produce new ideas and absorb innovation.
- **Regions as actors of national growth** examines the extent to which national factors of growth, such as population, employment and industry, are concentrated in certain regions and the contribution of regions to national economic growth and employment.
- **Making the most of regional assets** quantifies regional disparities in economic performance and identifies local assets that can be mobilised to improve a region's competitiveness.
- **Key drivers of regional growth** explores how both national and regional factors determine the way a region grows. Some regions may do well because the overall national economy is doing well (national factors) or because they mobilise their resources to promote growth (regional factors). Or for a mix of both.
- **Competing on the basis of regional well-being** presents regional variations in "quality of life" indicators, such as health resources, education and crime, all of which contribute to the attractiveness of a region for people and firms.

I. Focus on regional innovation

The ability of regions to promote innovation is key not only to their own growth but also to national economic development. In a special feature, this year's *OECD Regions at a Glance* takes a look at a number of innovation-related indicators.

- **Investing in research and development (R&D):** Jobs and spending on research and investment are concentrated in a few regions. For example, in the United States, one of the leading countries in R&D activities, R&D expenditure was almost 6% of Maryland's GDP and less than 0.5% of Wyoming's.
- **Patent applications and co-operation among regions:** The number of patent applications is a key measure of inventive activities in a region. In 2005, 45% of all patent applications in OECD countries were recorded by just 10% of regions. Innovators work most effectively when they co-invent with their peers in near-by regions within their countries.
- **Education attainments:** The skill level of the labour force determines a region's ability to promote innovation, and its future competitiveness will be determined in part by its current student enrolment in higher education. There are large regional differences in higher education attainment rates in most OECD countries; the gap is widest in the Czech Republic, the United States, Portugal and France. In 20 out of 23 OECD countries, there is a positive correlation in regions between the number of students in higher education and the number of skilled workers.
- **Employment in knowledge-oriented sectors:** The process of specialisation towards knowledge-oriented sectors is taking place in many OECD regions. In two-thirds of OECD countries the fastest specialising regions have transformed their production structures in recent years, from traditional manufacturing into more technology-intensive manufacturing.

II. Regions as actors of national growth

The ability of a region to contribute to national economic growth can vary greatly, driven by factors such as its share of the national population and employment, its mix of rural and urban areas, and the amount of industry in the area.

- **Population:** Just 10% of regions account for about 40% of the total population in OECD countries and this density has been increasing in recent years. In 2005, almost half of OECD population lived in urban regions, which accounted for only 6% of OECD area.
- **Economic activity:** Ten per cent of OECD regions generated 38% of total GDP, a key measure of economic activity. This concentration was especially intense in Turkey, Greece and Portugal, where the top 10% of regions in terms of output contributed to at least half of national GDP. National GDP and job creation in recent years (1999-2006) has been driven by a few high-performing regions: in Greece, the United States and Sweden more than 60% of the increase in total employment was recorded in just 10% of regions.

III. Making the most of regional assets

Variations between regions in OECD countries can be very substantial; in recent years (1995-2005) differences in growth of GDP and employment have been greater between regions than those among countries.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

While disparities between countries have tended to decline in recent years, those within countries have not: Over the past 10 years, for example, the income gap between rural and urban regions has not narrowed.

What explains such differences? For a large part, they can be attributed to disparities in productivity and in the utilization of the available labour force.

- **Labour productivity:** Across the OECD, labour productivity (as measured by GDP per person working) stood at an average of USD 59 000 in 2005. However, this number conceals large differences between countries, with labour productivity in the United States four times higher than in Turkey and Mexico. Variations between regions were also substantial: In Turkey, Mexico and Poland, labour productivity in the top regions was more than four times higher than in the bottom regions.
- **Unemployment:** In 2006, regional differences in unemployment rates within OECD countries were almost twice as high as those between countries. In Canada, Germany, the Slovak Republic and Spain, unemployment rates ranged from as low as 5% in some regions to above 20% in others. In some regions, unemployment also remained persistently high in the decade leading up to 2006, when national unemployment rates had generally been falling. High regional disparities are not only found in unemployment rates and long-term unemployment rates but also in participation rates of both male and female.

IV. Key drivers of regional growth

Regions grow due to both national factors (*e.g.* the state of the national economy and the overall business cycle) and regional factors (*e.g.* regional policies and local demographic trends such as an influx of migrants into a particular city). If all the regions in a country grow faster than the OECD average, then national factors can be said to be predominant; however, if an individual region grows faster than other regions in the same country and than OECD regions in general, then it is regional factors that are driving growth.

Among the 20 fastest-growing regions in the OECD area is the Irish regions which benefited from strong national growth in the first half of the decade; similarly, some Korean regions were also pushed along by national growth. By contrast, regional factors were the main driver in the Mexican region of Quintana Roo and the Greek region of Attiki.

Regional factors can be very important when studying both the growth and decline of a region's economy. In just over half of the 201 OECD regions where GDP fell between 1995 and 2005, regional factors were responsible for at least 25% of that decline. Some of these are worth looking at in more detail:

- **Population change:** Between 1995 and 2005, 60 of the OECD's 112 fast-growing regions increased their share of GDP largely as a result of regional factors. Among these, population growth was the key driver in only 13 (or 22%) of them. The rest was accounted for by growth in GDP per capita, sometimes combined with population growth.
- **Labour productivity:** This is a vital component of regional growth. Labour productivity was the main source of economic improvement in five out of the seven regions whose share of total OECD GDP rose the most in the 10 years to 2005.

V. Competing on the basis of regional well-being

Economic indicators – such as GDP per capita and employment – do not fully describe a region's quality of life. Security, health, education and the environment all contribute to a region's "well-being". Disparities among OECD regions regarding access to such services are substantial and affect not only people's quality of life but also a region's capacity to attract industry and to become competitive.

- **Health:** In Mexico, the United States and Portugal regional variations in the health status, as measured by the age-adjusted mortality rate, are substantial and larger than across OECD countries. Location also matters for access to health services, and rural regions are often disadvantaged compared to urban ones. In 2005, the regional variation in the density of physicians was the widest in the United States and the Czech Republic.
- **Access to education:** Today, the demand for skills is increasing, and a high school diploma is the minimum level to participate in the job market. Still, in 2006 a quarter of the OECD labour force had received only basic education and in some regions in Mexico, Spain, Portugal and Italy, this proportion rose to as high as half.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

ISBN 978-92-64-05582-7
OECD Regions at a Glance 2009

Defining and Describing Regions

Regional grids

In any analytical study conducted at sub-national levels, defining the territorial unit is of prime importance as the word *region* can mean very different things both within and among countries.

To address this issue, the OECD has classified regions within each member country (Table A.1 in Annex A). The classification is based on two territorial levels. The higher level (territorial level 2 – TL2) consists of 335 large regions while the lower level (territorial level 3 – TL3) is composed of 1 681 small regions. All the regions are defined within national borders and in most the cases correspond to administrative regions. Each TL3 region is contained within a TL2 region (except in Germany and the United States).

This classification – which, for European countries, is largely consistent with the Eurostat classification – facilitates comparability between regions at the same territorial level. Indeed these two levels, which are officially established and relatively stable in all member countries, are used as a framework for implementing regional policies in most countries.

The analysis in this publication is carried out on the lower level regions (TL3) or, when information is not available, on the higher level TL2 regions. Due to limited data availability, labour market indicators in Canada and Australia are presented for groups of TL3 regions. Since these groups are not part of the OECD official territorial grids, for the sake of simplicity they are labelled as Non Official Grids (NOGs) in this publication and compared with TL3 regions in the other countries (Table A.1 in Annex A).

Regional typology

A second important issue for the analysis of regional economies concerns the different "geography" of each region. For instance, in the United Kingdom one could question the relevance of comparing the highly urbanised area of London to the rural region of the Shetland Islands, despite the fact that these regions are at the same territorial level. To account for these differences, the OECD has established a regional typology, classifying TL3 regions as Predominantly Urban (PU), Predominantly Rural (PR) and Intermediate (IN). This typology, based on the percentage of regional population living in rural or urban communities, enables meaningful comparisons between regions belonging to the same type and level (Table A.2 and Figures A.1 to A.4 in Annex A). The OECD regional typology is based on three criteria. The first criterion identifies rural communities according to population density. A community is defined as rural if its population density is below 150 inhabitants per square kilometre (500 inhabitants for Japan to account for the fact that its national population density exceeds 300 inhabitants per square kilometre).

The second criterion classifies regions according to the percentage of population living in rural communities. Thus, the general rule is that a TL3 region is classified as:

- Predominantly rural (rural or PR), if more than 50% of its population lives in rural communities.
- Predominantly urban (urban or PU), if less than 15% of the population lives in rural communities.
- Intermediate (IN), if the share of population living in rural communities is between 15% and 50%.

The third criterion is based on the size of the urban centres. Accordingly:

- A region that would be classified as rural on the basis of the general rule is classified as intermediate if it has a urban centre of more than 200 000 inhabitants (500 000 for Japan) representing no less than 25% of the regional population.
- A region that would be classified as intermediate on the basis of the general rule, is classified as predominantly urban if it has a urban centre of more than 500 000 inhabitants (1 000 000 for Japan) representing no less than 25% of the regional population.

The typology is calculated only for the lower territorial level (TL3), the dimension of TL2 regions is too large to allow for a categorisation into predominantly urban, intermediate or predominantly rural. For analytical purposes the percentage of a population living in PU, IN, and PR is calculated for TL2 regions by compiling the population by the regional typology of its TL3 regions. For example the TL2 region of Rhone-Alpes in France has 28% of its population living in TL3 regions classified as PU, 67% in TL3 IN regions and 5% in TL3 regions classified as PR.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Symbols and Abbreviations

Country average	Average value over regional data
OECD total	Sum of all the OECD country regions. Since Luxembourg presents no regions, OECD total excludes Luxembourg
OECD# total	Sum of all OECD country regions where regional data are available (# number of countries included in the sum)
OECD average	Average over OECD country regions
OECD# average	Average over OECD country regions where regional data are available (# number of countries included in the sum)
TL2	Territorial level 2
TL3	Territorial level 3
Australia (TL2)	TL2 regions of Australia
PU	Predominantly urban (region)
IN	Intermediate (region)
PR	Predominantly rural (region)
NOG	Non-official grid
Australia (NOG)	Non-official grid regions of Australia
PPP	Purchasing power parity
USD	United States dollar
HTM	High-technology manufacturing
KIS	Knowledge-intensive services
LFS	Labour Force Survey
PCT	Patent Co-operation Treaty

I. FOCUS ON REGIONAL INNOVATION

1. Research and development expenditures
2. Personnel employed in research and development activities
3. Regional concentration of patents
4. Regional patent co-operation
5. Student enrolment in tertiary education
6. Advanced educational qualifications
7. Employment in knowledge-oriented sectors

Strong innovation generation in regions is crucial for improving the overall economic competitiveness of individual regions and achieving long-term national growth. Part I examines the main factors that spur innovation at the regional level and highlights the pattern of innovation-related activities across OECD regions. R&D expenditures and personnel are strongly correlated and concentrated in the same regions within countries, mostly capitals or important urban agglomerations. Countries with high investment in R&D at the national level tend to show higher regional disparities. Patents tend to be the outcome of the applied research carried out mainly in the private sector, although evidence suggests spillovers from theoretical research in public institutions. Proximity between innovators also seems important for technological progress and countries patenting the most co-invent mostly within their borders. Part I also examines the context in which innovative activities take place, measuring regions' innovation potential and their capacity to produce and absorb innovation. Many OECD regions are transforming their production structures from traditional to high-tech manufacturing and from less knowledge-intensive services to more specialised services. The association between a skilled labour force and the presence of universities and students shows that some regions are better equipped than others in terms of current and future stock of human capital, and in dealing with technological change.

Expenditures in research and development (R&D) are a common proxy for interpreting a region's attitude toward innovation activities. They are defined as the R&D-related expenditures performed by actors within a region. According to the *Frascati Manual, 2002*, R&D is defined as a "creative work undertaken on a systematic basis in order to increase the stock of knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications".

In 2005, R&D intensity (R&D expenditures as a percentage of GDP) was on average, about 2.3% in OECD countries. The intensity of expenditures in R&D varies significantly among OECD countries. Sweden is the country spending the most followed by Finland, Japan and Korea. Mexico, the Slovak Republic, Poland, and Turkey had the lowest R&D intensity. Finland and Iceland are the countries that between 1995 and 2005 increased the most their R&D intensity (over 60%) (Figure 1.1).

Regional differences within countries are even larger than among countries (Figure 1.2). The United States, Sweden, Finland and Korea show the largest regional disparities in R&D intensity across TL2 regions. For the United States, the State of Maryland devotes 5.8% of its GDP to R&D, while the State of Wyoming devotes only 0.45%.

Ireland, together with Greece, the Slovak Republic, Belgium and Portugal displayed minor differences in R&D intensity among regions. It appears that the countries where R&D intensity is the highest are, on average, also those displaying more internal dispersion. Often one region displays values much higher than the country average: like in Australia where the Capital Territory spends 2.3 times the country average in R&D, and in the United States, Norway and the United Kingdom where the best performing region has values two times higher than the country average.

In general R&D performed by the business sector accounts for the largest part of R&D activities in OECD regions (OECD, 2007). While the government and the higher education sectors also carry out R&D activities, business R&D is more generally closely linked to the creation of new products and production techniques. Figure 1.3 compares the regions of each country where the R&D intensity is highest showing the breakdown by performing sector. In the majority of regions the business sector performs the biggest share of R&D. The regions of Vaestsverige (Sweden), Baden-Wuerttemberg (Germany), Stredni Cechy (Czech Republic), and Zuid-Nederland (Netherlands) have more than 80% of their R&D expenditures performed by the business sector.

A different pattern is shown by the State of Maryland (United States) where 53% of R&D expenditures are performed by the public sector. A similar distribution among sectors is followed by Lazio (Italy), and Mazowieckie (Poland), (all capital regions) where the largest part of R&D is performed by the public sector.

Definition

Gross Domestic Expenditures on R&D is the total intramural expenditure on R&D performed in the sub-national territory (region) during a given period (see *Frascati Manual*, Section 6.7.1 and Section 6.6). Intramural expenditures are all expenditures for R&D performed within a statistical unit or sector of the economy during a specific period, whatever the source of funds (see *Frascati Manual*, Section 6.2). The Gross domestic expenditure in R&D is disaggregated in four sectors: business enterprise, government, higher education and private non-profit.

R&D intensity is defined as the ratio between R&D expenditures and GDP.

Source

OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

National data: OECD, Main Science and Technology Indicators Database.

See Annex B for more detailed information on data sources and country related metadata.

Reference years and territorial level

1995-2005; TL2

Data for Denmark, Iceland, Japan, Mexico, New Zealand, Switzerland and Turkey are not available at the regional level.

Further information

OECD (2007), *Science Technology and Industry Scoreboard*, OECD, Paris.

OECD (2002), *Frascati Manual*, OECD, Paris available at: *www.oecd.org/sti/frascatimanual*.

Figure notes

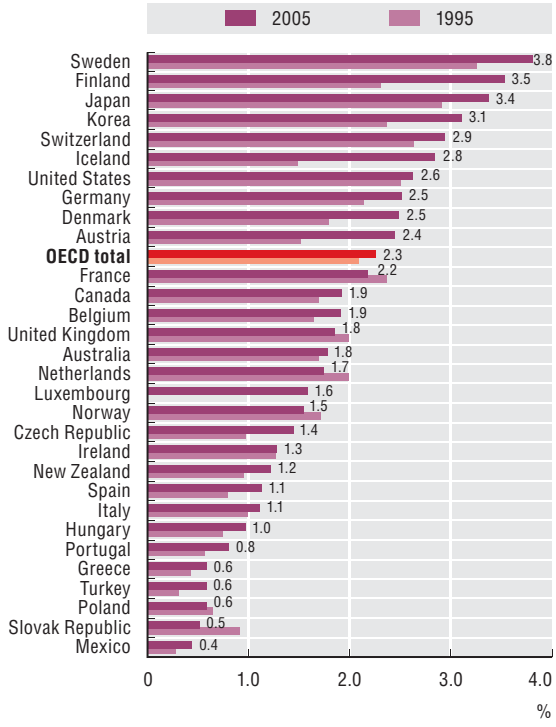
Figure 1.1: Australia and Switzerland years 1996 and 2004. *Source:* OECD, Main Science and Technology Indicators Database.

Figures 1.2 and 1.3: Austria and France year 2004.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

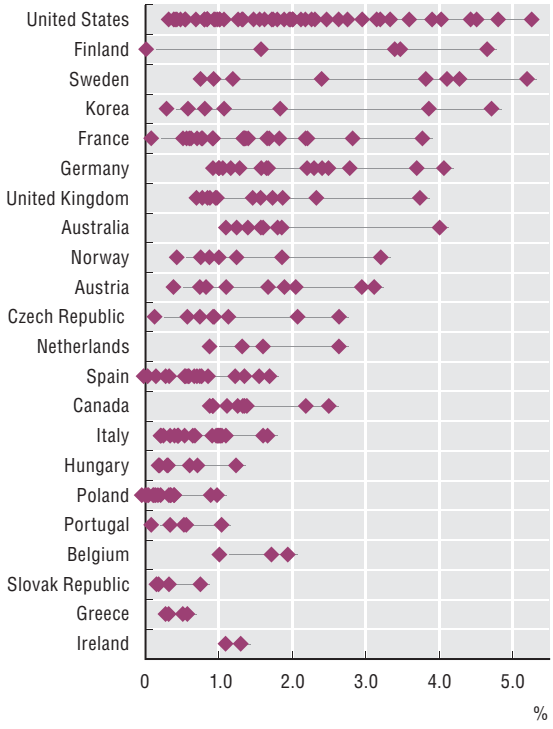
1.1 Intensity of R&D expenditures, 1995 and 2005

Sweden and Finland are the countries with the highest R&D spending.



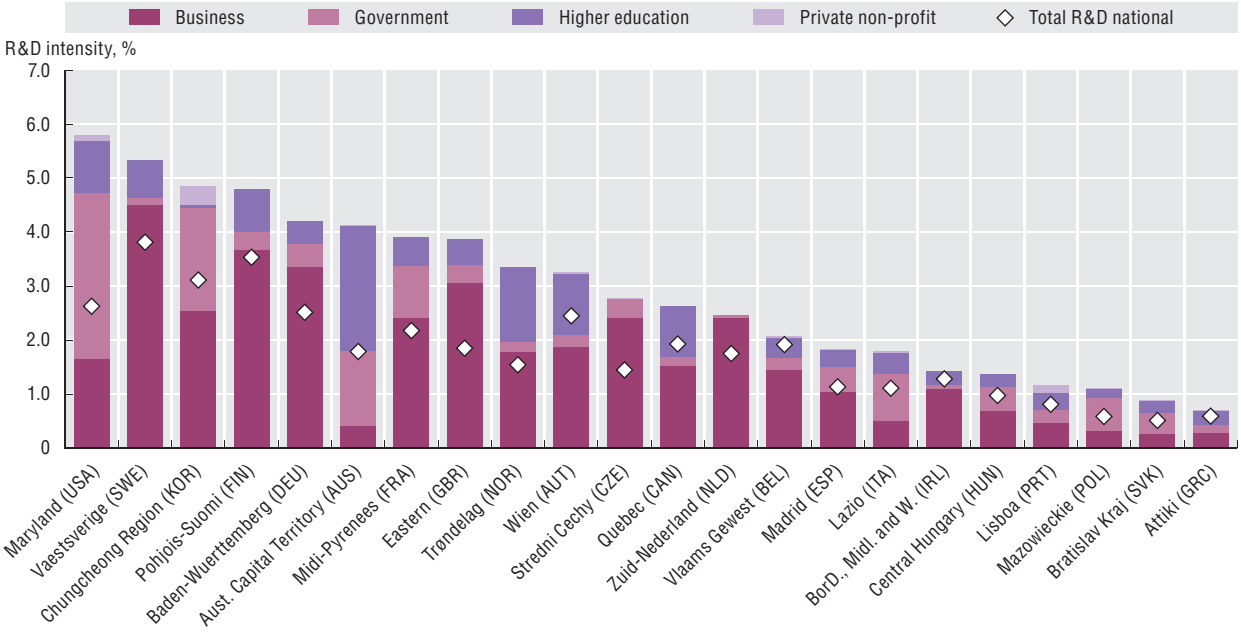
1.2 Range of TL2 regional R&D intensity, 2005

Countries with high R&D intensity display larger regional disparities.



1.3 Regions with the highest R&D intensity by sector compared to the country average, 2005 (TL2)

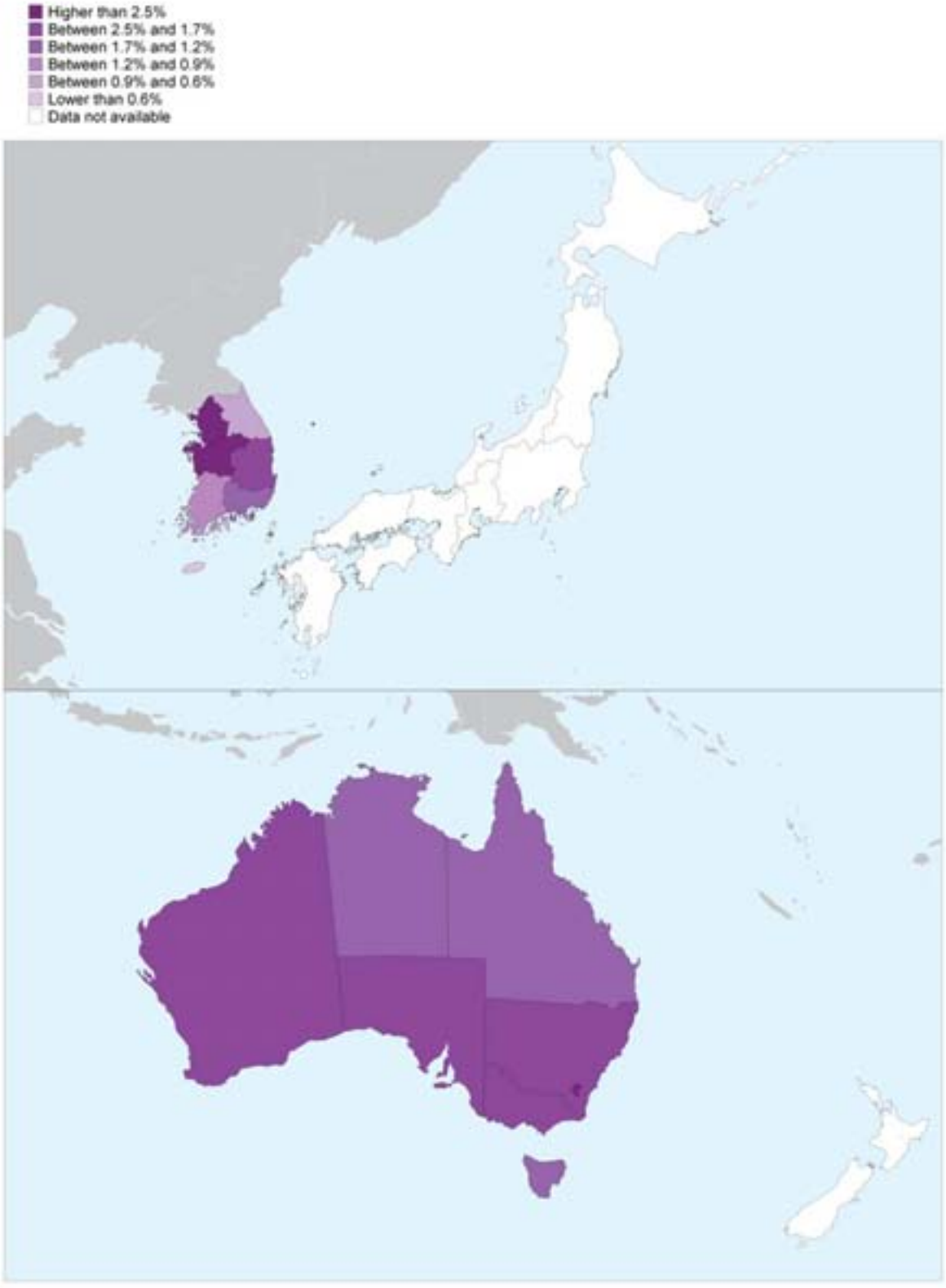
In the majority of regions the business sector performs the biggest share of research and development activities.



StatLink http://dx.doi.org/10.1787/523568211073

1.4 R&D intensity: Asia and Oceania

R&D as percentage of GDP, TL2 regions, 2005

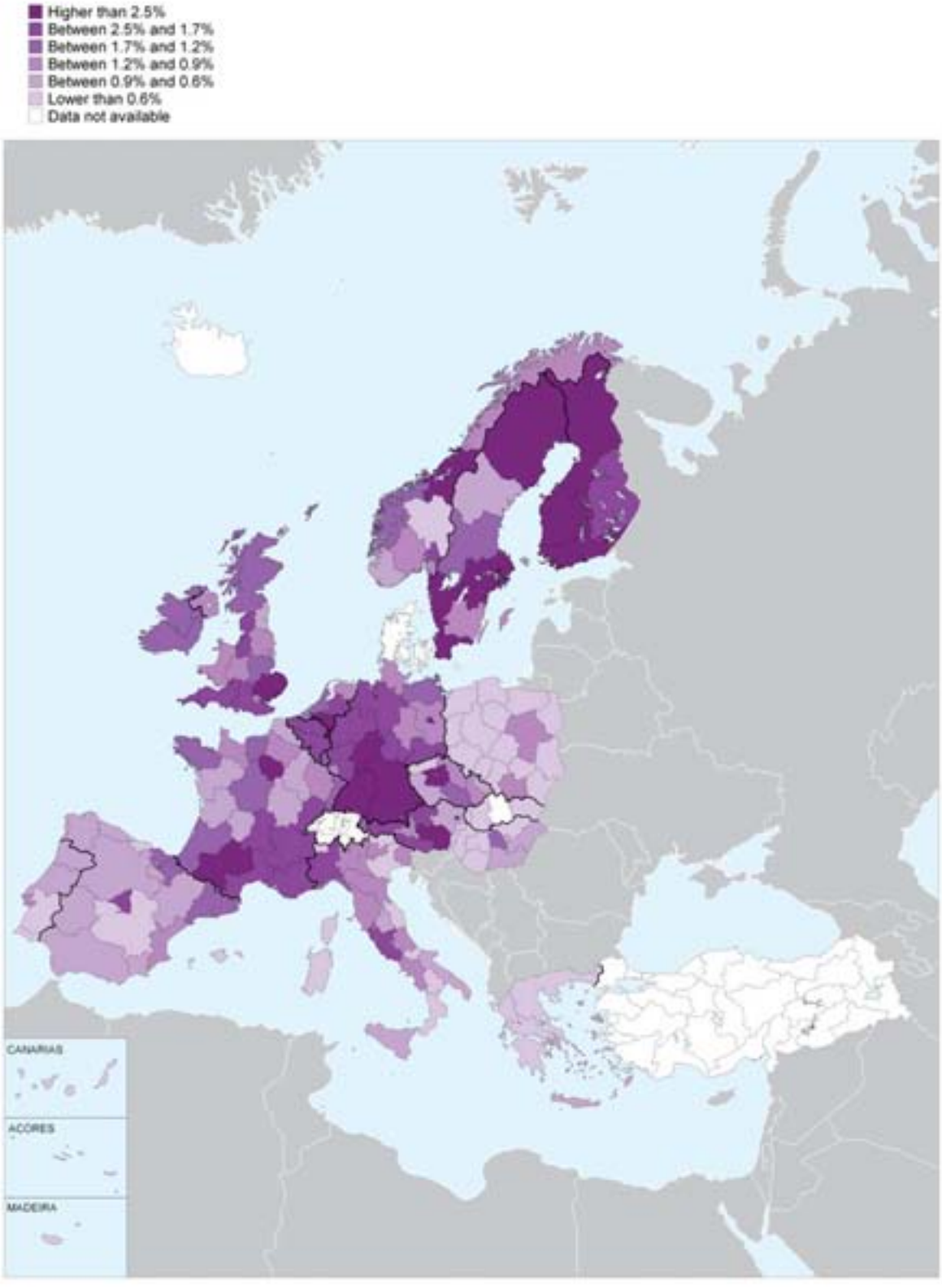


StatLink http://dx.doi.org/10.1787/524400472448

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

1.5 R&D intensity: Europe

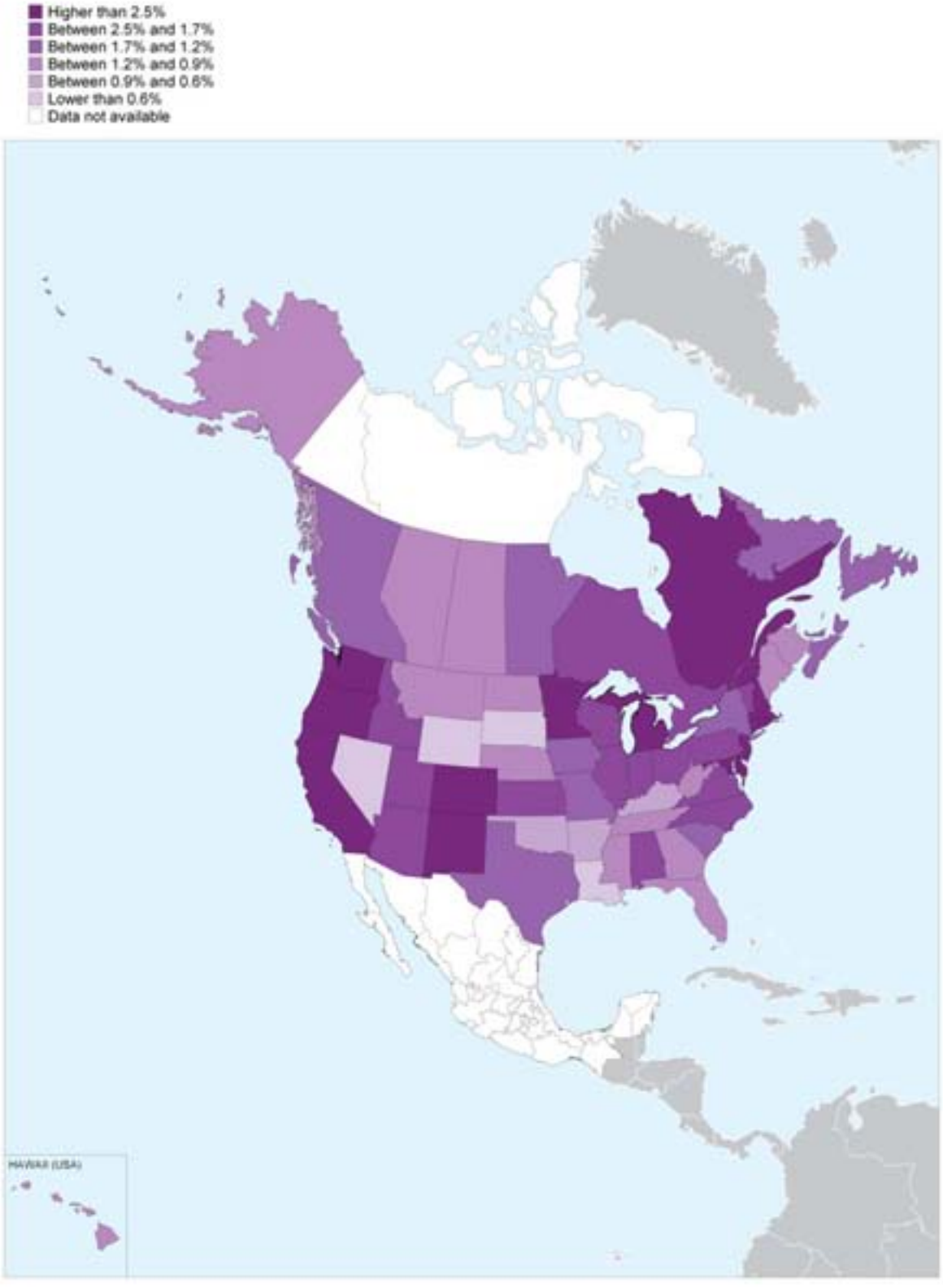
R&D as percentage of GDP, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524400472448

1.6 R&D intensity: North America

R&D as percentage of GDP, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524400472448

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

R&D expenditures and patenting activity: The linear model

It is often assumed that greater investment in basic R&D will lead to greater applied research and to an increase in the number of inventions. This linear perception of the innovation process places localised R&D investment as the key factor behind technological progress and eventually, economic growth. The implications of this approach are that the higher the investment in R&D, the higher the innovative capacity and the higher the economic growth.

As shown in Figure 1.7, the expenditures performed by the business sector and the number of Patent Co-operation Treaty (PCT) applications (see Chapter 3), have a very high correlation in OECD regions (the correlation coefficient being 0.93). The regions where the business enterprise sector spends more in R&D activities tend to innovate more. A positive association is found also between the expenditures performed by the government sector and the number of PCT patent applications (Figure 1.8). However, the correlation coefficient is smaller (0.63) meaning that the association between the two variables is less strong.

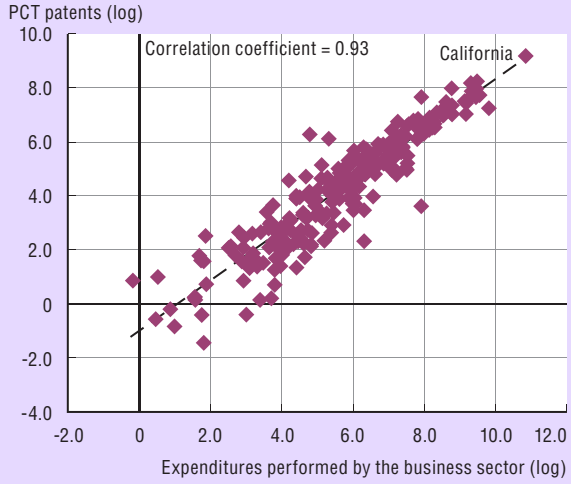
The business enterprise sector tends to concentrate more on applied research which, being directed primarily towards a specific practical aim or objective, more frequently generates a patentable result. The type of research carried out by the government sector is more directed toward basic research, which is more theoretical and experimental work undertaken primarily to acquire new knowledge without a particular application or use in view (*Frascati Manual*, 2002).

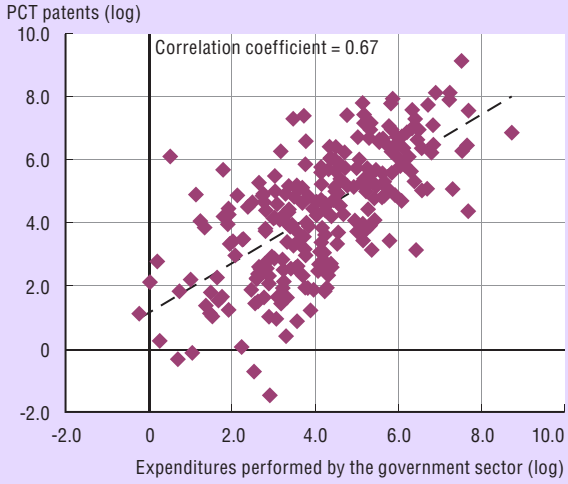
The linear model remains popular for its simplicity and powerful explanatory capacity: regions that invest more in R&D generally tend to innovate more. At the same time, by focusing on local R&D the linear model completely overlooks key factors about how regional innovation is actually generated. These factors are related to the context, both economic and institutional, in which innovation takes place and to the potential for territories to assimilate innovation being produced elsewhere.

1.7 Correlation between business sector R&D expenditures and PCT patent applications[1] (TL2)

1.8 Correlation between government sector R&D expenditures and PCT patent application[1] (TL2)

Research carried out by the business sector more frequently generates a patentable result.





1. Average of the two years, 2000 and 2005 (Australia, Greece, Norway and Sweden 1999 and 2005, Austria 1998 and 2004, the Czech Republic 2001 and 2005, France 2000 and 2004, Ireland 2002 and 2005).
Expenditures data for Denmark, Iceland, Japan, Mexico, New Zealand, Switzerland and Turkey are not available at the regional level.

StatLink http://dx.doi.org/10.1787/523568211073

Research and development (R&D) personnel include all persons employed directly in R&D activities, such as technicians and support staff in addition to researchers. The number of R&D personnel in OECD regions is directly linked to their R&D expenditure effort.

The percentage of R&D personnel as a percentage of total employment varies significantly among OECD countries (Figure 2.1). In 2005 Finland and Sweden were the countries with the highest number of people employed in R&D occupations, respectively 32 and 28 people per thousand employed. On the other hand Mexico had only 2 people employed in R&D per thousand employed while Turkey, had 4. Portugal and Poland also showed levels below 10.

Regional differences within countries are the largest in the Czech Republic and Austria, where, respectively, in the regions of Prague and Wien there are more than 40 persons per thousand employed in R&D, more than twice the country average (Figure 2.2). In the same countries respectively, the regions of Severozapad and Vorarlberg have 7 and 11 employed in R&D per thousand employed.

At the bottom of the regional disparity scale, Ireland, Greece, the Netherlands and Canada display less regional disparities in terms of R&D personnel. For 13 out of 17 countries taken into consideration, the capital region has the highest rate of employed in R&D, in most cases with values much higher than the country average. Concentration in the capital region of R&D personnel is visible also in countries showing less regional dispersion.

To measure geographic concentration, the geographic distribution of R&D personnel is compared to the area in each region. According to the index, Greece is the country where R&D personnel is the most geographically concentrated (69), followed by Hungary, Spain and Korea; the OECD average being 42 (Figure 2.3). The countries displaying the lowest values of the index are Ireland, Czech Republic and Belgium, reaching a maximum threshold of 30.

The comparison between the concentration index of R&D personnel and R&D expenditures reflects the high correlation between the two variables (Figure 2.3). The difference would be due to different intensity of equipment, or possibly a tendency to obtain human capital on contracts, rather than as full-time employees. The concentration indexes display similar values for almost all countries. Only in the Czech Republic, Hungary (11 points difference), and the Slovak Republic (9 points difference) is the concentration of R&D expenditures significantly higher than for R&D personnel.

Definition

R&D personnel includes all persons employed directly in R&D activities such as researchers as well as those providing direct services such as R&D managers, administrators, and clerical staff. Data are expressed in headcounts (*Frascati Manual*, Section 5.2.1).

The geographic concentration index offers a picture of the spatial distribution of R&D personnel within each country, as it compares the R&D personnel weight and the land area weight over all TL2 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration. International comparisons of the index can be affected by the different size of regions in each country.

Source

OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

National data: OECD, Main Science and Technology Indicators Database.

See Annex B for more information on data sources and country related metadata.

Reference years and territorial level

2005; TL2

Data for Australia, Denmark, Iceland, Japan, Mexico, New Zealand, Sweden, Switzerland, Turkey, United Kingdom and the United States are not available at the regional level.

Further information

OECD, Main Science and Technology Indicators Database.

OECD (2007), *Science Technology and Industry Scoreboard*, OECD, Paris.

Figure notes

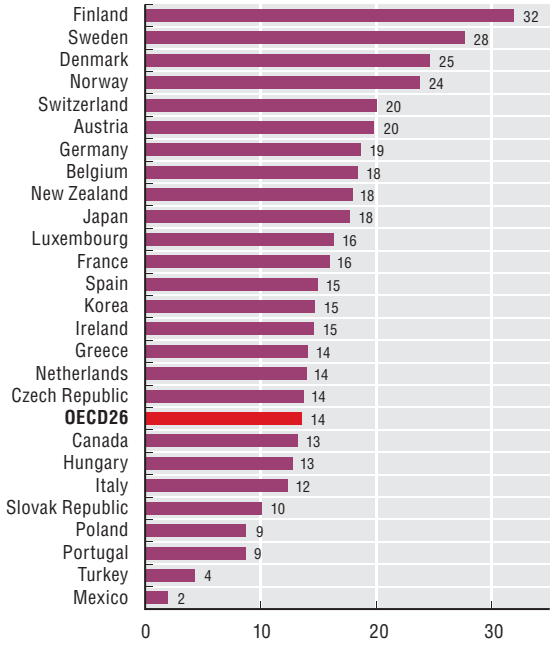
Figure 2.1: Headcounts. *Source:* Main Science and Technology Indicators Database. Austria and Switzerland year 2004, Mexico 2003, France 2001.

Figures 2.2 and 2.3: Headcounts. For Canada data on R&D personnel are expressed in full-time equivalents (FTE), and data for employment in headcounts. Austria year 2004, France 2001.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

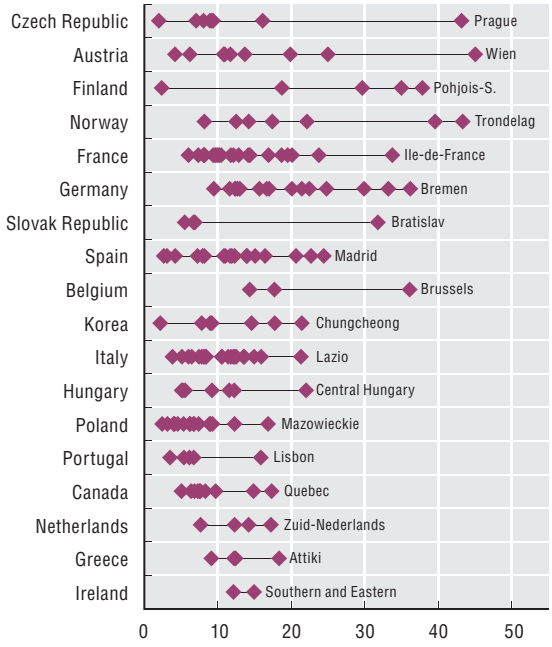
2.1 R&D personnel per 1 000 employed, 2005

Finland and Sweden have the highest number of employed in R&D occupations.



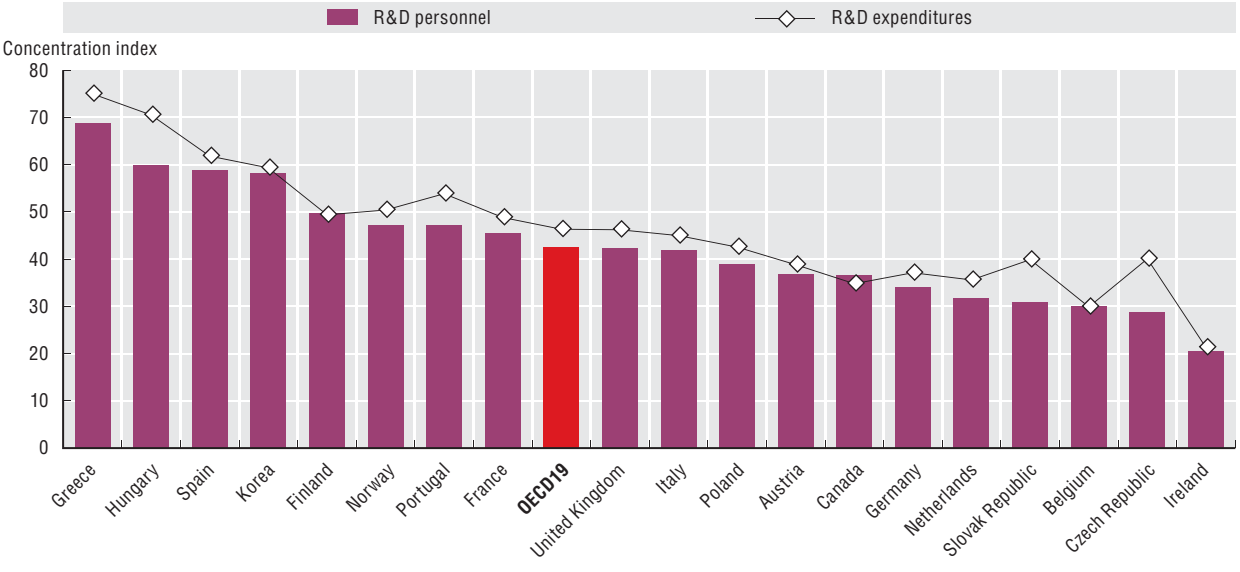
2.2 Range in TL2 regional R&D personnel per 1 000 employees, 2005

In many countries, the capital region has the highest rate of employed in R&D.



2.3 Comparison between the concentration index of personnel employed in R&D and R&D expenditures, 2005 (TL2)

R&D expenditures and personnel have similar concentration patterns.



StatLink http://dx.doi.org/10.1787/523572337710

Patent applications give an indication on the output and process of inventive activities. The analysis of regional patenting helps assess the concentration of innovative activities within countries and can indicate innovative regions that act as important sources of knowledge. The data refer to Patent Co-operation Treaty (PCT) applications, regionalised according to the inventor's residence.

The number of PCT Patent applications per million inhabitants varies significantly among OECD countries (Figure 3.1). In 2005 Finland, Sweden and Switzerland displayed the largest number of applications (over twice as much as the OECD average) while Mexico, Poland, Turkey and the Slovak Republic showed the lowest number of applications.

PCT patent applications are concentrated in a small number of regions within each country (Figure 3.2). In 2005, 45% of all patent applications in OECD countries were recorded by 10% of regions. In Turkey, the regions of Istanbul, Bursa and Kocaeli account for 91% of the total number of patent applications. The concentration of patents is also related to the fact that generating patents requires inputs (*e.g.* investments and physical and human capital) and infrastructure (*e.g.* laboratories) which tend to be geographically clustered. Sectorial concentration of industries also has an influence on the concentration of patens, as some sectors have a higher propensity to patent than others.

Regional differences within countries in the number of PCT patent applications are the largest in Turkey, where Istanbul had almost five times more applications than the country average. In Mexico the variation is notable, ranging from a few regions with no applications to 6.2 applications per million inhabitants in the Distrito Federal (almost 4 times the country average). Also in the Slovak Republic while Stredne Slovenko has only 1.8 patent applications per million population in 2005, Bratislav Kraj has 19.8.

Ireland and Belgium are the countries showing the lowest regional variation in patenting activity. Relatively low levels of disparity in PCT patent applications were also displayed by Finland and Sweden, which, are the countries showing the highest levels of investment in R&D activities (Figure 3.3).

Figure 3.4 compares the regions with the highest number of PCT patent applications per million inhabitants to their country average. If, as mentioned above, Istanbul and the Distrito Federal display a number of patents applications much higher than their country average, the actual number of patents is very low in absolute terms. The region producing the highest number of patents per million inhabitants is Ostschweiz in Switzerland (537) followed by Zuid Nederland in the Netherlands (528), and Massachusetts (438) in the United States. These regions together with Navarra (Spain), Central Hungary and Prague apply for PCT patents more than twice as much their country average.

Definition

A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent. The protection is granted for a limited period, generally 20 years.

The Patent Co-operation Treaty (PCT) is an international treaty, administered by the World Intellectual Property Organization (WIPO), between more than 125 countries. The PCT makes it possible to seek patent protection for an invention simultaneously in each of a large number of countries by filing a single "international" patent application instead of filing several separate national or regional patent applications.

Source

OECD REGPAT Database and OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

See Annex B for more details on the source and the definition of the indicator.

Reference years and territorial level

2005; TL2

Data for Iceland and New Zealand are not available at the regional level.

Further information

OECD work on patents: *www.oecd.org/sti/ipr-statistics*.

OECD (2008), "University Inventions and Enterpreneuships: A Regional Perspective", Working Party on Industry Analysis.

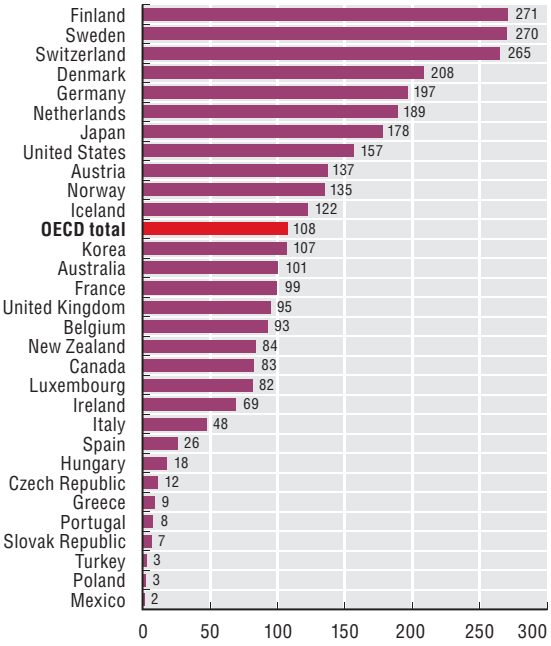
Figure notes

Figure 3.3: Percentage of the country average (country average = 100).

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

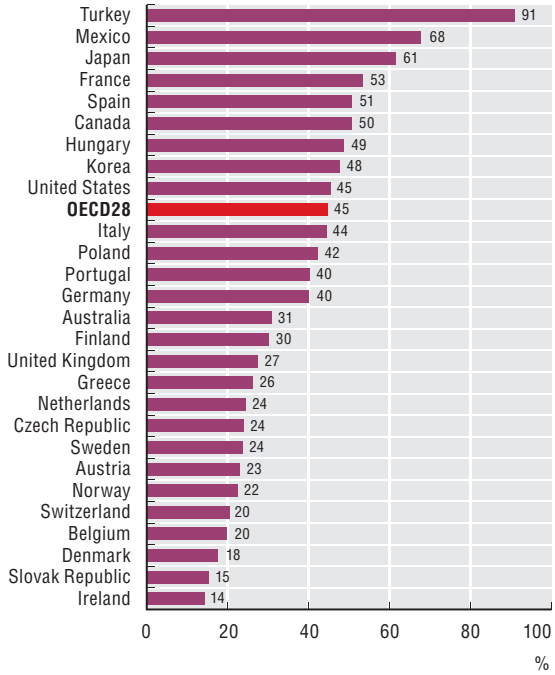
3.1 PCT patent applications per million population, 2005

Finland and Sweden are the countries with the highest rate of PCT patent applications.



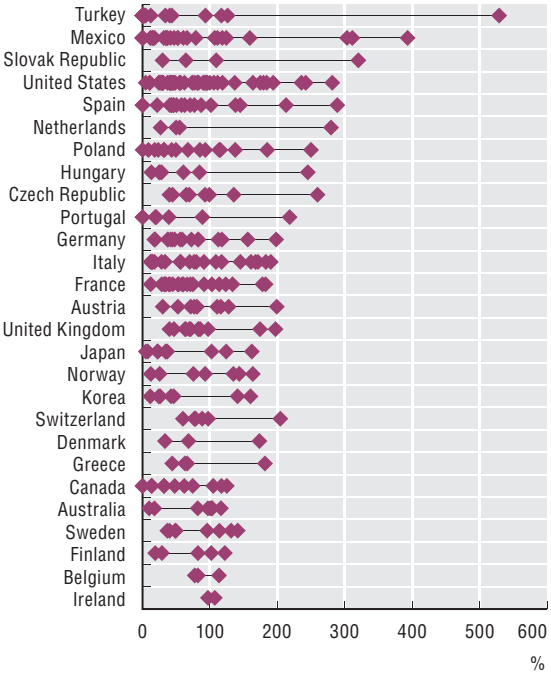
3.2 Per cent of patent applications in the 10% of TL2 regions with the highest concentration of patents, 2005

45% of PCT patents applications are recorded in only 10% of OECD regions.



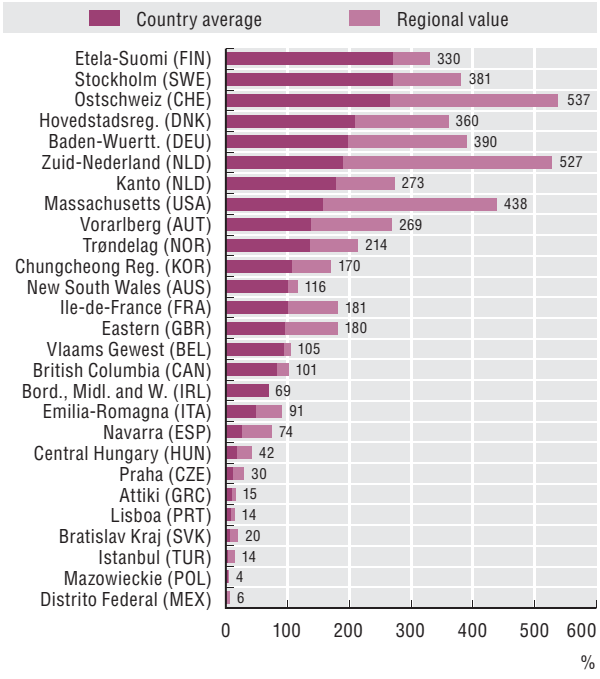
3.3 Range in TL2 regional patent applications per million population, 2005

Turkey and Mexico show the largest disparities in PCT patent applications.



3.4 TL2 regions with the highest number of patent applications per million population compared to their country average, 2005

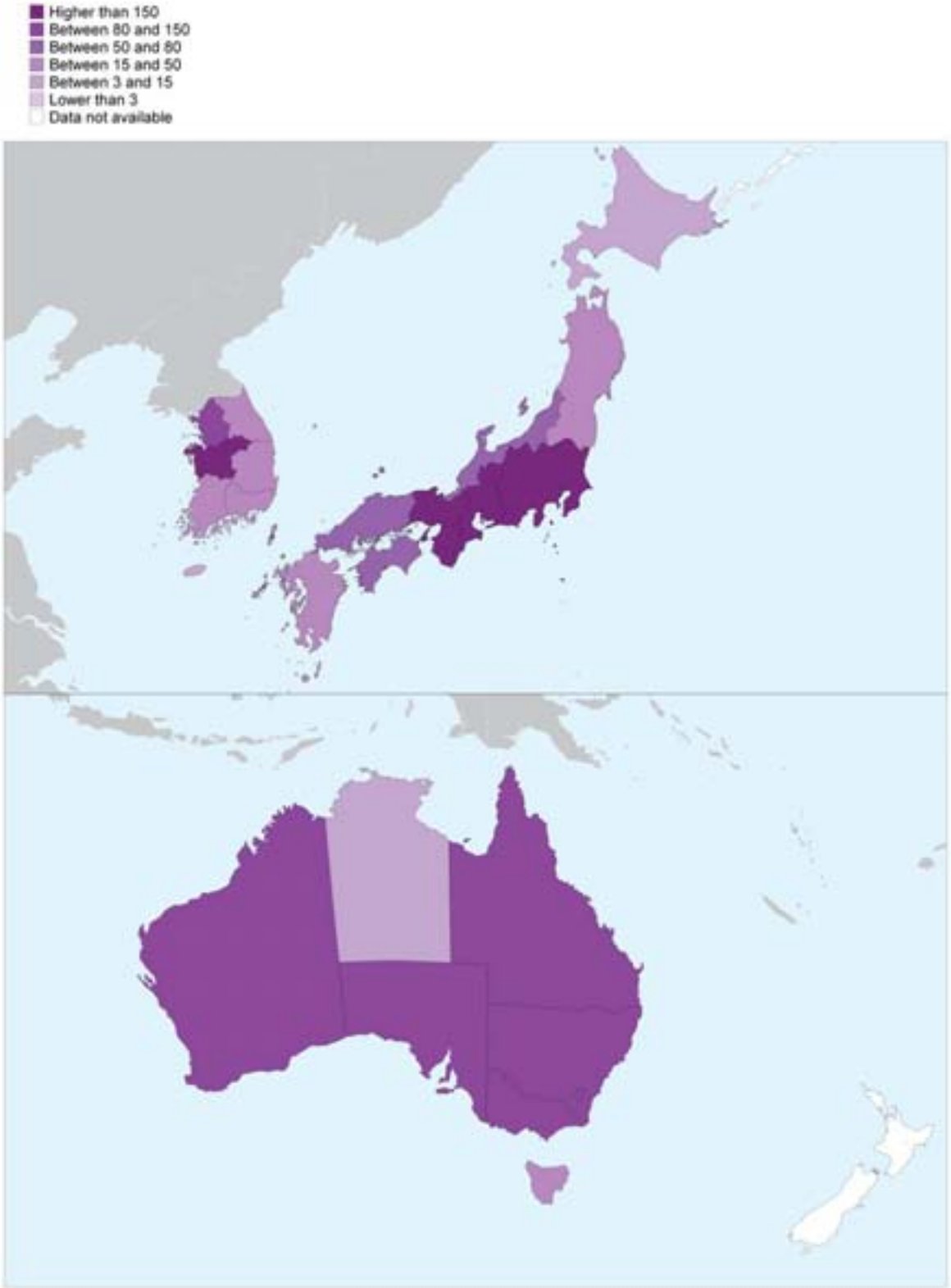
Ostschweiz, Switzerland, has the highest number of patent applications per inhabitant.



StatLink http://dx.doi.org/10.1787/523608725480

3.5 PCT patent applications per million inhabitants: Asia and Oceania

TL2 regions, 2005

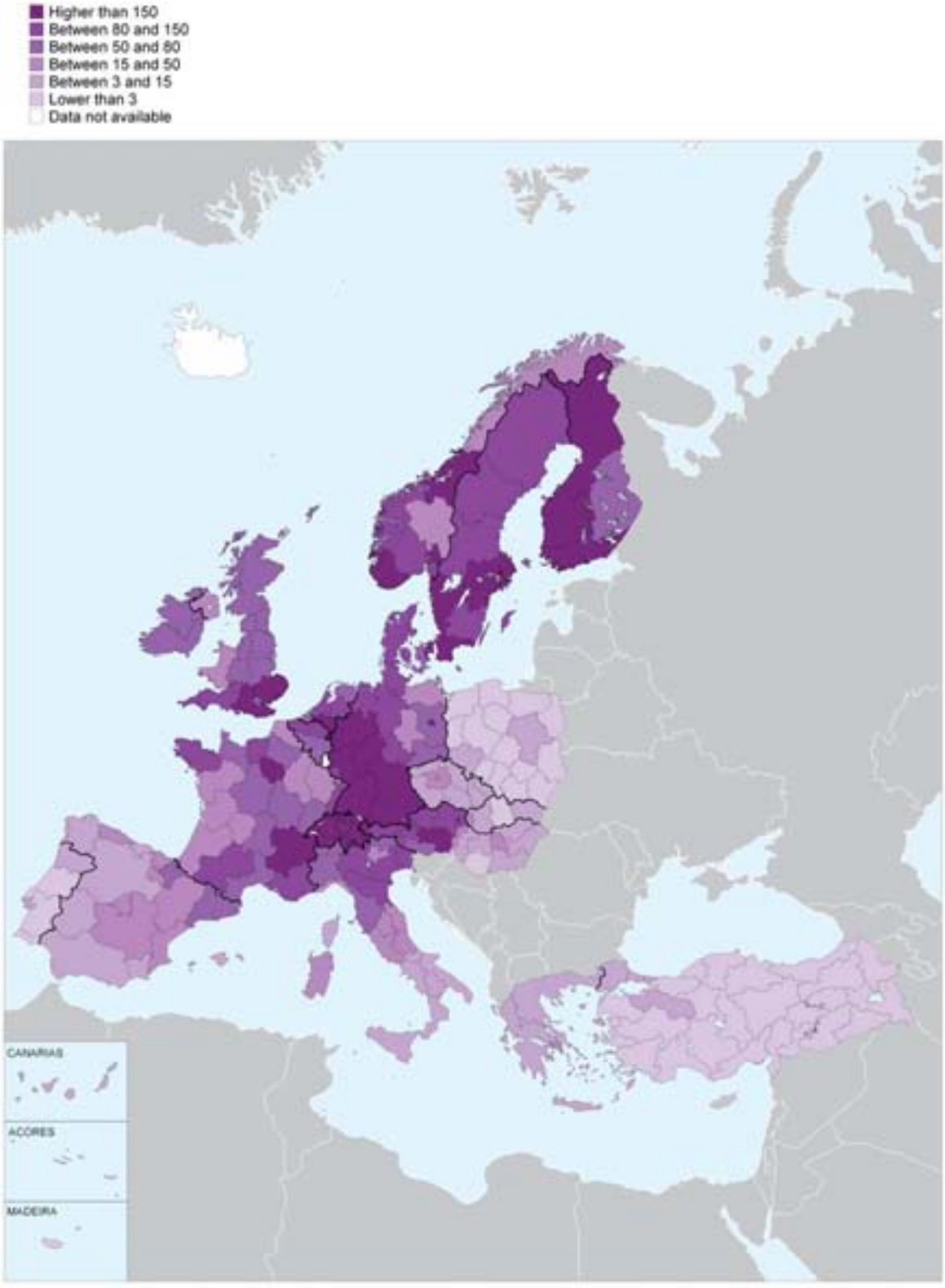


StatLink http://dx.doi.org/10.1787/524457534648

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

3.6 PCT patent applications per million inhabitants: Europe

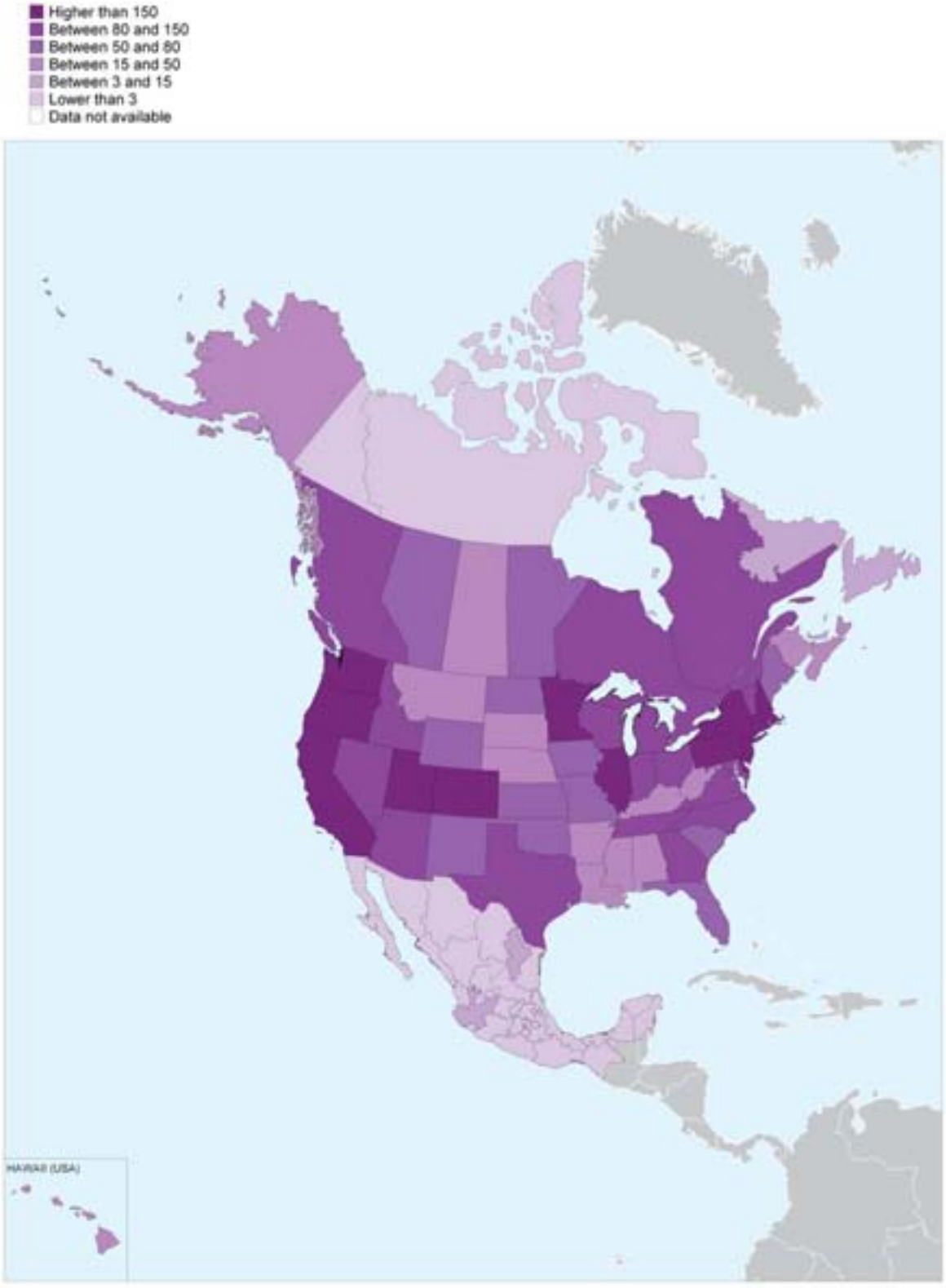
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524457534648

3.7 PCT patent applications per million inhabitants: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524457534648

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Does university research affect local industrial innovation?

The concept of "technology transfer" from the public research sector (government research centres and universities) to industry is an important element of national and regional innovation policy. Investment research made by non-business organisations (NBOs) is one of the tools used by governments to boost regional innovation. The idea is that innovation is encouraged by proximity of innovators and that spill over of research carried out in non-business organisations can enhance proximity-based positive effects.

Governments try to create incentives in various ways: having universities transfer more and encouraging industries to be more responsive to such transfers.

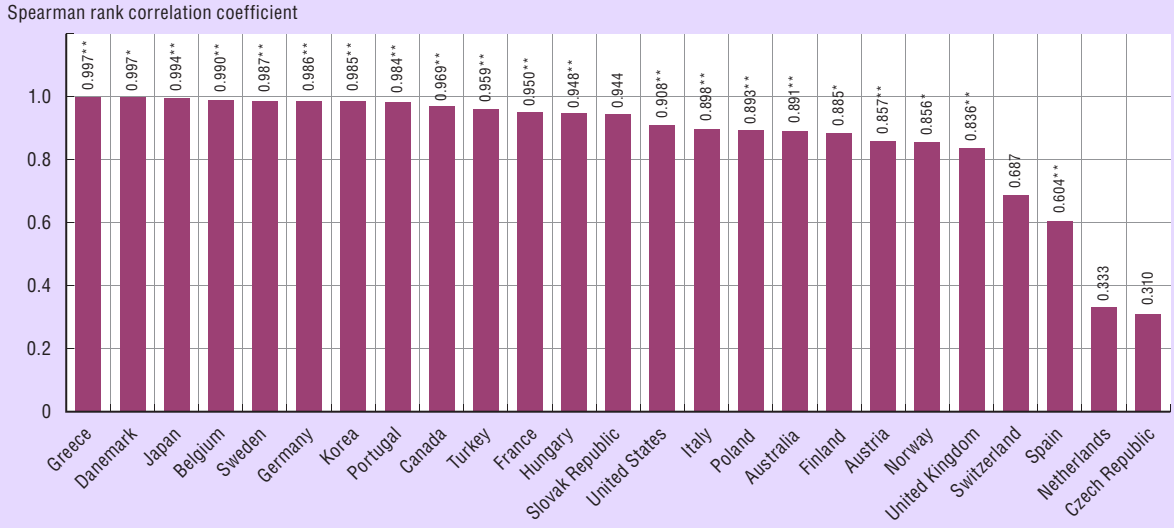
To what extent does NBOs research affect industrial innovation in regions? The question at hand is understanding what emphasis the national or regional government should put on university research in local innovation policies.

Data on patents make it possible to use the address of the inventor as the place where the research leading to the patent application was done in order to define whether it is a university or a private firm. An analysis on the extent to which non-business and business patents originate from the same region gives a first hint of possible interactions at the local level between universities or public research centres and businesses.

The correlation between business and NBOs patenting activity show a high coefficient (0.75) and is statistically significant across TL2 regions. In Australia, the United States and France the correlation is strongest. In the United States it could be explained by the long tradition of co-operation between universities and businesses, while in Australia systematic linkages between NBOs and industry were promoted notably by the government. In France the strong positive correlation is probably due more to linkages between government research organisations and the business sector than to universities.

3.8 Spearman correlation coefficient between patenting activities of the business sector and of non-business organisations, 2005

A positive correlation is found between business and non-business patenting activities.



Note: No data are available for Iceland, New Zealand and Mexico. No correlation coefficient is calculated for Ireland and Luxembourg.

* Correlation significant at the 0.05 level.

** Correlation significant at the 0.01 level.

StatLink http://dx.doi.org/10.1787/523608725480

The percentage of PCT patent applications with co-inventors living in another region, whether or not they are from the same country, is an indicator of co-operation activity and knowledge sharing among regions.

Figure 4.1 shows the percentage of patents by co-inventor residence (irrespective of an inventor's country of origin). Countries like Japan, the United States and the Netherlands, ranking among the top ten OECD countries in PCT patent applications per million inhabitants (Figure 3.1), seem to co-invent mostly within their borders. In 2005, in these three countries and Korea, more than 70% of co-inventions were domestic. Other countries like Turkey, the Slovak Republic and Canada, seem more oriented toward international co-operation rather than national.

Taking only the region with the highest number of foreign co-inventions in 2005, it appears that the region in the country with the highest percentage of foreign co-patenting, Istanbul (Turkey), co-invented most with North America (94%), while Zapadne Slovensko (Slovak Republic) co-operated mostly with other European regions (93% of the total co-invented patents) (Figure 4.2).

For most regions, the main foreign co-inventor partner resides on the same continent. All the European regions taken into consideration are more likely to co-invent with another European region, except for South East (United Kingdom), the Southern and Eastern region (Ireland), and Istanbul (Turkey), where inventors were more likely to co-invent with North American regions. Another exception is California (United States) which shares 64% of its foreign co-inventions with Europe and only 16% with other non-US regions in North America.

Definition

Patent documents report the inventors along with their addresses and country of residence. If the patent document lists two or more inventors resident in different regions, the patent is counted as co-invented (co-invented patents from individuals from the same region were not considered).

Source

OECD REGPAT Database.

See Annex B for more details on the source and the definition of the indicator.

Reference years and territorial level

2005; TL2

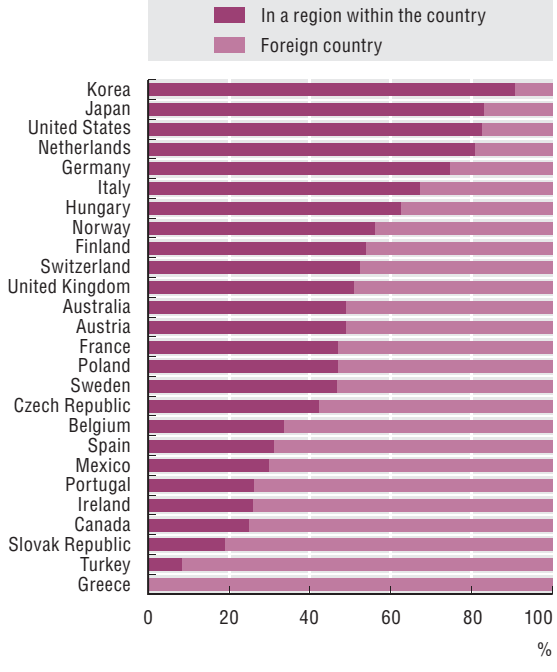
Data for Iceland, Denmark and New Zealand are not available at the regional level.

Further information

OECD work on patents: *www.oecd.org/sti/ipr-statistics*.

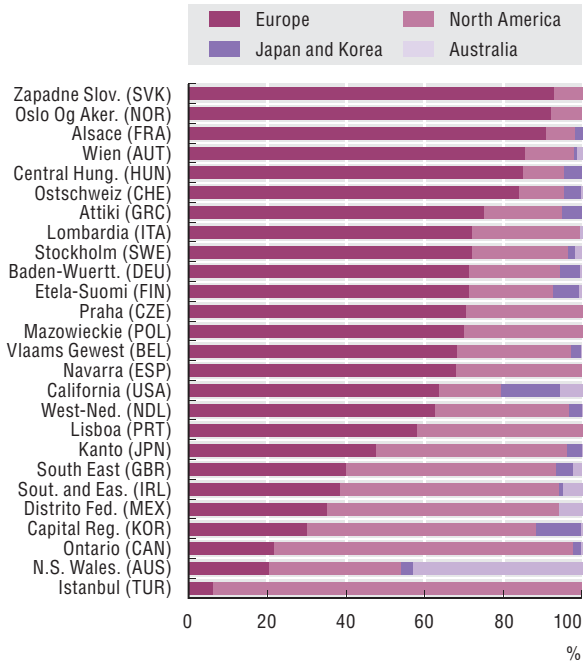
4.1 PCT patents with at least one co-inventor by residence of the co-inventor (TL2), 2005

Best-performing countries in terms of patent applications seem to co-invent mostly within their borders.



4.2 TL2 regions with the highest number of foreign co-inventors by partner continent, 2005

For most regions the main foreign co-inventor partner belongs to the same continent.

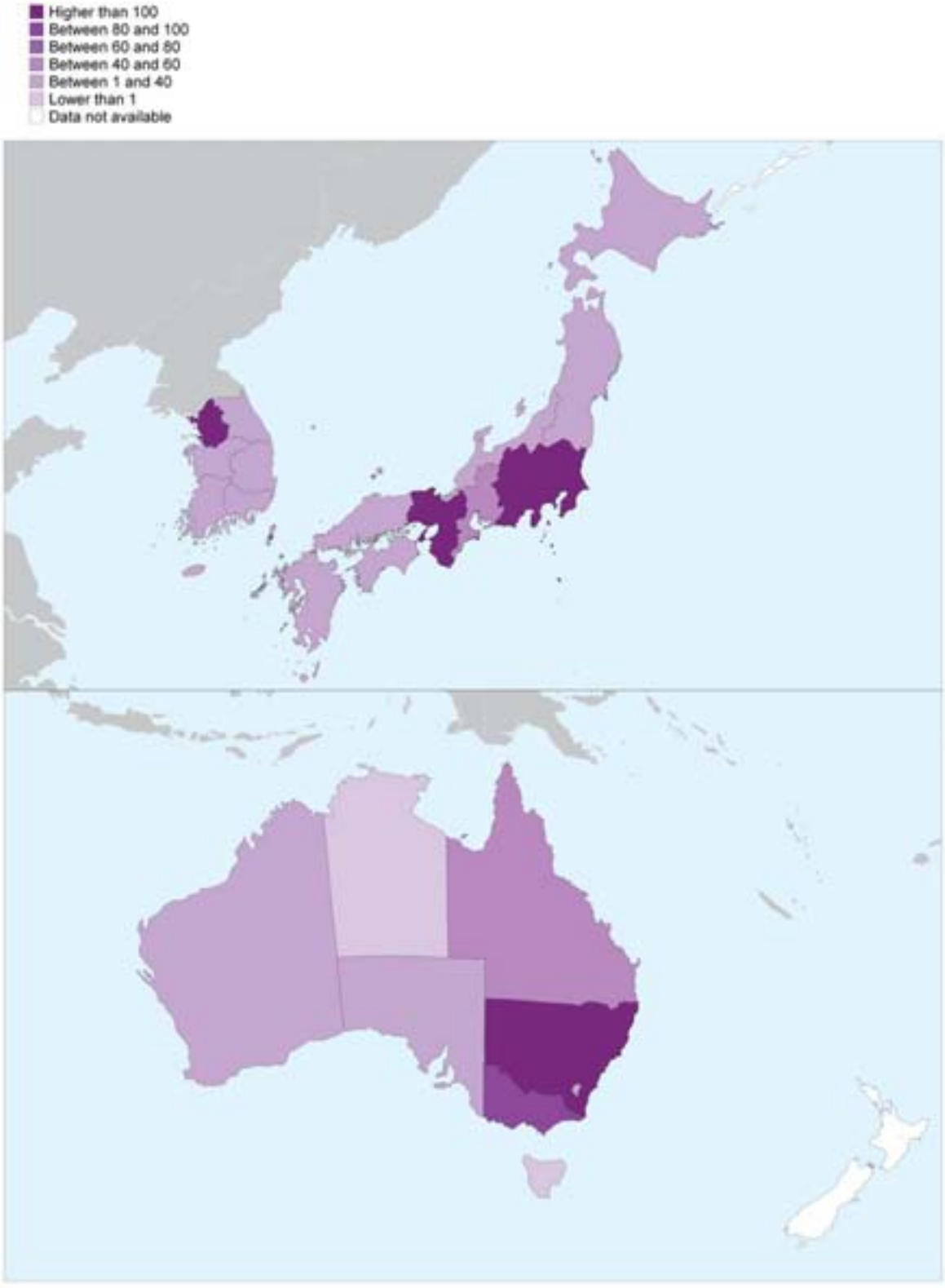


StatLink http://dx.doi.org/10.1787/523648463545

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

4.3 Number of PCT patents with at least one foreign co-inventor: Asia and Oceania

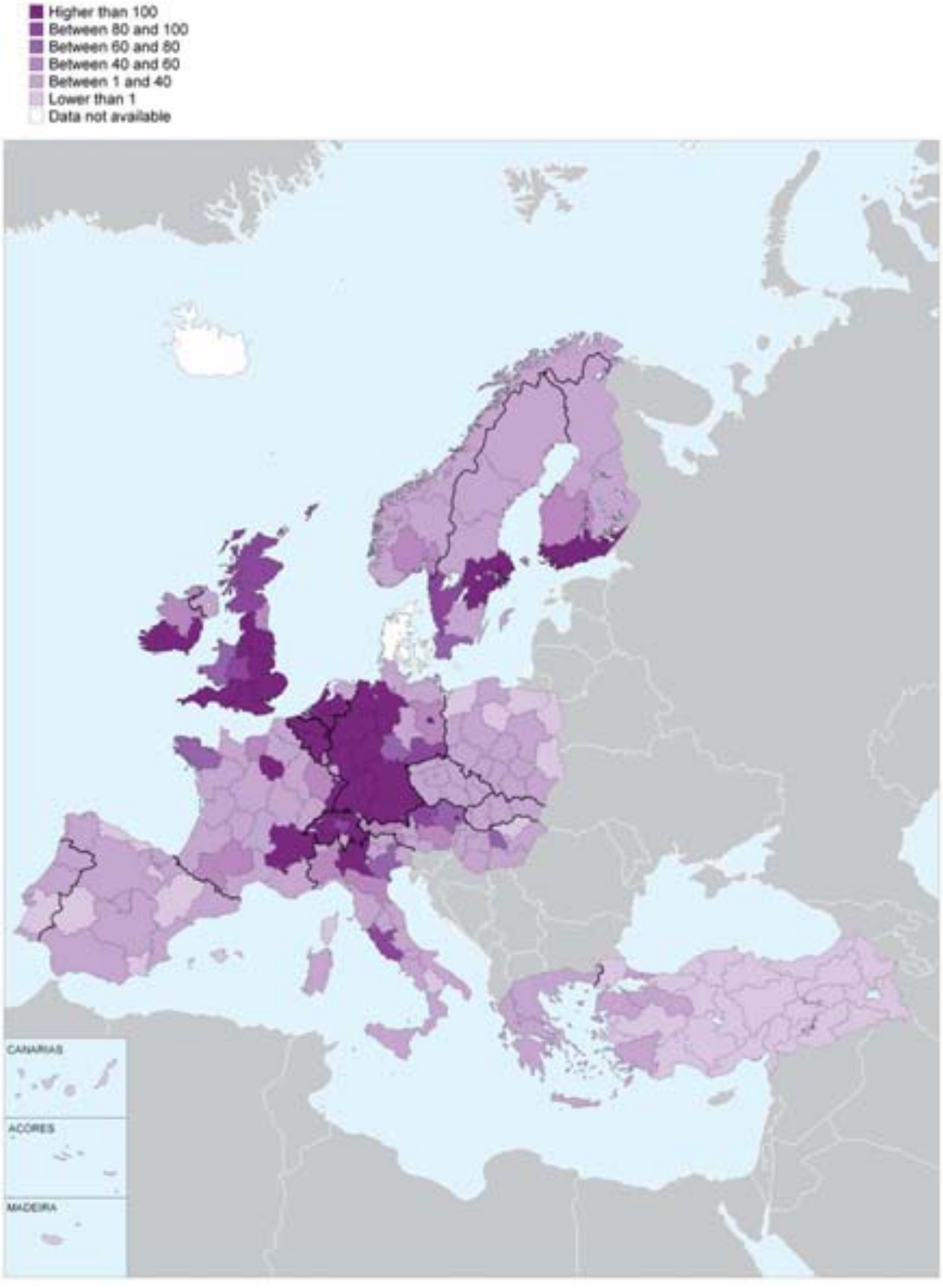
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524500868511

4.4 Number of PCT patents with at least one foreign co-inventor: Europe

TL2 regions, 2005

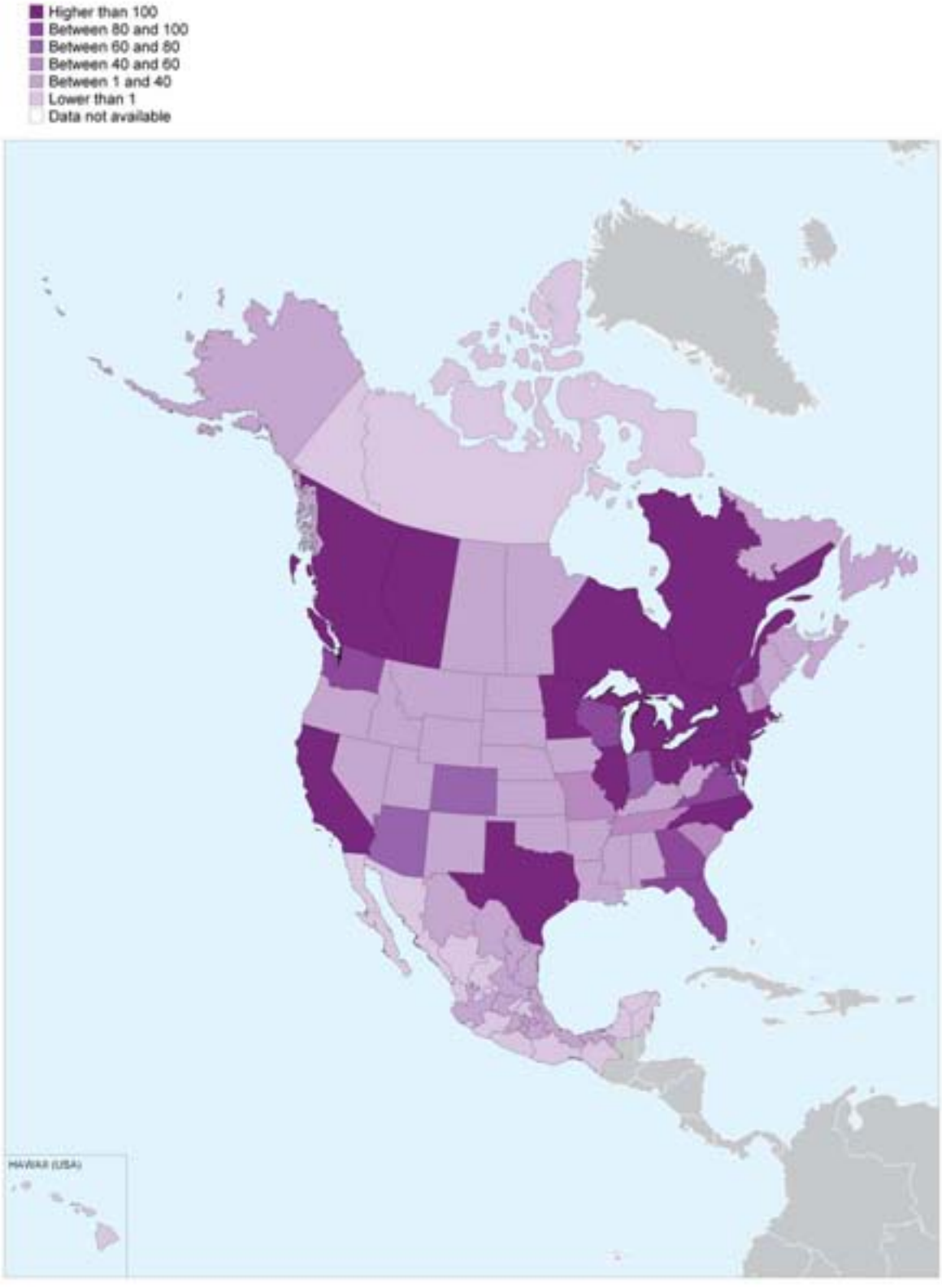


StatLink http://dx.doi.org/10.1787/524500868511

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

4.5 Number of patents with at least one foreign co-inventor: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524500868511

5. STUDENT ENROLMENT IN TERTIARY EDUCATION

The number of students enrolled in tertiary education is an indicator of a region's future potential for its skilled labour force. A highly educated labour force is a major factor in determining regional competitiveness in the knowledge based economy. Universities in a region are also important assets in developing an integrated regional innovation system.

Taking students enrolled in tertiary education as a percentage of the total population as an indicator, in 2005, on average, about 4% of the population was enrolled in tertiary educational programmes in OECD countries. This ratio varies significantly among countries (Figure 5.1). Korea had the highest percentage of students (more than 6%), followed by the United States and Finland. Luxembourg, Mexico, Switzerland, Germany, Turkey and Austria ratios were under 3%.

Regional differences within countries were even larger than among countries. Sweden, the Czech Republic and Slovak Republic were the countries that showed the largest internal differences in enrolment in tertiary education (Figure 5.2), ranging from over 10%, to close to zero. For the Czech and the Slovak Republics and for most of the other countries taken into consideration, the region displaying the highest rate is the capital region. At the other end of the regional disparity spectrum, the Netherlands, Ireland, the United Kingdom, Canada, and Japan displayed narrow differences in tertiary enrolment rates.

The correlation between enrolment in tertiary education and the share of population by regional type (predominantly urban, intermediate and predominantly rural) is positive for urban regions in all countries except Italy, Sweden and Korea, as in most countries universities tend to be concentrated in large urban centres. In rural regions, the correlation is negative in 15 countries out of 24 (Figure 5.3).

Figure 5.4 compares the concentration index of the enrolment in tertiary education and employment in knowledge-oriented sectors (high-tech manufacturing and knowledge-intensive services). The employment distribution in high tech-sectors depends on the location of infrastructure and physical capital, while participation in tertiary education depends on the location of universities. In 14 out of the 24 countries for which data are available, the students enrolled in tertiary education are more concentrated than those employed in high-tech sectors; this is particularly evident in the Czech Republic, Austria and Turkey, but also in Norway, Denmark and the Slovak Republic. In nine countries technology intensive employment is more geographically concentrated than the students in higher education institutions, especially in Korea and Greece.

Definition

Total student enrolment is defined as the number of students, regardless of age, enrolled in all types of tertiary educational institutions in the region, including public, private and all other institutions providing organised tertiary level (ISCED 5 and 6) educational programmes.

The geographic concentration index offers a picture of the spatial distribution of the population within each country, as it compares the enrolment in tertiary education weight and the land area weight over all TL2 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration. International comparisons of the index can be affected by the different size of regions in each country.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the enrolment rate in higher education institutions and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

National data: OECD Education Database.

See Annex B for more information on data sources and country related metadata.

Reference years and territorial level

2005; TL2

Data for Iceland, Mexico and New Zealand are not available at the regional level.

Further information

OECD (2007), *Education at a Glance*, OECD, Paris.

OECD (1999), *Classifying Educational Programmes, Manual for ISCED-97 Implementation in OECD Countries*, OECD, Paris.

Figure notes

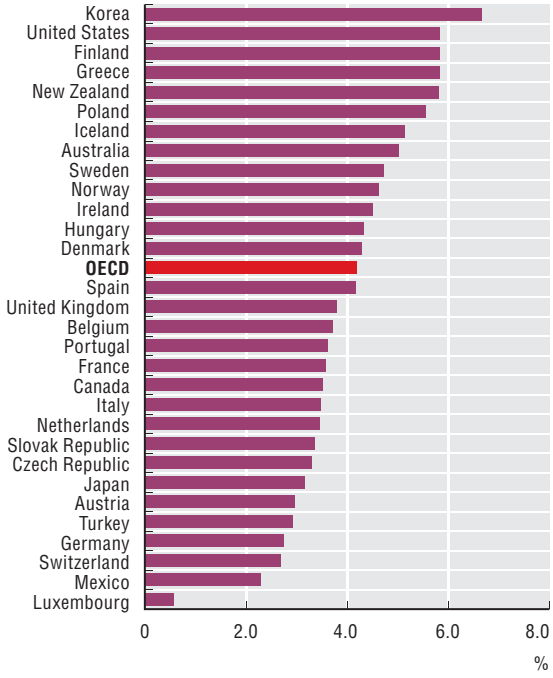
Figure 5.1: Luxembourg year 2006.

Figure 5.3: For each country three correlations are run between the regional number of students enrolled in tertiary education and the share of regional population living in PU, IN and PR regions.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

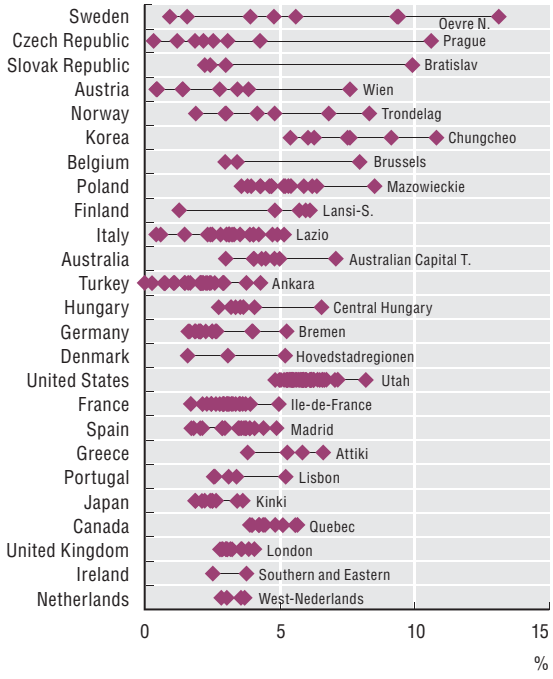
5.1 Student enrolment in tertiary education per 100 inhabitants, 2005

Korea and the United States are the countries with the highest number of students enrolled in tertiary education.



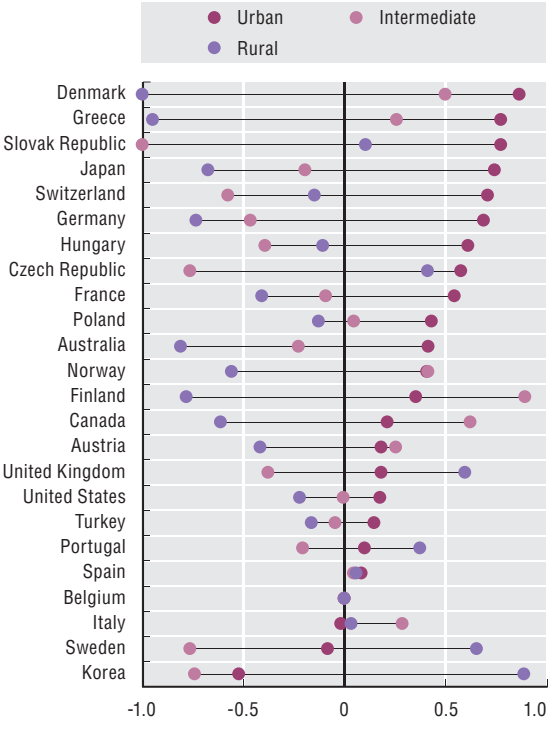
5.2 Range of % of students enrolled in tertiary education in TL2 regions, 2005

The capital region displays the highest rate of enrolment in advanced education in most OECD countries.



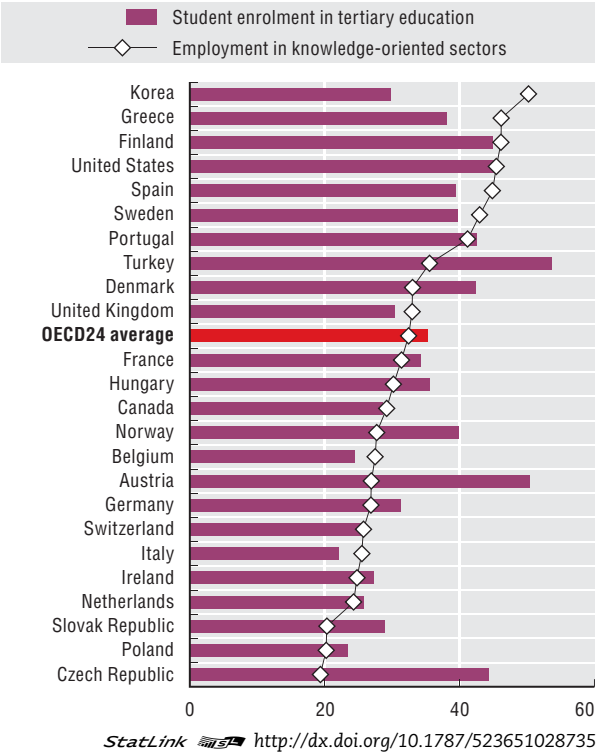
5.3 Spearman correlation coefficient between share of students in tertiary education and population share by regional type, 2005 (TL2)

Urban regions have greatest rates of enrolment in higher educational programmes.



5.4 Concentration index of students in tertiary education and employment in knowledge-oriented sectors, 2005 (TL2)

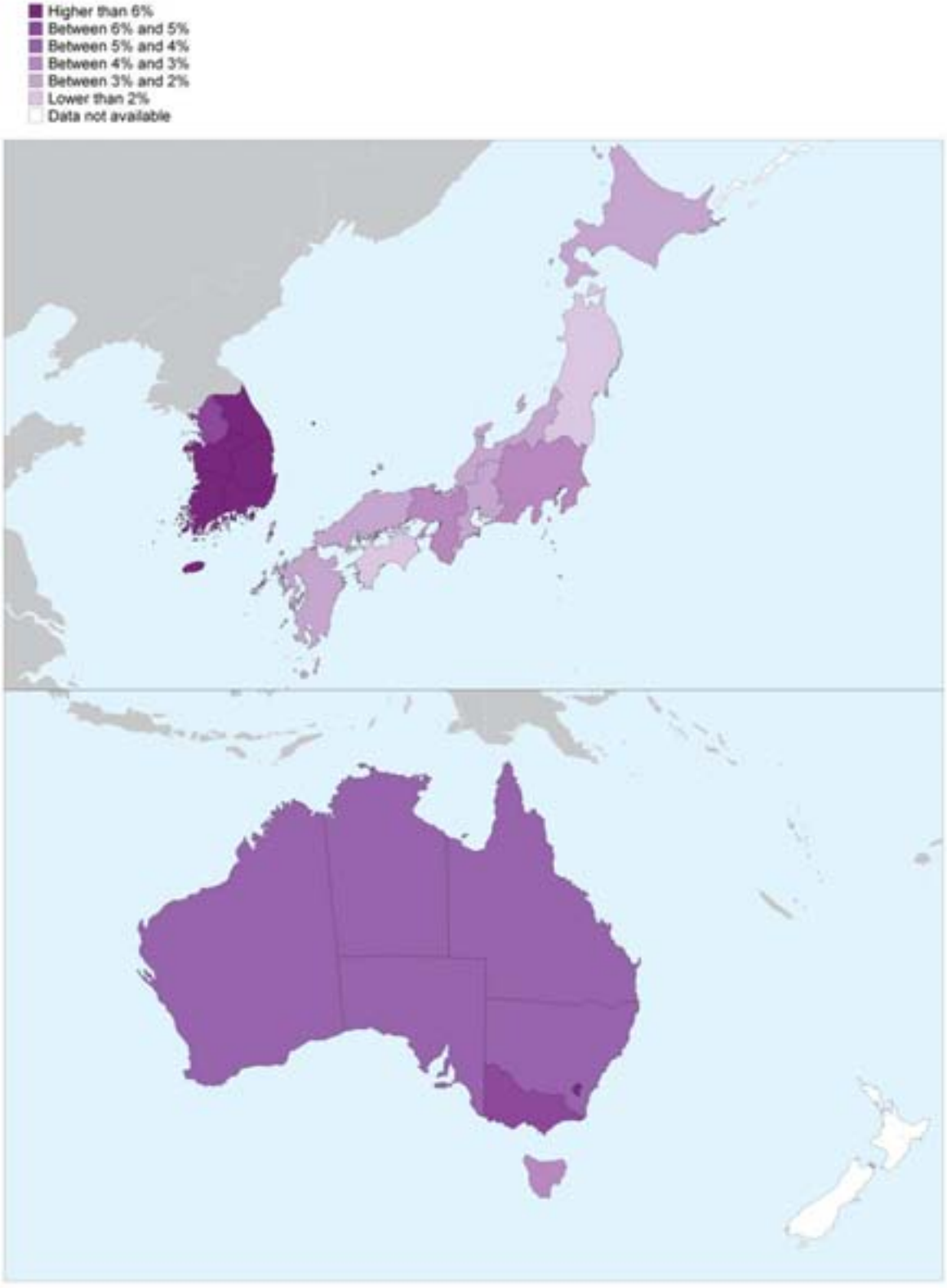
In most OECD countries future and current stocks of knowledge-oriented workers have different concentration levels.



StatLink http://dx.doi.org/10.1787/523651028735

5.5 Students enrolled in tertiary education as a percentage of the population: Asia and Oceania

TL2 regions, 2005

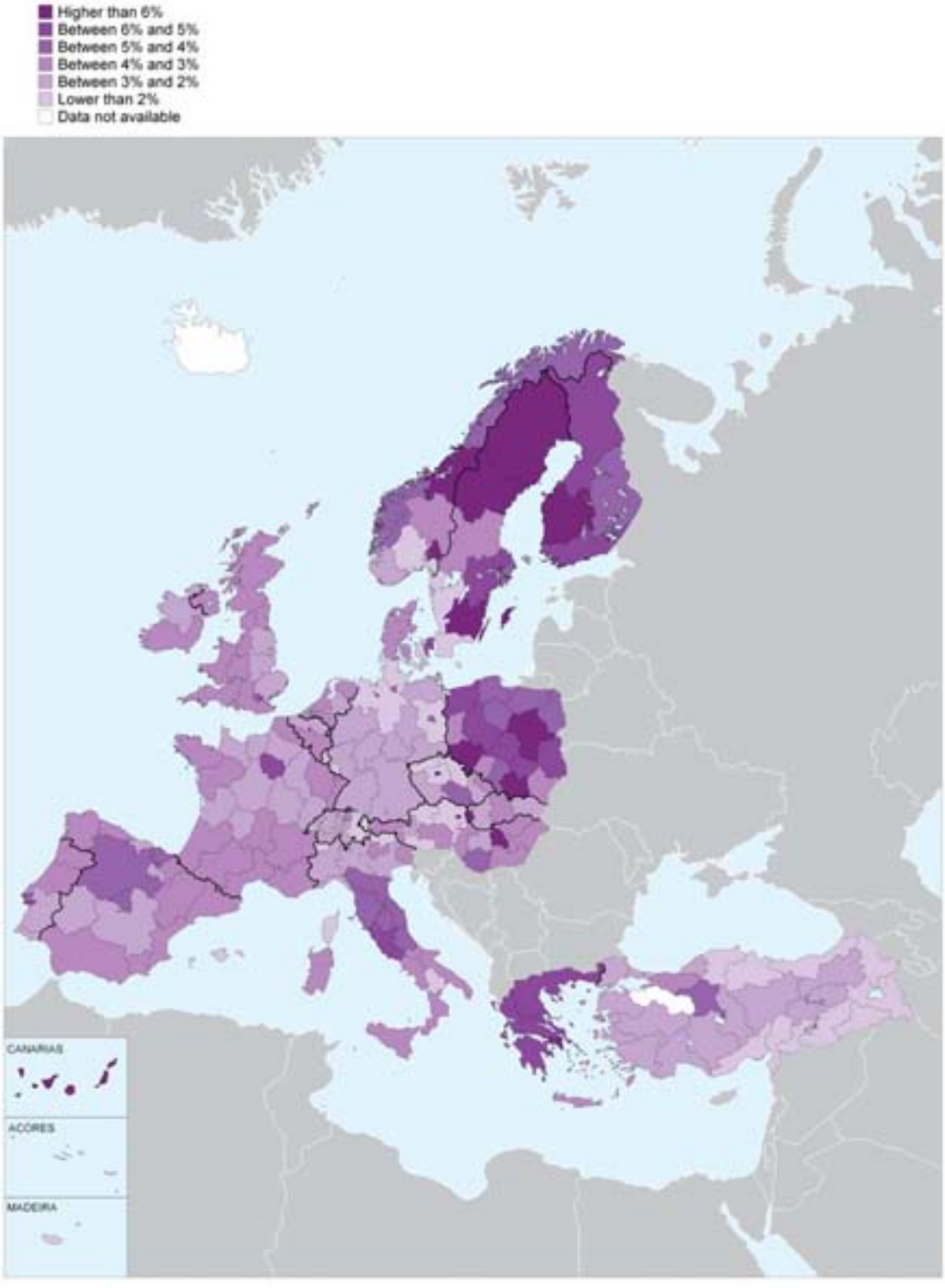


StatLink http://dx.doi.org/10.1787/524501703305

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

5.6 Students enrolled in tertiary education as a percentage of the population: Europe

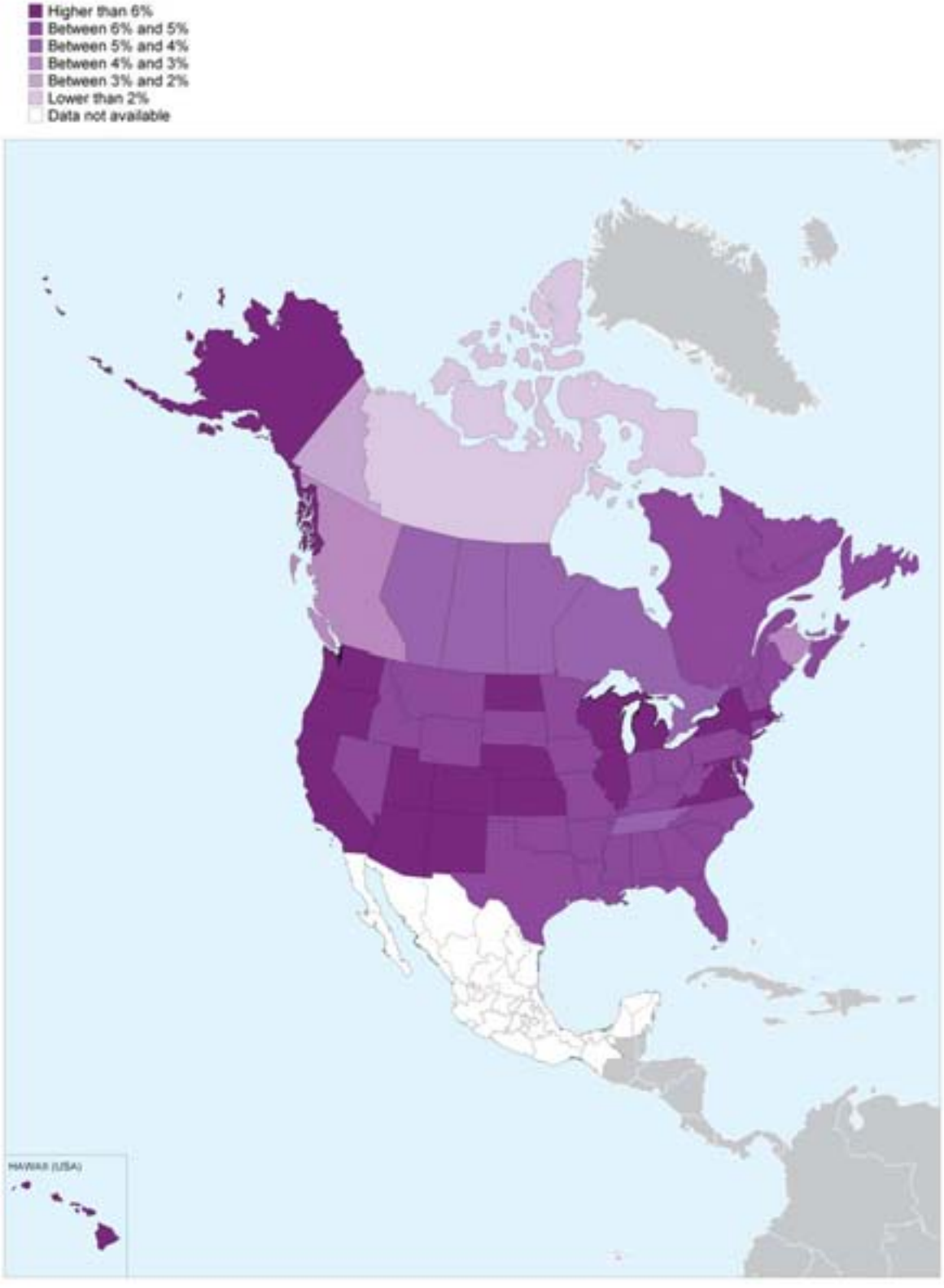
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524501703305

5.7 Students enrolled in tertiary education as a percentage of the population: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524501703305

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Lifelong learning

The capacity of a region to absorb innovation is increasingly dependent upon the knowledge and skills of its workforce. Despite the increasing time spent at a young age in tertiary level programmes, the knowledge and skills acquired there, are usually not sufficient for a professional career spanning three or four decades.

Lifelong learning is a learning opportunity given at all ages and in different contexts: at work, at home and through leisure activities. It is often accomplished though distance learning or e-learning, continuing education, or correspondence courses.

The acceleration of scientific and technological progress has made lifelong learning an important part of the education path. The concept of lifelong learning is fundamental to promote a more dynamic employee base, better able to react in an agile manner to a rapidly changing economic climate.

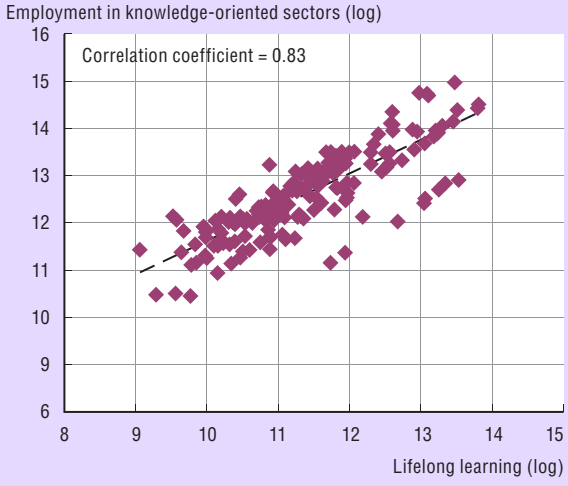
Data on the participation of adults to education and training activities (lifelong learning) are only available for EU countries. The European Union focuses its attention on promoting lifelong learning in its member countries as a major factor to improve the current labour force skills for increasing growth and competitiveness.*

Figure 5.8 shows that there is a very strong correlation between the number of persons in lifelong learning and employment in technology intensive sectors (the correlation coefficient being 0.83). Taking lifelong learning as a proxy for the capacity of absorbing change (shift from manufacturing to high-tech manufacturing and from services to knowledge-intensive services) the association with the presence of technology-oriented workers shows that regions that invest in preparing their workforce to deal with shifting economic environments tend to have more specialised human capital.

Participation in lifelong learning varies among countries, with United Kingdom, Finland, Sweden and the Netherlands showing higher participation rates than the rest of European countries. For 12 out of the 17 countries taken into consideration the regions where the percentage of adults in lifelong learning is the highest are capital regions (Figure 5.9). The propensity to enter in lifelong learning depends also on the wage differential in return to education and on the availability of such programs.

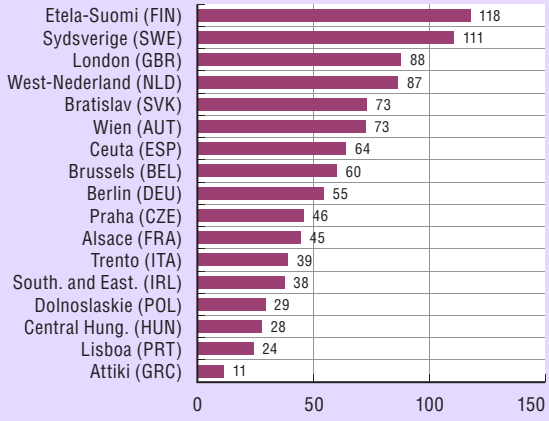
5.8 Correlation between people in lifelong learning and employment in knowledge-oriented sectors, in 2005[1] (TL2)

Regions investing in human capital have a more specialised workforce.



5.9 Regions with the highest percentage of population aged 25-64 in lifelong learning, 2005[1] (TL2)

The percentage of people in lifelong learning is the highest in large urban centres.



1. Data available for EU countries only. Data for the United Kingdom refer to the year 2004.

StatLink http://dx.doi.org/10.1787/523651028735

* Treaty of Lisbon: EU member states partnership aimed at focusing efforts on the achievement of stronger, lasting growth and the creation of more and better jobs.

The ability to generate and make use of innovation depends, among other factors, on the skill level of the labour force working in the region. The proportion of the labour force with advanced educational qualifications is a common proxy for a region's capacity to absorb and produce innovation. Advanced educational qualifications include university level education, from courses of short and medium duration, to advanced research qualifications.

OECD countries show large differences in the educational attainment of their labour force. These differences hide even larger disparities among regions within the same country (Figure 6.1). The Czech Republic, the United States and Portugal show the largest regional variation in terms of tertiary educational attainment. For the Czech Republic, Prague displays a value twice the country average, while the region of Severozapad is more than 40 percentage points less than the country average.

The countries displaying the smallest regional variations are New Zealand, the Netherlands, Ireland, and Belgium. These four countries do show one or more regions with a value higher than the country average. Concentration of skilled labour force is therefore a major issue, also in countries with less regional dispersion.

For 23 out of the 26 countries taken into consideration, the capital region shows the highest percentage of labour force with advanced educational qualifications (Figure 6.2). Ontario is the OECD region with the highest percentage of skilled labour force (55%), followed by the Capital Territory in Australia, Pais Vasco in Spain and Brussels in Belgium.

More generally the correlation between the percentage of labour force with tertiary educational attainment and the percentage of urban population is positive in all the countries under examination, while in most of the countries high educational attainments are negatively correlated with the percentage of rural population (Figure 6.3). Concentration of tertiary-level attainment in urban regions is often the result of migration away from rural areas. The existence of a significant differential in the return to education between rural and urban areas is a major incentive for individuals with advanced educational levels to migrate to urban regions.

The geographic concentration index compares the geographic distribution of the labour force with tertiary education to the area of all regions. According to this index, varying from 1 to 100 (Figure 6.4), Sweden and Australia, showing a value above 50, are the countries with the highest concentration of skilled labour force. They are followed by the United States, Finland and Mexico, with the OECD average at 35. The country with the least concentration is the Slovak Republic, which was only marginally below Poland, Italy and Switzerland, none of which displayed an index value above 25.

Definition

The labour force with advanced educational qualifications is defined as the labour force aged 15 and over that has completed tertiary educational programmes as a percentage of the total labour force. Tertiary education includes both universities qualifications and advanced professional programmes (ISCED 5 and 6).

The geographic concentration index offers a picture of the spatial distribution of the labour force with tertiary education within each country, as it compares the labour force weight and the land area weight over all TL2 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration. International comparisons of the index can be affected by the different size of regions in each country.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the labour force with advanced educational qualifications and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

See Annex B for more information on data sources and country related metadata.

Reference years and territorial level

1999 and 2005; TL2

Data for Iceland, Japan and Turkey are not available at the regional level.

Further information

OECD (2007), *Education at a Glance*, OECD, Paris.

OECD (1999), *Classifying Educational Programmes, Manual for ISCED-97 Implementation in OECD Countries*, OECD, Paris.

Figure notes

Figure 6.1: As a percentage of the country average.

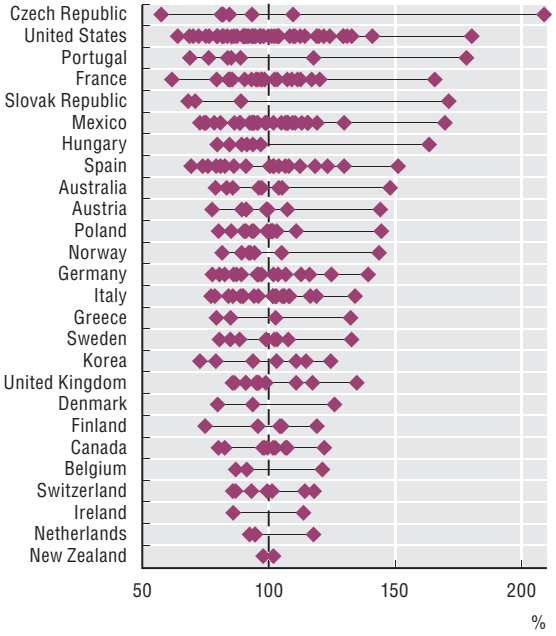
Figure 6.3: For each country three correlations are run between the regional labour force with tertiary education and the share of regional population living in PU, IN and PR regions.

Figure 6.4: For Australia and Italy data refer to 2005 and 2001, for Finland, Korea, Mexico and the United States data refer to 2005 and 2000.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

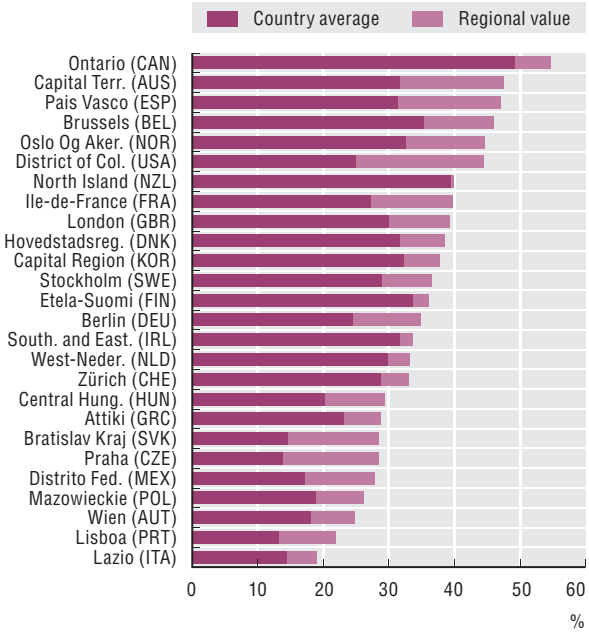
6.1 Range of labour force with tertiary educational attainment within the TL2 regions, 2005

The Czech Republic and the United States show the largest regional variations.



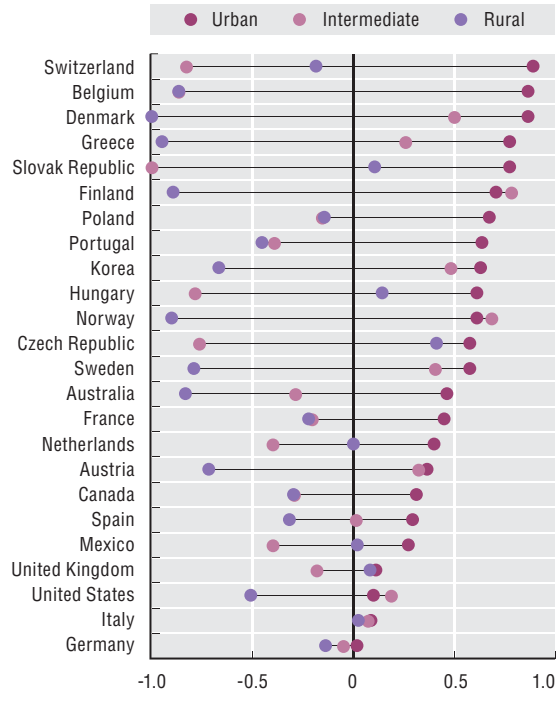
6.2 Regions with the highest percentage of labour force with tertiary educational attainments compared to their country average, 2005 (TL2)

In most OECD countries, the capital region shows the greatest percentage of labour force with higher education.



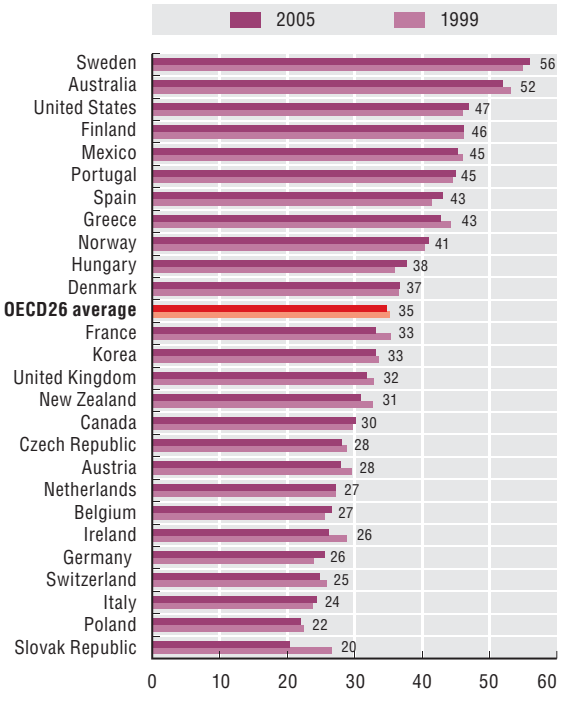
6.3 Spearman correlation coefficient between labour force with tertiary education and population share by regional type, 2005 (TL2)

Urban regions have the highest percentage of labour force with advanced educational qualifications.



6.4 Concentration index of the labour force with tertiary education, 1999 and 2005 (TL2)

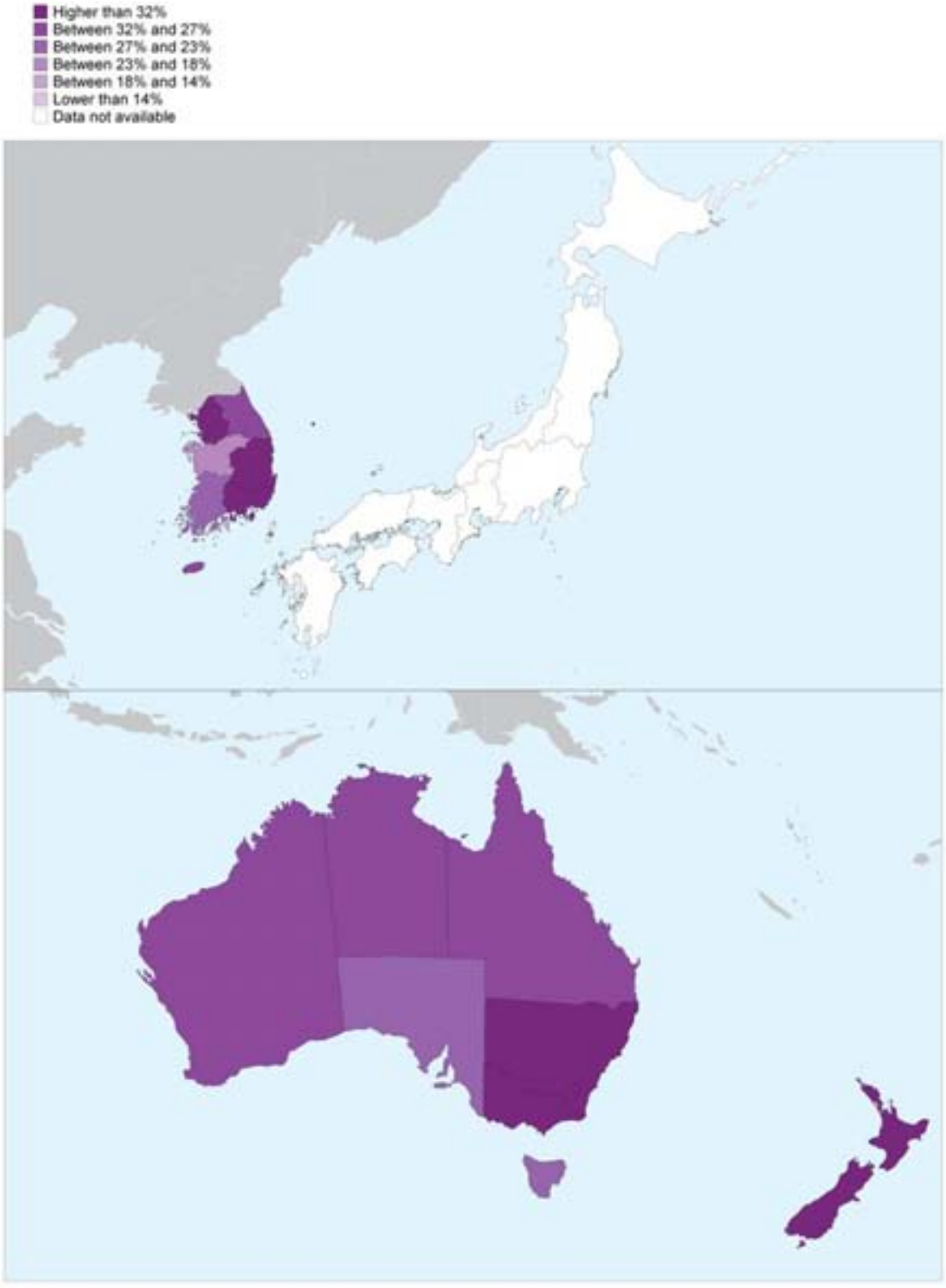
Sweden and Australia are the countries where the skilled labour force is the most concentrated.



StatLink http://dx.doi.org/10.1787/523702736362

6.5 Percentage of labour force with advanced educational qualifications: Asia and Oceania

TL2 regions, 2005

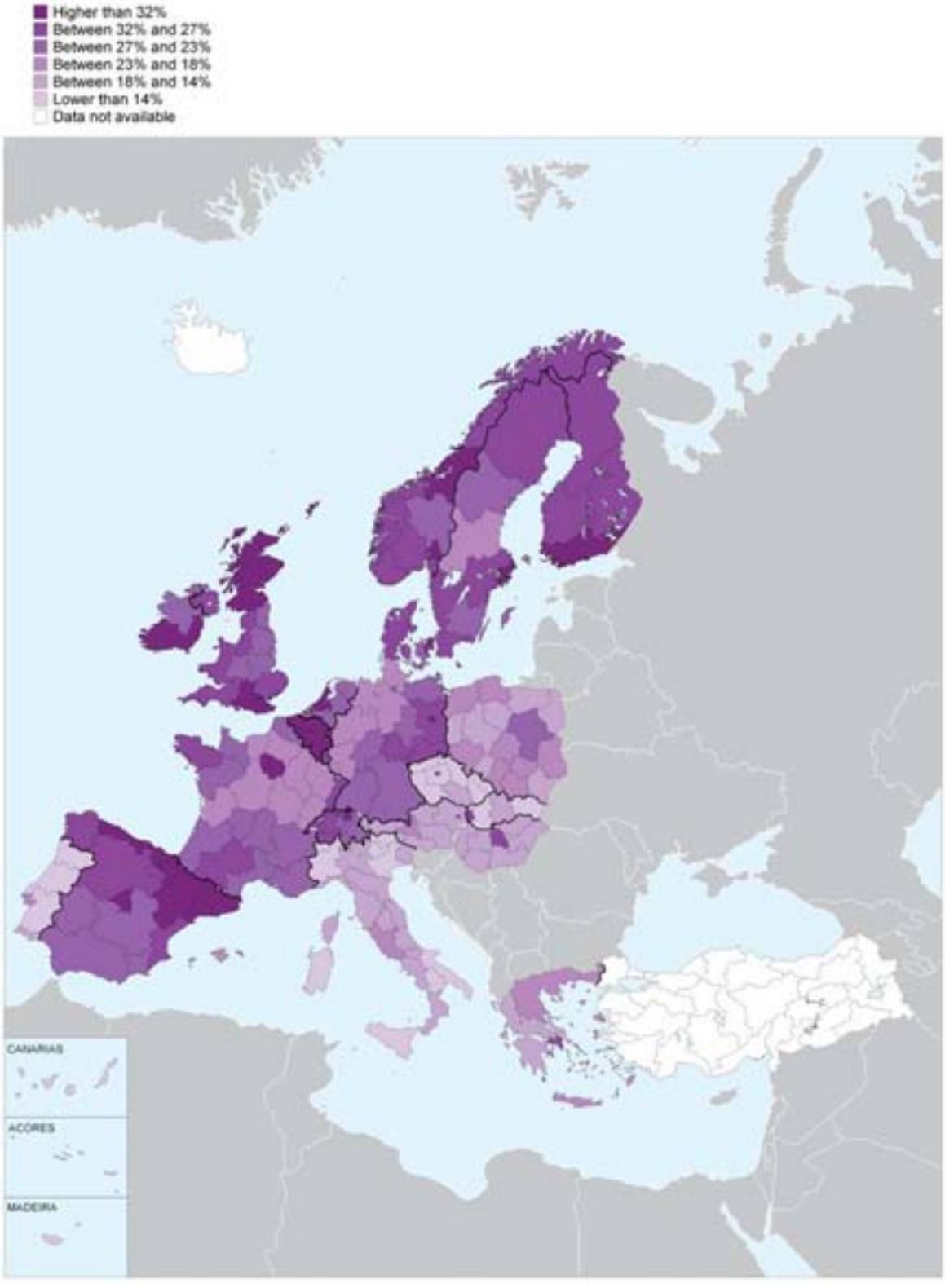


StatLink http://dx.doi.org/10.1787/524505338135

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

6.6 Percentage of the labour force with advanced educational qualifications: Europe

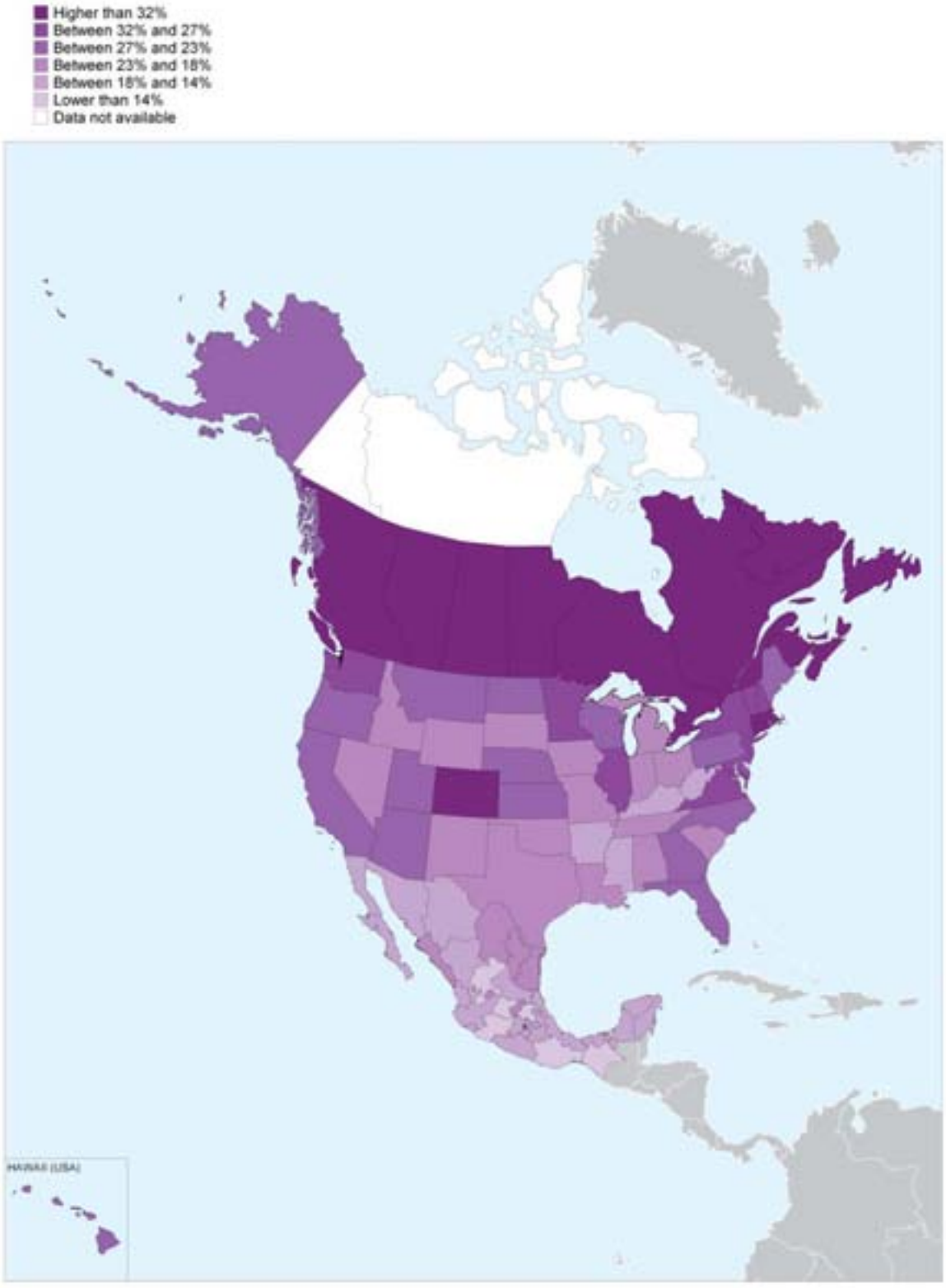
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524505338135

6.7 Percentage of the labour force with advanced educational qualifications: North America

TL2 regions, 2005



Data for the United States refer to the percentage of population aged 18 and over with tertiary educational qualifications and not to the population in the labour force (see Annex C).

StatLink http://dx.doi.org/10.1787/524505338135

What is the relationship between a region's current and future stock of human capital?

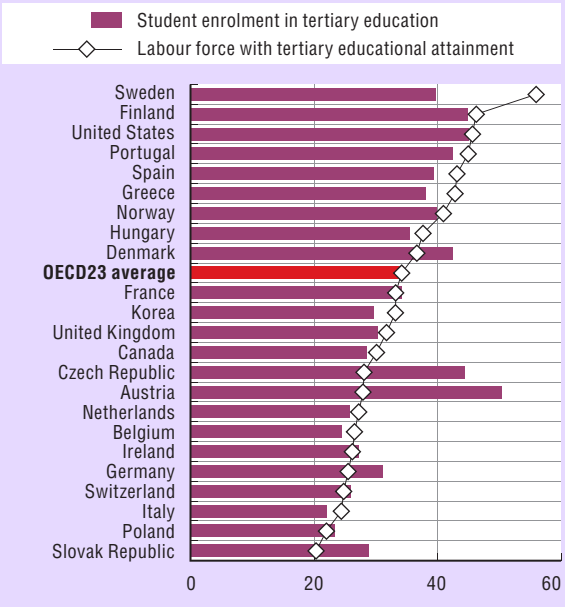
Human capital is a key driver for a successful regional innovation system. The percentage of the labour force with advanced educational qualifications and the enrolment rate in tertiary education programmes are indicators respectively of a region's current and future stock of human capital. The number of students in tertiary education can also be used as a proxy for the presence of important Higher Education Institutions (HEIs). The presence of human capital and universities and their interconnection are fundamental elements for the development of well-functioning regional systems of innovation.

The distribution of the student enrolled in tertiary education depends mainly on the location of institutions providing tertiary level educational programmes. HEIs are innovation assets in themselves as they usually are the main recipients of public innovation-related funds and are, more and more often, active research partners for private firms. The presence of HEIs in regions is therefore an important asset not only as trainer of the future labour force but also for their function as an access point of new knowledge and technical support for businesses.

The highly skilled labour force has the tendency to move where the wage return to education is higher. Workers with advanced qualifications have a strong incentive to migrate toward places where people with similar skills are highly concentrated. The geographic concentration index shows that in 2005 Sweden was the country with the highest concentration of skilled labour force, while the concentration index of students in tertiary education is much lower, suggesting that HEIs were more evenly distributed among regions. In general the two concentration indices display similar values for most countries. Only in the Czech Republic and Austria do students participating in tertiary education seem to be significantly more concentrated than the skilled labour force (Figure 6.8).

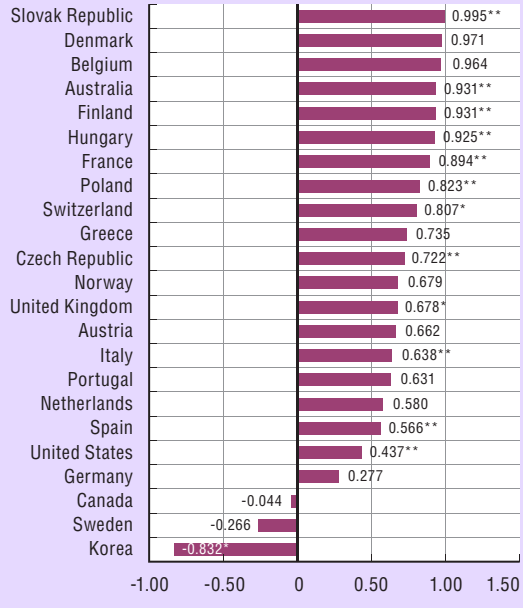
The correlation between the per cent of skilled labour force and the rate of students in tertiary education is positive for 20 out of the 23 countries considered, suggesting a connection between the presence of students and HEIs and the skilled labour force (Figure 6.9).

6.8 Concentration index of student enrolment in tertiary education and the labour force with tertiary educational attainment, 2005 (TL2)



6.9 Correlation between rate of students enrolled in tertiary education and rate of labour force with tertiary educational attainment, 2005 (TL2)

There is a connection between the presence of students in higher education institutions and the skilled labour force.



* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

StatLink http://dx.doi.org/10.1787/523702736362

Knowledge-oriented sectors receive a great deal of attention due to the association with innovative products, new production processes and their impact on productivity, international competitiveness, creation of well-paying jobs and overall economic growth.

Individuals employed in knowledge-oriented sectors are often in R&D, increasing scientific knowledge and using it to develop products and production processes; others apply technology in other activities, including the design of equipment, processes, and structures; computer applications; sales, purchasing, and marketing; quality management; and the management of these activities. All these activities are classified into two groups: *high-tech manufacturing* (HTM) and *knowledge-intensive services* (KIS).

High-tech manufacturing and knowledge-intensive services have a tendency to be concentrated in certain regions since investments, infrastructure, and physical and human capital, tend to be geographically clustered.

The geographic concentration index compares the geographic distribution of employees in HTM and KIS and the area of all the regions (Figure 7.1). In 2005, Korea displayed the highest concentration of KIS, followed at a certain distance by Greece, Finland, and Spain. Greece together with Turkey, Finland and Spain, are the countries with the highest geographic concentration of HTM. The Czech Republic, Poland, the Netherlands and Ireland display the lowest concentration of HTM, while the Slovak Republic, Poland and Norway were the least concentrated in KIS (Figure 7.1).

Significant international differences in the percentage of workers employed in knowledge-oriented sectors hide even larger differences among regions (Figure 7.2). Turkey, Korea, and Portugal, display high regional variation. In several countries one region appears to be leading in the rate of knowledge-oriented employment.

Figures 7.3 and 7.4 compare the regions where the rate of HTM and KIS is the highest to their country average. Baden Wuerttemberg in Germany is the region with the highest rate of employment in HTM, followed by the Franche-Compté in France and Western Transdanubia in Hungary.

The regions with the highest rate of employment in KIS, shown in Figure 7.4, are almost all capital regions where the bulk of public administrations tend to be concentrated. Stockholm has the highest rate of KIS followed by London. In almost all the regions taken into consideration KIS as a percentage of total services is above 50%. Particularly low is the ratio in the Korean Capital region and in Ankara (respectively 13% and 33%).

Definition

Employment in knowledge-oriented sectors is defined as employment in high-technology manufacturing sectors and knowledge-intensive services.

Employment in high-technology manufacturing sectors corresponds to the following ISIC Divisions/Groups/Classes: 2423 Manufacture of pharmaceuticals, medicinal chemicals and botanical products; 30 Manufacture of office machinery and computers; 32 Manufacture of radio, television and communication equipment and apparatus; 33 Manufacture of medical, precision and optical instruments, watches and clocks; 353 Manufacture of aircraft and spacecraft.

Employment in knowledge-intensive services includes employment in the following ISIC divisions: 61 Water transport, 62 Air transport, 64 Post and telecommunications, 65 Financial intermediation, except insurance and pension funding, 66 Insurance and pension funding, except compulsory social security, 67 Activities auxiliary to financial intermediation, 70 Real estate activities, 71 Renting of machinery and equipment without operator and of personal and household goods, 72 Computer and related activities, 73 Research and development, 74 Other business activities, 80 Education, 85 Health and social work and 92 Recreational, cultural and sporting activities.

Source

OECD Regional Database, *http://stats.oecd.org/WBOS*, theme: Regional Statistics.

See Annex B for more information on data sources and country related metadata.

Reference years and territorial level

2005; TL2

Data for Australia, Iceland, Mexico and Japan are not available at the regional level.

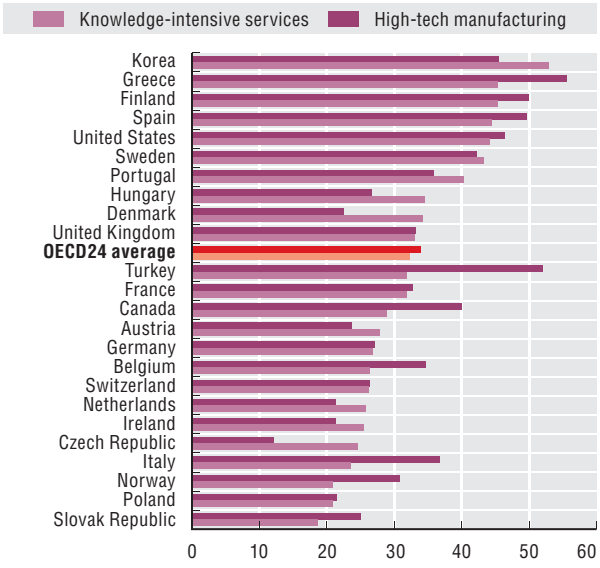
Figure notes

Figure 7.2: As a percentage of the country average.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

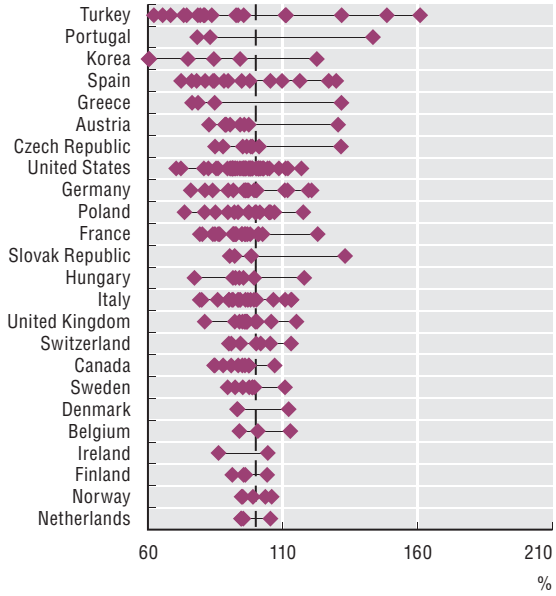
7.1 Concentration index of employment in high-tech manufacturing and knowledge-intensive services, 2005 (TL2)

Knowledge-intensive services are most concentrated in Korea and Greece.



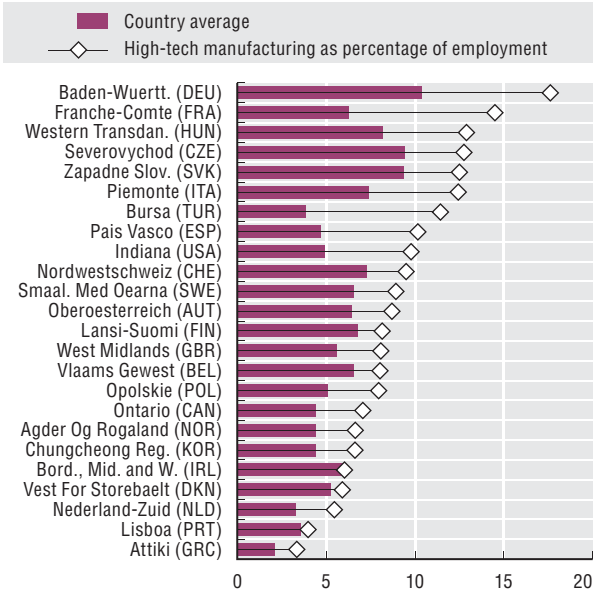
7.2 Range in TL2 regional knowledge-oriented sectors as a per cent of total employment, 2005

In several countries one region seems to be leading in the rate of knowledge-oriented employment.



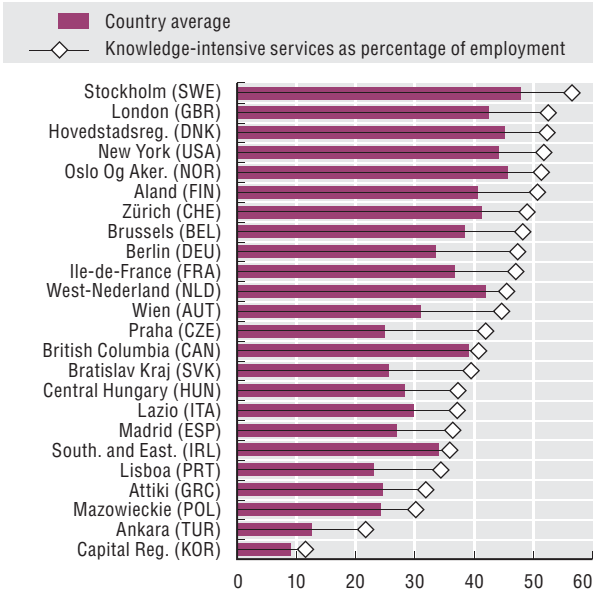
7.3 Regions with the highest percentage of high-tech manufacturing compared to the country average, 2005 (TL2)

Baden Wuerttemberg, Germany, has the highest rate of employment in high-tech manufacturing.



7.4 Regions with the highest percentage of knowledge-intensive services compared to the country average, 2005 (TL2)

Stockholm, Sweden, has the highest rate of employment in knowledge-intensive services.



StatLink http://dx.doi.org/10.1787/523706672511

7.5 High-tech manufacturing as percentage of total manufacturing: Asia and Oceania

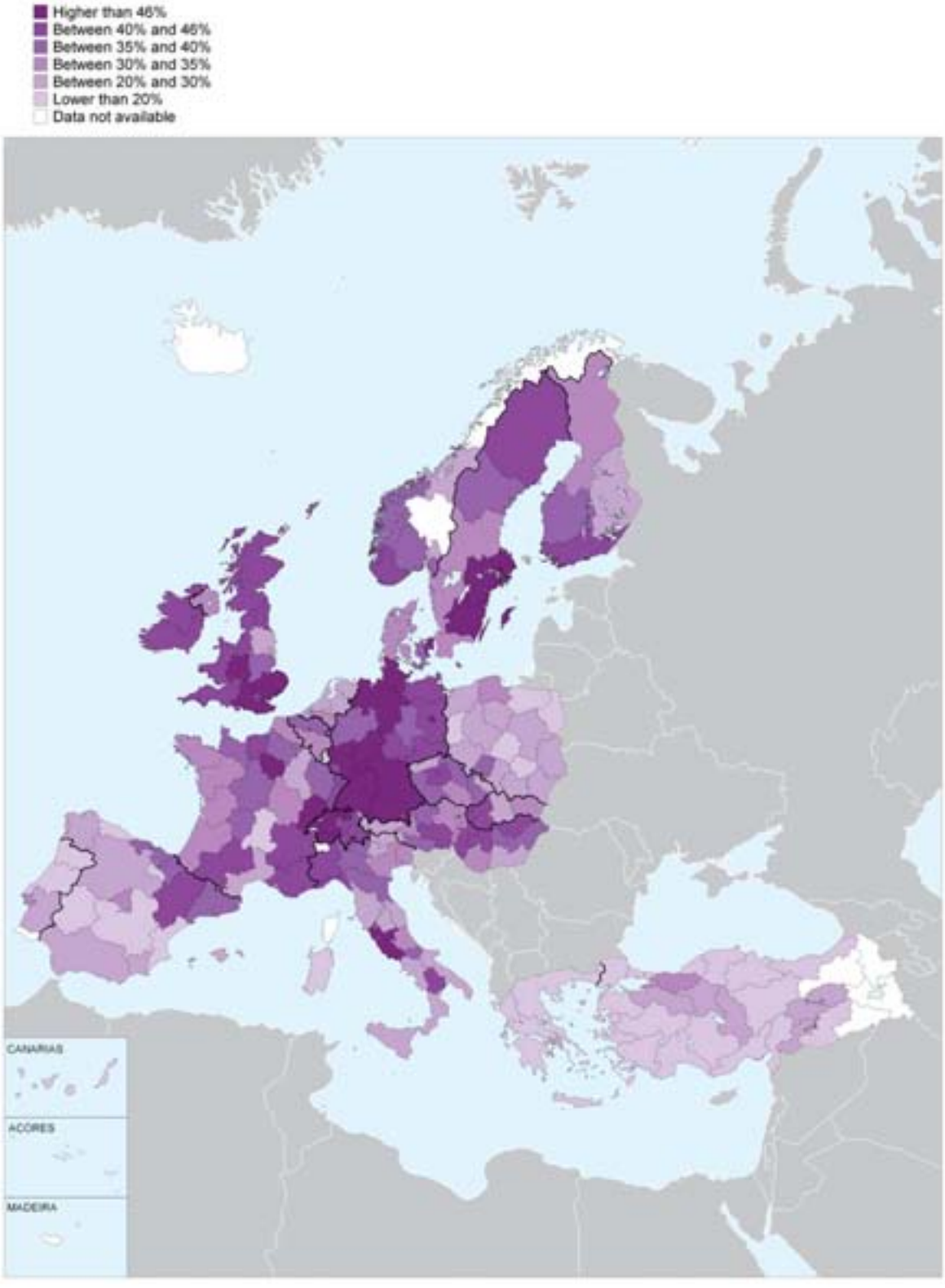
TL2 regions, 2005

StatLink http://dx.doi.org/10.1787/524541554125

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

7.6 High-tech manufacturing as percentage of total manufacturing: Europe

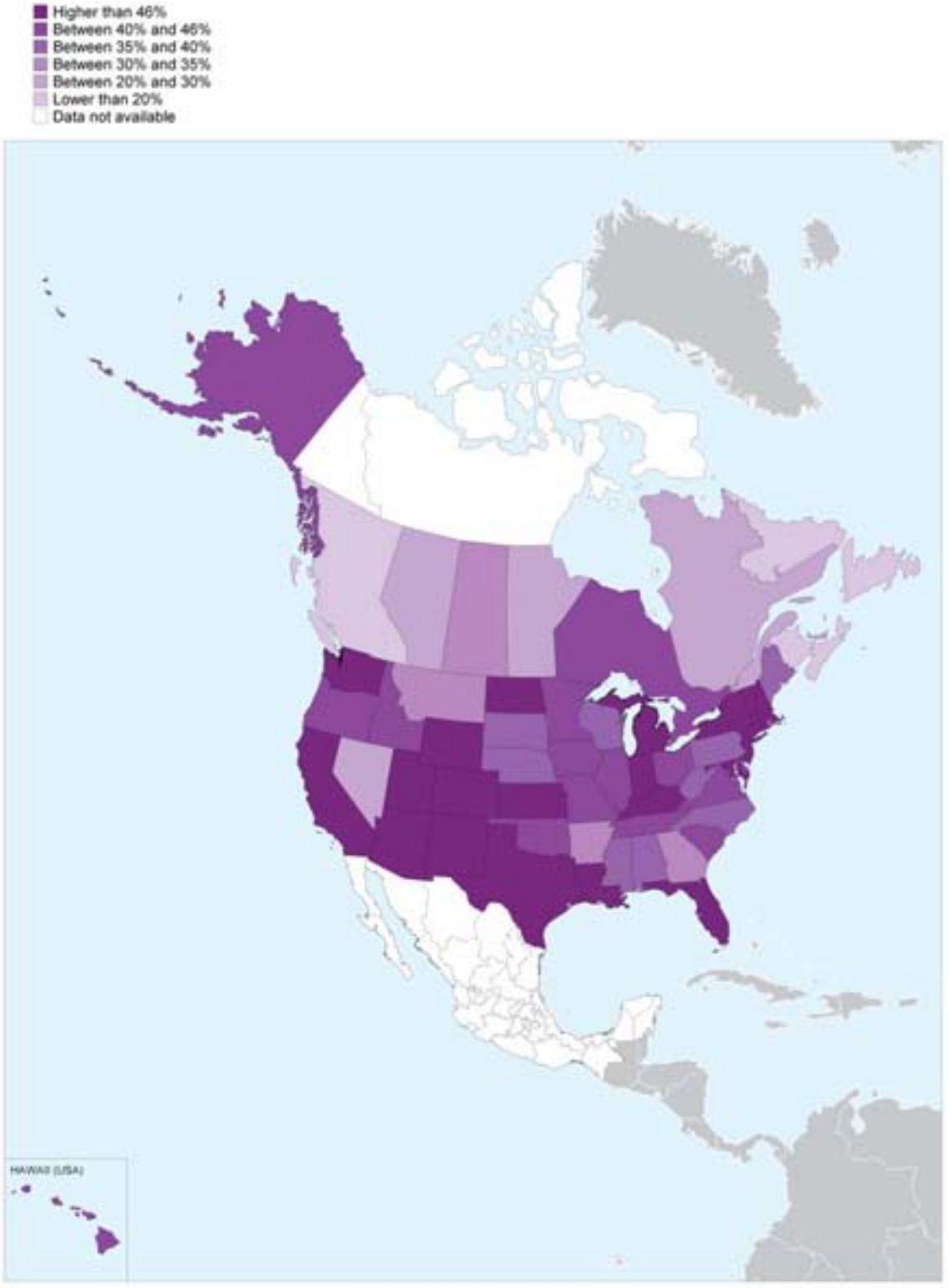
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524541554125

7.7 High-tech manufacturing as percentage of total manufacturing: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524541554125

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Regions rapidly specialising in knowledge-oriented sectors

A region's degree of specialisation in an industry is measured according to the Balassa-Hoover index which is computed as the ratio between the weight of an industry in a region and the weight of the same industry in the country. Values of the index above or below 1 reflect respectively a specialisation higher or lower than the national average.

Figures 7.8 and 7.9 show the regions increasing their specialisation the most between 1995 and 2005 for the high-tech manufacturing (HTM) and knowledge-intensive services (KIS) sectors.

Concerning high-tech manufacturing, with the exception of Zuid Netherland in the Netherlands, Vlaams Gewest in Belgium, Lansi Suomi in Finland and Border, Midland and Western in Ireland (compare with Figure 7.3), regions specialising faster in HTM over time are not the same showing the highest percentage of HTM in levels in 2005. Moreover about half of the fast-specialising regions displayed a specialisation index relatively low in 2005 (lower or equal to 1). In most OECD countries processes of regional catching up are taking place in the high-tech manufacturing sector (Figure 7.8).

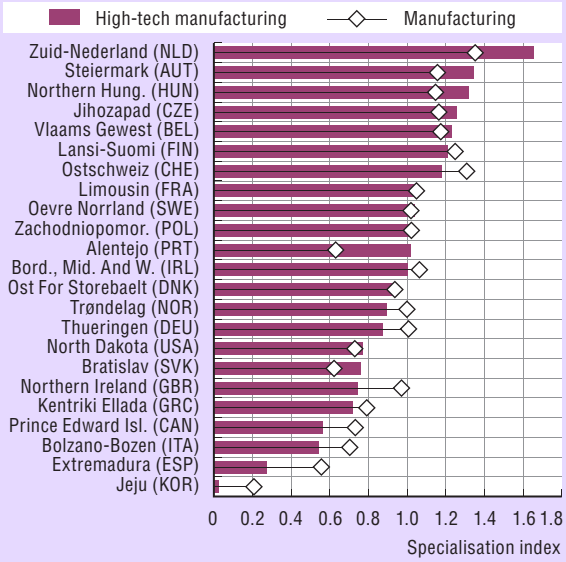
A pattern common to almost all the regions with a specialisation index in HTM lower than 1 is that they are more specialised in total manufacturing than HTM. These regions are likely going through the process of transformation of their production structure moving from traditional manufacturing into more technology-intensive manufacturing.

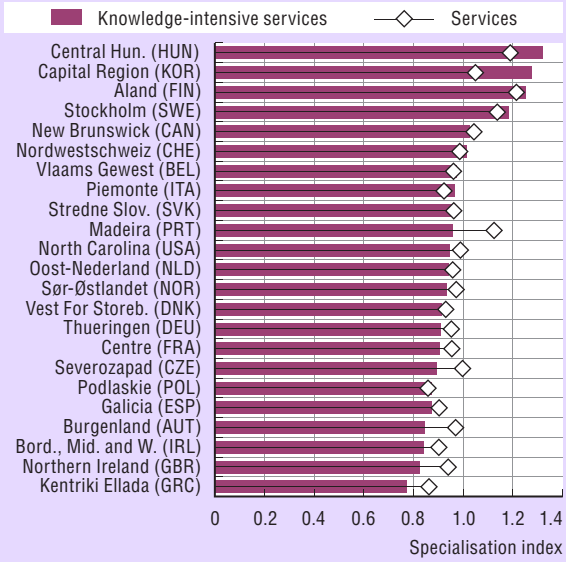
In KIS the only regions that are specialising faster in KIS and had the highest percentage of KIS employment in 2005 are Central Hungary in Hungary, the Capital region in Korea, Aland in Finland and Stockholm in Sweden (compare with Figure 7.4). The above mentioned regions are the only ones displaying a specialisation index higher than 1. All the other regions are fast-specialising but still not so specialised in KIS. Most of the fast-specialising regions display a specialisation index for total services higher than the index for knowledge-intensive services. These regions are moving from less knowledge-intensive services toward more specialised services.

7.8 Specialisation index in HTM and manufacturing in 2005 of the TL2 regions with the highest increase in specialisation in HTM from 1995 to 2005

7.9 Specialisation index in KIS and services in 2005 of the TL2 regions with the highest increase in specialisation in KIS from 1995 to 2005

Regional catching-up processes are taking place in the high-tech manufacturing and knowledge-intensive services sectors.





For the Czech Republic, Ireland, Norway and the Slovak Republic growth is calculated over the period 1998-2005, for Finland 1999-2005, for Hungary 1997-2005, for Poland 2004-06, for Switzerland 2001-05, for the United Kingdom 1996-2005.
Data for Australia, Iceland, Mexico and Japan are not available at the regional level.

StatLink http://dx.doi.org/10.1787/523706672511

II. REGIONS AS ACTORS OF NATIONAL GROWTH

8. Distribution of population and regional typology
9. Geographic concentration of population
10. Regional contribution to growth in national GDP
11. Regional contribution to change in employment
12. Geographic concentration of the elderly population
13. Geographic concentration of GDP
14. Geographic concentration of industries

Regions are actors of growth and have an impact on how their national economy performs. Natural and human resources tend to be concentrated and regions' abilities to exploit local factors, mobilise resources and create linkages varies, raising the issue of development capacity. The impact of concentration on national economic growth can be felt, with growth often driven by a few regions within a country. In 2005, 38% of the total output of the OECD member countries was generated by only 10% of their regions. Geography, economic opportunities and wider availability of services have reinforced the concentration of population and production, as has migration from rural to urban areas. Younger people tend to move from rural to urban areas, resulting in an increasing concentration of the elderly population in rural regions with implications on these regions capacity to provide adequate services. On the other hand, negative externalities such as congestion, quality of environment or inadequate supply of services, show that agglomerated economies are not necessarily the places for an efficient allocation of resources.

8. DISTRIBUTION OF POPULATION AND REGIONAL TYPOLOGY

Population is unevenly distributed among regions within and across countries. Regional population density in OECD countries varies from close to zero in some regions in Canada and Iceland to over 20 000 persons per km^2 in Paris (France) (Maps 8.4-8.6).

France, Korea and the United Kingdom show the largest regional variation in population density: the difference between the most and the least populated regions in these countries is higher than 10 000 people per km^2.

Paris was the region with the highest population density in France recording more than 20 000 persons per km^2; while the most populous region in Iceland, the Capital region, had only 179 persons per km^2 (Figure 8.1).

In 2005, almost half of the total OECD population (46%) lived in predominantly urban regions, which accounted for less than 6% of the total area. Concentration in urban regions was over 50%, in the Netherlands, Belgium, the United Kingdom, Australia, Japan, Italy, Canada and Portugal (Figure 8.3).

Predominantly rural regions accounted for one-fifth of total population (24%) and extended over 80% of the area. In Ireland, Finland, Sweden and Norway the share of national population in rural regions was more than two times (50% or more) higher than the OECD average (Figure 8.3).

In the past ten years, the population in urban regions has increased 8%. During the same period, the share of the national population living in urban regions increased in 17 countries, significantly in Turkey, New Zealand, Canada and Finland (more than two percentage points). The percentage of population living in intermediate regions increased in the past ten years mostly in Korea, Iceland, Hungary and Norway (more than one percentage point). An increase in the share of population living in rural regions, even if it occurred to a smaller scale than the one experienced in urban regions, occurred in Ireland, the United States, Belgium, Poland and the United Kingdom (Figure 8.2).

Definition

OECD has established a regional typology to take into account geographical differences and enable meaningful comparison between regions belonging to the same type. Regions have been classified as predominantly rural (PR), intermediate (IN) and predominantly urban (PU) on the basis of the per cent of population living in local rural units. First, a local unit is defined rural if its population density is below 150 inhabitants per square kilometre (the threshold is set at 500 inhabitants for Japan and Korea). Second, a TL3 region is classified as:

- Predominantly rural, if more than 50% of its population lives in rural local units.
- Intermediate, if less than 50% and more than 15% of its population lives in local units.
- Predominantly urban, if less than 15% of the population lives in rural local units.

Finally, if a predominantly rural region contains an urban centre larger than 200 000 inhabitants (500 000 for Japan and Korea) and contains at least 25% of the regional population, then the region is classified as intermediate. If an intermediate region contains an urban centre larger than 500 000 inhabitants (1 000 000 for Japan and Korea) and has at least 25% of the regional population, then the region is classified as predominantly urban.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex A for Regional grids and typology.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1995-2005; TL3

Further information

OECD (2007), *Regional Typology: Updated statistics*.

OECD (2006), *Competitive Cities in the Global Economy*.

OECD (2006), *The New Rural Paradigm: Policies and Governance*.

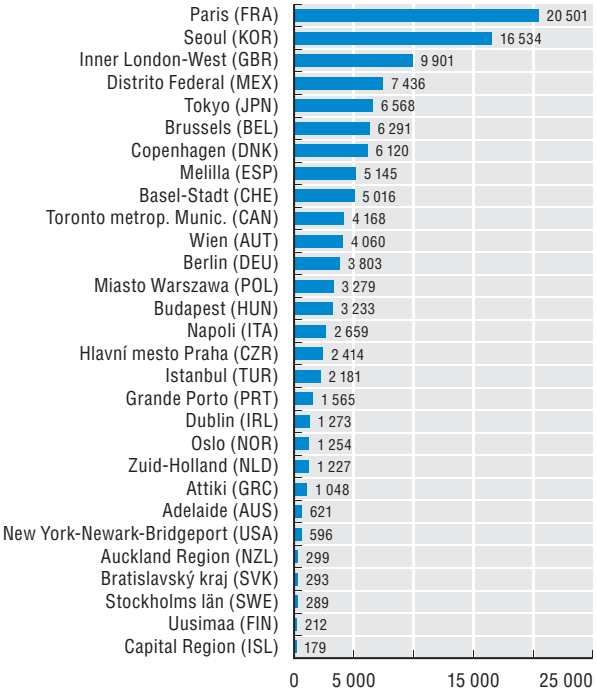
Figure notes

Figure 8.1: Distrito Federal (Mexico) includes the following delegations: Azcapotzalco, Coyoacan, Cuajimalpa de Morelos, Gustavo A. Madero, Iztacalco, Iztapalapa, Magdalena Contreras, Alvaro Obregon, Tlalpan, Xochimilco, Benito Juarez, Cuauhtemoc, Miguel Hidalgo, Venustiano Carranza (DF).

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

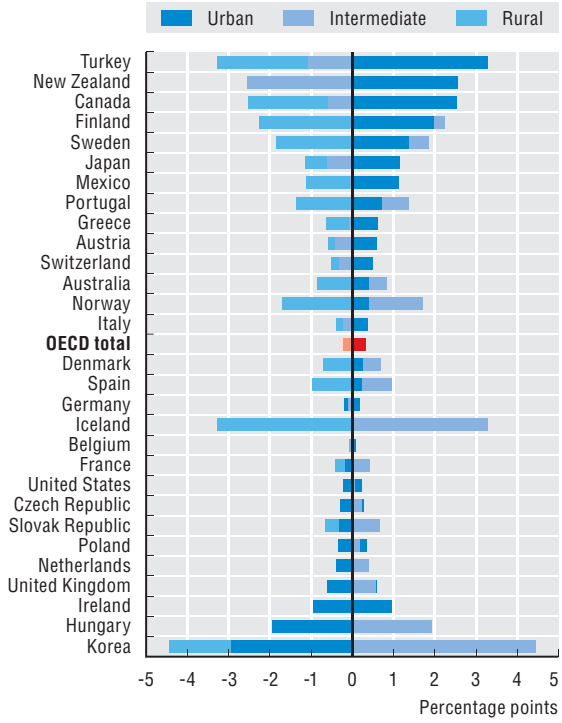
8.1 TL3 regions with the highest population density in each country (inhabitants per km^2), 2005

In 2005, Paris was the TL3 region with the highest population density in France.



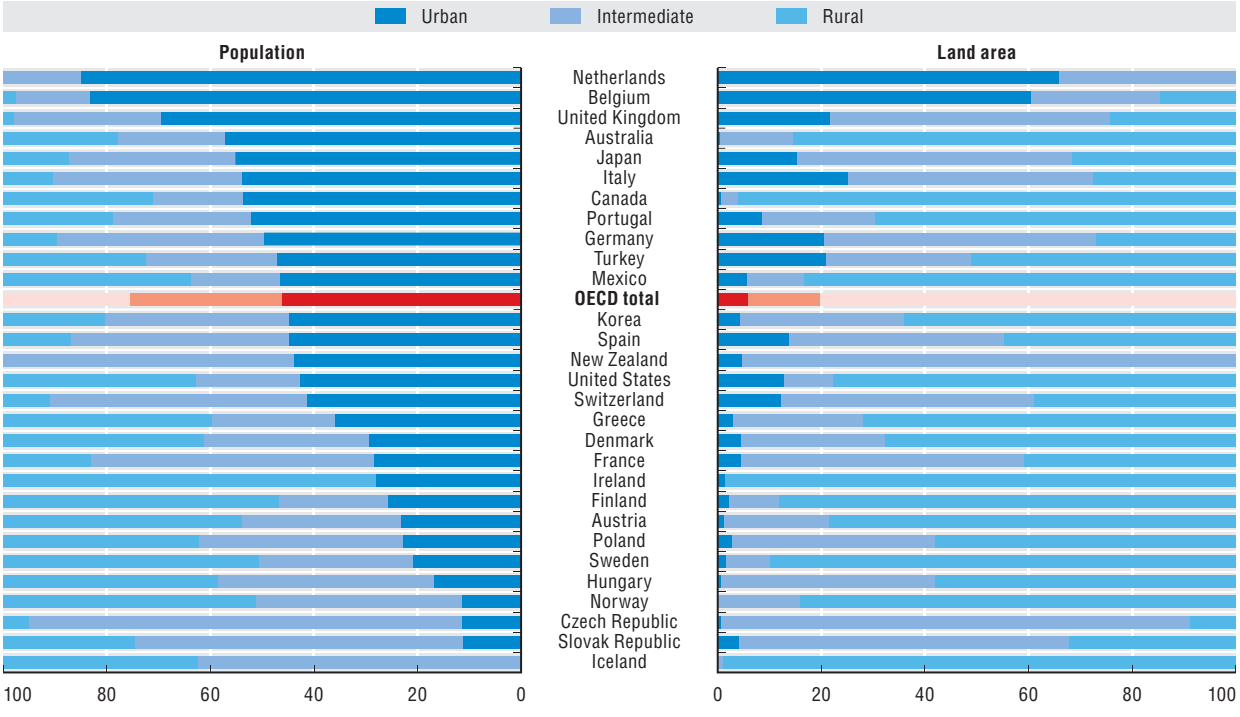
8.2 Countries ranked by percentage point change in the share living in PU TL3 regions, 1995 to 2005

Between 1995 and 2005, Turkey had the largest increase in the share of population living in urban regions.



8.3 Distribution of population and area across predominantly urban, intermediate and predominantly rural regions, 2005

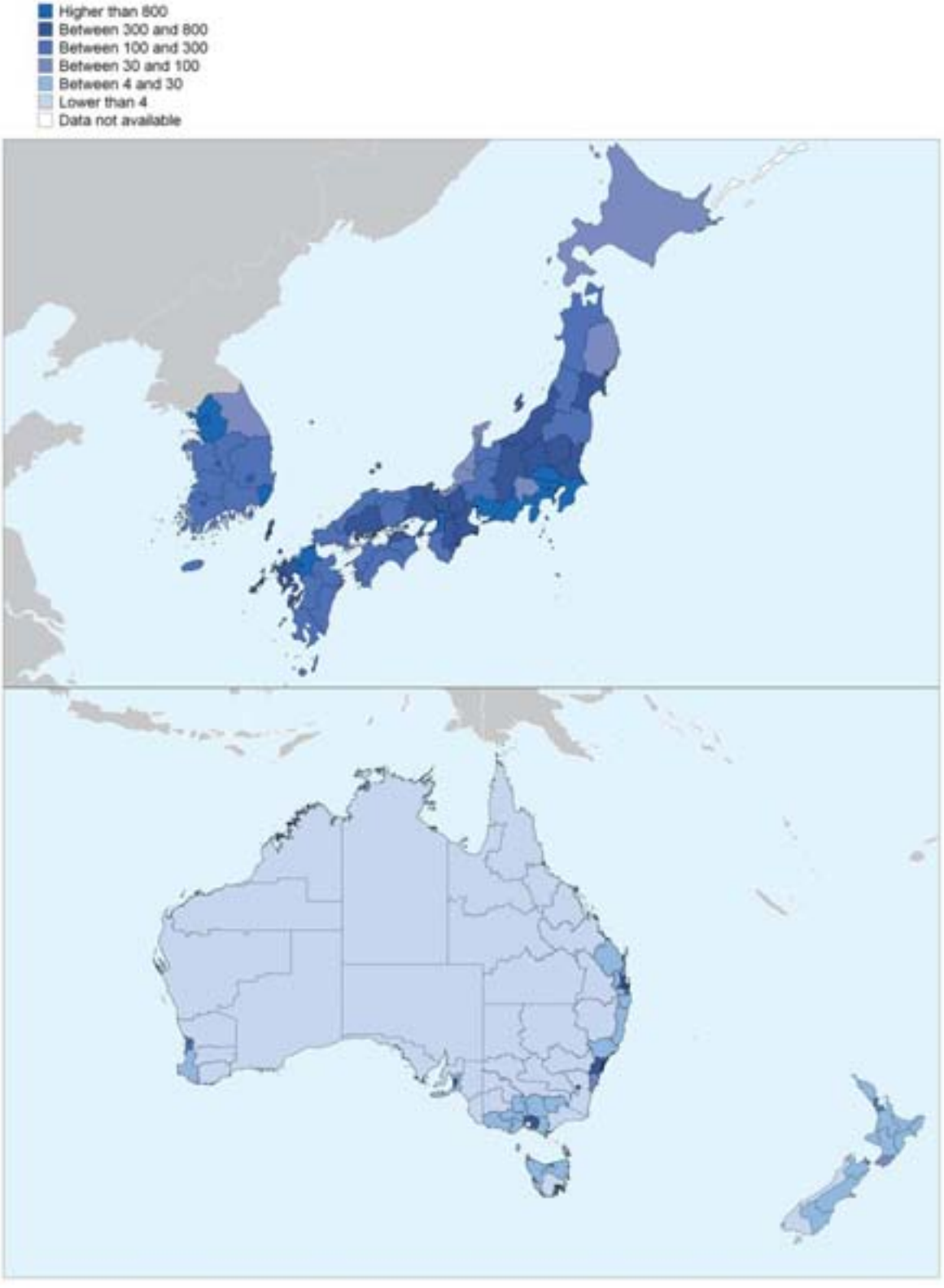
In 2005, 46% of the OECD population lived in urban regions which accounted for less than 6% of the total area.



StatLink http://dx.doi.org/10.1787/523707103346

8.4 Regional density population: Asia and Oceania

Inhabitants per km^2, TL3 regions, 2005

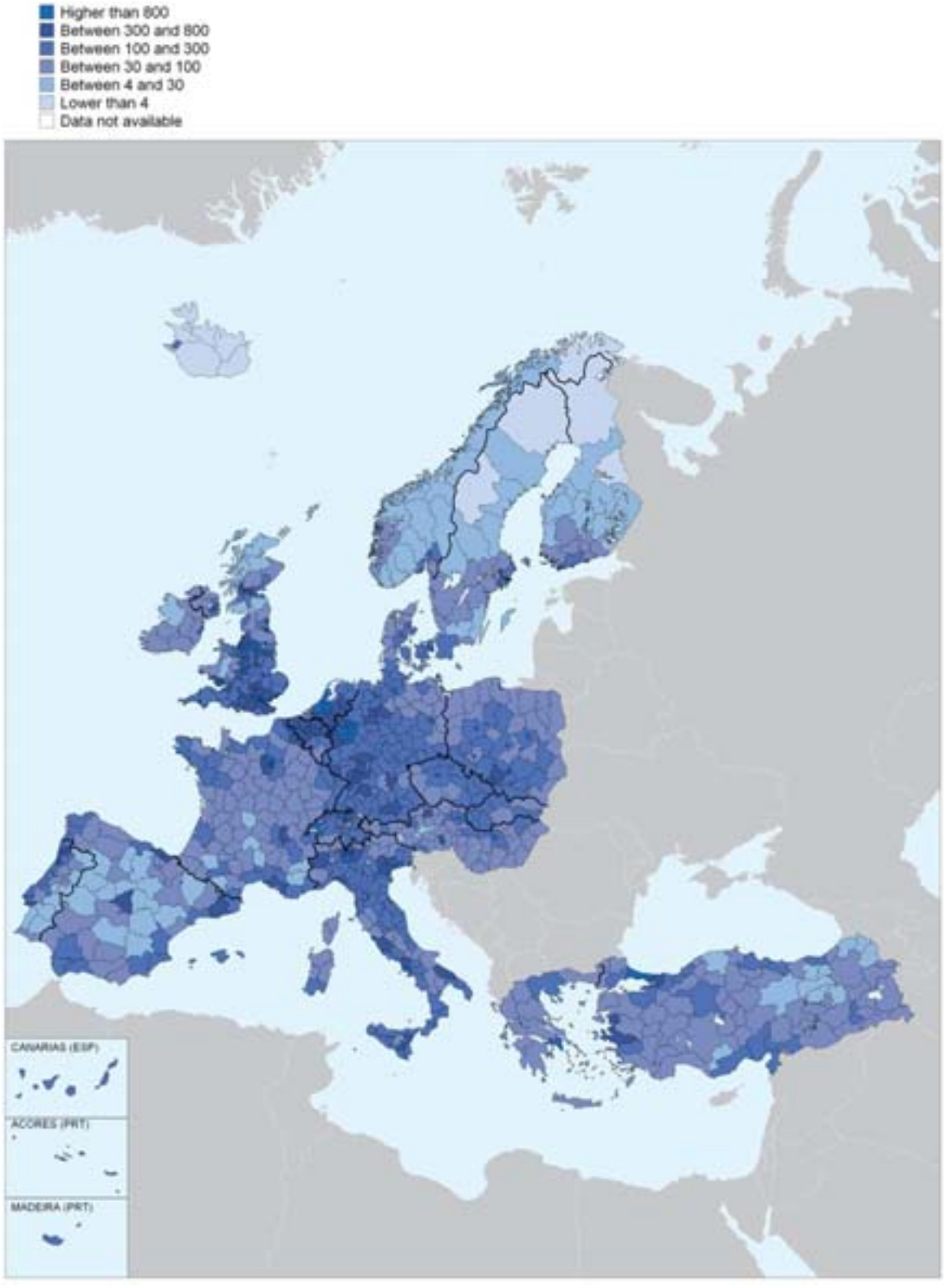


StatLink http://dx.doi.org/10.1787/524545251713

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

8.5 Regional density population: Europe

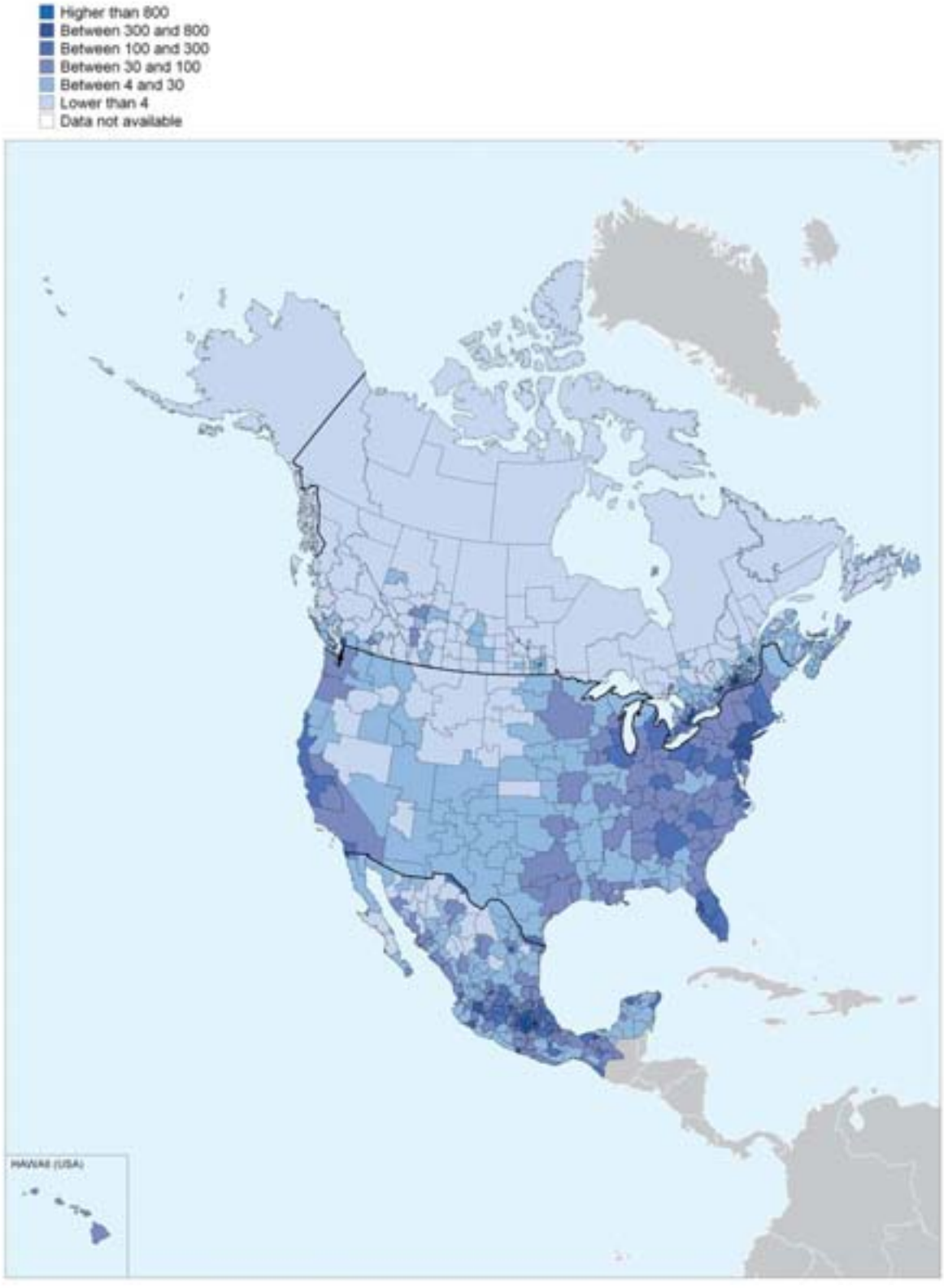
Inhabitants per km^2, TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524545251713

8.6 Regional density population: North America

Inhabitants per km^2; TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524545251713

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Population in large urban regions

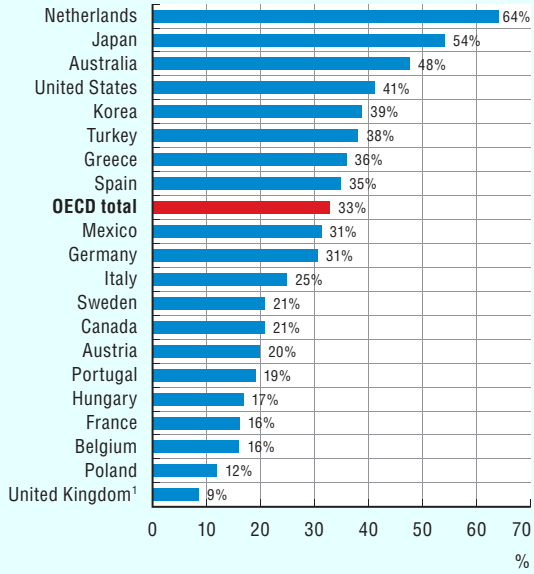
Population in OECD predominantly urban regions has registered an 8% increase over the past ten years. This change has also increased the weight of large urban regions, *i.e.* urban regions with at least 1.5 million inhabitants. The population in OECD countries living in large urban regions exceeded 383 million people in 2005, compared to just under 343 million ten years before.

In 2005, one-third of the OECD population lived in large urban regions. The importance of large urban regions varies among countries: more than 40% of national population lives in large urban regions in the Netherlands, Japan, Australia and the United States, while the figure is only 9% in the United Kingdom. Finally, ten OECD countries have no urban regions with more than 1.5 million inhabitants (Figure 8.7).

In large urban regions population growth has been faster than the growth of the total OECD population (1.5 times higher), suggesting that migration, aside from demographic dynamics, has affected the size of urban regions. Population growth within countries, though, has been quite varied. Compared to the national population growth rate, the population growth in large urban regions has been particularly intense in Germany (8 times higher), France and Sweden (4 times higher), Australia and Turkey (almost 3 times higher). On the contrary, both in Hungary and to a lesser extend Poland – where the total population has decreased in the past ten years – the decrease in large urban agglomerations has been faster (Figure 8.8).

8.7 Per cent of national population living in large urban TL3 regions, 2005

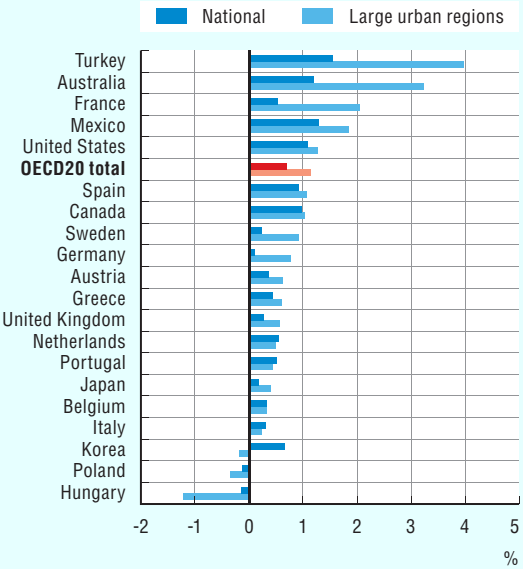
In the Netherlands, 64% of people lived in urban regions with more than 1.5 million inhabitants.



1. The share would be 12.4% if the TL3 regions of Inner London East (almost 1 080 thousand inhabitants) and Outer London South (1 166 thousand) were added.

8.8 Percentage yearly change in total population living in large urban TL3 regions and in the whole country; 1995 to 2005[1]

In Turkey, the population in large urban regions grew 4% annually from 1995 to 2005.



1. Poland 1999-2005.

StatLink http://dx.doi.org/10.1787/523707103346

In 2005, 10% of regions accounted for approximately 40% of the total population in OECD countries (Figure 9.1).

The geographic distribution of population is explained by differences in climatic and environmental conditions which discourages human settlement in some areas and favours population concentration around a few urban centres. This pattern is reinforced by the increased availability of economic opportunities and wider availability of services stemming from urbanization itself.

During the past ten years population in OECD countries grew, on average, 1% per year reaching almost 1 167 million in 2005. According to the OECD classification, regional population ranges from about 300 inhabitants in Australian Capital Territory (Australia) to almost 23 million in the region of New York-Newark-Bridgeport (United States).

The concentration of population was highest in Australia, Canada, Iceland and the United States, where more than half of the population lived in 10% of regions (Figure 9.1).

The geographic concentration index offers a picture of the spatial distribution of the population within a country, as it compares the population weight and the area share over all the regions in a given country. The index shows that Canada, Australia and Iceland were the countries with the most uneven population distribution; in contrast geographic concentration was lowest in the Slovak Republic, the Czech Republic, Hungary and Belgium.

In the past ten years, the geographic concentration of population has increased significantly in Iceland, Turkey, New Zealand, Korea, Norway and Finland (more than two times higher than the OECD average), while slightly decreased in the Czech Republic, the Netherlands, the United Kingdom, the Slovak Republic and Belgium (Figure 9.2).

The most populated region in each country ranges from 23 million inhabitants in the region of New York (includes Newark and Bridgeport – United States) to 187 000 in the Capital Region of Iceland. In ten countries more than one-fifth of the national population is concentrated in the most populated region. The per cent of national population living in the most populated region ranges from 3% in Inner London East in the United Kingdom to 62% in the Capital Region of Iceland (Figure 9.3).

Definition

The total population of a given region can be either the annual average population or the population at a specific date during the year considered.

OECD has classified regions within each member country to facilitate comparability at the same territorial level. The classification is based on two territorial levels: the higher level (TL2) consists of 335 large regions and the lower level (TL3) consists of 1 681 small regions. These two levels are officially established and are used as a framework for implementing regional policies in most countries.

The geographic concentration index offers a picture of the spatial distribution of the population within each country, as it compares the population weight and the land area weight over all TL3 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration of population. International comparisons of the index can be affected by the different size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1995-2005; TL3

Further information

Territorial grids, *www.oecd.org/gov/regional/statisticsindicators*.

Figure notes

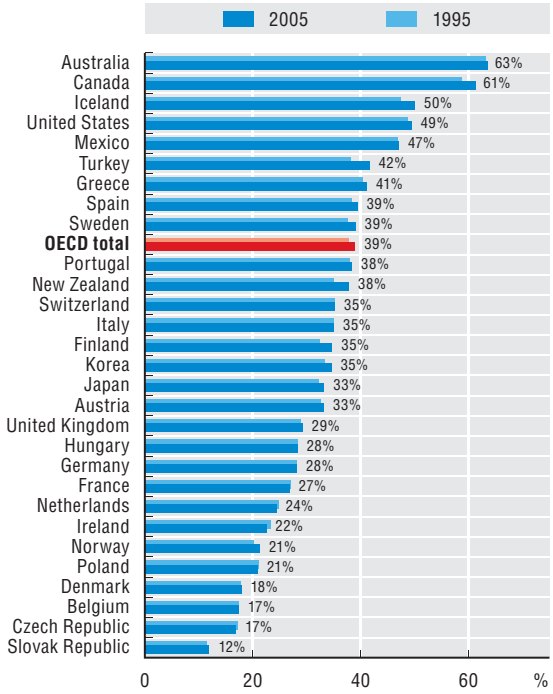
Figures 9.1 and 9.2: Available data: New Zealand 1996-2005.

Figure 9.3: Distrito Federal (Mexico) includes the following delegations: Azcapotzalco, Coyoacan, Cuajimalpa de Morelos, Gustavo A. Madero, Iztacalco, Iztapalapa, Magdalena Contreras, Alvaro Obregon, Tlalpan, Xochimilco, Benito Juarez, Cuauhtemoc, Miguel Hidalgo, Venustiano Carranza (DF).

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

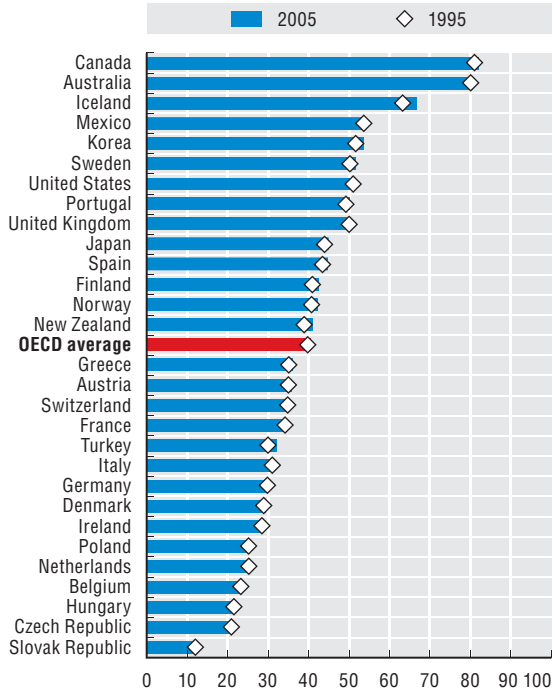
9.1 Per cent of national population living in the 10% of the TL3 regions with the largest population

Almost 40% of OECD population lived in only 10% of regions in 2005.



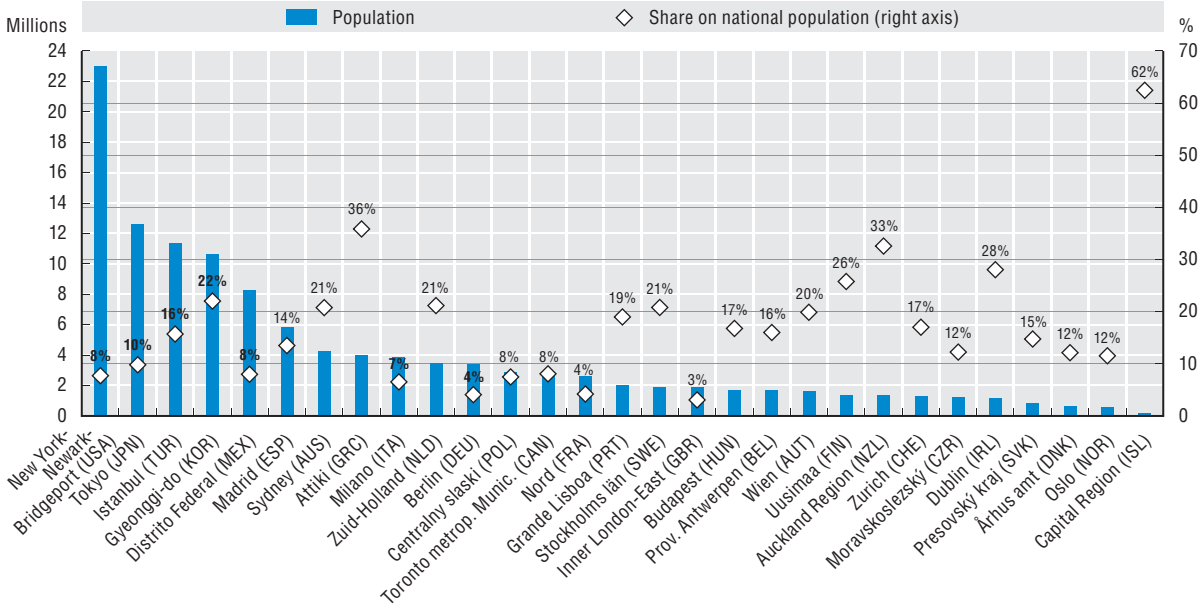
9.2 Geographic concentration index of population (TL3 regions)

Population was most concentrated relative to land area in Canada, Australia and Iceland.



9.3 Largest TL3 region within each country when ranked by population size, 2005

In 2005, New York – Newark – Bridgeport was the largest TL3 region in the US, representing 8% of the US population.



StatLink http://dx.doi.org/10.1787/523746082318

10. REGIONAL CONTRIBUTION TO GROWTH IN NATIONAL GDP

Economic performance varies significantly among OECD regions. In fact, the difference in gross domestic product (GDP) growth rates within countries over the period 1995-2005 is almost three times larger (17 percentage points) than the difference across OECD countries (6 percentage points).

Between 1995 and 2005 GDP in OECD countries grew at an average annual rate of 2.7% in real terms and slowed down by one percentage point in the last five years compared to 1995 to 2000 (Figure 10.1).

During the same period, differences in growth rates among regions in the same country were larger than 6 percentage points within Turkey, Poland, Hungary, Greece and the United Kingdom suggesting that national performance has been driven by the dynamism of a limited number of regions (Figure 10.2).

On average 44% of the total increase in OECD GDP has been driven by 10% of regions during 1995-2005. In Greece, almost all the increase in the national GDP is accounted for by the Attiki region. The regional contribution to growth of the 10% fastest growing regions was high (above 50% of GDP growth) also most notably in Sweden, Hungary, Finland, Italy and Japan (Figure 10.3).

Among the 932 regions considered, only 21 in 6 countries, Austria, Finland, Germany, Greece, Italy and the United Kingdom, experienced a decline in total GDP between 1995 and 2005.

Countries experienced different pattern of growth. While growth in Hungary, Poland and Korea occurred with large regional variations, Ireland, the Slovak Republic and Australia displayed a growth rate higher than the OECD average and small regional variations (Figure 10.2).

From 1995 to 2005 the top 20 regions in GDP growth are spread across countries. All regions in Ireland performed among the top 20 OECD regions, suggesting that growth at the national level can be sustained by a balanced exploitation of regional assets or national growth can benefit many regions across a country. For other countries like Korea and Hungary, national growth seems more dependent on the assets of specific regions (Figure 10.4).

Definition

Gross domestic product (GDP) is the standard measure of the value of the production activity (goods and services) of resident producer units. The regional GDP is measured according to the definition of the 1993 System of National Accounts. To make comparisons over time and across countries, it is expressed at constant prices (year 2000), using the OECD deflator and then it is converted into USD purchasing power parities (PPPs) to express each country's GDP into a common currency.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

OECD deflator and purchasing power parities, *http://dotstat/wbos/*, Reference series.

National values, *http://dotstat/wbos/*, National accounts.

Reference years and territorial level

1995-2005; TL3

Australia, Canada, Mexico and United States only TL2.

Regional GDP is not available for Iceland and Switzerland.

Figure notes

Figure 10.1: Constant 2000 GDP PPP. Own calculations from OECD National Accounts.

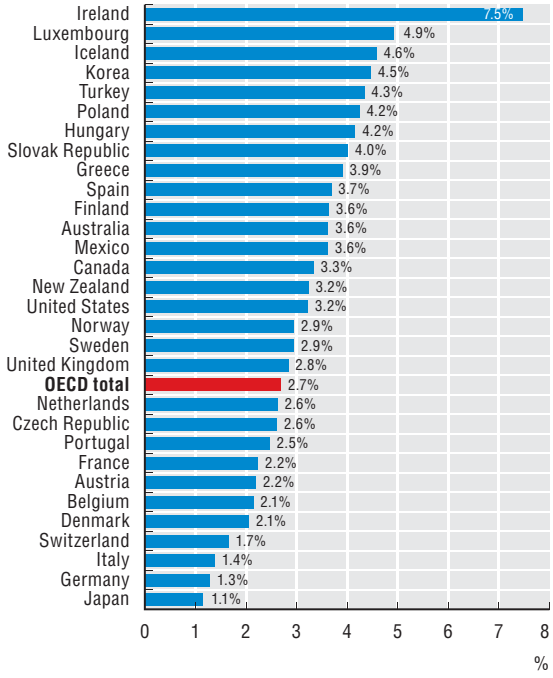
Figures 10.2 to 10.4: Available data: Italy 2000-05; Mexico 1995-2004; New Zealand 2000-03; Turkey 1995-2001 and the United States 1997-2005.

Figures 10.3 and 10.4: Turkey is excluded for lack of GPD data for comparable years.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

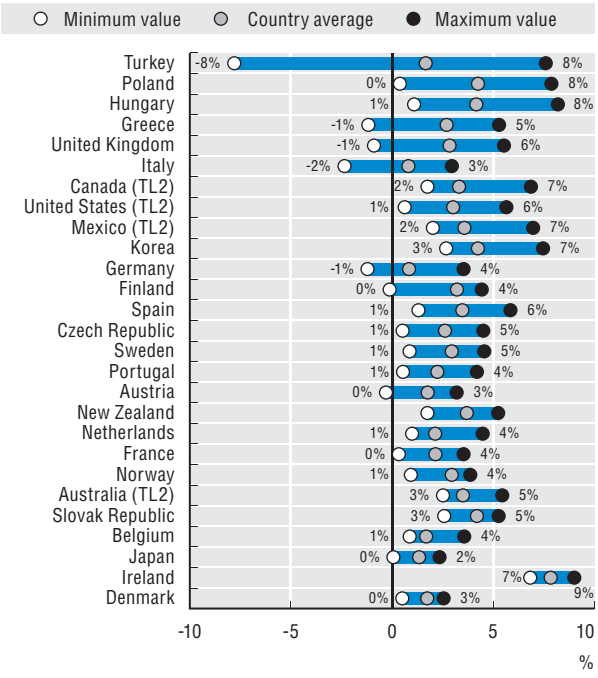
10.1 National GDP annualized rates of growth, 1995-2005

Between 1995 and 2005, GDP grew 7.5% per year in Ireland and in Japan 1.1%.



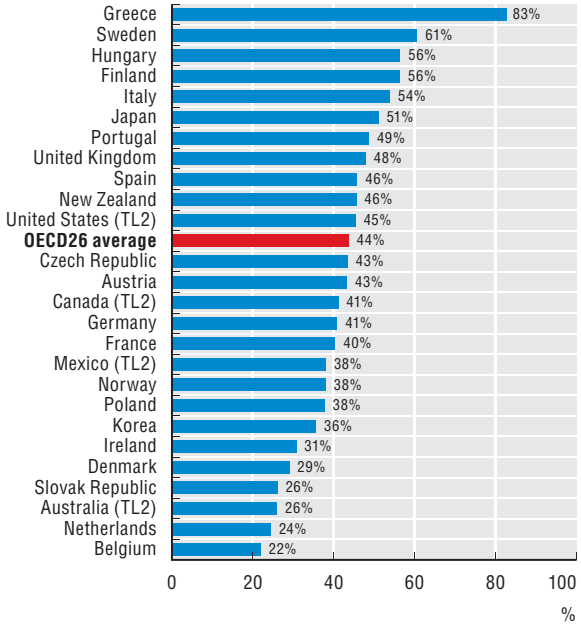
10.2 Countries ranked by size of difference in TL3 regional annual GDP growth rates, 1995-2005

Over 1995-2005, Turkey had the widest regional differences in GDP growth.



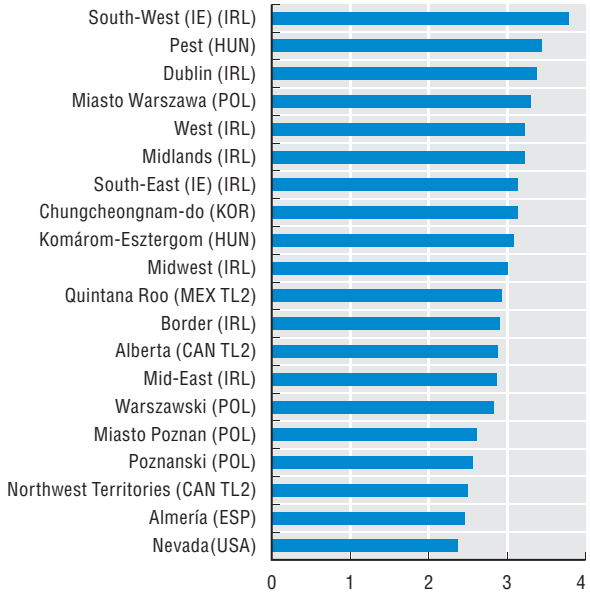
10.3 Per cent of national GDP increase contributed by the top 10% of TL3 regions, ranked by regional increase, 1995-2005

44% of the increase in total GDP in OECD countries between 1995 and 2005 was driven by 10% of regions.



10.4 Index of growth of the fastest growing TL3 regions (OECD index equals 1), 1995-2005

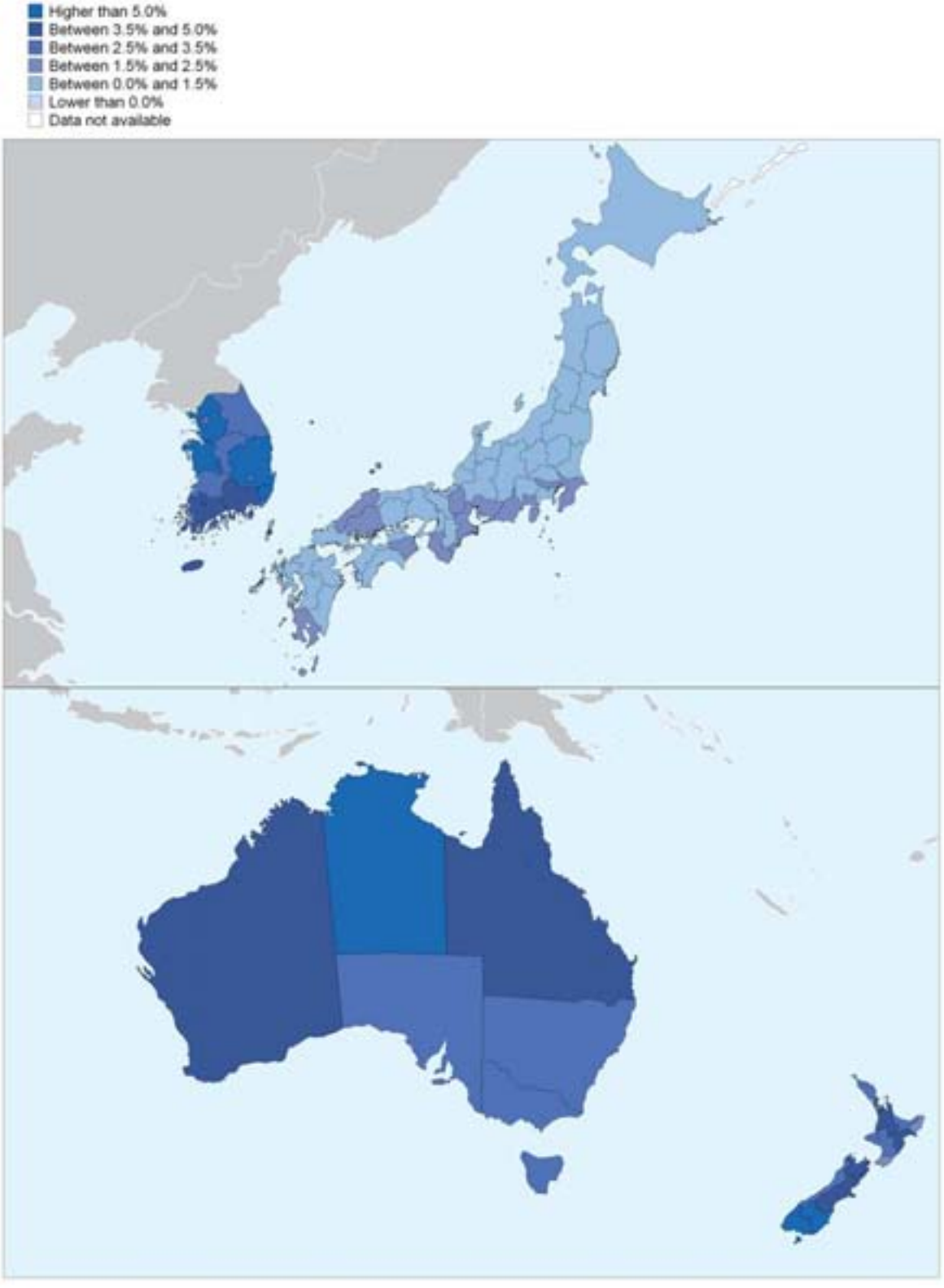
Across all OECD regions, the South-West region of Ireland grew at the fastest rate over 1995-2005.



StatLink http://dx.doi.org/10.1787/523755430781

10.5 Regional GDP growth: Asia and Oceania

Average annual growth rate (constant 2000 USD PPP), TL3 regions, 1995-2005

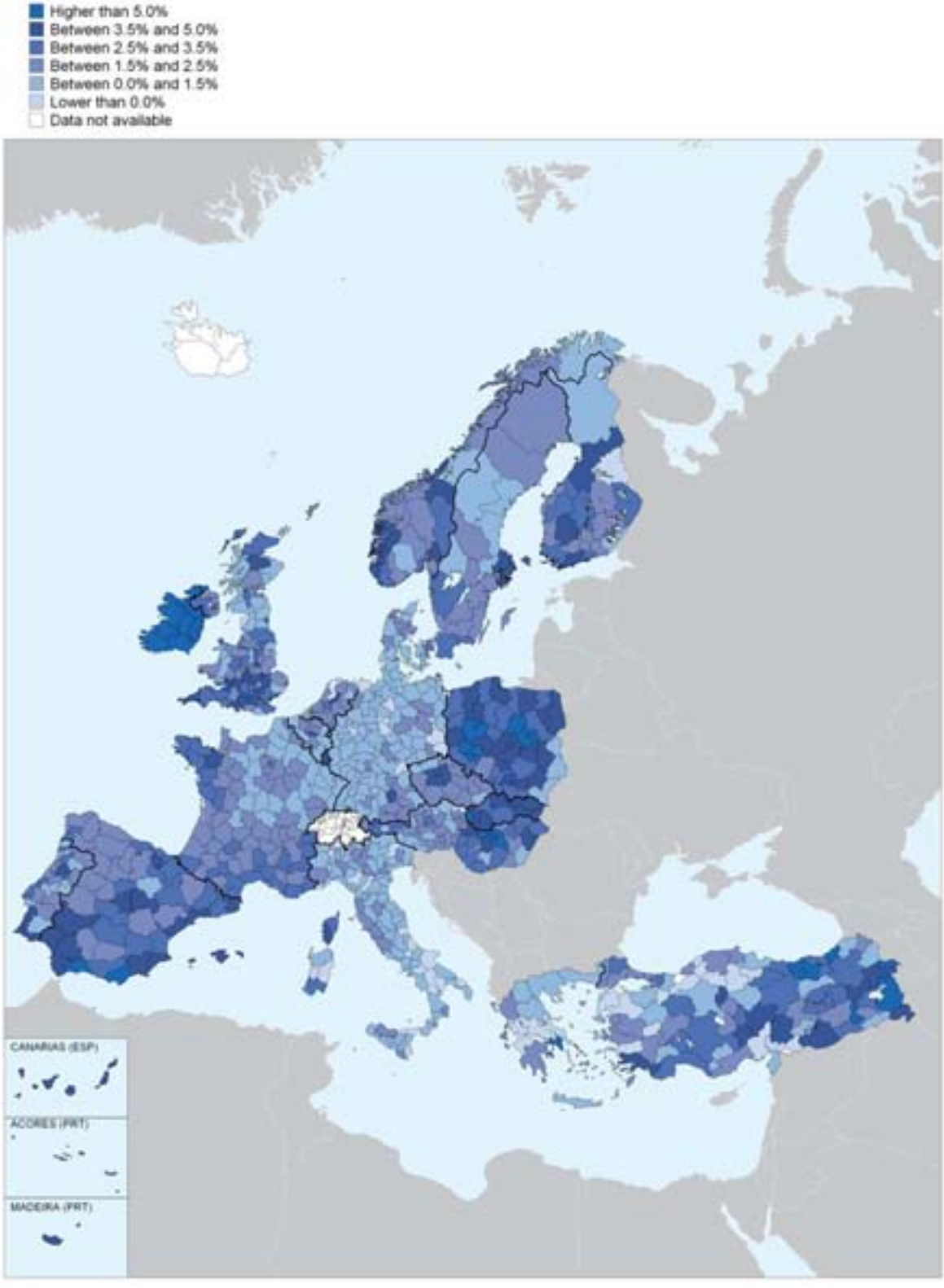


StatLink http://dx.doi.org/10.1787/524611175371

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

10.6 Regional GDP growth: Europe

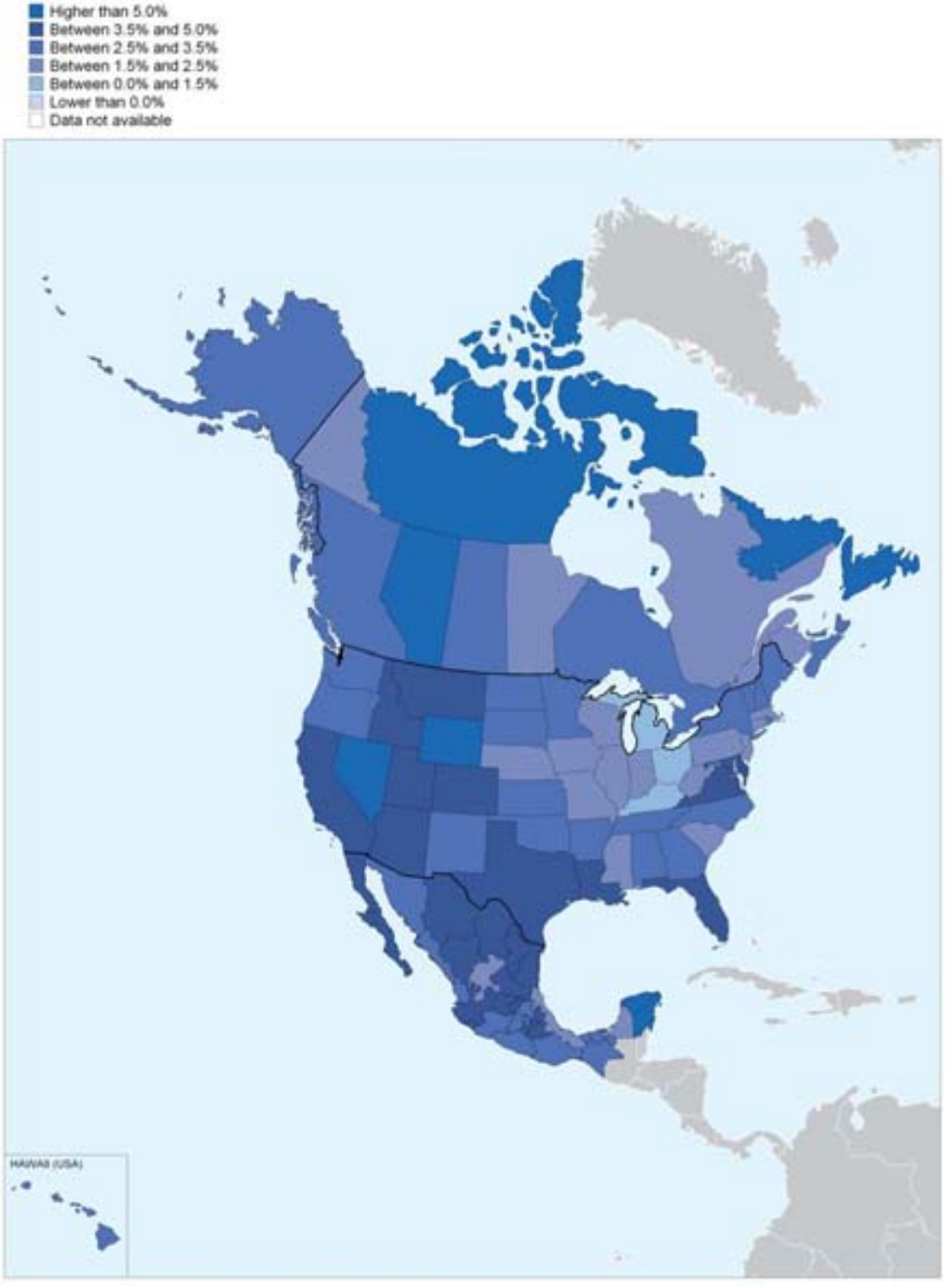
Average annual growth rate (constant 2000 USD PPP), TL3 regions, 1995-2005



StatLink http://dx.doi.org/10.1787/524611175371

10.7 Regional GDP growth: North America

Average annual growth rate (constant 2000 USD PPP), TL2 regions, 1995-2005



StatLink http://dx.doi.org/10.1787/524611175371

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

GDP per capita growth trends in predominantly urban and predominantly rural regions

In the period 1995-2005, predominantly urban (PU) regions grew faster than intermediate (IN) and predominantly rural (PR) regions. Anyhow, this pattern has been very different across countries: PU regions in Greece, Sweden and Hungary grew on average at a rate of more than 2 percentage points higher than PR regions. In Korea, Turkey and Germany, on the contrary, PR regions grew on average faster than PU regions even if by a small difference.

When looking at the GDP per capita, the gap between PR and PU regions in GDP per capita did not narrow over the past ten years. In 2005, as in 1995, the GDP per capita in PU regions exceeded the OECD average by 20%; while in PR regions GDP per capita was around 85% of the OECD average.

Importantly, among regions with GDP per capita below the OECD average in 1995, a majority of regions converged to the OECD average GDP per capita (their growth in the 1995 to 2005 period was above the OECD average). The degree of convergence is similar in each type of region: 61% of PR, 60% of IN and 62% of PU (Table 10.8).

10.8 Share of regions by OECD average GDP per capita in 1995 and OECD average growth rate 1995-2005[1]

78% of intermediate regions with GDP per capita above the OECD average in 1995 were below the OECD average in 2005.

Rural regions

GDP per capita, 1995	GDP growth 1995-2005: Below OECD average (%)	GDP growth 1995-2005: Above OECD average (%)	Total (%)
Below OECD average	39	61	100
Above OECD average	66	34	100

Intermediate regions

GDP per capita, 1995	GDP growth 1995-2005: Below OECD average (%)	GDP growth 1995-2005: Above OECD average (%)	Total (%)
Below OECD average	40	60	100
Above OECD average	78	22	100

Urban regions

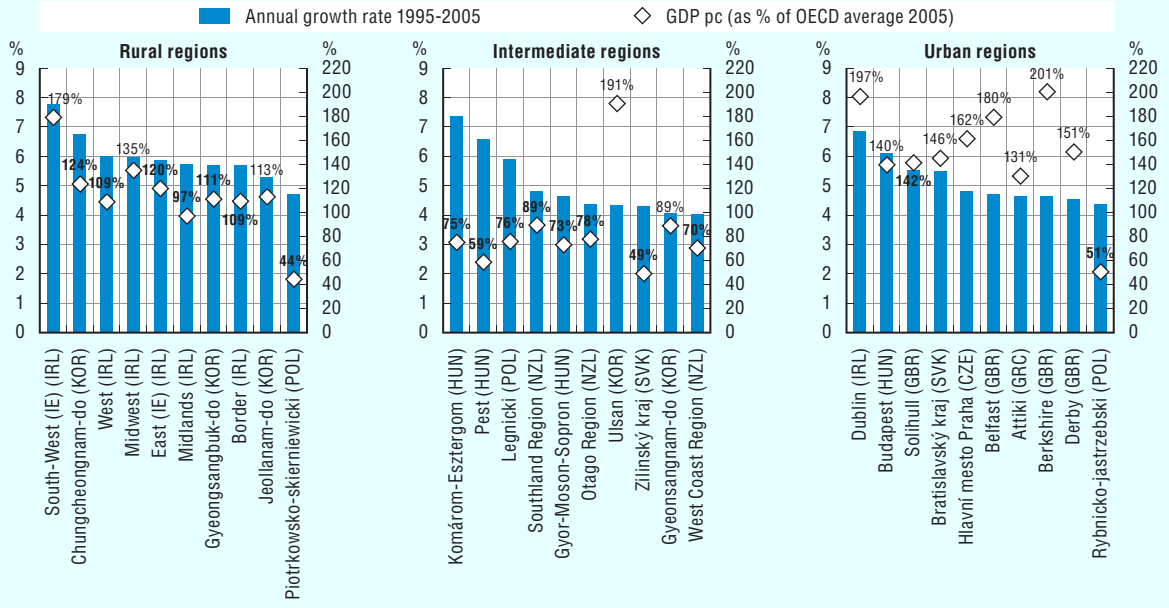
GDP per capita, 1995	GDP growth 1995-2005: Below OECD average (%)	GDP growth 1995-2005: Above OECD average (%)	Total (%)
Below OECD average	38	62	100
Above OECD average	66	34	100

Equally importantly, 70% of the 395 regions with GDP per capita above the OECD average in 1995 grew less than the OECD average in the period 1995-2005. In this group of regions, the typology marks a difference for in regions: 78% of IN regions with GDP per capita above the average in 1995 end up with a GDP per capita below the OECD average in 2005, the same was true for 66% of PR and PU regions (Table 10.8).

The top-performing regions in terms of growth of GDP per capita displayed similar rates in the period 1995-2005, regardless of regional typology (Figure 10.9).

10.9 Top regions by growth rate of regional GDP per capita 1995-2005 (left axis) and regional GDP per capita as a per cent of OECD GDP per capita in 2005 (right axis)[1]

In 1995-2005, top performing regions had growth rates in GDP per capita of 4-8% per year.



1. Only TL3 regions are included, therefore Australia, Canada, Mexico and the United States are excluded. Turkey is excluded for lack of GPD data for comparable years. Italy and Poland, data for 2000-05.

StatLink http://dx.doi.org/10.1787/523755430781

11. REGIONAL CONTRIBUTION TO CHANGE IN EMPLOYMENT

Differences in employment growth within countries are larger than across countries. During the period 1999-2006, international differences in annual employment growth rates across countries were as large as 4.4 percentage points, ranging from –0.2% in Poland to 4.2% in Spain (Figure 11.1).

Over the same period, differences in regional employment growth rates across regions within Poland, Mexico and Spain were above 7 percentage points. In Italy, the United States, Korea, France and Canada, these differences were smaller but still significant (above 5 percentage points). Only in Belgium, Denmark, Switzerland and Norway did national employment growth reflect a more even pattern of regional growth (Figure 11.2).

Wide differences in regional employment growth rates were experienced both in countries with high employment growth (for example Spain) and low or negative employment growth (for example Poland).

Employment creation at the national level appears largely due to a small number of regions. On average, 10% of OECD regions accounted for 47% of overall employment creation in OECD countries between 1999 and 2006. The regional contribution to national employment creation was particularly pronounced in certain countries. In Greece, the United States and Sweden more than 60% of the employment growth was spurred by 10% of regions (Figure 11.3).

The pattern is similar for decreases in employment. On average, 54% of job losses in OECD countries between 1999 and 2006 were concentrated in only 10% of regions.

Changes in national employment, therefore, result from the difference between the creation of new jobs in some regions and the decline of employment in others. This suggests that mobility of labour from declining regions to growing regions can contribute to national job growth. At the same time, labour market policies to promote total employment growth and skill enhancement need to explicitly address regional factors.

Among the 20 fastest employment growing regions there were 17 Spanish regions (Figure 11.4), of which twelve were intermediate, four predominantly urban and one predominantly rural.

On average employment in OECD predominantly rural regions grew more slowly than in predominantly urban and intermediate regions, even though in eight countries, growth in employment was highest in a rural region.

Definition

Employed persons are all persons who during the reference week of the survey worked at least one hour for pay or profit, or were temporarily absent from such work. Family workers are included.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

National data, *http://dotstat/wbos/*, OECD Annual Labour Force Statistics Database.

Reference years and territorial level

1999-2006; TL3

Mexico TL2 regions

Regions in Australia and Canada are grouped differently than TL3 regions, labelled non official grids – NOG (see Annex A).

Further information

ILO Guidelines, *http://ilo.org*.

OECD (2002-07), *Babies and Bosses: Reconciling Work and Family Life*, series.

Figure notes

Figure 11.1: *Source:* OECD Annual Labour Force Statistics Database.

Figure 11.2: Turkey is excluded for lack of data for comparable years. Available data: Iceland 1999-2005; Mexico (TL2) 2000-06.

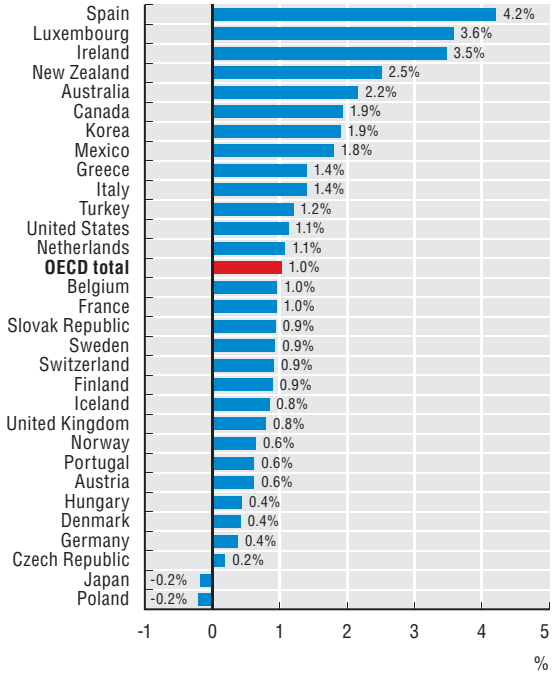
Figure 11.3: Only countries with national positive growth of employment are included. Turkey is excluded for lack of data for comparable years. Available data: Iceland 1999-2005; Mexico (TL2) 2000-06.

Figure 11.4: OECD index equals 1.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

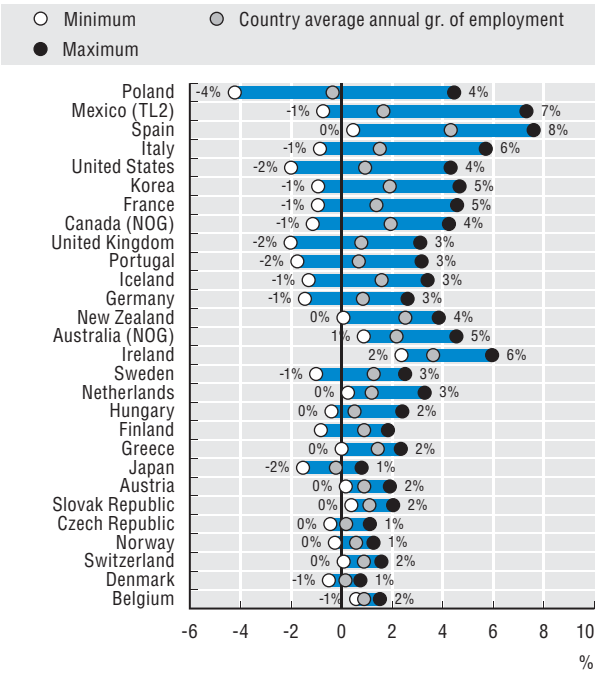
11.1 National annualised rate of employment growth, 1999-2006

Between 1999 and 2006 in Spain the employment grew 4.2% per year while in Poland and Japan decreased –0.2% per year.



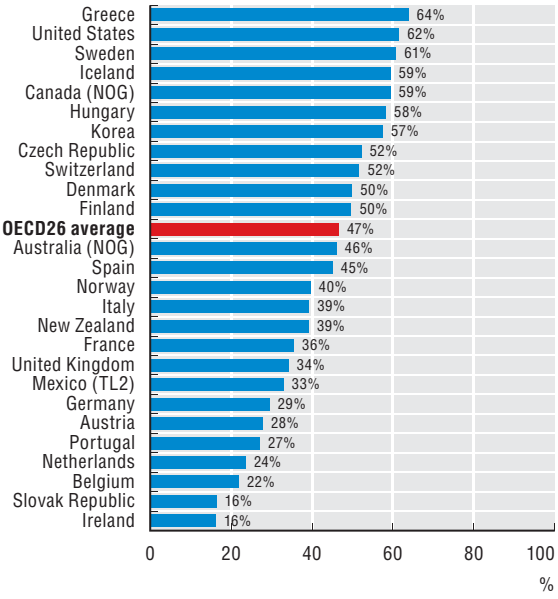
11.2 Countries ranked by size of difference in TL3 regional annual employment growth, 1999-2006

Over 1999-2006, Poland displayed the widest difference in regional employment growth.



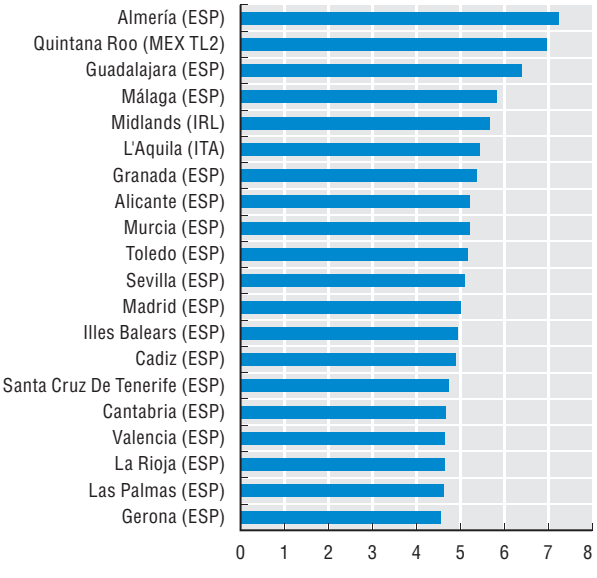
11.3 Per cent of national employment increase contributed by the top 10% of TL3 regions, ranked by regional increase, 1999-2006

47% of the increase in total employment in OECD countries, 1999-2006, was driven by 10% of regions.



11.4 Index of employment growth of the top fastest growing TL3 regions (OECD index equals 1), 1999-2006

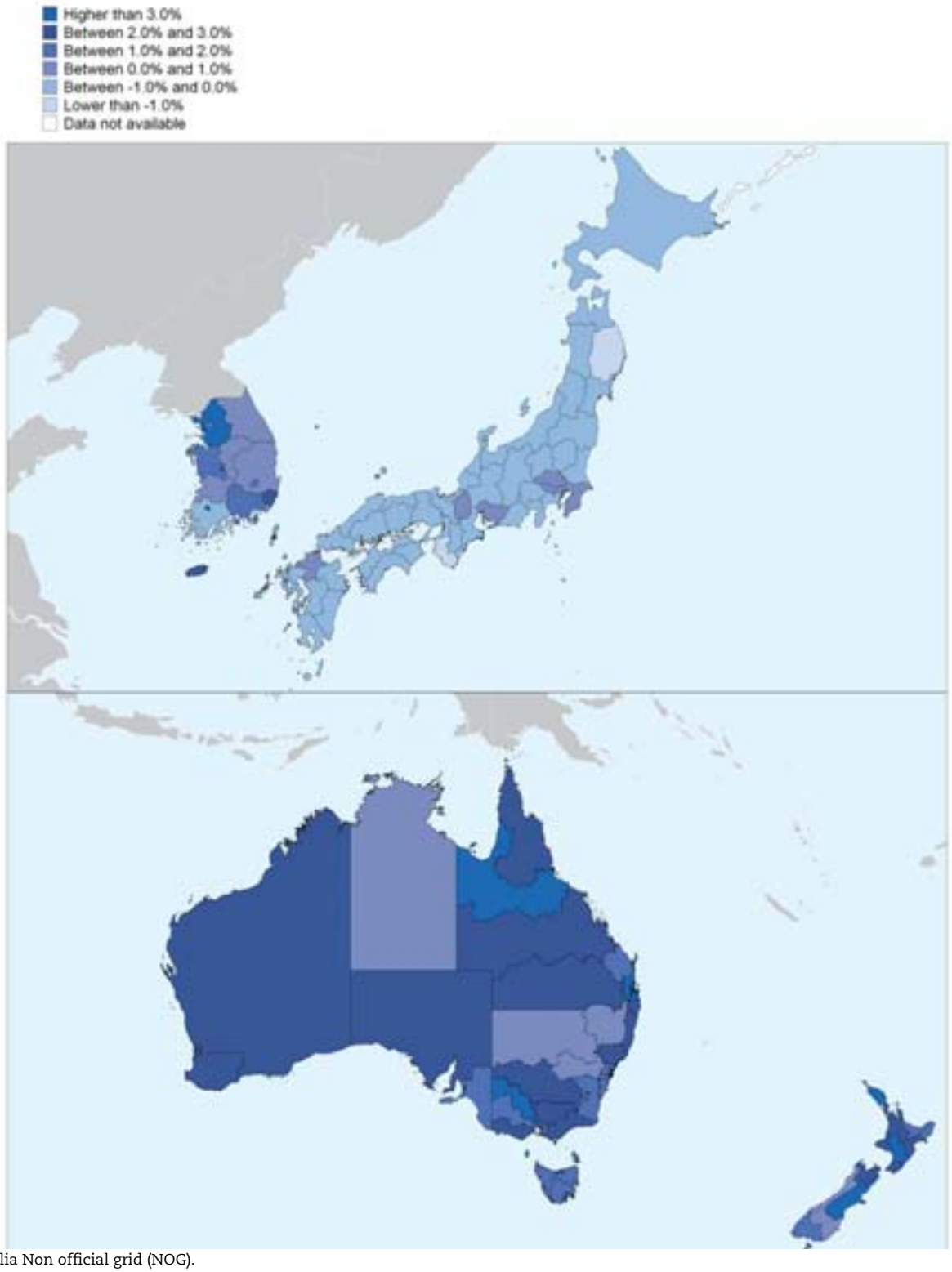
Across all OECD regions, Almeria, Spain, grew at the fastest rate over 1999-2006.



StatLink http://dx.doi.org/10.1787/523803103411

11.5 Regional employment growth: Asia and Oceania

Average annual employment growth rate, TL3 regions, 1999-2006

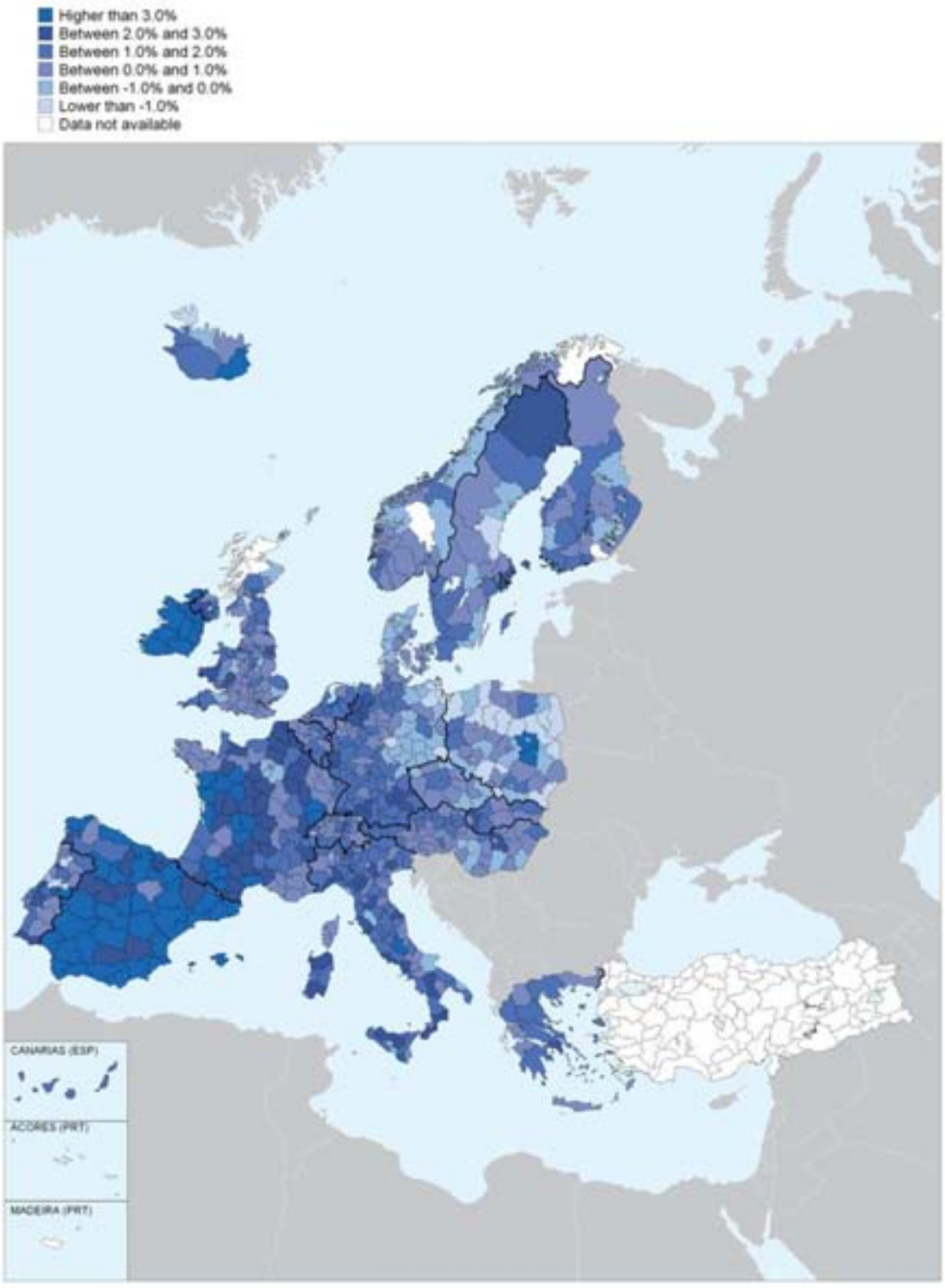


Australia Non official grid (NOG).

StatLink http://dx.doi.org/10.1787/524620805686

11.6 Regional employment growth: Europe

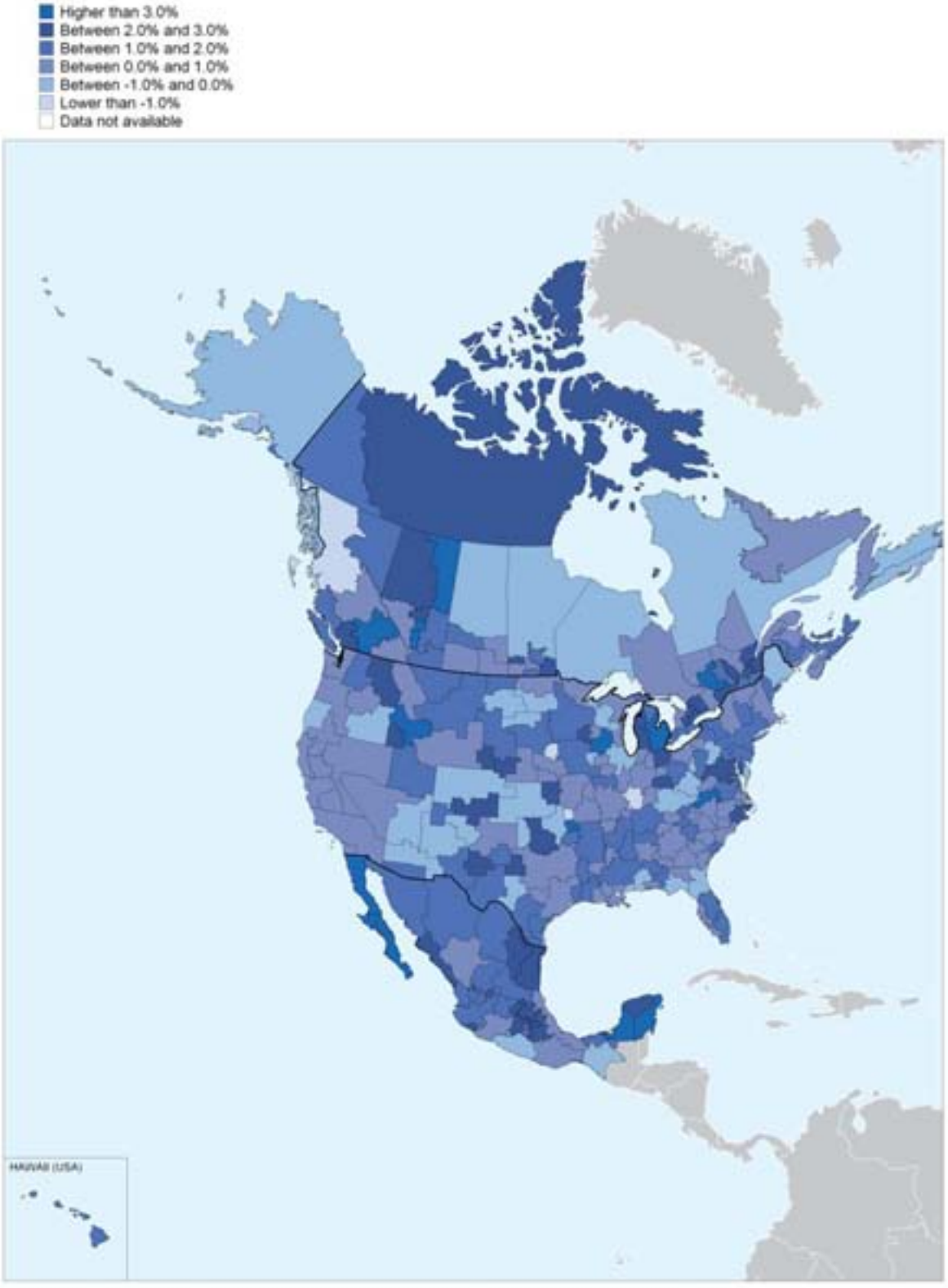
Average annual employment growth rate, TL3 regions, 1999-2006



StatLink http://dx.doi.org/10.1787/524620805686

11.7 Regional employment growth: North America

Average annual employment growth rate, TL3 regions, 1999-2006



Mexico TL2 regions and Canada Non Official Grid (NOG).

StatLink http://dx.doi.org/10.1787/524620805686

Increase the number of working women to enhance regional competitiveness

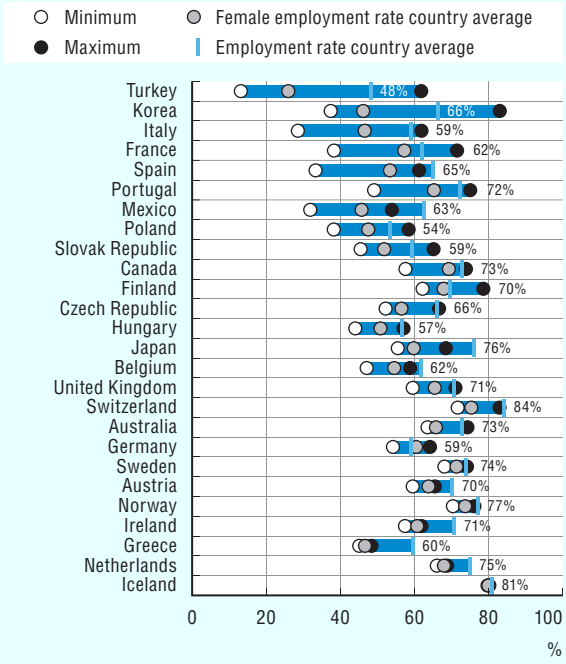
More women are working in OECD member countries: between 1999 and 2006 the female employment rate increased from 54.9 to 56.9%; nevertheless, in 15% of the OECD regions less than 40% of working age women were employed in 2006. Policies to increase female participation in the labour market are on the agenda of many OECD member countries, since the gender gap, that is to say the difference between the male and female employment rates, has narrowed due a significant increase in female participation in only few countries. In 2006, almost one-third of the OECD countries where regional data are available had a female employment rate more than 10 percentage points lower than the total employment rate; in Turkey, Korea and Mexico this difference was as high as 20 points (Figure 11.8).

Most regions still have a long way to go to increase the female labour supply and realise their full economic potential. Regional differences in female employment were the largest in Turkey, Korea, Italy and France in 2006. Even if regional differences were smaller in Mexico, Poland and Spain, in some regions the female employment-to-population ratio, which indicates how much regional economies are able to take advantage of the productive potential of their working age population, was lower than 40%. On the contrary most of the regions with high female employment (higher than 70%), were found in Iceland, Norway and Switzerland and, for a limited number of regions, in Australia, Finland, Korea, Portugal, Sweden and the United Kingdom (Figure 11.8).

OECD member countries with high regional differences in female employment also tend to have lower employment rates, suggesting that policies to reduce territorial inequalities in the participation of women to the labour market could have a direct impact on national policies for jobs. Employment rates are generally higher for workers with tertiary qualifications and differences in employment rates between males and females are wider among less educated groups (*OECD Education at a Glance*, 2008). The positive correlation between high educational achievements and the female employment at regional level could be tested only using the educational attainment of the total labour force. Figure 11.9 shows a positive correlation in the 17 out of the 22 countries considered, but is statistically significant in only five (Ireland, the Netherlands, Australia, the Czech Republic and Mexico).

11.8 Countries ranked by size of difference in TL2 regional female employment rate, 2006[1]

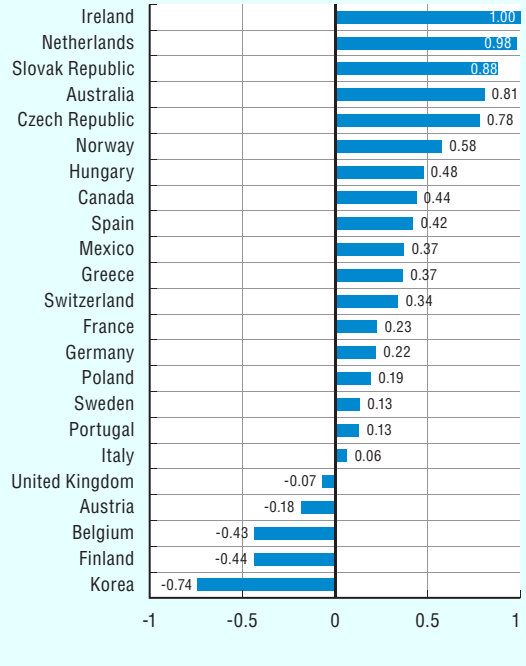
Turkey, Korea and Italy display the largest regional differences in the female employment rates.



1. Female employment rate last available year: Germany and Iceland 2005. No regional data for Denmark, New Zealand and the United States.

11.9 Pearson correlation between female employment rate and higher educational attainments, 2005

Ireland and the Netherlands show the highest association between tertiary education and female employment.



StatLink http://dx.doi.org/10.1787/523803103411

12. GEOGRAPHIC CONCENTRATION OF THE ELDERLY POPULATION

The elderly population (those aged 65 years and over) in OECD countries increased almost three times faster than total population between 1995 and 2005. In 2005, the elderly population was equal to 14% of the total population.

In Japan, Italy and Germany the elderly population was almost one-fifth of total population in 2005. On the other extreme, in Turkey, Korea and Mexico the elderly population represented less than 10% of the total population (Figure 12.1).

As the elderly population may be more concentrated in a few areas in each country, regions face different economic and social challenges raised by an ageing population. In 2005, 35% of the elderly population lived in only 10% of OECD regions. The share has not changed significantly in the past ten years with the exception of Ireland, due to the increase of the overall population including the elderly population in the region of Dublin (Figure 12.2).

The geographic concentration index compares the geographic distribution of the elderly population and the area of all regions in a country. According to this index, Canada (82), Australia (82) and Iceland (65) were the countries with the highest concentration of the elderly population in 2005, compared to the OECD average (38). A relative geographic concentration of the elderly population can facilitate the provision of services (Figure 12.3)

The concentration of the elderly population may be a function of the total population – more people, therefore more elderly people – or may be due to regional disparities in the age structure, with the same population but more elderly people. A comparison of the concentration indexes of total and elderly population shows that in 2005 on average the elderly population was less concentrated than the total population (Figure 12.3).

Urban areas (*i.e.* areas with a high geographic concentration of the total population) attract younger people thus elderly people remain in areas with a lower geographic concentration index for the overall population. This is evident, in particular, in Korea, Portugal, France, New Zealand, Japan and Ireland where the concentration of the elderly population is higher in the "peripheral" regions, areas far from the agglomerated regions. On the contrary, in Poland, Belgium, the Slovak Republic and Hungary the share of the elderly population seems to be higher where population is more concentrated, generally in urban regions (Figures 12.5-12.7).

From 1995 to 2005, only 23% of OECD rural regions have increased their share of population (over the national average), while half of the urban regions and 45% of intermediate regions increased their share. Only in Belgium, Germany and Poland did the rural regions post a higher population share increase than the percentage of urban or intermediate regions (Figure 12.4).

Definition

The regional elderly population is the regional population of 65 years of age and over.

The elderly dependency rate is defined as the ratio between the elderly population and the working age (15-64 years) population.

The geographic concentration index offers a picture of the spatial distribution of the elderly population within each country, as it compares the elderly population weight and the land area weight over all TL3 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration of population. International comparisons of the index can be affected by the different size of regions.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1995-2005; TL3

Further information

Territorial grids, *www.oecd.org/gov/regional/statisticsindicators*.

Figure notes

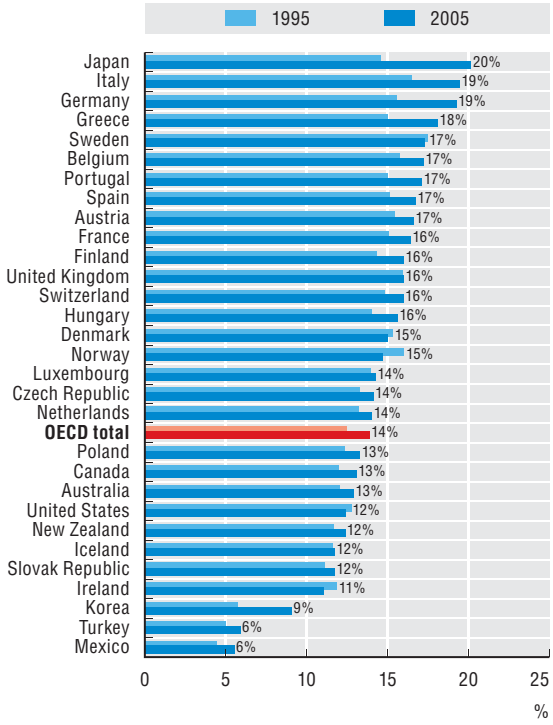
Figures 12.1 to 12.4: First available data: Australia 1996, Austria 2001, Iceland 1997, Poland 2000, Slovak Republic 1996.

Figure 12.4: As a share of regional population over national population.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

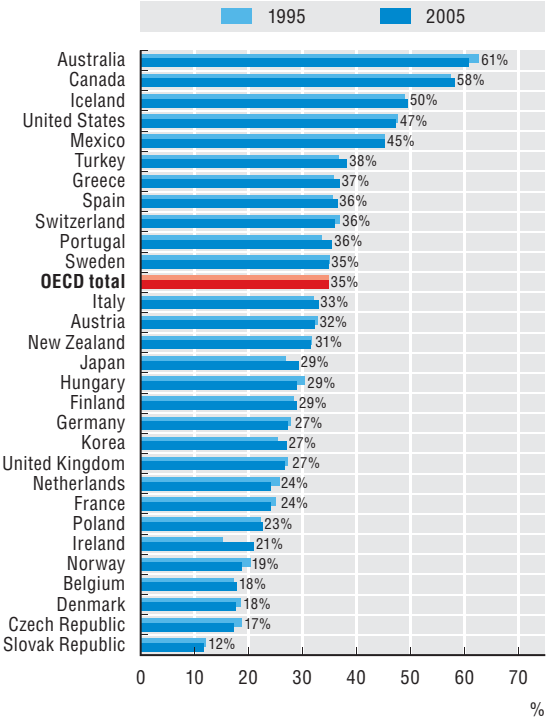
12.1 National elderly population as a percentage of the total population

In 2005, 20% of population was 65 years age or older in Japan, 6% in Mexico.



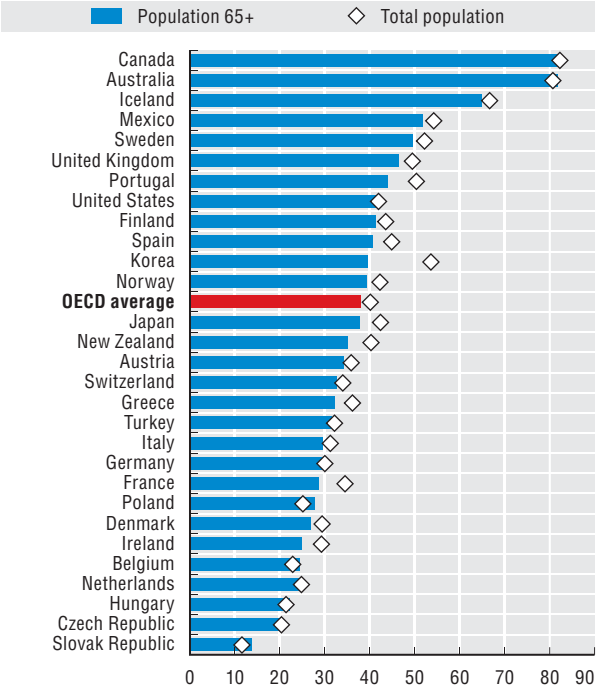
12.2 Per cent of the elderly living in the 10% of TL3 regions with the highest elderly population

35% of the elderly population lives in only 10% of OECD regions.



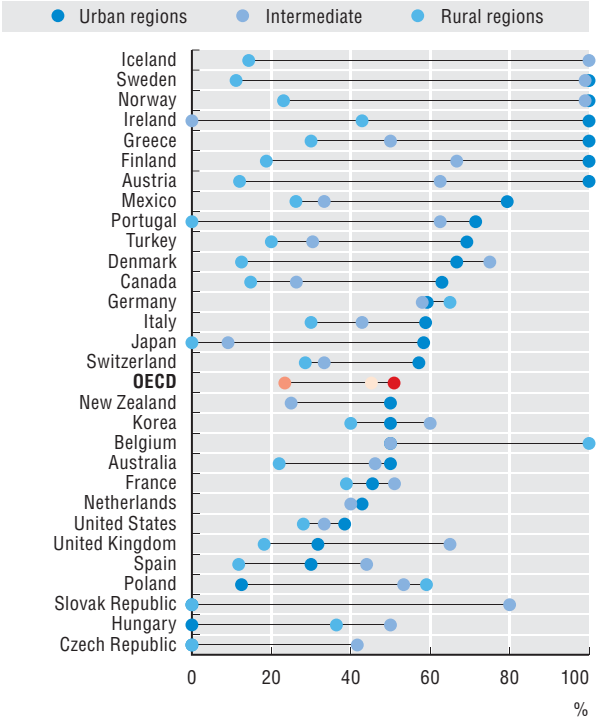
12.3 Geographic concentration index of the elderly population and population (TL3 regions), 2005

The elderly population tends to be less concentrated than the total population.



12.4 Percentage of TL3 regions by type of regions which have increased their population, 1995-2005

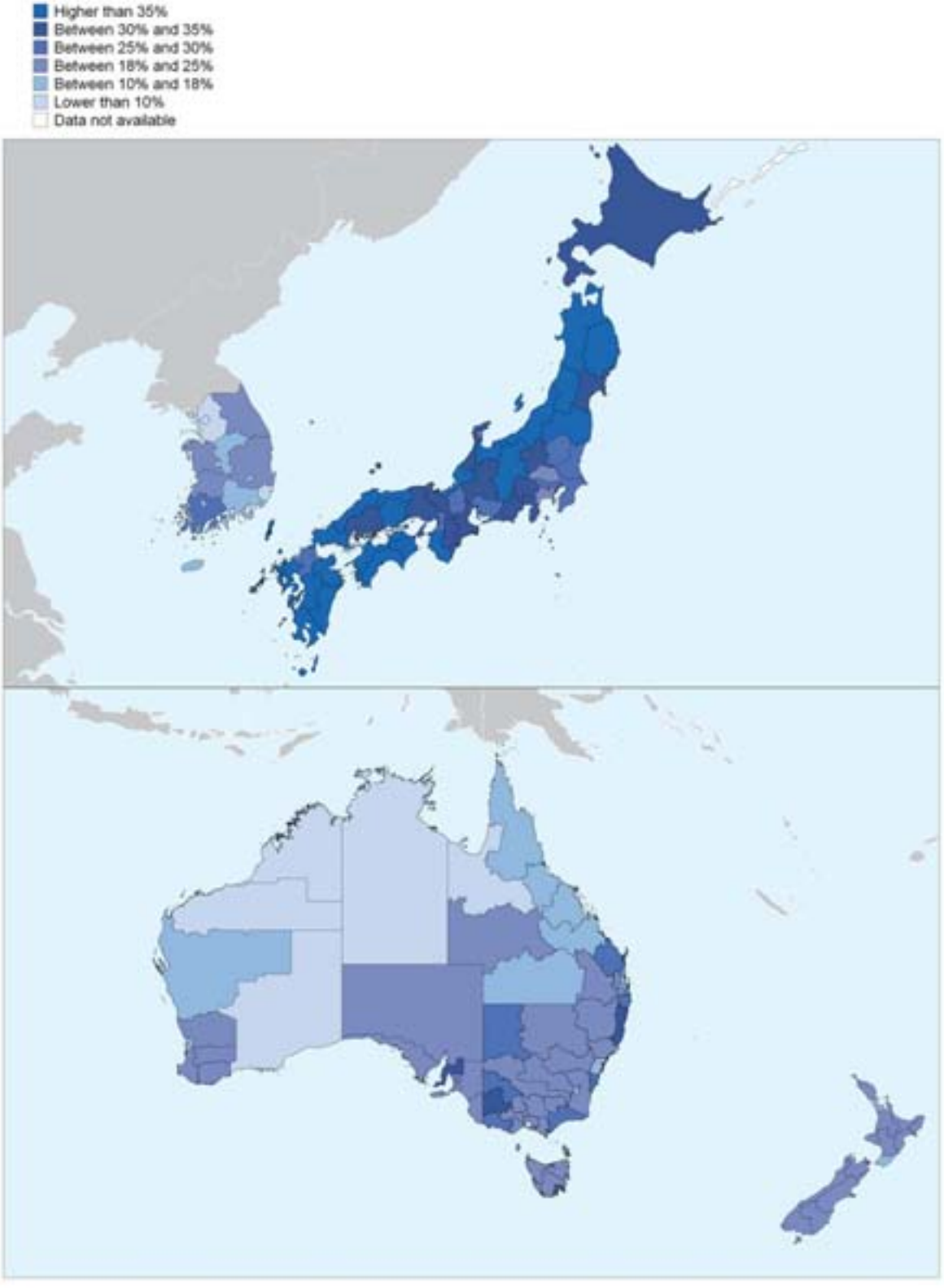
In 1995-2005, population increased in 23% of rural regions, 50% of urban ones and 45% of intermediate ones.



StatLink http://dx.doi.org/10.1787/523815348841

12.5 Regional elderly dependency rate: Asia and Oceania

Ratio between the elderly population and the working age population, TL3 regions, 2005

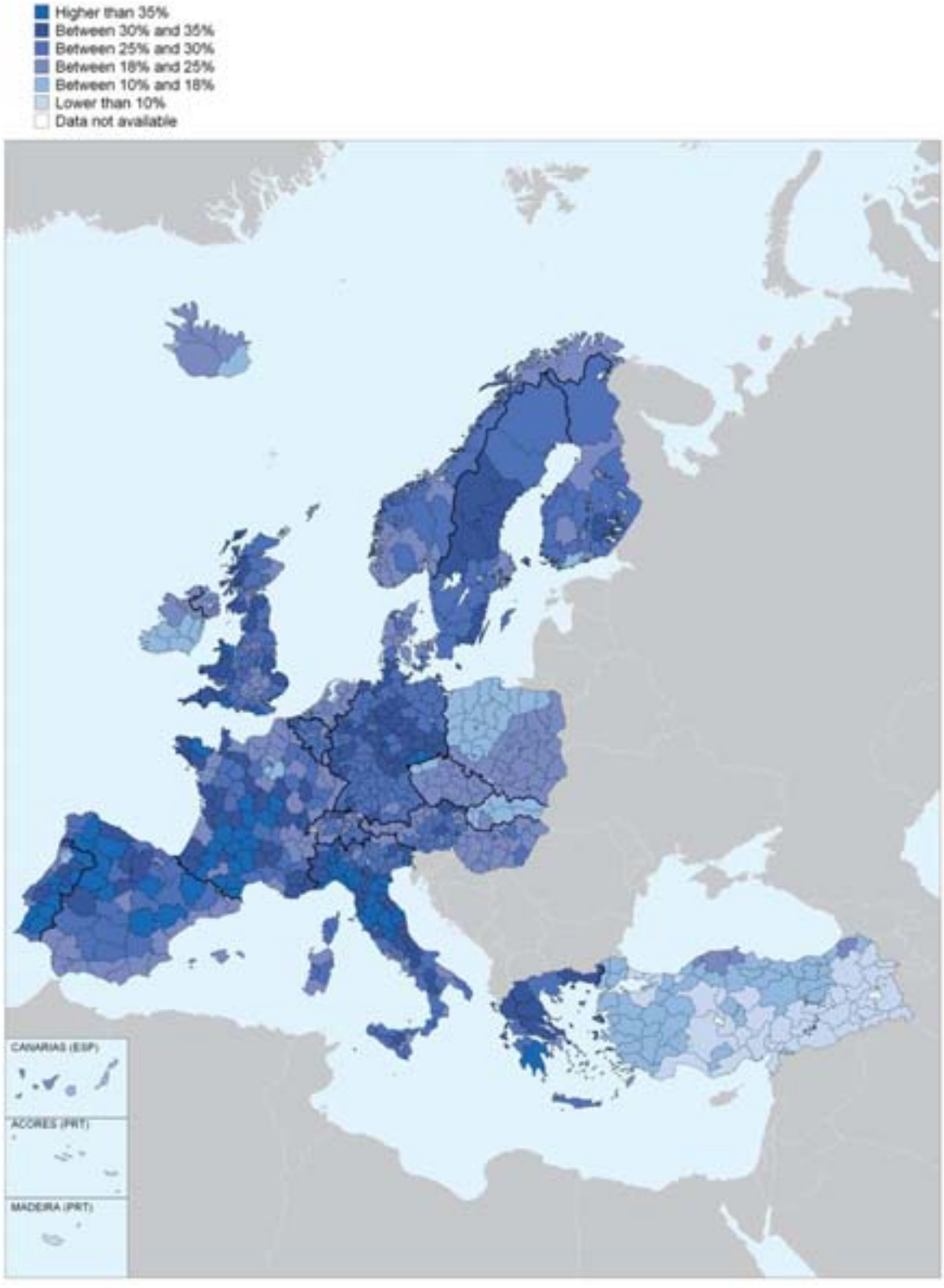


StatLink http://dx.doi.org/10.1787/524625208008

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

12.6 Regional elderly dependency rate: Europe

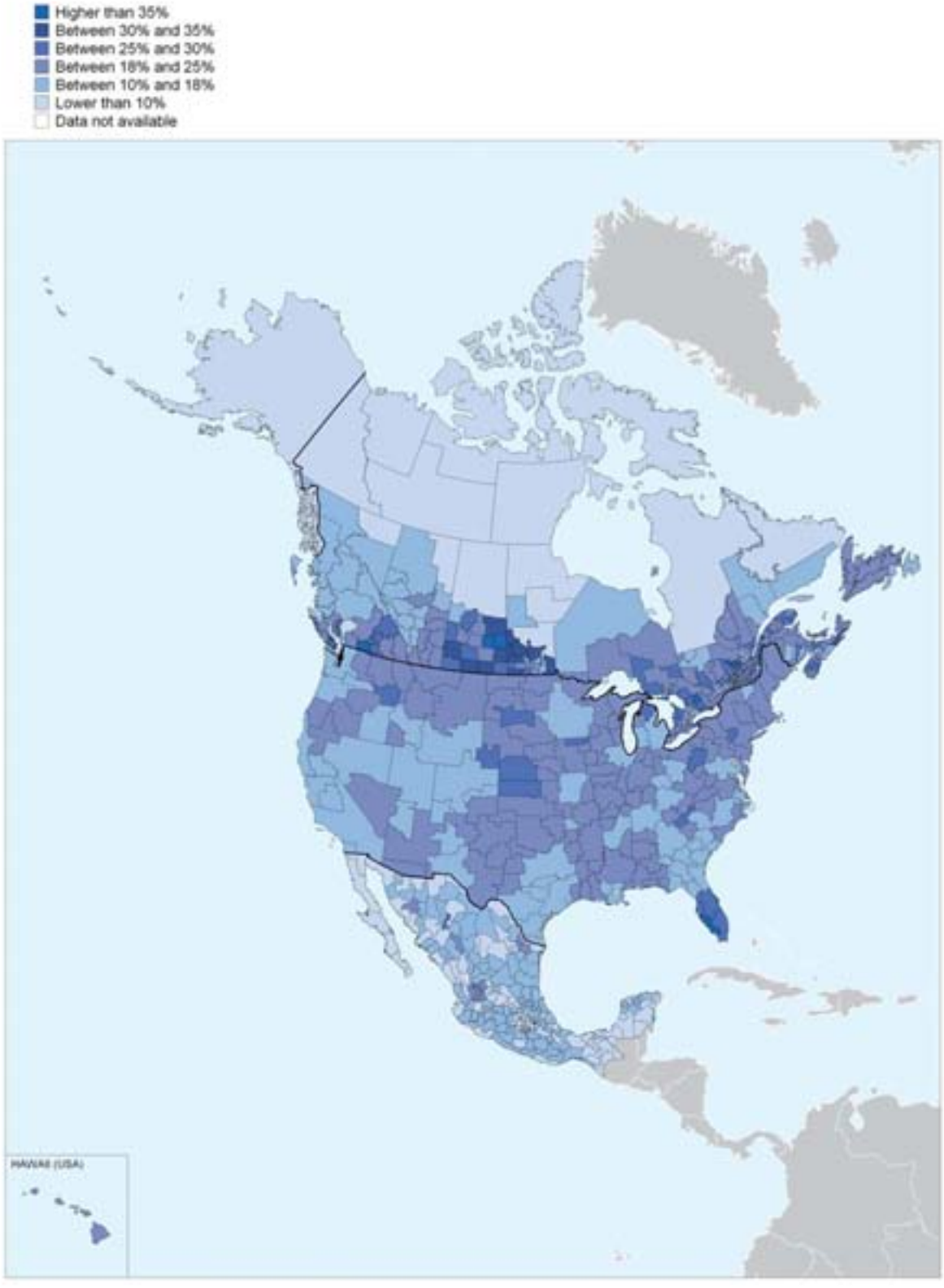
Ratio between the elderly population and the working age population, TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524625208008

12.7 Regional elderly dependency rate: North America

Ratio between the elderly population and the working age population, TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524625208008

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Challenges of the ageing population in rural regions

The elderly dependency rate – i.e. the ratio between the elderly population and the number of people of working age (15-64) – gives an indication of the balance between the economically active and retired populations. In 2005 this ratio was on average 20% in OECD countries. There was a substantial range between countries (30% in Japan *versus* 9% in Turkey and Mexico). Differences among regions within the same countries were also large. The higher the regional elderly dependency rate the higher the challenges faced by regions in generating wealth and sufficient resources to provide for the needs of elderly people. Concerns may arise about the financial self-sufficiency of these regions to generate taxes to pay for these needs.

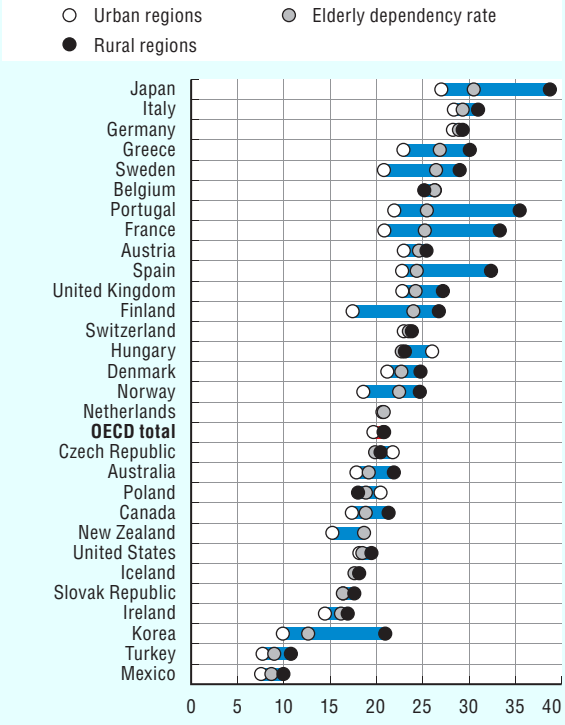
In 2005, the elderly dependency rate across OECD regions was higher in rural (21%) than in urban regions (20%) with the exception of Poland, Belgium, the Czech Republic and Hungary. This general pattern was more pronounced in certain countries, like Portugal, France, Finland, Japan, Spain and Korea (Figure 12.8).

Besides the elderly dependency rate, a second factor affecting a region's ability to cope with ageing is the concentration of elderly people. Regions with a large elderly population may exploit economies of scale in the provision of certain services, in particular health care and personal services. Regions with a small elderly population may bear higher costs by virtue of having an insufficient population for achieving economies of scale.

Only 24% of the OECD elderly population lived in rural regions in 2005; with more of the elderly residing in urban regions (44%) than in intermediate regions (32%) (Figure 12.9). As such, rural regions are more likely to face the challenge of ageing due to higher elderly dependency rates and lower concentrations of the elderly.

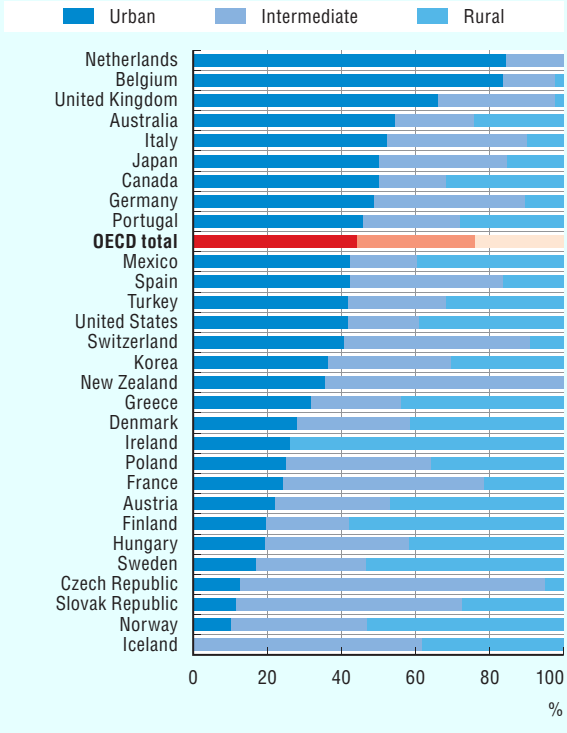
12.8 Elderly dependency rate: country average and in PR and PU TL3 regions, 2005

In 25 countries, the elderly dependency rate was higher in rural regions than in urban ones.



12.9 Distribution of the elderly population in PU, IN and PR TL3 regions, 2005

Only 24% of the elderly population lived in rural regions in 2005.



StatLink http://dx.doi.org/10.1787/523815348841

13. GEOGRAPHIC CONCENTRATION OF GDP

Economic activity is unevenly distributed among regions within OECD countries. In 2005, 10% of OECD regions generated 38% of the total gross domestic product (GDP). In Turkey, Greece and Portugal the 10% of regions with the highest output contributed half or more of the national GDP. On the other hand, GDP in Belgium, the Slovak Republic, Denmark and the Netherlands was more evenly distributed among regions, with the regions with the highest output (regions in the top 10%) accounted for no more than a quarter of total GDP (Figure 13.1).

The share of national GDP generated by the 10% regions with largest GDP has increased in the past ten years significantly in Greece (10 percentage points), Hungary and Sweden (5 percentage points), Czech Republic and Finland (4 percentage points).

The geographic concentration index offers a picture of the spatial distribution of GDP among all regions within a country, by comparing the share of GDP and land area share over all the regions in a given country. This index shows that in 2005 concentration was greatest in Portugal, Sweden and the United Kingdom. With the exception of Korea, in all OECD countries GDP is more concentrated than population, reflecting the fact that agglomeration economies tend to perform more capital-intensive activities (Figure 13.2).

Between 1995 and 2005 the geographic concentration index increased in OECD countries of 1.2 point. Greece and Hungary displayed the highest increase in the concentration index (8.7 and 6.4 points respectively). This increased was essentially due to the increased share of national GDP of three regions: Attiki (Greece), Budapest and Pest (Hungary). On the other hand, according to the concentration index, GDP is more equally distributed than it was in 1995 in Australia, Korea, Turkey, Germany, Mexico, Austria, Portugal, the United States and New Zealand (Figure 13.3).

Predominantly urban regions attracted the largest share of economic activities. In 2005, 55% of total GDP in OECD countries was produced in urban regions. Predominantly rural areas contributed 13% to overall GDP, even though in Ireland and in the Scandinavian countries rural regions produced above 40% of their national GDP (Figure 13.4).

Definition

Gross domestic product (GDP) is the standard measure of the value of the production activity (goods and services) of resident producer units. Regional GDP is measured according to the definition of the 1993 System of National Accounts. To make comparisons over time and across countries, it is expressed at constant prices (year 2000), using the OECD deflator and then it is converted into USD purchasing power parities (PPPs) to express each country's GDP into a common currency.

The geographic concentration index offers a picture of the spatial distribution of the GDP within each country, as it compares the GDP weight and the land area weight over all TL3 regions (see Annex C for the formula). The index ranges between 0 and 100: the higher its value, the larger the regional concentration of GDP relative to the area. International comparisons of the index can be affected by the different size of regions.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

OECD deflator and purchasing power parities, *http://dotstat/wbos/*, Reference series.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1995-2005; TL3

Australia, Canada, Mexico and United States only TL2.

Regional GDP is not available for Iceland and Switzerland.

Figure notes

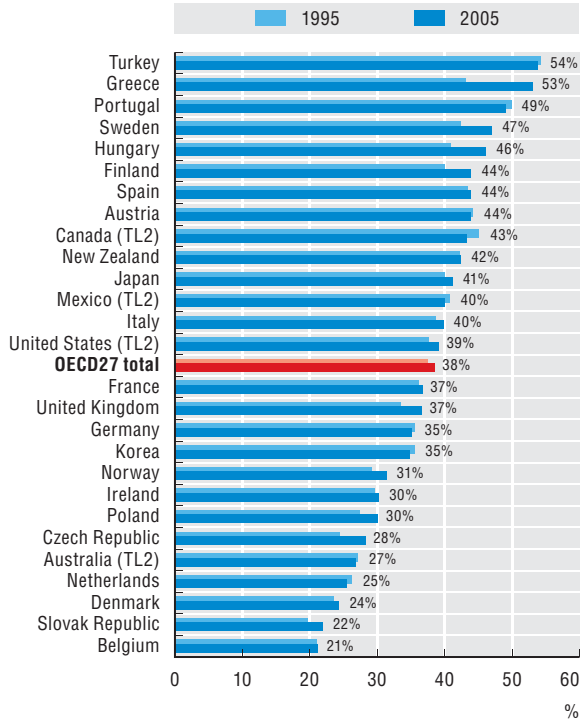
Figures 13.1 to 13.4: Available data, last year: Mexico 2004, New Zealand 2003 and Turkey 2001. First year: United States 1997.

Figure 13.4: Australia, Canada, Mexico and the United States are excluded since GDP is available only at the TL2 level.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

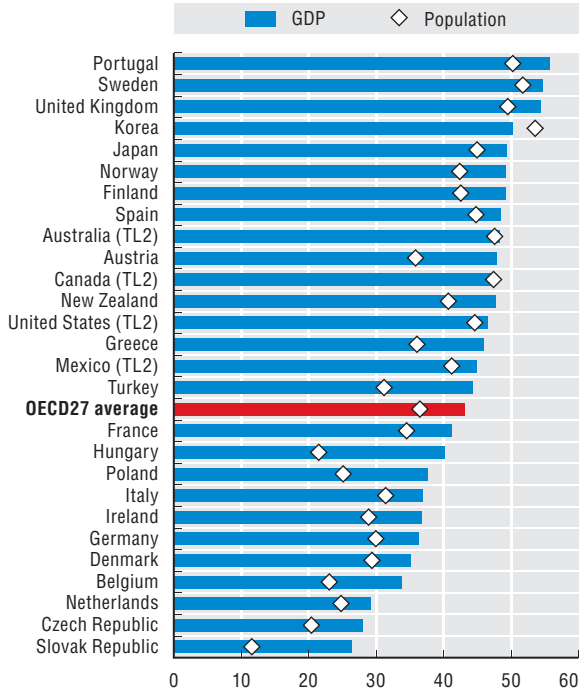
13.1 Percentage of national GDP in the 10% of TL3 regions with largest GDP

In Turkey, 54% of national GDP was concentrated in 10% of regions in 2005.



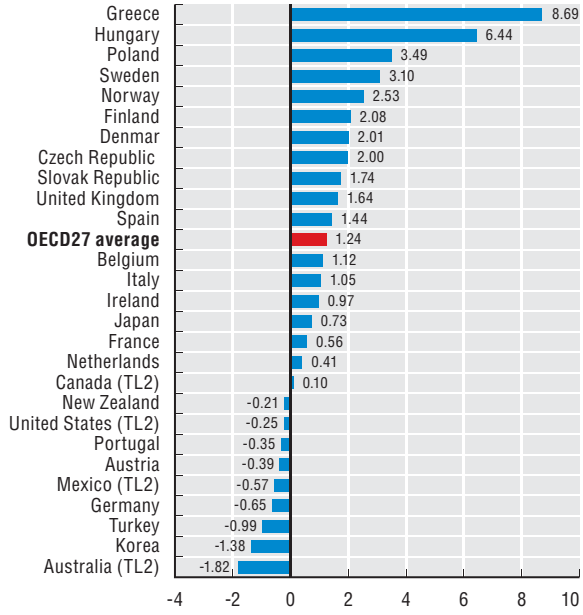
13.2 Geographic concentration index of GDP and population (TL3 regions), 2005

In 2005, GDP was more geographically concentrated than population in all OECD countries, except Korea.



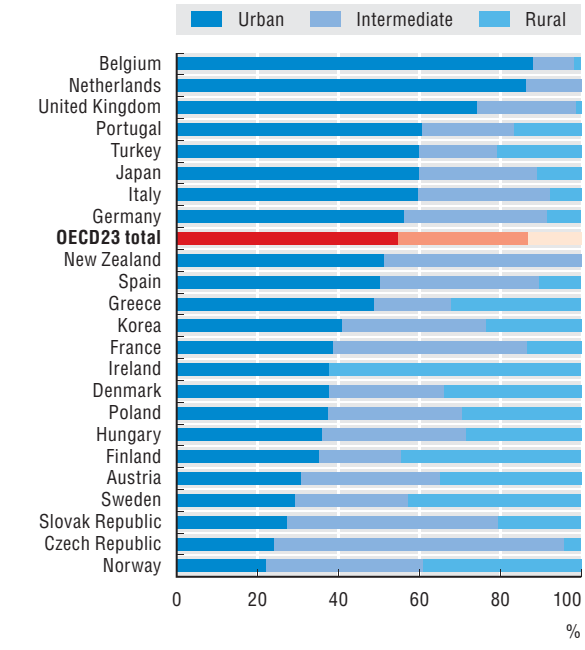
13.3 Point change in the geographic concentration index of GDP between 1995 and 2005

From 1995 to 2005, Greece had the largest increase in the index of the geographic concentration of GDP.



13.4 Distribution of GDP into PU, IN and PR TL3 regions, 2005

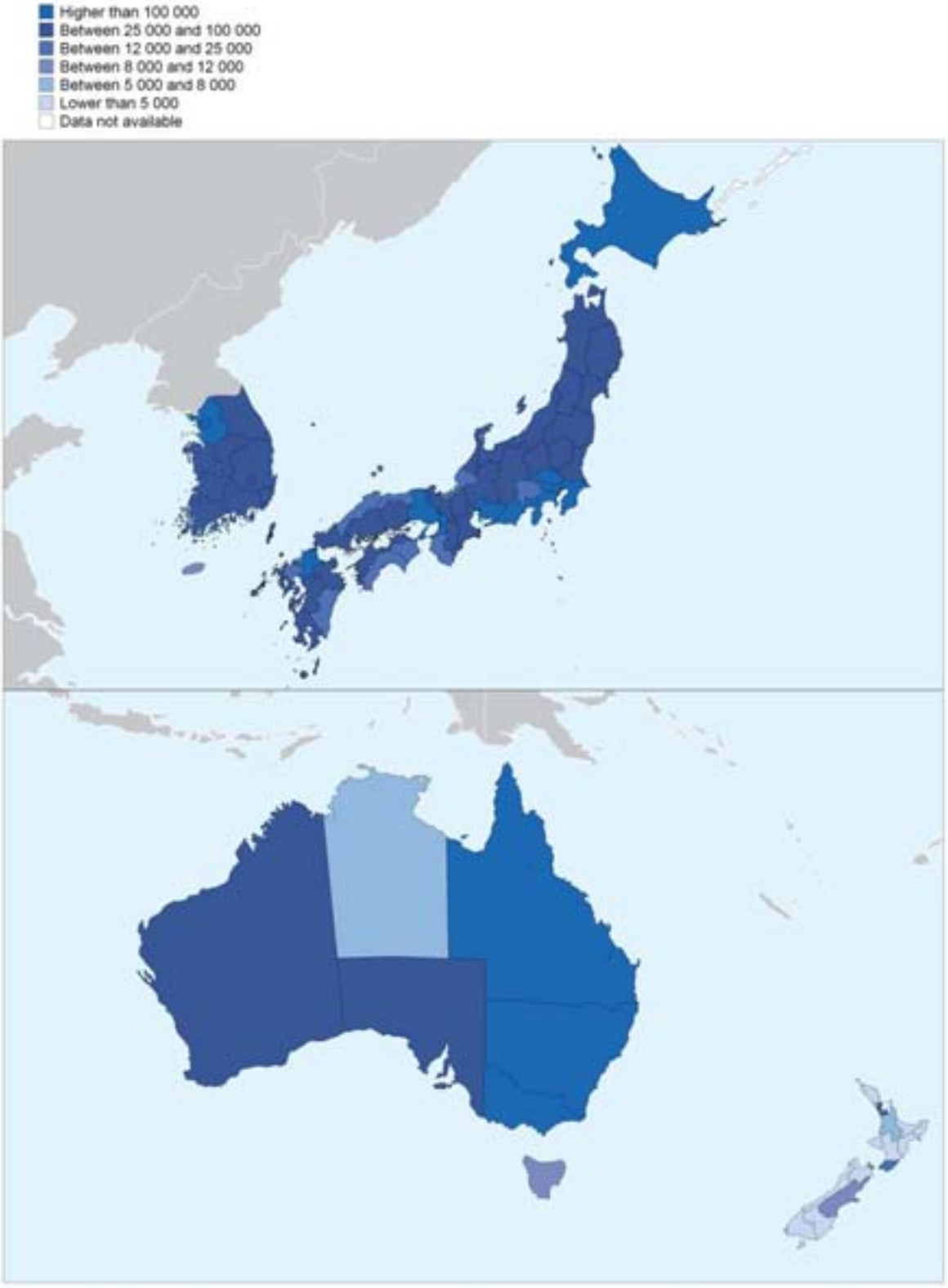
In 2005, 55% of total GDP in OECD countries was produced in urban regions.



StatLink http://dx.doi.org/10.1787/523841657513

13.5 Regional GDP: Asia and Oceania

Millions of constant 2000 USD PPP, TL3 regions, 2005



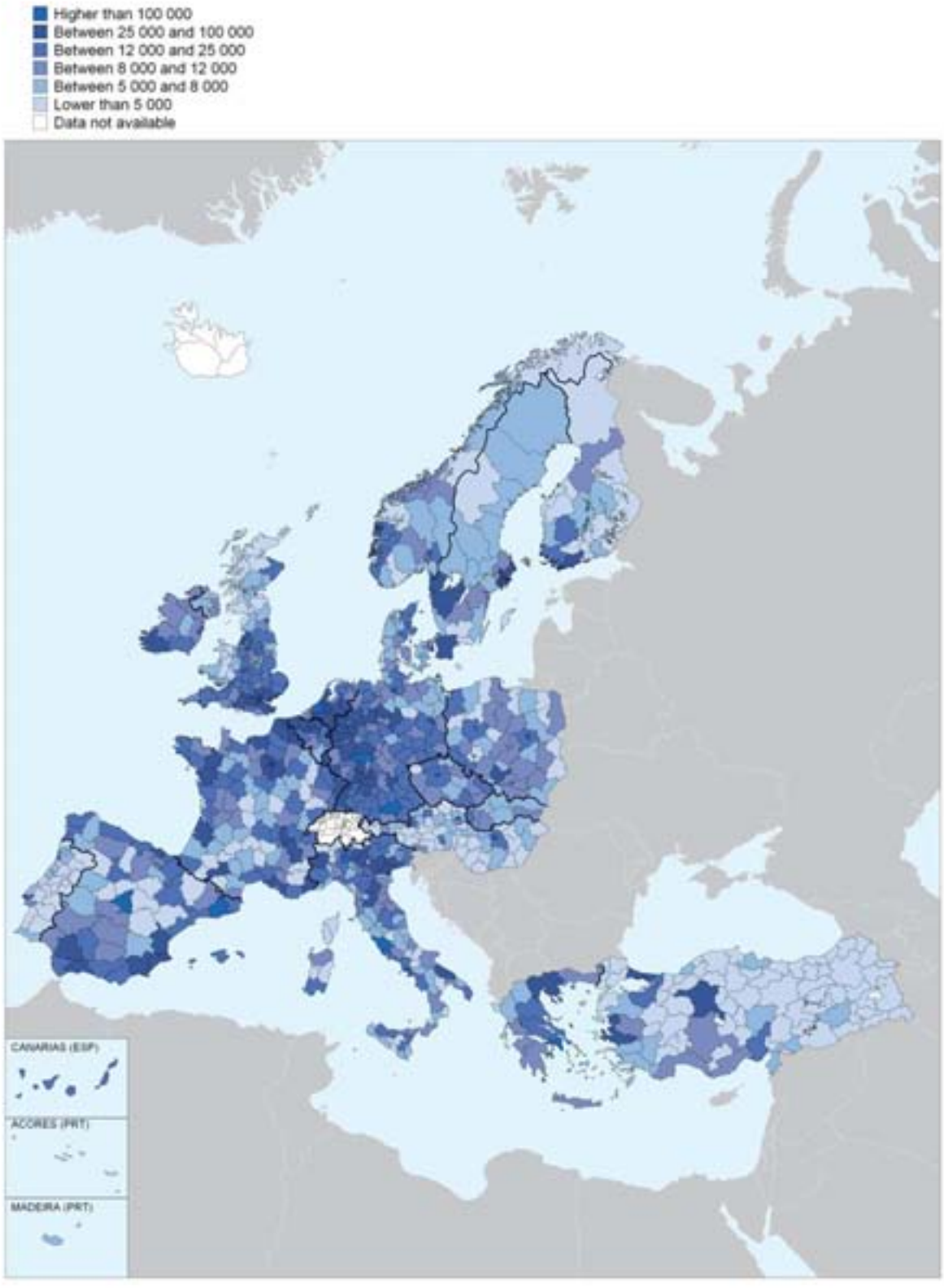
Australia TL2 regions.

StatLink http://dx.doi.org/10.1787/524663202301

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

13.6 Regional GDP: Europe

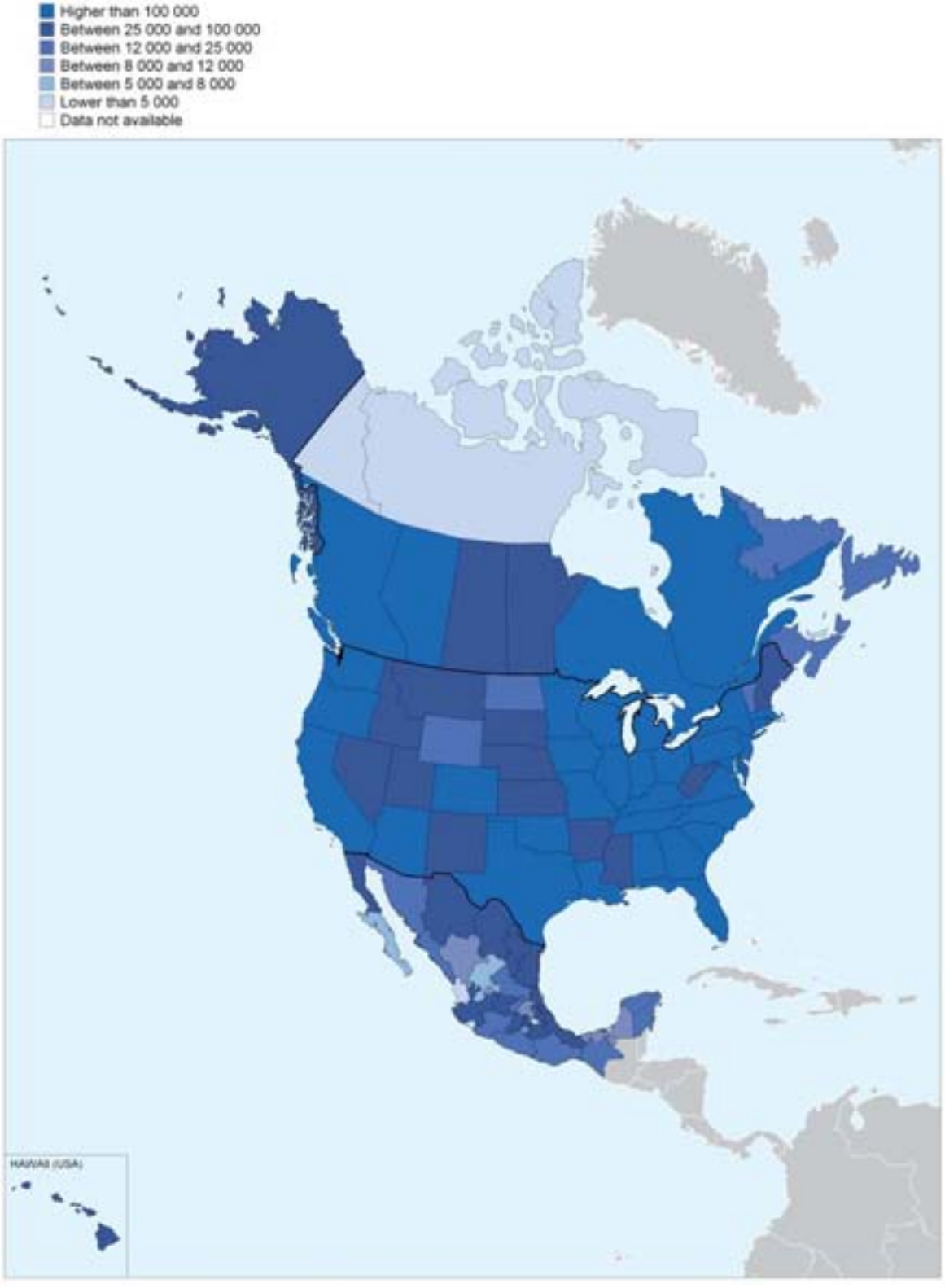
Millions of constant 2000 USD PPP, TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524663202301

13.7 Regional GDP: North America

Millions of constant 2000 USD PPP, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524663202301

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Concentration of GDP and agglomeration economies

National economic activity is concentrated in only a few regions: the regions with the largest GDP within each OECD country together accounted for 16% of total OECD GDP in 2005. Within each country, the highest GDP region in 2005 accounted for a different share of the national GDP – ranging from 5% in Munich (Germany) to 49% in Attiki (Greece) (Figure 13.8).

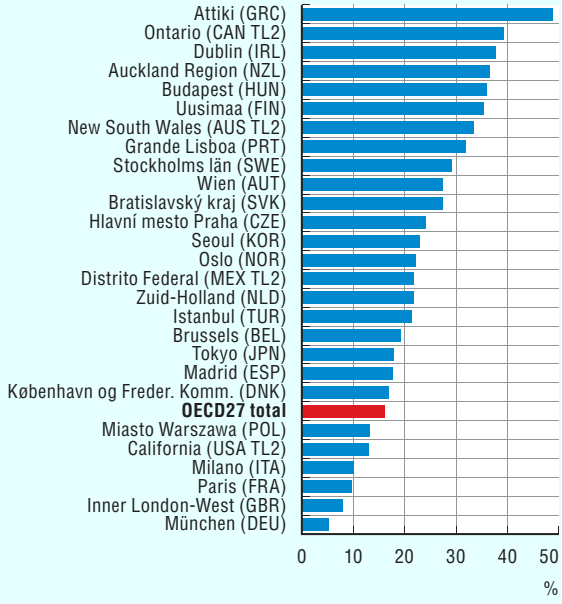
The regions with the largest output within each country in 2005 display three common characteristics: they are urban regions, in most of the cases containing the capital city; they occupy an area ranging from less than 1% of the national area to at most 10%, confirming that a large part of national economy takes place in narrow zones or poles of development (Figure 13.9); and finally, they maintain their position over time, these regions were already the ones with largest output in their countries in 1995, with the only exceptions being Munich (Germany) and Warsaw (Poland).

Over the past ten years, most of them (20 out of 27) increased their share of national output; Attiki (Greece), Stockholm (Sweden) and Hlavní mesto Praha (Czech Republic) by more than 4 percentage points, while Seoul (Korea) and Ontario (Canada) decreased their share of GDP as a per cent of national GDP by more than 1 percentage point.

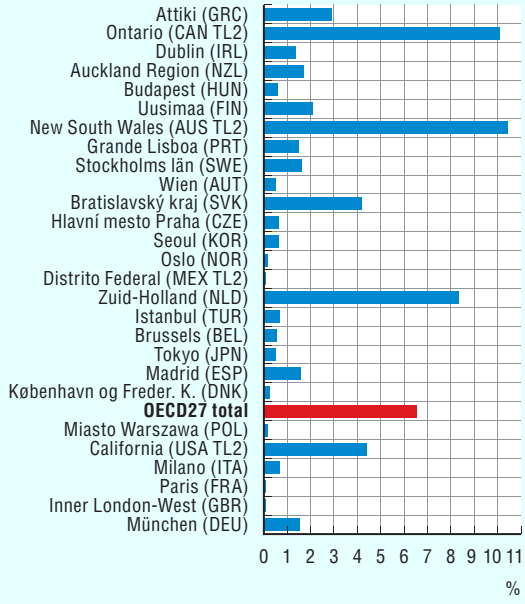
The concentration of economic activity occurs due to the benefit of agglomeration. The relative growth of these urban regions is related to their ability to attract businesses and people. People tend to move to places where job opportunities are plentiful and firms tend to locate in large markets (of labour and goods) where economies of scale can be achieved. Nevertheless, concentrations are not necessarily the places for an efficient allocation of resources and among OECD member countries there is not unequivocal evidence on the link between concentration and the level of well-being. A more geographically balanced development within countries tends to reduce possible costs of concentration (like congestion, quality of the environment, sufficient supply of services and labour force, etc.) and may help in increasing the economic growth of the entire country by spurring demand.

13.8 Percentage of national GDP produced by the highest producing TL3 region in the country, 2005[1]

In 2005, Attiki, Greece, contributed 40% of national aggregate GDP and represented 3% of national land area.



13.9 Percentage of national land area of the highest GDP producing TL3 region in the country, 2005



1. Available data: Mexico 2004, New Zealand 2003 and Turkey 2001. Australia, Canada, Mexico and the United States TL2 regions.

StatLink http://dx.doi.org/10.1787/523841657513

Industries are unevenly distributed across OECD countries and among regions in the same country. Comparable regional data on industry size, *i.e.* on the total employment of a certain industry, for the total economy are available only for six broad sectors (see definition in the box). Therefore only a general picture of the regional employment by industry can be drawn from this information.

In 2005 the share of employment in the construction sector across OECD regions was the most concentrated around the median value, while the public sector, followed by manufacturing, was the most dispersed. Natural endowments play an important role in certain activities such as agriculture, fishing, mining and quarrying, and the distribution of the employment shows some regions with negligible values and others strongly specialised in these activities (Figure 14.1).

In 2005 almost 30% of OECD employment was in the trade, hotels and restaurants, transport, storage and communication sector. Country values ranged from 22% in Turkey to 49% in Mexico. The share of regional employment in a certain industry within a country gives an indication of the extent to which the regional economy, being concentrated on a specific industry can benefit from spill-over effects and linkages among firms.

Within each country the region with the highest share of employment in trade, hotels and restaurants, transport storage and communication varied from 62% in Quintana Roo (Mexico) to 25% in Vlaams Gewest (Belgium) (Figure 14.2).

The public sector absorbed 28% of the employment in OECD countries in 2005. As expected, in most of the countries the capital regions were the ones which absorbed the most employment in the public sector. The difference with the country average was the largest in the Ciudad Autonoma de Ceuta (Spain), the Australian Capital Territory (Australia) and the District of Columbia (United States) (Figure 14.3).

Despite the aggregate size of the manufacturing, mining, electricity, gas and water supply sector it has been gradually declining in OECD regions recent years, employment in this sector accounted for 15.5% in 2005 (and 19% in 1995). The regional specialisation of activities within this sector is displayed in Chapter 17.

The structural change from agriculture and manufacturing towards services has affected regions diversely, particularly in the financial intermediation, real estate, renting and business activities sector. In 2005, this sector accounted for 16% of the OECD employment. In eight countries a single region recorded more than 25% of its employment in this sector. Praha (Czech Republic), London (United Kingdom) and Bratislav (Slovak Republic) were the regions with the largest difference from the country average (Figure 14.4).

Definition

Industries are defined according to the International Standard Industrial Classification (ISIC) Rev. 3.1. Industry size is defined by the total number of people employed in that industry.

For the total economy, regional data are available only aggregated in the following six sectors: 1) Agriculture, forestry and fishing; 2) Manufacturing, mining and quarrying, electricity, gas and water supply; 3) Construction; 4) Trade, hotels and restaurants, transport storage and communication; 5) Financial intermediation, real estate, renting and business activities; 6) Education, public administration and defence, health and other public activities.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1995-2005; TL2

Figure notes

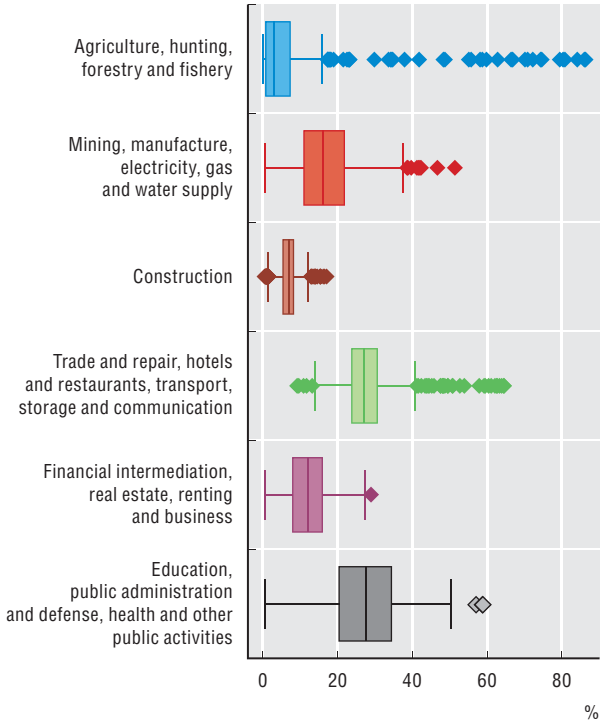
Figure 14.1: Minimum and maximum values (dots), inter-quartile range (box) and median share (vertical line in the box).

Figures 14.3 and 14.4: Available data: Korea, Mexico and the Netherlands 2004; Turkey 2002; Switzerland 2000.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

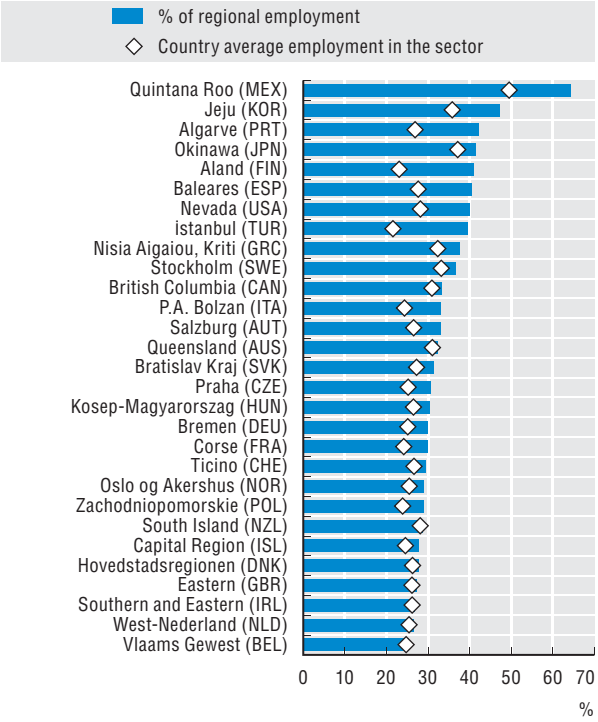
14.1 Share of employment in TL2 regions by sector, 2005

In OECD regions the share of employment is most concentrated in construction.



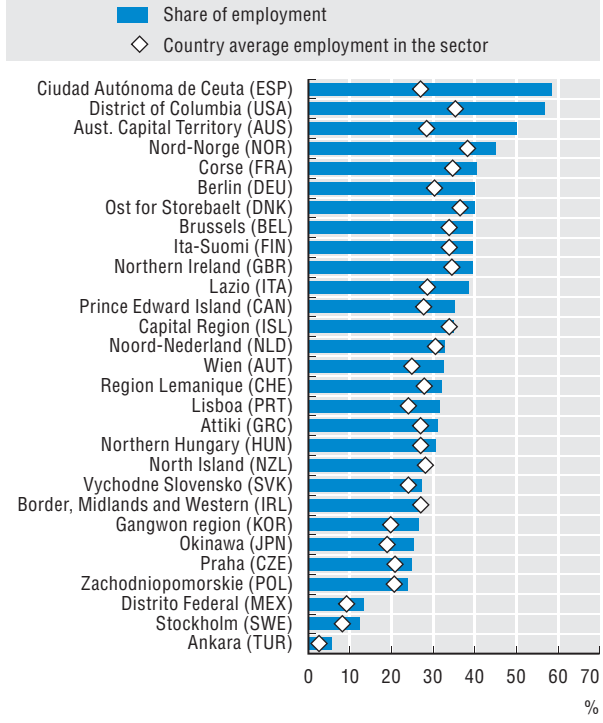
14.2 Highest share of employment by country, in trade, hotels and restaurants, transport, storage and communication (TL2 regions), 2005

In Mexico, Quintana Roo had the highest employment in the trade, hotels and restaurant.



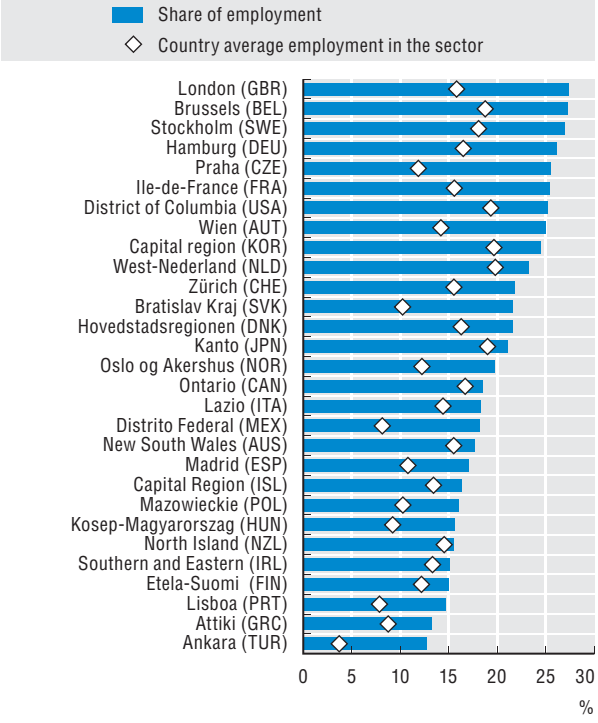
14.3 Highest share of employment by country, in the public administration and defence, health and education (TL2 regions), 2005

In Spain, Ciudad Autonoma de Ceuta had almost 60% employment in the public sector.



14.4 Highest share of employment by country, in the financial, real estate and business (TL2 regions), 2005

In the UK, London had 28% of employment in the financial, real estate and business.



StatLink http://dx.doi.org/10.1787/523845522162

III. MAKING THE MOST OF REGIONAL ASSETS

15. Regional disparities in GDP per capita
16. Regional disparities in labour productivity
17. Regional disparities in specialisation
18. Regional disparities in unemployment rates
19. Regional disparities in participation rates

International disparities in economic performance across countries are often smaller than those among regions within the same country. In almost one-third of OECD countries, the highest regional GDP per capita was more than four times larger than the lowest regional GDP per capita in the same country in 2005. Regional inequalities persist over time, for even while disparities between countries have been diminishing in recent years those within countries have not declined. Moreover, the gap between GDP per capita in rural regions and in urban ones did not narrow over the past ten years. Most of these differences are explained by productivity differentials among regions. Improving regional living conditions through gains in labour productivity requires a better use of regional assets. Among these assets to be mobilised, human capital and innovation related activities have been analysed in Part I. In this part industry specialisation and the supply and utilisation of the labour force including women and young people are identified as factors to increase regional competitiveness.

15. REGIONAL DISPARITIES IN GDP PER CAPITA

GDP per capita varies greatly among OECD countries. In 2005 the GDP per capita in Luxemburg was more than six times higher than the one in Mexico (Figure 15.1).

Regional differences in GDP per capita within countries are often substantial. For example regional GDP per capita in Inner London-West (United Kingdom) is more than four times higher than the country average, while the one in the Isle of Anglesey is half the country average. Similar large differences are found in the United States, Turkey and Poland. Only in Australia, the Netherlands, Sweden and New Zealand the GDP per capita of the richest region is less than the double of the GDP per capita of the poorest region (Figure 15.2).

While the range shows the difference between the regions with highest and the lowest GDP per capita, the Gini index measures the regional disparities among all regions within a country. According to this index Turkey, Mexico and the Slovak Republic displayed the greatest disparity in GDP per capita (Figure 15.3).

Part of these observed differences in GDP per capita within a country are due to commuting which tends to increase GDP per capita in those urban regions where people are employed and decrease the GDP per capita of those regions where commuters reside. Nevertheless, these results confirm the trend toward concentration of economic activity and growth around few poles resulting in increasing disparities, as also shown by regional disparities in GDP per worker (Chapter 16).

During the past ten years regional disparities, as measured by the Gini index, have increased in 16 out of 27 countries and significantly above (more than 2.5 times) the OECD average in Hungary, Korea, the Czech Republic, the Slovak Republic, and Ireland. These countries also rank among the highest in GDP per capita growth from 1995 to 2005, suggesting that the change in regional disparities of GDP per capita within a country is often correlated with the change in GDP per capita at the national level (*i.e.* with the economic cycle).

A comparison between regional disparities and people living in regions with low GDP per capita (under the median GDP per capita), gives a measure of the different economic implications of disparities within a country. In 2005, more than 40% of the total OECD population lived in a region with low GDP per capita; this proportion varied from 26% in Greece to over 60% in Australia (Figure 15.4).

Definition

Gross domestic product (GDP) is the standard measure of the value of the production activity (goods and services) of resident producer units. The regional GDP is measured according to the definition of the 1993 System of National Accounts. To make comparisons over time and across countries, it is expressed at constant prices (year 2000), using the OECD deflator and then it is converted into USD purchasing power parities (PPPs) to express each country's GDP into a common currency.

GDP per capita is calculated by dividing the GDP of a country or a region by its population.

The Gini index is a measure of inequality among all regions of a given country (see Annex C for the formula). The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

OECD deflator and purchasing power parities, *http://dotstat/wbos/*, Reference series.

OECD National GDP per capita, *http://dotstat/wbos/*, theme National accounts.

Reference years and territorial level

1995-2005; TL3

Australia, Canada, Mexico and the United States only TL2.

Regional GDP is not available for Iceland and Switzerland.

Figure notes

Figure 15.1: USD constant 2000 (PPP). Own calculations from OECD National Accounts.

Figure 15.2: As a percentage of national GDP per capita.

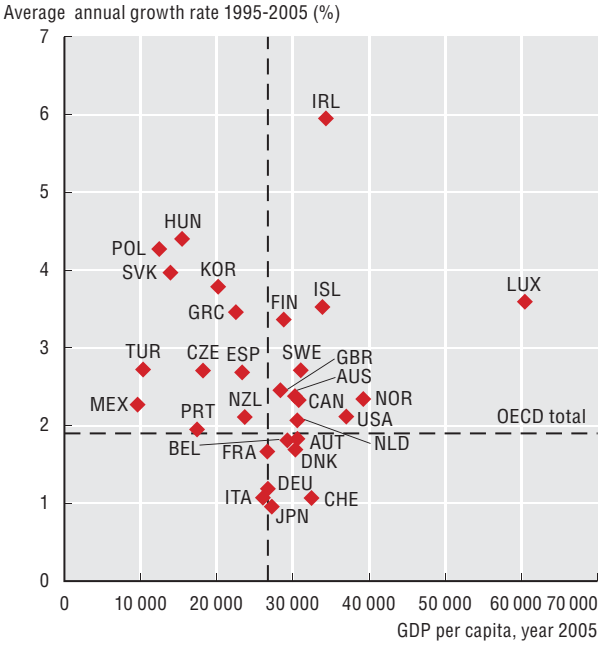
Figures 15.2 to 15.4: Part of the variation in regional GDP per capita is due to commuting. Available data: Italy 2000-05, Mexico 1995-2004, New Zealand 2000-03, Poland 2000-05, Turkey 1995-2001 and the United States 1997-2005.

Figure 15.4: Regions with low GDP per capita refer to those regions with GDP per capita below the national median value.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

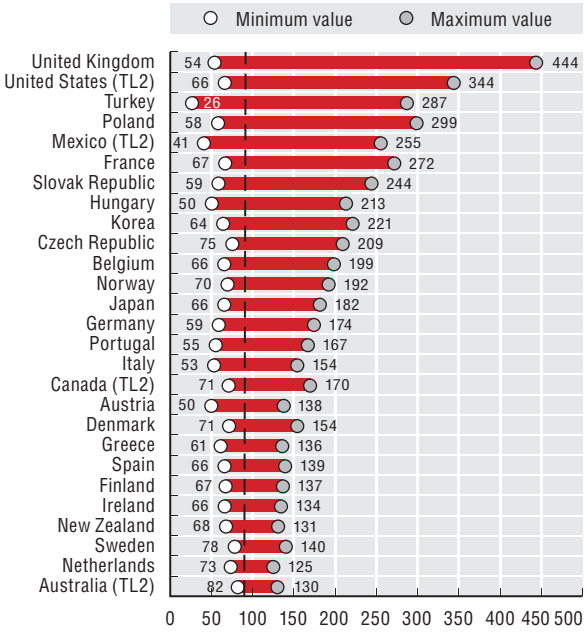
15.1 National GDP per capita, 2005 and average annual growth rate, 1995-2005

In 2005, GDP per capita in Luxemburg was more than six times higher than in Mexico.



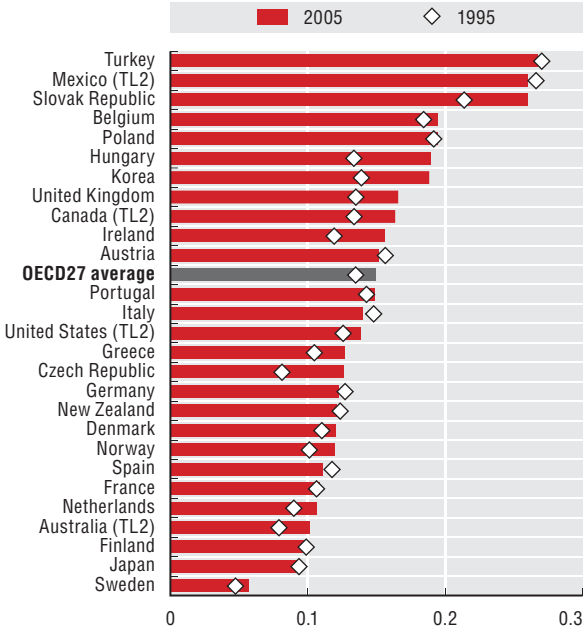
15.2 Range in TL3 regional GDP per capita, 2005

In 2005, regional differences in GDP per capita were the largest in the UK.



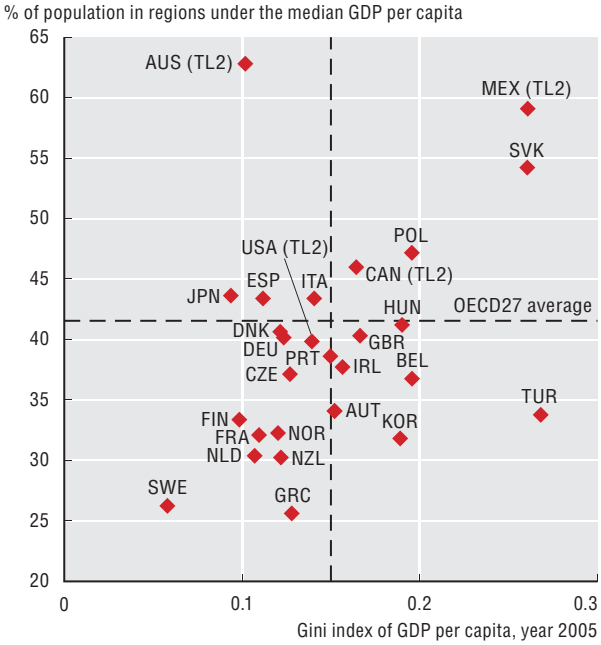
15.3 Gini index of TL3 regional GDP per capita

Turkey, Mexico and the Slovak Republic had the highest Gini index of GDP per capita in 2005.



15.4 Gini index of GDP per capita and % of population in regions with low GDP per capita, 2005 (TL3)

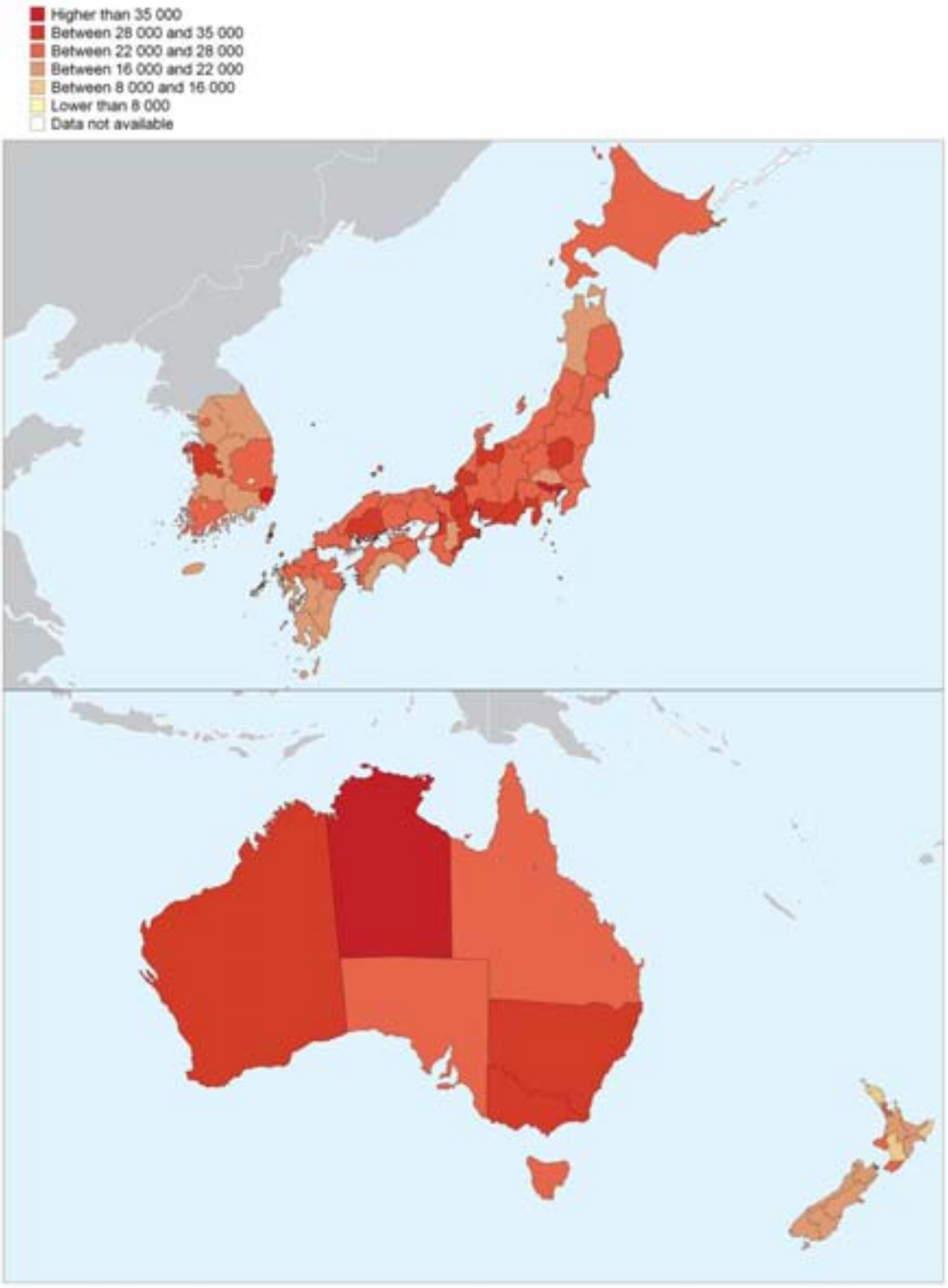
In Mexico, almost 60% of the population lived in regions with GDP per capita under the national median.



StatLink http://dx.doi.org/10.1787/523862110370

15.5 Regional GDP per capita: Asia and Oceania

Constant 2000 USD (PPP), TL3 regions, 2005



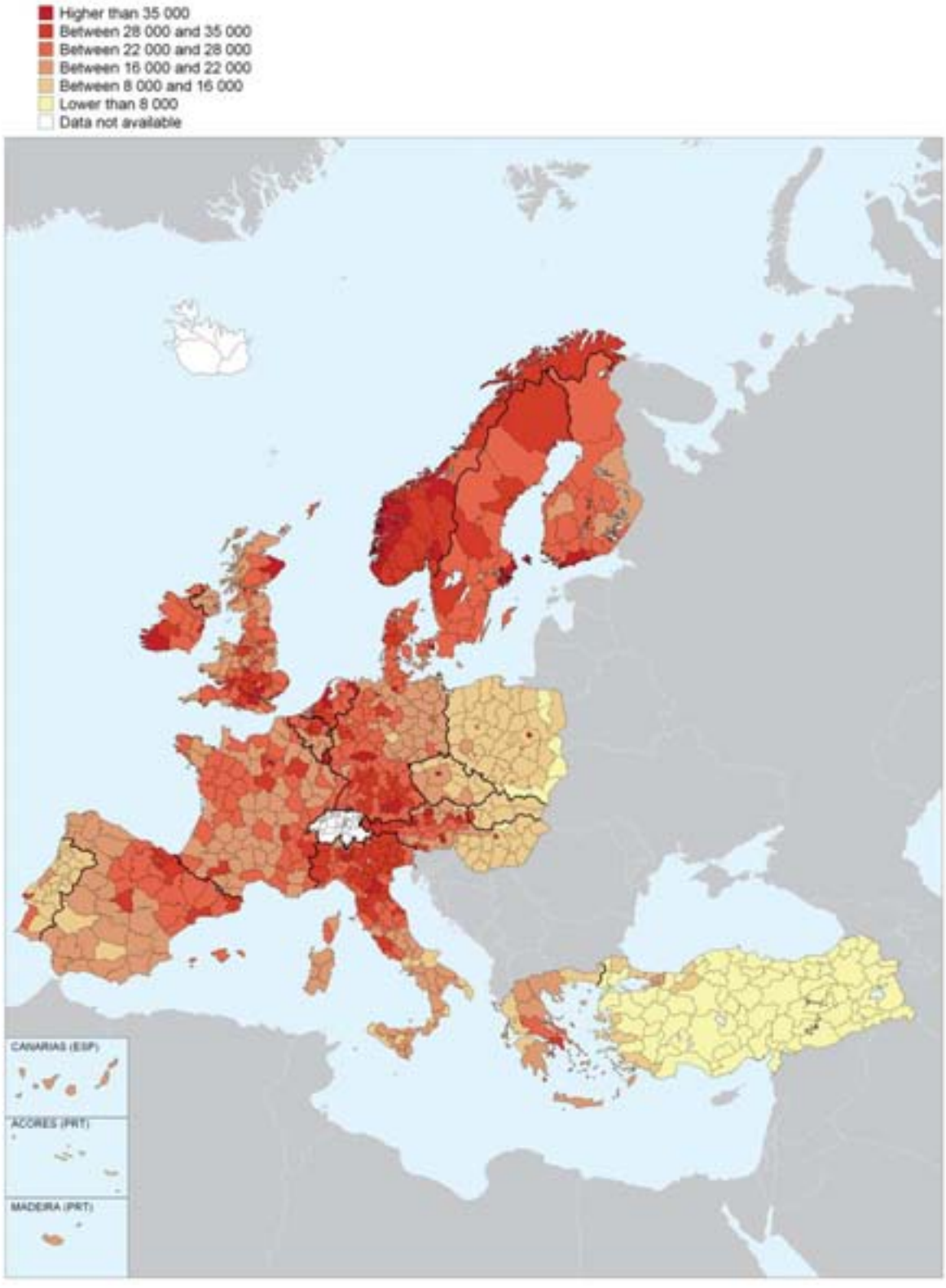
Australia TL2 regions.

StatLink http://dx.doi.org/10.1787/524680102538

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

15.6 Regional GDP per capita: Europe

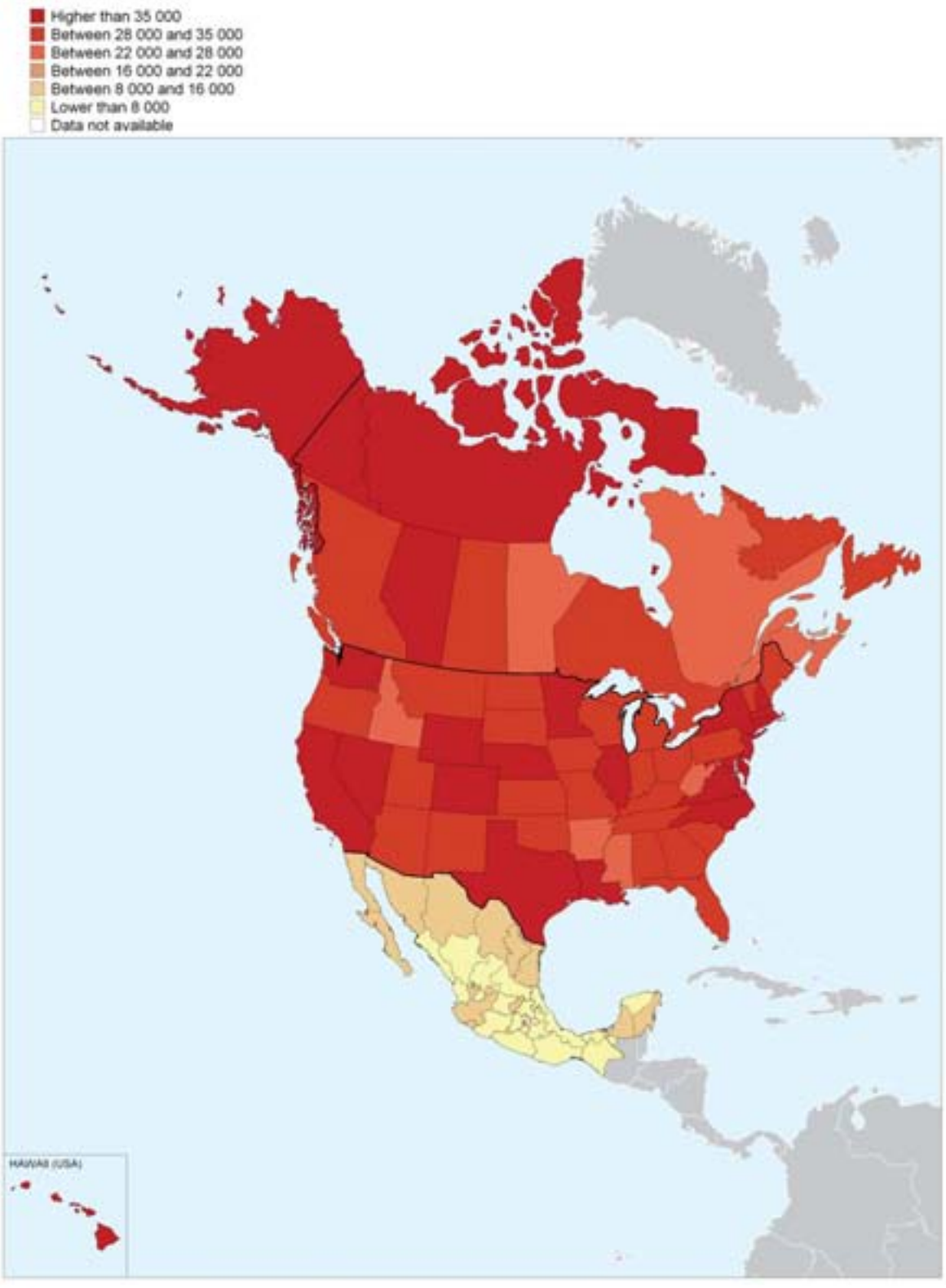
Constant 2000 USD (PPP), TL3 regions, 2005



StatLink http://dx.doi.org/10.1787/524680102538

15.7 Regional GDP per capita: North America

Constant 2000 USD (PPP), TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524680102538

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Regional disparities in GDP per capita over time

Regional disparities within countries in GDP per capita have persisted over time. Even if the analysis considers only a relatively short period of time, it shows that, with the exception of Austria, Belgium, Germany and Spain in all OECD countries disparities among regions, measured through the weighted coefficient of variation, increased over the period 1995-2005. The weighted coefficient of variation measures the regional disparities in GDP per capita among all regions in a country, weighting each region according to its population. The coefficient of variation is suitable to analyse a country's inequalities over time since it is independent of the size of the variable.

The Czech Republic, Hungary and the Slovak Republic have seen their already high inequalities in per capita income increase. At the same time, Greece, Sweden, Australia and Canada, generally considered low inequalities countries, also saw their regional disparities increased from 1995 to 2005, which suggests that within country inequalities may weigh differently on the GDP per capita distribution and reside mostly among low income regions (Table 15.8).

Different studies show that inequalities in GDP per capita among countries have decreased over the past 30 years. Nevertheless, GDP per capita differences seem to be driven more by inequality within countries than differences across national averages. Note in Table 15.8 an increase in within country TL3 coefficient of variation compared to the relatively constant coefficient of variation across national averages of GDP per capita.

15.8 Weighted coefficient of variation of TL3 regional GDP per capita, 1995-2005[1]

Regional inequalities in GDP per capita increased in 21 out of 25 OECD countries between 1995 and 2005.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Australia (TL2)	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.09	0.10
Austria	0.39	0.40	0.39	0.39	0.38	0.38	0.38	0.37	0.38	0.37	0.36
Belgium	0.38	0.39	0.38	0.38	0.38	0.38	0.38	0.39	0.38	0.38	0.38
Canada (TL2)	0.14	0.14	0.16	0.15	0.15	0.17	0.17	0.15	0.16	0.18	0.21
Czech Republic	0.27	0.27	0.30	0.35	0.37	0.39	0.41	0.42	0.43	0.41	0.43
Denmark	0.24	0.23	0.24	0.23	0.24	0.24	0.24	0.23	0.23	0.24	0.27
Finland	0.23	0.25	0.25	0.29	0.32	0.32	0.32	0.31	0.28	0.28	0.28
France	0.48	0.49	0.50	0.49	0.52	0.54	0.53	0.53	0.53	0.51	0.51
Germany	0.29	0.29	0.29	0.29	0.29	0.29	0.30	0.29	0.29	0.29	0.29
Greece	0.17	0.17	0.15	0.14	0.14	0.27	0.28	0.31	0.32	0.35	0.39
Hungary	0.48	0.51	0.53	0.52	0.55	0.58	0.58	0.64	0.59	0.60	0.67
Ireland	0.24	0.25	0.28	0.30	0.28	0.28	0.29	0.32	0.33	0.32	0.32
Italy	0.30	0.30	0.30	0.30	0.30	0.32	0.32	0.32	0.31	0.32	0.31
Japan	0.31	0.32	0.33	0.33	0.34	0.34	0.35	0.34	0.34	0.34	0.35
Korea	0.20	0.21	0.22	0.24	0.24	0.24	0.24	0.25	0.24	0.26	0.26
Mexico (TL2)	0.58	0.57	0.58	0.59	0.60	0.61	0.60	0.63	0.62	0.60	. .
Netherlands	0.13	0.14	0.15	0.15	0.16	0.16	0.15	0.15	0.15	0.15	0.16
New Zealand	. .	. .	. .	. .	. .	0.26	0.21	0.20	0.23	. .	. .
Norway	0.35	0.37	0.38	0.42	0.44	0.43	0.42	0.38	0.36	0.38	0.40
Poland	. .	. .	. .	. .	. .	0.50	0.49	0.51	0.52	0.50	0.53
Portugal	0.44	0.43	0.45	0.46	0.44	0.46	0.45	0.45	0.45	0.45	0.45
Slovak Republic	0.42	0.40	0.42	0.42	0.41	0.43	0.43	0.45	0.45	0.45	0.51
Spain	0.23	0.24	0.25	0.26	0.27	0.27	0.27	0.26	0.24	0.24	0.23
Sweden	0.17	0.20	0.23	0.25	0.27	0.26	0.25	0.25	0.24	0.25	0.26
Turkey	. .	. .	. .	. .	. .	0.60	0.58	. .	. .	. .	. .
United Kingdom	0.47	0.48	0.51	0.53	0.54	0.58	0.56	0.58	0.56	0.56	0.58
United States (TL2)	. .	. .	0.15	0.15	0.16	0.17	0.17	0.17	0.20	0.20	0.17
OECD25 within countries (TL3)	**. .**	**. .**	**0.38**	**0.38**	**0.38**	**0.41**	**0.41**	**0.41**	**0.41**	**0.41**	**. .**
OECD25 between countries	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.32**	**0.31**	**0.31**	**0.30**	**0.30**	**0.30**
OECD30 between countries	**0.38**	**0.37**	**0.37**	**0.38**	**0.38**	**0.39**	**0.39**	**0.39**	**0.38**	**0.38**	**0.38**

1. OECD25 excludes Iceland, Luxembourg and Switzerland for lack of regional GDP; New Zealand and Turkey for lack of data for comparable years. Due to a break in the series, regional data on GDP per capita in Poland for the years 1995-99 are not comparable with 2000-05.

StatLink http://dx.doi.org/10.1787/523862110370

16. REGIONAL DISPARITIES IN LABOUR PRODUCTIVITY

In 2005 labour productivity, measured by GDP per person employed, was USD 59 000 on average in OECD countries, ranging from less than USD 21 000 in Turkey and Mexico to four times higher in the United States (Figure 16.1). Productivity growth in the years 1995-2005 was the highest in Poland, the Slovak Republic, Ireland, Hungary and Korea, at more than two times the OECD average. At the other extreme, GDP per worker was negative in Mexico, Italy and Spain (Figure 16.1).

Regional differences in GDP per worker within countries are even larger than among countries. Regional differences were markedly high in Turkey, Mexico, Poland and Korea, where labour productivity in the top region was more than four times higher than in the region with the lowest productivity (Figure 16.2). When using GDP per worker rather than GDP per capita, regional differences were less marked in Belgium, France, Hungary, the United Kingdom and the United States suggesting that the effect of commuting among regions in these countries is particularly relevant (comparison between Figures 15.2 and 16.2).

While the range shows the difference between the regions with the highest and the lowest GDP per worker, the Gini index measures the regional disparities among all regions within a country. According to this index Turkey, Mexico, Korea, Portugal and Canada displayed the greatest regional disparity in GDP per worker. On the other hand, regional disparities were lowest in Spain, Sweden, Denmark and Italy (Figure 16.3).

During the past ten years disparities in regional productivity, as measured by the Gini index, have increased in half of the OECD countries, the most in Canada, Australia and Portugal. Over the same years the Gini index decreased the most in Poland, Germany and Spain (Figure 16.3).

Between 1995 and 2005 regional labour productivity decreased in around 20% of OECD regions, most diffusely in Mexico, Greece, Portugal, Italy, and Spain. On the contrary, many regions in Poland and the Slovak Republic increased the labour productivity by more than 4 percentage points annually (Maps 16.5-16.7).

To appreciate the economic implication of different patterns of regional disparities, Figure 16.4 depicts the proportion of workers living in regions with low productivity (under the median value). This proportion varies among countries, ranging from 25% in Japan to almost 60% in Korea. Even in countries with similar regional differences in productivity (as measured by the Gini index), the proportion of people affected by regional disparities is very different. For example Portugal, Canada, Poland and Korea have similar Gini index values for 2005 while the percentage of workers employed in regions with low productivity varies from 30% to 60% (Figure 16.4).

Definition

Labour productivity is measured as the ratio of constant GDP in 2000 prices, to total employment where the latter is measured at place of work.

The Gini index is a measure of inequality among all regions of a given country (see Annex C for the formula). The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

OECD National GDP per capita, *http://dotstat/wbos/*, theme National accounts.

OECD Total employment, *http://dotstat/wbos/*, theme Annual labour force statistics.

Reference years and territorial level

1995-2005; TL3

Australia, Canada, Japan, Mexico and the United States only TL2.

Regional GDP is not available for Iceland and Switzerland.

Figure notes

Figures 16.1 to 16.4: USD constant PPP year 2000. Available data: Denmark 1997-2005; Germany 1995-2004; Italy 2000-05; Korea 1996-2005; Mexico 2000 and 2004; New Zealand 2000-03; the Netherlands 1999-2005; Poland 1998-2005; Sweden 1999-2005; Turkey only 2000 and the United States 1997-2005.

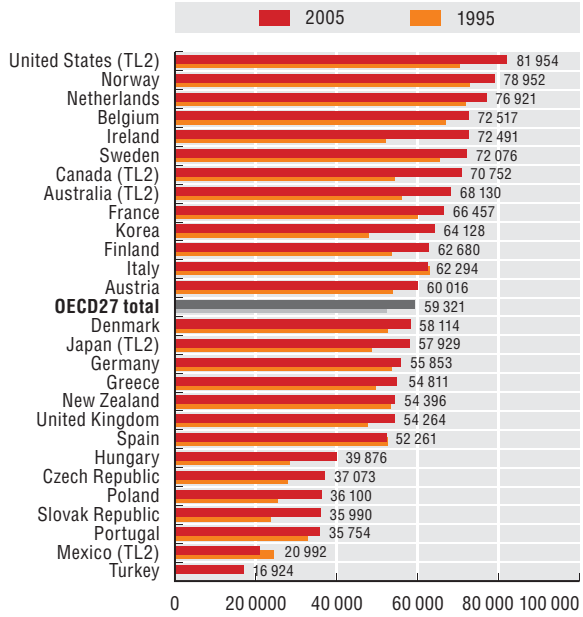
Figure 16.2: As a percentage of national GDP per worker.

Figure 16.4: Low-productivity regions refer to those regions with GDP per worker below the national median value.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

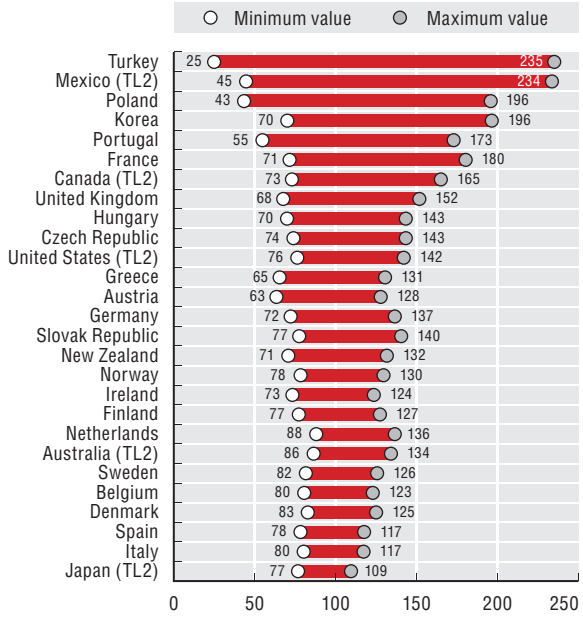
16.1 Country average GDP per worker

Labour productivity varies greatly between the United States and Turkey.



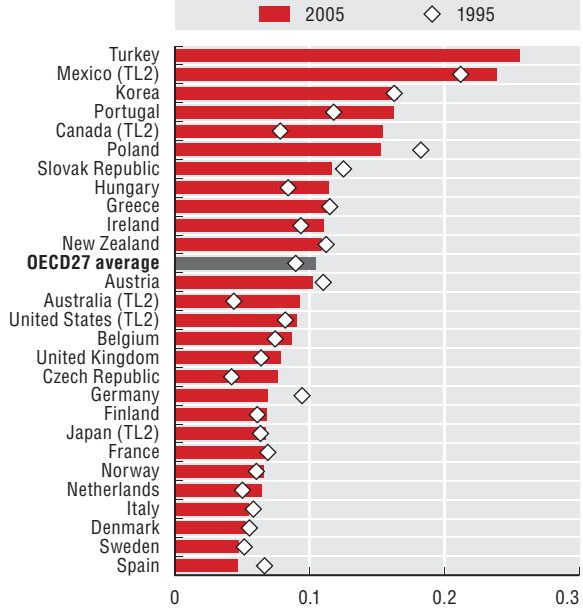
16.2 Range in TL3 regional GDP per worker, 2005

Disparities in productivity among regions within countries were the largest in Turkey in 2005.



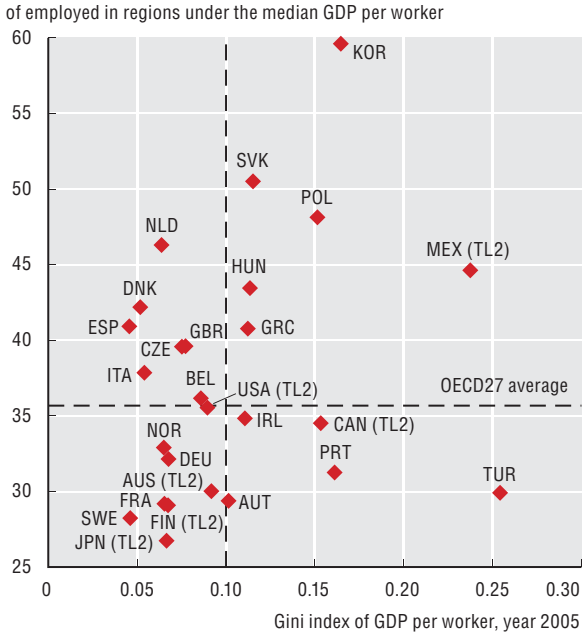
16.3 Gini index of TL3 regional GDP per worker

In 2005, Turkey, Mexico and Korea showed the largest regional disparities in labour productivity.



16.4 Gini index of GDP per worker and % of population in low productivity regions, 2005 (TL3)

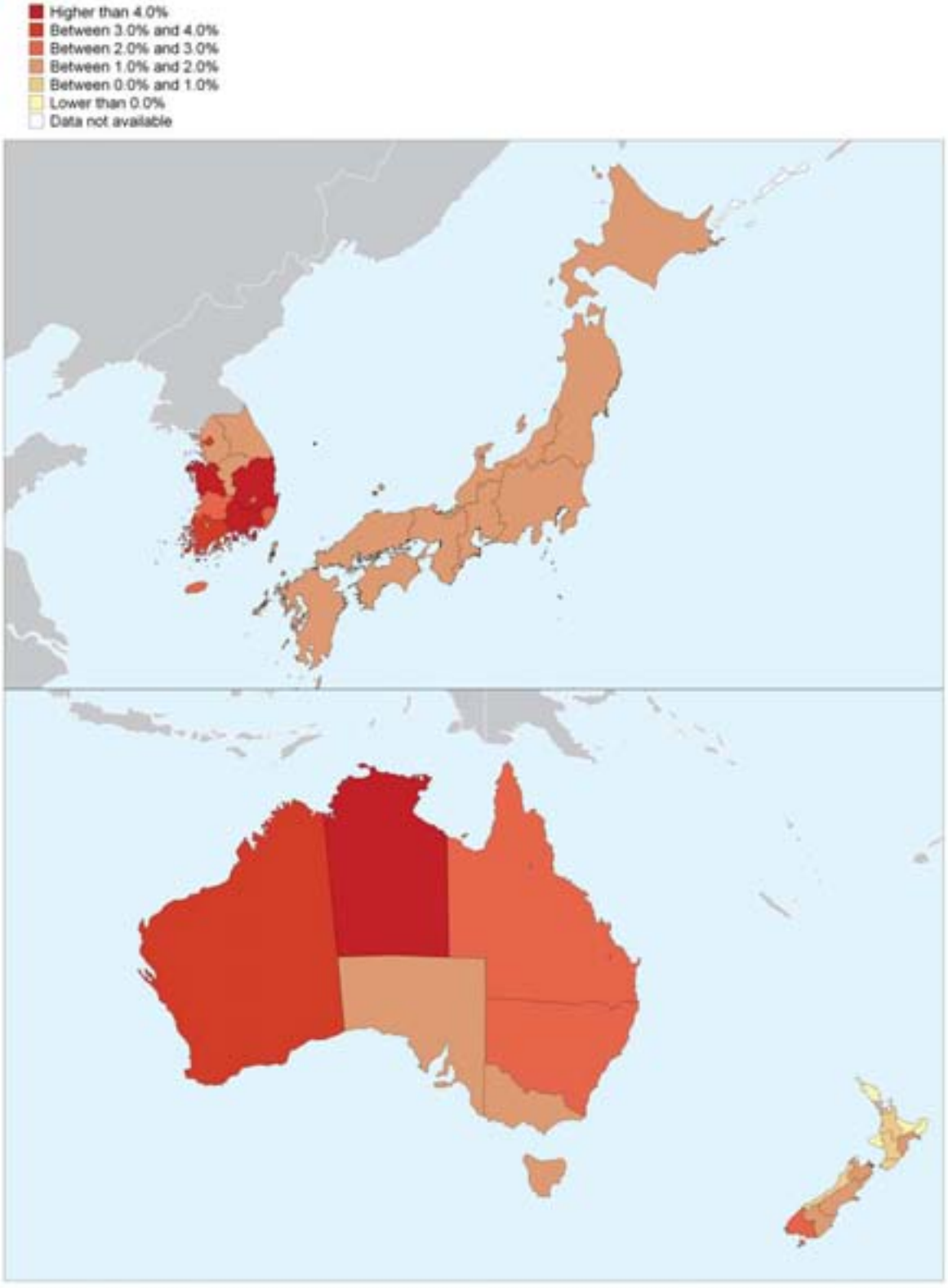
35% of OECD workers are employed in regions with labour productivity below the national median.



StatLink http://dx.doi.org/10.1787/523884365725

16.5 Annual growth of regional productivity: Asia and Oceania

Regional GDP per worker in constant 2000 USD (PPP), TL3 regions, 1995-2005



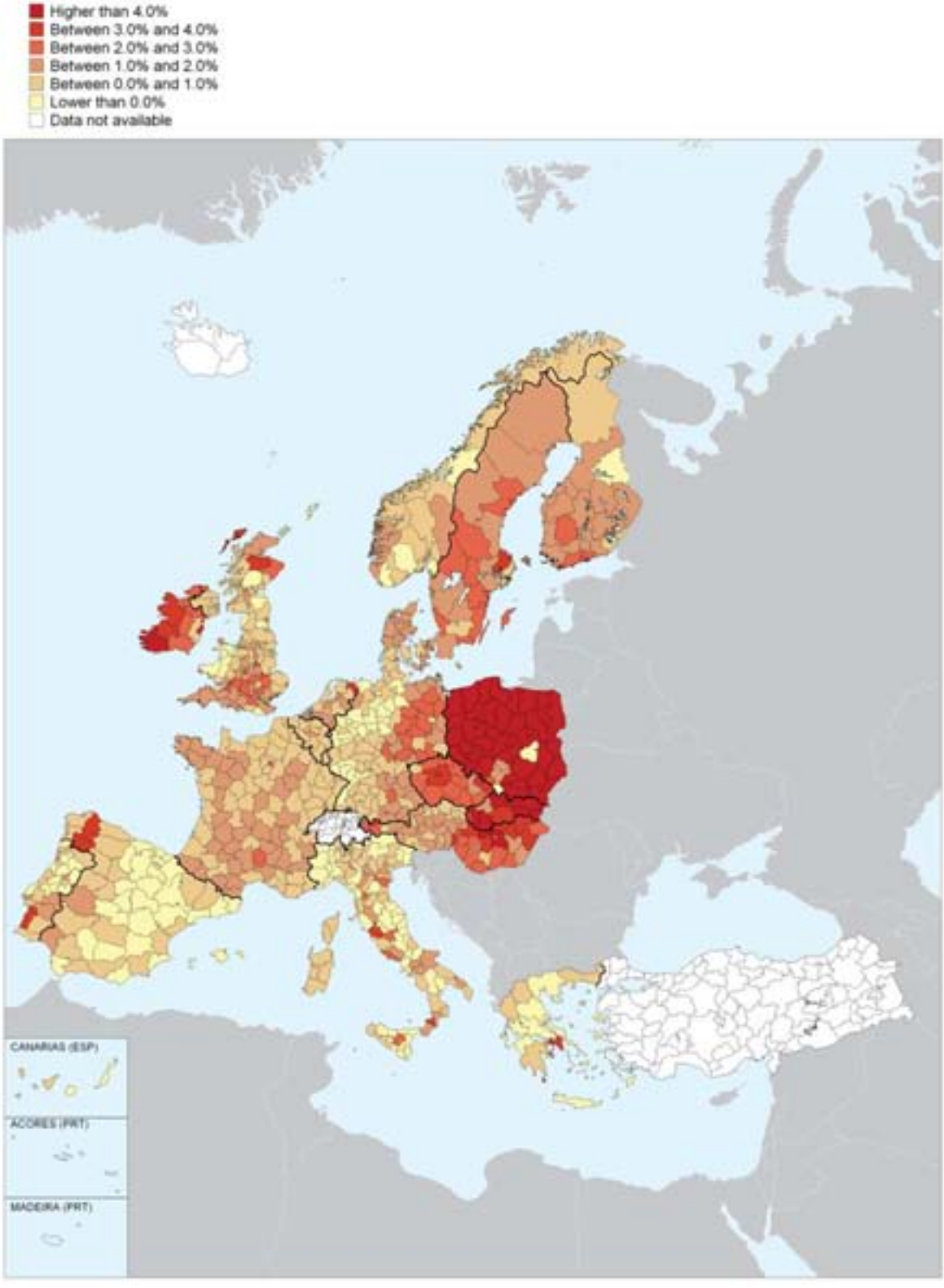
Australia and Japan TL2 regions.

StatLink http://dx.doi.org/10.1787/524746538431

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

16.6 Annual growth of regional productivity: Europe

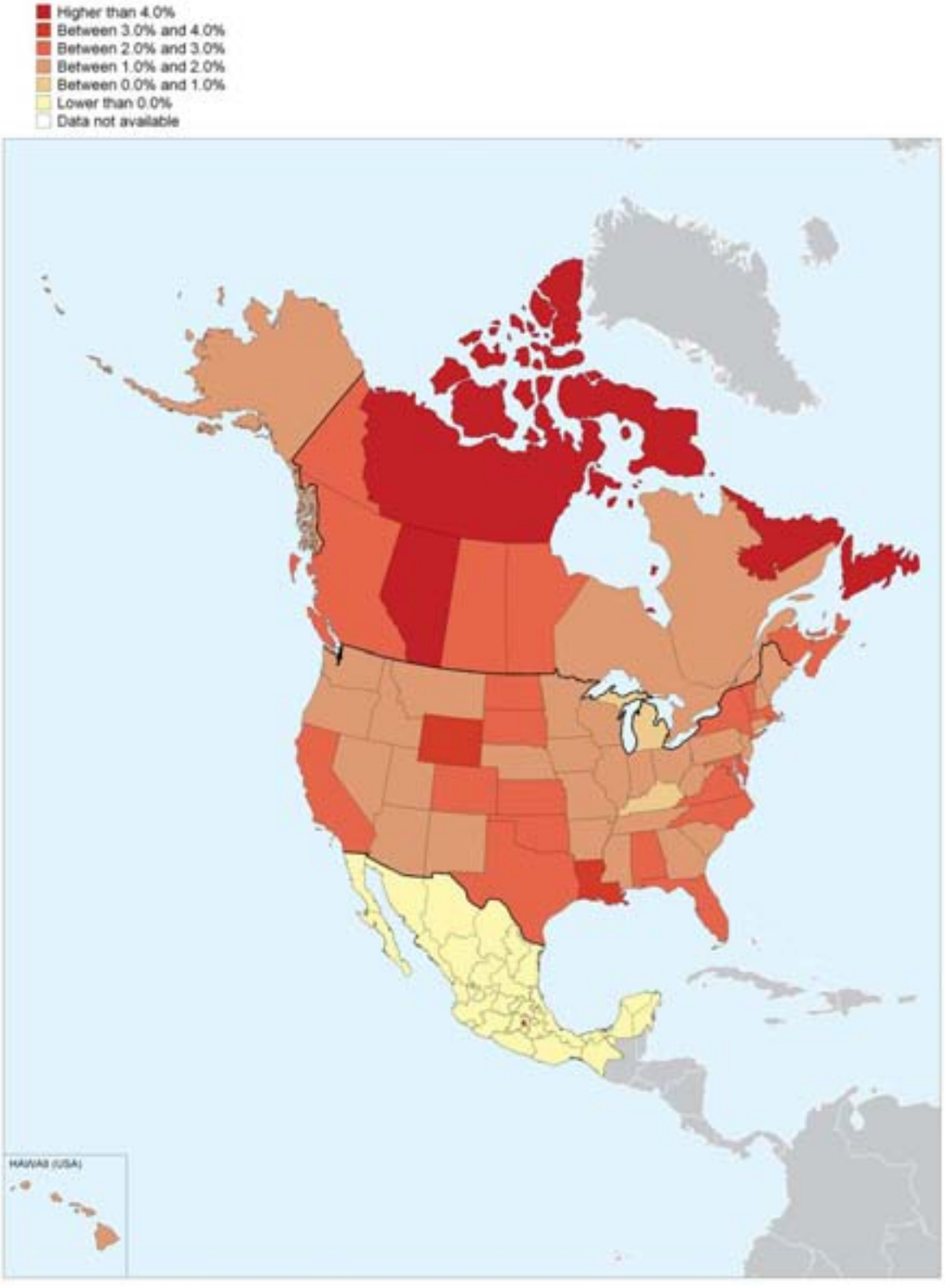
Regional GDP per worker in constant 2000 USD (PPP), TL3 regions, 1995-2005



StatLink http://dx.doi.org/10.1787/524746538431

16.7 Annual growth of regional productivity: North America

Regional GDP per worker in constant 2000 USD (PPP), TL2 regions, 1995-2005



StatLink http://dx.doi.org/10.1787/524746538431

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Improving regional labour productivity: The role of employment and innovation

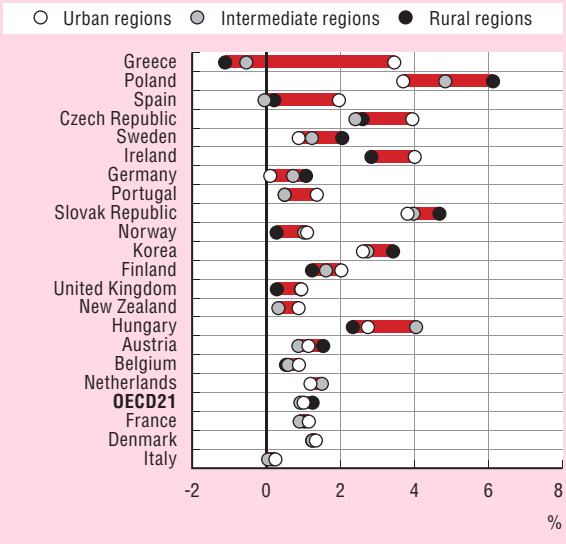
Regional differences in GDP per capita are mainly explained by productivity differentials among regions. Labour productivity growth is considered a key indicator to assess regional competitiveness. Regional living conditions are raised by continued gains in labour productivity, along with an increase in the labour force participation. In fact only economies which manage to simultaneously sustain employment and productivity growth will increase their competitiveness edge and maintain it in the long run. Between 1995 and 2005, OECD labour productivity increased on average 1.5% annually. While many regions in Poland and the Slovak Republic increased their labour productivity by more than 4 percentage points annually, labour productivity decreased in around 20% of OECD regions, most diffusely in Mexico, Greece, Italy and Spain.

Rural regions on average increased their labour productivity more than urban regions (1.2% *versus* 1.0%) signalling that rural regions are in the process of catching up. Labour productivity gains were larger in rural regions than in urban or intermediate ones especially in Poland, Sweden, Germany, the Slovak Republic and Korea (Figure 16.8). The process of catching-up in the labour productivity growth for rural regions with a low base has been driven in many regions by a shift in employment towards higher-productivity activities. The reduction of employment in agriculture, forestry and fishing sector between 1995 and 2005 was especially intense (more than 30%), in the Slovak Republic, Poland and Korea, all countries which experienced both positive productivity growth and larger growth in rural than urban regions (Figure 16.8).

Differences in labour productivity growth among regions are invariably the results of multiple factors, including labour market policies and institutions (taxes, labour cost and wages setting, relevance of the informal labour market, economic and institutional environment towards foreign investment and migration, policies and investment in R&D, etc.). Innovation and the adoption of new technologies are considered major determinants of productivity growth, in particular of the multi-factor productivity, that is to say the component of output and labour productivity that is not accounted for by factor inputs. A positive correlation is found among the OECD regions fast-growing in labour productivity (larger than their national labour productivity growth) and in regional patenting activity, which confirms the positive impact of knowledge-oriented activities and innovation systems on productivity (Figure 16.9).

16.8 Labour productivity growth by regional type (TL3), 1995-2005[1]

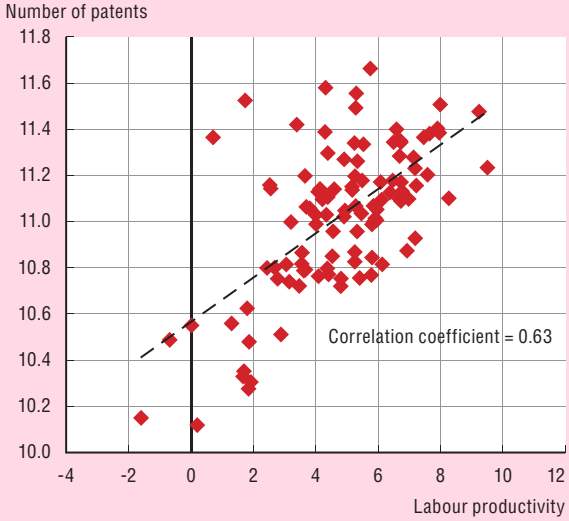
Between 1995 and 2005, Greece had the widest disparity in GDP per worker growth across rural, intermediate and urban regions.



1. Only TL3 regions, therefore Australia, Canada, Japan, Mexico and the United States are excluded. Values for Turkey available only for one year.

16.9 Labour productivity and patents in TL2 regions, 2005[1]

Regional gains in GDP per worker are positively correlated with innovation output.



1. Only TL2 regions with labour productivity growth higher than their national growth.

StatLink http://dx.doi.org/10.1787/523884365725

Regional specialisation varies considerably among OECD countries. Specialisation is measured as the ratio between an industry's weight in a region and its weight in the country overall. A region is specialised in an industry when the index is above 1 and it is not specialised when the index is below 1. Comparable regional data on employment by industry for 25 OECD countries on a detailed sector classification are available only for the real economy and market services (*i.e.* the financial sector and industries dominated by non market production such as public administration, education, health and defence are excluded).

Almost 90% of the total employment in OECD countries in 2005 for real economy and market services was accounted in five major industries. More than one-fourth of the total employment was in the wholesale, retail and trade sector; both the manufacturing (which could be disaggregated into 14 sectors), and the real estate, renting and business sector accounted for more than 20% of total employment, while both the construction sector and the hotel and restaurant sector accounted each for 10% of employment.

The degree of regional specialisation in the wholesale, retail and trade sector was very different: Turkey, the United States, Spain and Germany recorded the highest regional range and a value of the most specialised region of 1.5-1.7 (Figure 17.1).

Variation in regional specialisation is higher in some activities than in others. Natural endowments play an important role in some manufacturing activities and weather and the environment can facilitate the development of tourism infrastructure as well as transport services.

Germany, Mexico, Turkey, Portugal, Italy and Spain presented the highest variation in regional specialisation in the hotels and restaurants sector, while Iceland, the Netherlands and Belgium had very little regional variation (Figure 17.2).

The construction sector did not display large regional variation in the specialisation index. With the exception of Turkey, where Ankara recorded a specialisation index of 3.6, in all the countries considered the range between the most and the least specialised regions was smaller than 1.5 (Figure 17.3).

In 2005 the range in regional specialisation of the real estate, renting and business services sector was the widest in Mexico, the United States, Turkey and the Czech Republic (Figure 17.4).

In almost one-third of the OECD countries considered the difference between the region with the highest and the lowest degree of specialisation in the manufacturing sector was no less than 1 (Maps 17.5-17.7).

The range in the degree of specialisation among OECD regions in different sub-sectors of the manufacturing sector is shown in Table 17.8.

Definition

Regional specialisation in an industry is measured as the ratio of the industry's share of employment in a region to the industry's share in the country (Balassa-Hoover index, see Annex C for definition). A value of the index above 1 shows greater specialisation than in the country as a whole and a value below 1 show less specialisation.

Industries are defined according to the International Standard Industrial Classification (ISIC) Rev. 3.1. Regional data are available and comparable among countries on a detailed sector classification (20 sectors) only for the real economy and market services. This classification therefore excludes the financial sector and industries dominated by non market production such as public administration, education, health and defence (see the list of sectors in Annex B).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources, country related metadata and definition of employment sectors.

Reference years and territorial level

2005; TL2

No regional data for Denmark, Korea, New Zealand and Switzerland.

Further information

United Nations Classification Registry, *http://unstats.un.org/unsd/cr/registry/*.

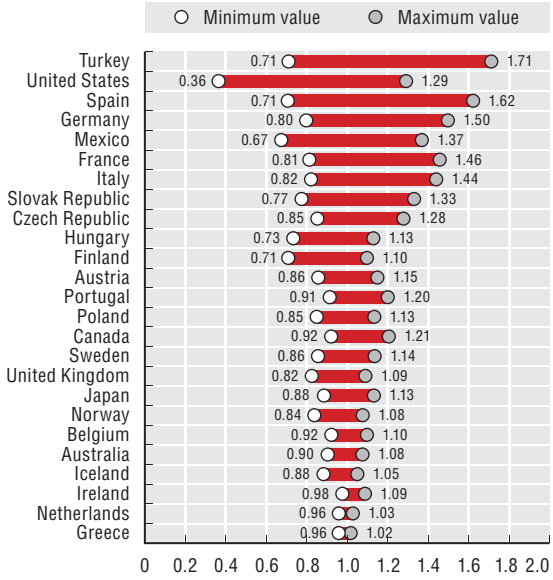
Figure notes

Figures 17.1 to 17.4: Available data: Australia and Canada 2007; Japan 2006; Belgium and the Netherlands 2004; Mexico 2003 and Turkey 2002.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

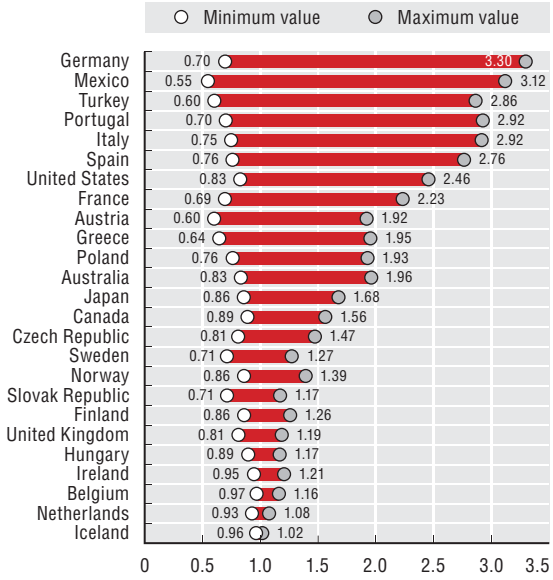
17.1 Range in degree of specialisation in wholesale, retail and trade sector across TL2 regions, 2005

In 2005, Turkey had the largest regional difference in the degree of specialisation in the wholesale, retail and trade sector.



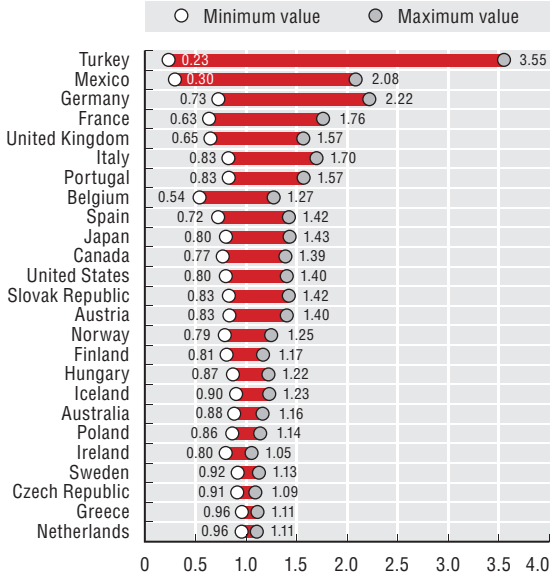
17.2 Range in degree of specialisation in hotel and restaurant sector across TL2 regions, 2005

In 2005, Germany and Mexico had the highest levels of regional specialisation in the hotel and restaurant sector.



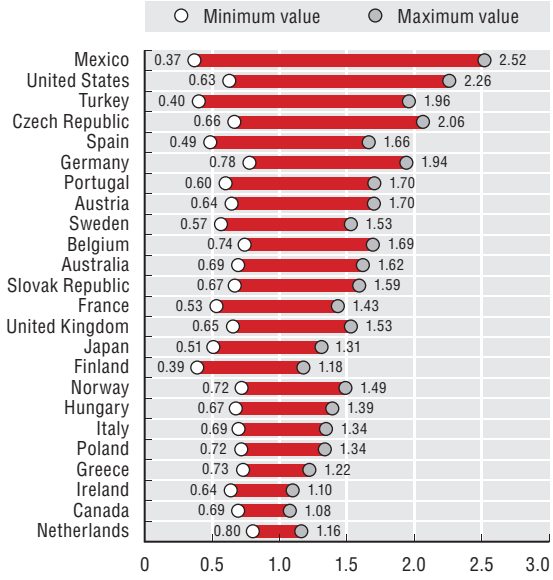
17.3 Range in degree of specialisation in construction across TL2 regions, 2005

In 2005, Turkey, Mexico and Germany had the highest levels of specialisation in the construction sector.



17.4 Range in degree of specialisation in real estate, renting and business activities sector across TL2 regions, 2005

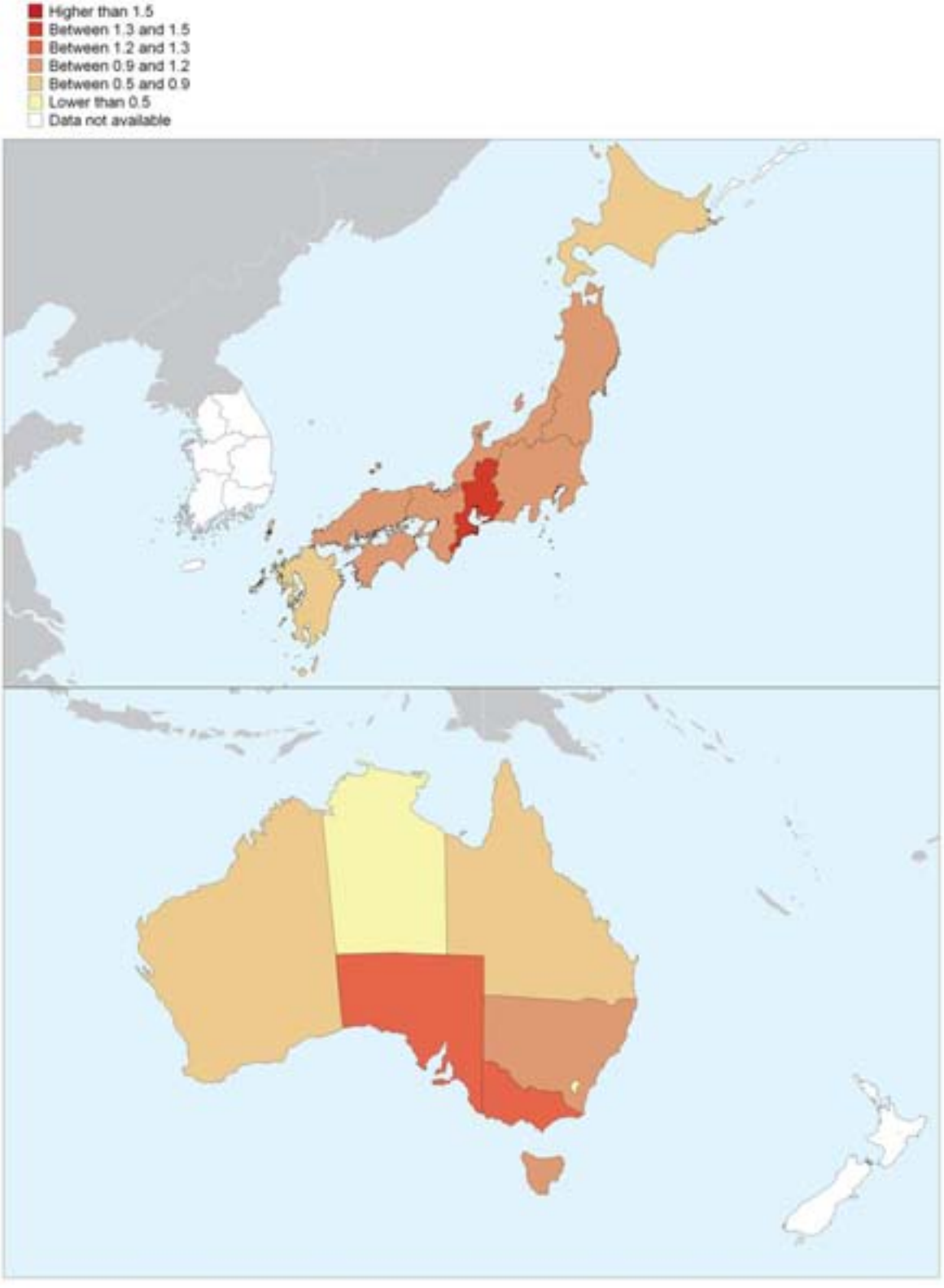
The range of regional specialisation in real estate, renting and business activities was the largest in Mexico and United States.



StatLink http://dx.doi.org/10.1787/524026650468

17.5 Specialisation in manufacturing: Asia and Oceania

Specialisation index, TL2 regions, 2005

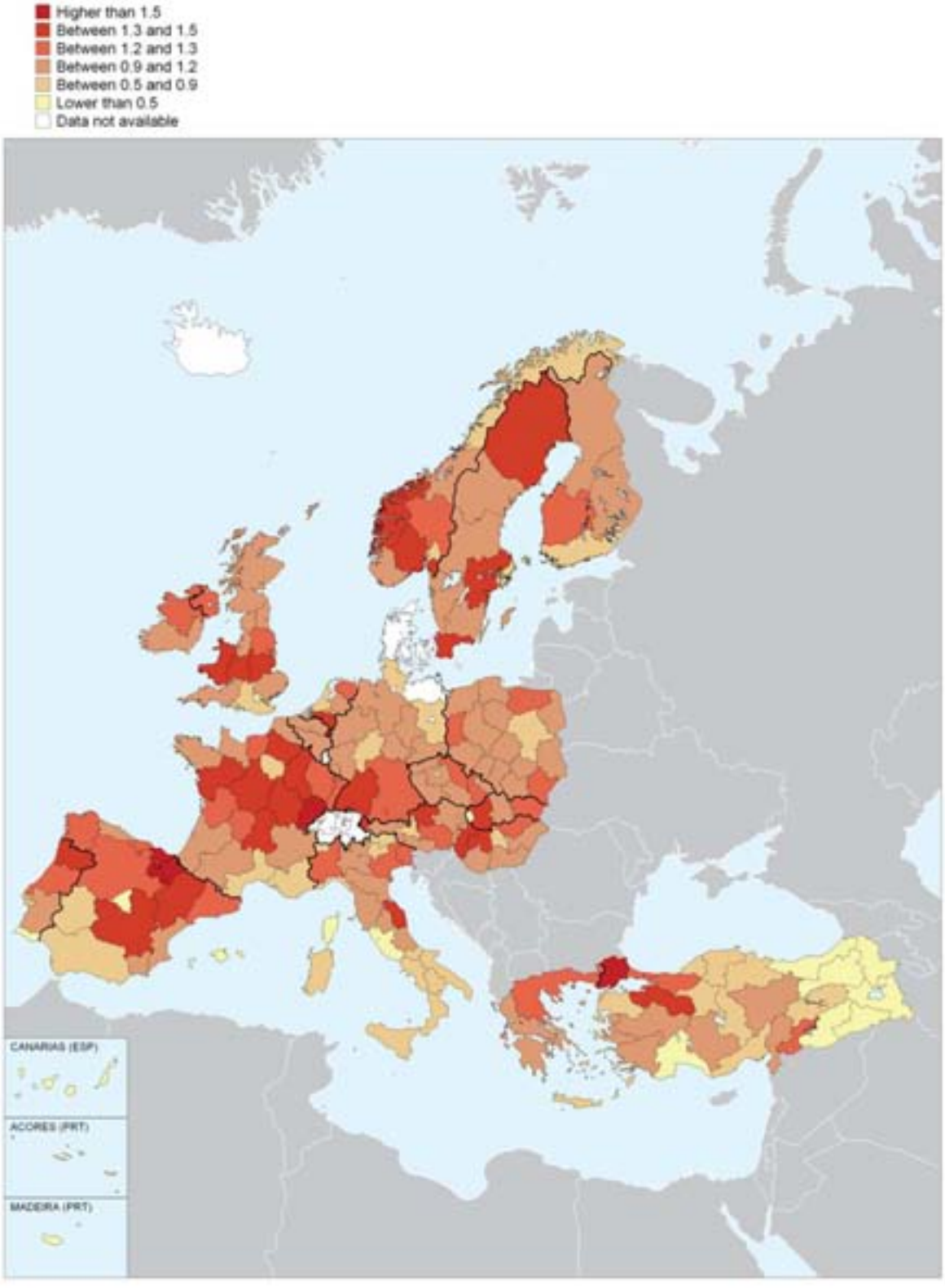


StatLink http://dx.doi.org/10.1787/524750152221

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

17.6 Specialisation in manufacturing: Europe

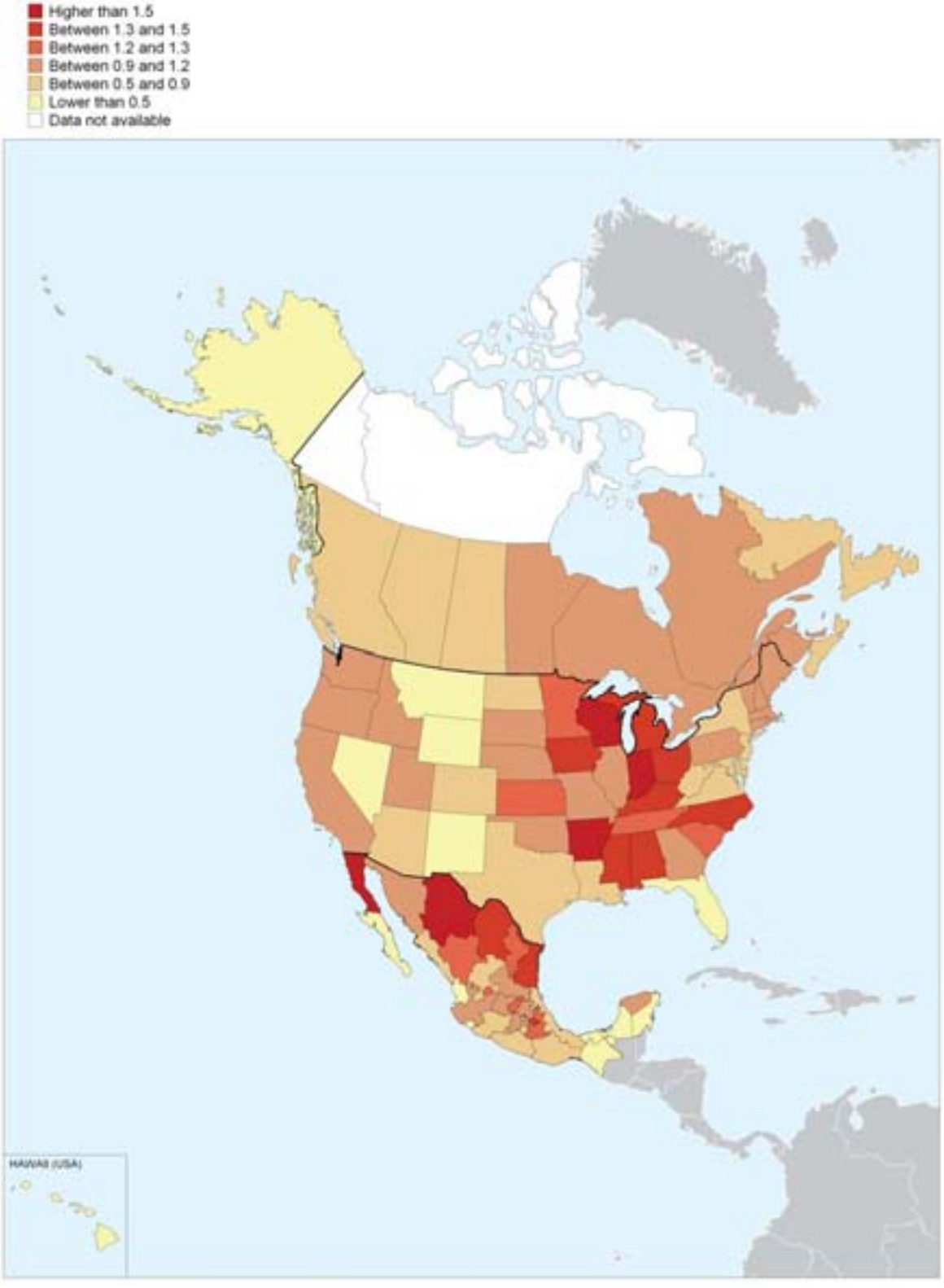
Specialisation index, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524750152221

17.7 Specialisation in manufacturing: North America

Specialisation index, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/524750152221

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Regional specialisation and size of industries across OECD regions

The specialisation index compares the proportion of regional employment in an industry over the total regional employment to the proportion of the national employment in that industry over total national employment. A region is specialised in an industry when the index is above 1.

Table 17.8 shows the most specialised TL2 regions in OECD countries with respect to the classification of real economy and market services into 20 sectors. In 2005, Campeche (Mexico) was the most specialised region among OECD regions in the mining and quarrying industry with a specialisation index of 15.7; three regions in Turkey were the most specialised in traditional manufacturing sectors: Trabzon (food products), Kastamonu (wood products) and Zonguldak (basic metals). Baja California Norte (Mexico) was the most specialised region in the high-technology sector of "electrical and optical equipment", while District of Columbia (United States) and Aland (Finland) were the most specialised regions in knowledge-intensive services, of "real estate, renting and business activities" and "transport, storage and communications" (for a complete description of regional variation in employment in the high-technology and knowledge-intensive sectors see Chapter 7) (Table 17.8).

Besides the degree of a region's specialisation in a certain industry, the share of regional employment in that industry gives an indication of the extent to which the regional economy can benefit from spill-over effects and linkages among firms. Almost 70% of the District of Columbia (United States) workers are employed in real estate, renting and business activities, compared to 20% in Quintana Roo (Mexico). Almost 64% of employment in Agri (Turkey) is in wholesale and retail trade, repair of motor vehicles and households goods and 50% of employment in Aland (Finland) was in transport, storage and communication (Table 17.8).

17.8 Most specialised TL2 regions and share of employment by sector, 2005[1]

Campeche, Mexico, was the most specialised OECD region in mining and quarrying, with 13.5% of workers employed in this sector

Sectors	Most specialised region (specialisation index)	Per cent of employment in the sector over total regional employment	Second most specialised region (specialisation index)	Per cent of employment in the sector over total regional employment
Mining and quarrying	Campeche (15.7) – Mexico	13.51	Wyoming (14.9) – United States	12.47
Food products, beverages and tobacco	Trabzon (4.8) – Turkey	27.22	Arkansas (3.4) – United States	5.82
Manufacture of textiles, wearing apparel and tanning	Vorarlberg (6.1) – Austria	6.21	North Carolina (4.3) – United States	3.15
Manufacture of wood and of products of wood and cork, except furniture	Kastamonu (4.9) – Turkey	7.79	Oregon (4.4) – United States	2.76
Manufacture of paper and paper products	Maine (4.3) – United States	2.09	Sør-Østlandet (4.1) – Norway	2.39
Publishing, printing and reproduction of recorded media	Karnten (2.7) – Austria	0.86	Vorarlberg (2.7) – Austria	0.85
Manufacture of energy products, chemicals, rubber and plastic	Auvergne (3) – France	10.71	Kocaeli (2.8) – Turkey	9.38
Manufacture of other non-metallic mineral products	Swietokrzyskie (3.2) – Poland	5.54	Manisa (3) – Turkey	7.97
Manufacture of basic metals	Zonguldak (10.7) – Turkey	15.23	Asturias (7.1) – Spain	3.90
Manufacture of fabricated metal products, except machinery and equipment	Franche-Comte (3.1) – France	9.11	Pais Vasco (2.9) – Spain	8.16
Manufacture of machinery and equipment n.e.c.	Pais Vasco (3.3) – Spain	4.85	Navarra (3.2) – Spain	4.69
Electrical and optical equipment	Baja California Norte (5.5) – Mexico	16.08	Chihuahua (4.3) – Mexico	12.49
Manufacture of transport equipment	Michigan (5.5) – United States	7.15	Indiana (4.7) – United States	6.15
Manufacturing n.e.c. recycling	Border, Midlands and Western (4.7) – Ireland	1.29	Kayseri (3.6) – Turkey	8.51
Electricity, gas and water supply	Lazio (5) – Italy	3.83	Erzurum (3.6) – Turkey	6.95
Construction	Ankara (3.6) – Turkey	15.85	Mecklenburg-Vorpommern (2.2) – Germany	7.82
Wholesale and retail trade; repair of motor vehicles, and household goods	Agri (1.7) – Turkey	63.80	Ciudad Autónoma De Melilla (1.6) – Spain	39.85
Hotels and restaurants	Mecklenburg-Vorpommern (3.3) – Germany	21.32	Quintana Roo (3.1) – Mexico	26.61
Transport, storage and communications	Aland (4.1) – Finland	50.66	Distrito Federal (2) – Mexico	12.54
Real estate, renting and business activities	Quintana Roo (2.5) – Mexico	18.46	District Of Columbia (2.3) – United States	68.78

1. ISIC Rev. 3.1 sectors. Last available year Australia and Canada 2007, Belgium and the Netherlands 2004, Japan 2006, Mexico 2003, Turkey 2002. No data available for Denmark, Korea, New Zealand and Switzerland.

StatLink http://dx.doi.org/10.1787/524026650468

18. REGIONAL DISPARITIES IN UNEMPLOYMENT RATES

Unemployment rates vary significantly within countries. In 2006, regional differences in unemployment rates within OECD countries were almost two times higher (19 percentage points) than differences among countries (11 percentage points).

In one-third of OECD countries the difference between the regions with highest and lowest unemployment rate was higher than 10 percentage points. Canada, Germany, the Slovak Republic and Spain had regions with unemployment rates as low as 5% and others with unemployment rate above 20% (Figure 18.2).

The Gini index offers a picture of regional disparities. It looks not only at the regions with the highest and the lowest rate of unemployment but at the difference among all regions in a country. The index varies between zero and one; the higher its value, the larger the regional disparities. According to this index, in 2006, Iceland (data 2002), Italy and Belgium were the countries with the largest regional disparities in unemployment rate. In Sweden, Ireland, New Zealand and Greece unemployment rates reflected a more even regional pattern (Figure 18.3).

Unemployment rates have generally decreased from 1999 to 2006. During the same period, the reduction in the national unemployment rate experienced in Spain and Italy was accompanied by a reduction in regional disparity according to the Gini index. The decrease in the unemployment rate in Greece and New Zealand had no effect on regional disparity, in the Slovak Republic and Korea this resulted in an increase in regional disparities (comparison between Figures 18.1 and 18.3).

In 2006, more than half of the total labour force in OECD countries lived in regions with unemployment rates higher than the median value. Iceland, Switzerland, Korea, the United States, Portugal and Japan had the highest share (60% and more) of workforce living in regions with an unemployment rate above the national median unemployment rate.

There are also significant differences in youth unemployment rates (referring to the unemployed between 15 and 24 years of age) among regions within a country. In 2006, France, Spain and Italy were the countries with the highest regional inequality, according to the Gini index of youth unemployment.

In almost half of the countries considered the regional variation in youth unemployment rate was higher than 15 percentage points in 2006 (Figure 18.4).

Definition

Unemployed persons are defined as those who are without work, that are available for work and that have taken active steps to find work in the last four weeks preceding the labour force survey. The unemployment rate is defined as the ratio between unemployed persons and labour force, where the latter is composed by unemployed and employed persons.

The youth unemployment rate is defined as the ratio between the unemployed persons aged between 15 and 24 and the labour force in the same age class.

The Gini index is a measure of inequality among all regions of a given country (see Annex C for the formula). The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

OECD Annual Labour Force Statistics Database, *http://dotstat/wbos/*, National unemployment rates.

See Annex B for data sources and country related metadata.

Reference years and territorial level

1999-2006; TL3

Mexico and Turkey TL2 regions.

Regions in Australia and Canada are grouped differently than TL3 regions, labelled non official grids – NOG (see Territorial grids).

Data for long-term unemployment and youth unemployment are available only for TL2 regions.

Further information

ILO Guidelines, *http://ilo.org*.

Eurostat definition of unemployment (Commission Regulation No. 1897/00), *http://europa.eu.int/comm/eurostat/*.

OECD Employment Outlook (2006), "Boosting Jobs and Incomes".

Figure notes

Figure 18.1: *Source:* OECD Annual Labour Force Statistics Database.

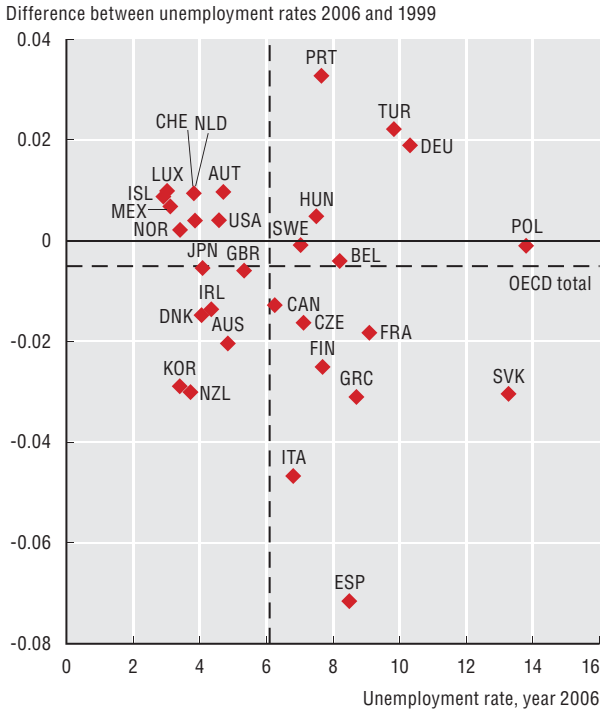
Figures 18.2 to 18.3: Available data: Iceland 1999-2002; Turkey 2004-06.

Figure 18.4: Data available only at TL2. No regional data available for Denmark, Iceland, Korea, Mexico, New Zealand, Switzerland and the United States.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

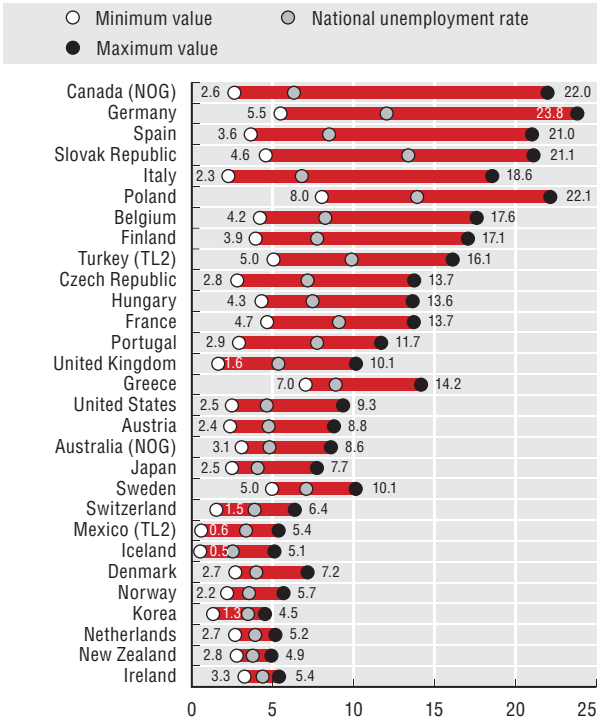
18.1 National unemployment rate in 2006 and difference between 2006 and 1999

Differences in unemployment rates among OECD countries were as high as 11 percentage points in 2006.



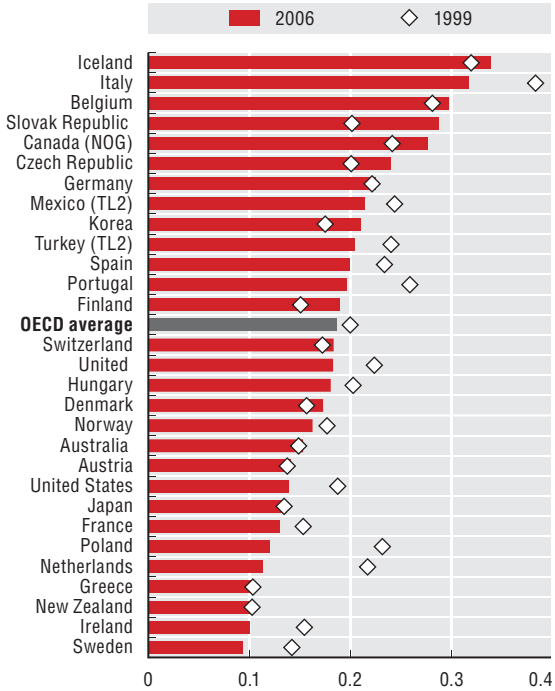
18.2 Range in TL3 regional unemployment rates, 2006

Regional differences in unemployment rates were largest in Canada and smallest in Ireland.



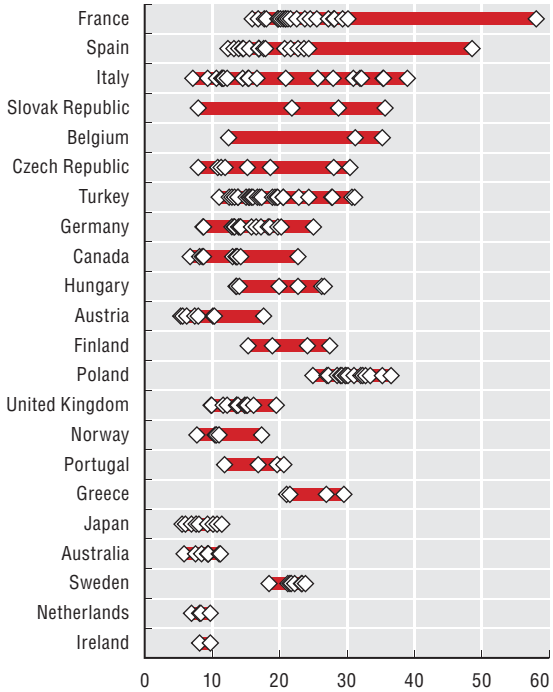
18.3 Gini index of TL3 regional unemployment rates

In 2006, Iceland, Italy and Belgium had the largest regional disparities in unemployment rates.



18.4 Regional variation in the youth unemployment rate, 2006 (TL2)

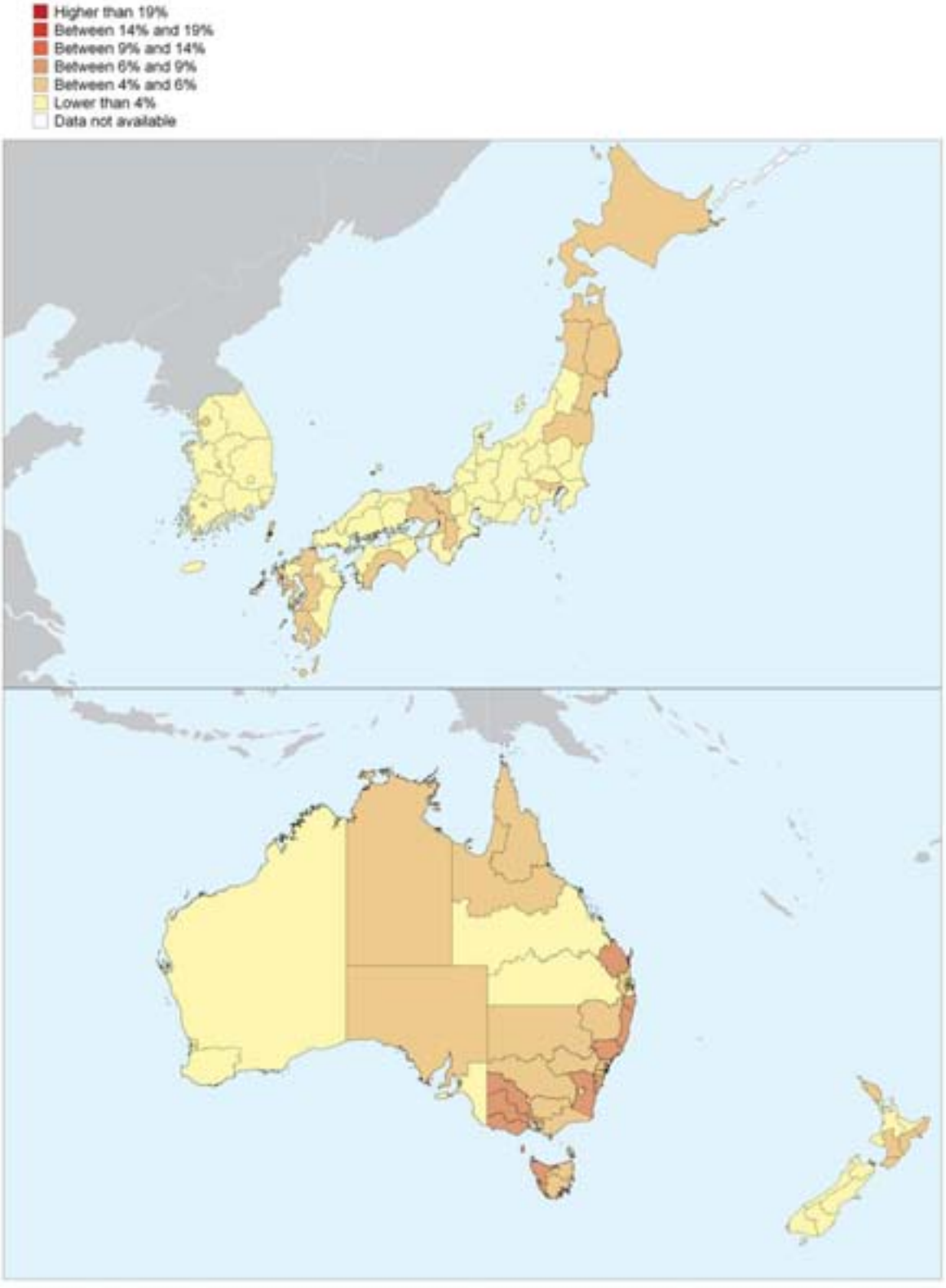
In 2006, France, Spain and Italy displayed the largest regional variation in youth unemployment.



StatLink http://dx.doi.org/10.1787/524060265637

18.5 Regional unemployment rates: Asia and Oceania

TL3 regions, 2006



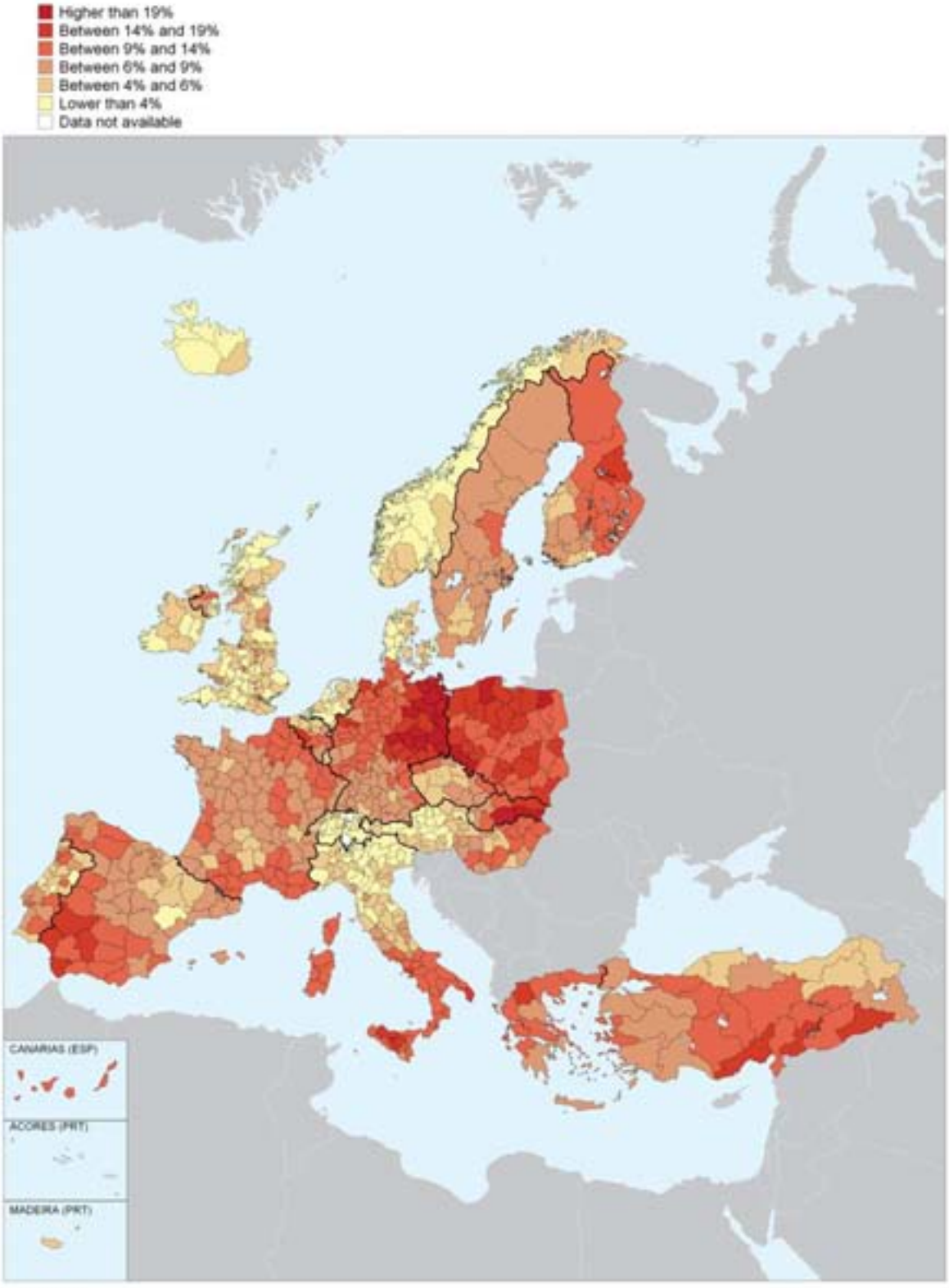
Australia Non Official Grids (NOG).

StatLink http://dx.doi.org/10.1787/524766743602

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

18.6 Regional unemployment rates: Europe

TL3 regions, 2006

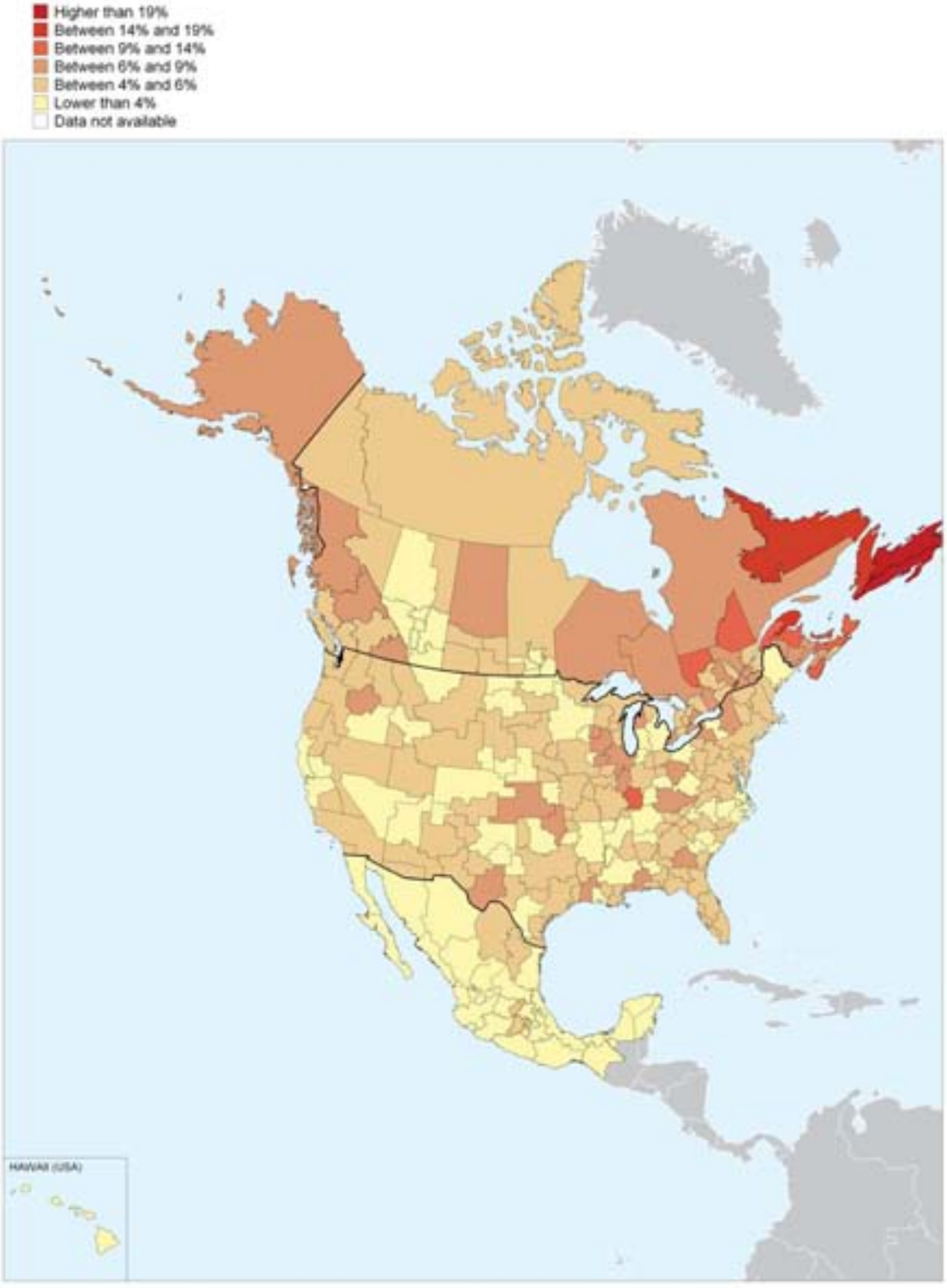


Turkey TL2 regions.

StatLink http://dx.doi.org/10.1787/524766743602

18.7 Regional unemployment rates: North America

TL3 regions, 2006



Canada Non Official Grids (NOG) and Mexico TL2 regions.

StatLink http://dx.doi.org/10.1787/524766743602

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Regional long-term unemployment

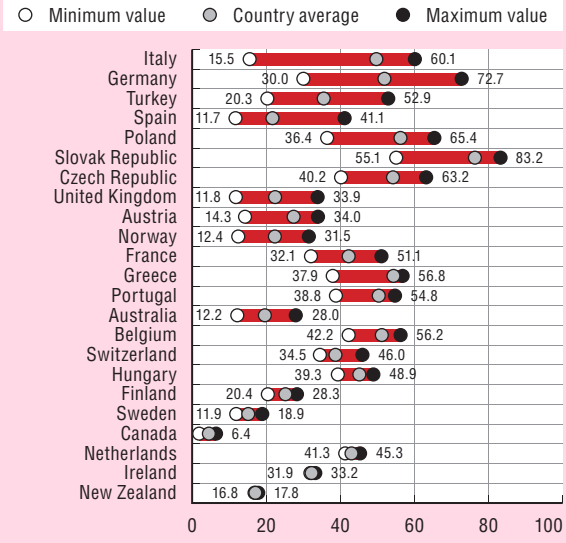
In many countries regional disparities in unemployment rates have persisted over time (more than one-third of countries did not experience any significant reduction in the Gini index of inequalities of regional unemployment between 1999 and 2006), suggesting that inter regional migration of workers is not sufficient to play a self-equilibrating role market. In addition, a reduction in unemployment does not seem to be associated with a reduction in the regional employment differences. Discouraging effects may reduce an individual's willingness to (re) enter the job market. Even if these effects depend upon a certain number of causes, different studies agree that discouraging effects have a strong impact on those areas where either substantial unemployment benefits are in place or where the informal sector plays an important role in regulating the supply and demand of work.

Among the unemployed, the long-term unemployed (*i.e.* those who have been unemployed for 12 months or more) are of particular concern to policy makers both for their impact on social cohesion and because these individuals become increasingly unattractive to employers so that even when labour becomes scarce unemployment may stay high. The regional long-term unemployment is, therefore, an indicator of both labour market rigidity, and highlights areas with individuals whose inadequate skills prevent them from getting a job.

In OECD countries long-term unemployment represented 40% of total unemployment in 2006 and in eight countries the ratio was as high as 50% or more (Figure 18.8). The long term unemployment rate – defined as the ratio of those unemployed for 12 months or more out of the total labour force – showed large regional variations not only in dual economies such as Italy or Germany, but also in the Slovak Republic, Belgium and Spain (Figure 18.9).

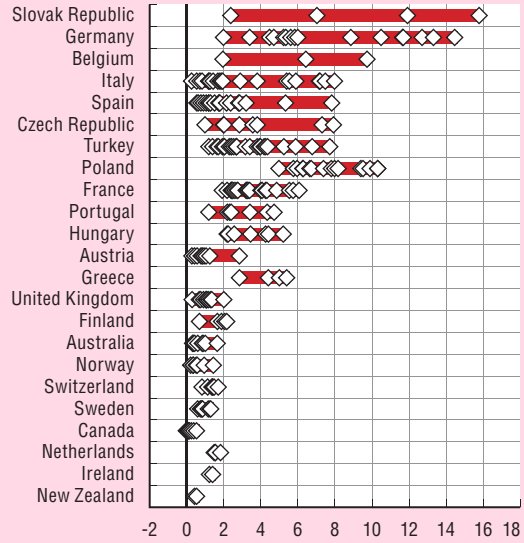
18.8 Range in TL2 regional long-term unemployment (as a % of total unemployment), 2006[1]

Across OECD regions, the rate of long-term unemployment ranged from 4 to 83%.



18.9 TL2 regional variation in long-term unemployment rates, 2006[1]

In 2006, regional variations in long-term unemployment rates were largest in the Slovak Republic and Germany.



1. No regional data available for Denmark, Iceland, Japan, Korea, Mexico and the United States.

StatLink http://dx.doi.org/10.1787/524060265637

19. REGIONAL DISPARITIES IN PARTICIPATION RATES

In 2006 the labour force participation rate, that is to say the ratio between labour force and the working age population, was equal to 70.6% in OECD countries. Turkey and Iceland recorded, respectively, the lowest and highest values 51% and 88%. Spain and Ireland were the countries where the labour force participation rate grew the most between 1999 and 2006, thanks to a marked increase in the employment and, in Spain, also to a strong reduction in unemployment (Figure 19.1).

Differences between regions within the same country are very large both in countries with low participation rates, such as Turkey and Italy, and in countries with high participation rates such as France, Canada and the United States. In 2006 regional differences were above 20 percentage points in more than one-third of OECD countries. Turkey, France and Canada had regions with participation rates below 50% and others above 80% (Figure 19.2).

The Gini index offers a picture of regional disparities. It looks not only at the region with the highest and the lowest rate of labour participation but at the difference among all regions in a country. The index varies between zero and one; the higher its value, the larger the regional disparities. In 2006 Turkey, Poland and Italy were the countries with the largest regional disparities according to this index. Ireland, the Czech Republic and the Netherlands showed the lowest level of disparities in participation rates (Figure 19.3).

From 1999 to 2006, the Gini index decreased most in Ireland, thanks to the increased labour force in the Midlands, Mid-West and South-West regions. However, regional inequalities in participation rates also increased, the most so in France and New Zealand where labour force participation increased more in the regions with higher participation rates.

In 2006, Switzerland, Hungary, Canada, Finland and Spain showed a marked difference in the labour force participation rate between urban and rural regions (above 5 percentage points higher in urban regions). Then in Korea, Japan and France, the labour force participation rate was higher in rural regions than in urban regions (by above 6 percentage points) (Figure 19.4).

Increasing the female labour supply is seen as important to sustaining economic growth and ensuring social protection. With the exception of some regions in Germany and the region of Aland in Finland, female participation rates are lower than the male participation rates everywhere (Maps 19.5-19.7).

Definition

The participation rate is the ratio of the labour force to the working age population (aged 15-64 years). Similarly, the female participation rate is the ratio of the female labour force to the female working age population.

The labour force is defined as the sum of employed and unemployed people.

The Gini index is a measure of inequality among all regions of a given country (see Annex C for the formula). The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

OECD Annual Labour Force Statistics Database, *http://dotstat/wbos/*, Labour force statistics.

Reference years and territorial level

1999-2006; TL3

Mexico, Portugal and Turkey TL2 regions.

Regions in Australia and Canada are grouped differently than TL3 regions, labelled non official grids – NOG (see Territorial grids).

Data on female participation rates are not available for Australia, Iceland, Mexico and Switzerland. For France, Portugal, Turkey and the United States available only at TL2.

Further information

ILO Guidelines, *http://ilo.org*.

OECD (2002-07), *Babies and Bosses: Reconciling Work and Family Life*, series.

Figure notes

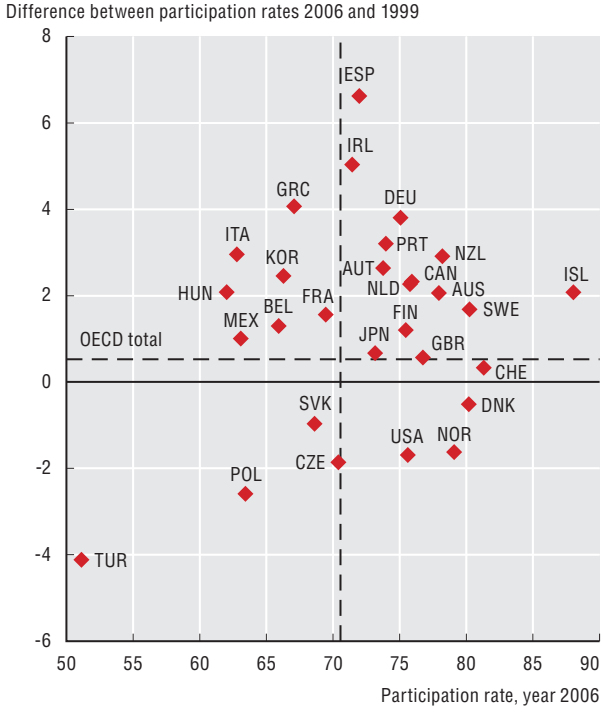
Figure 19.1: *Source:* Own calculations from OECD Annual Labour Force Statistics.

Figures 19.2 and 19.3: Available data for Austria 2001-06; Iceland 1999- 2002; Ireland 2002-06; Turkey 2004-06.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

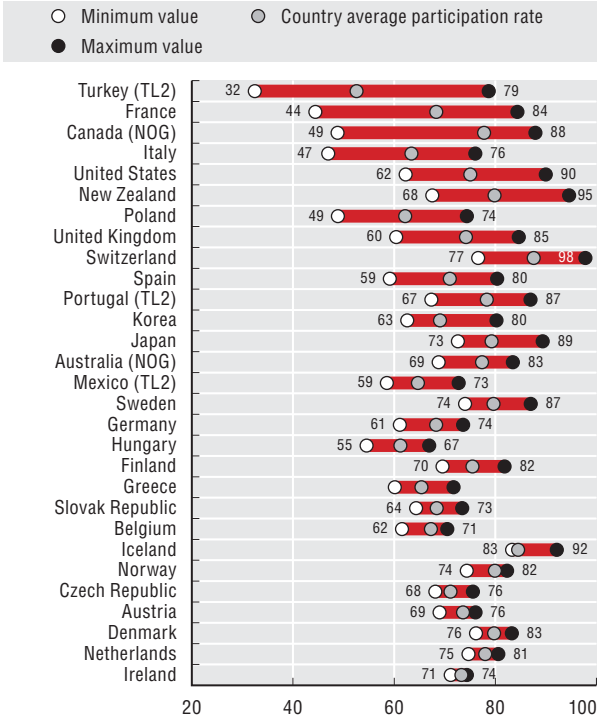
19.1 National labour force participation rate in 2006 and difference between 2006 and 1999

Between 1999 and 2006, the labour force participation rate in Spain grew the most.



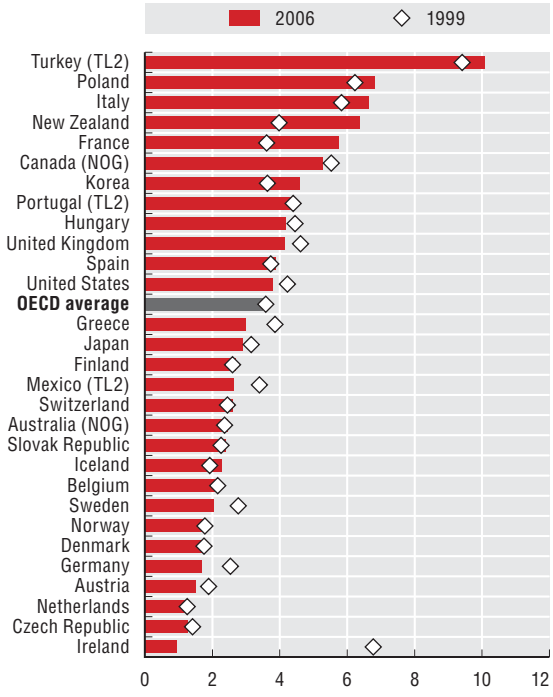
19.2 Range in TL3 regional participation rates, 2006

Regional differences in participation rates were large both in countries with low and high rates.



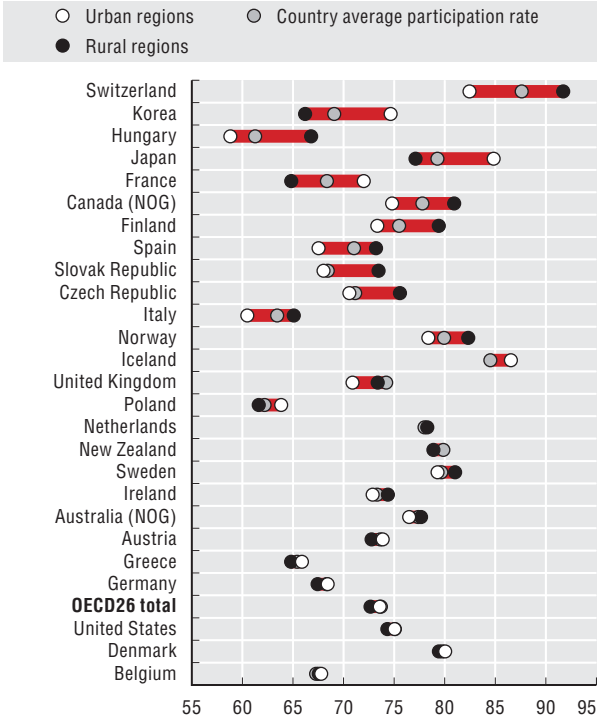
19.3 Gini index of TL3 regional participation rates

Turkey shows the highest Gini index in participation rates.



19.4 Participation rates in rural and urban regions, 2006

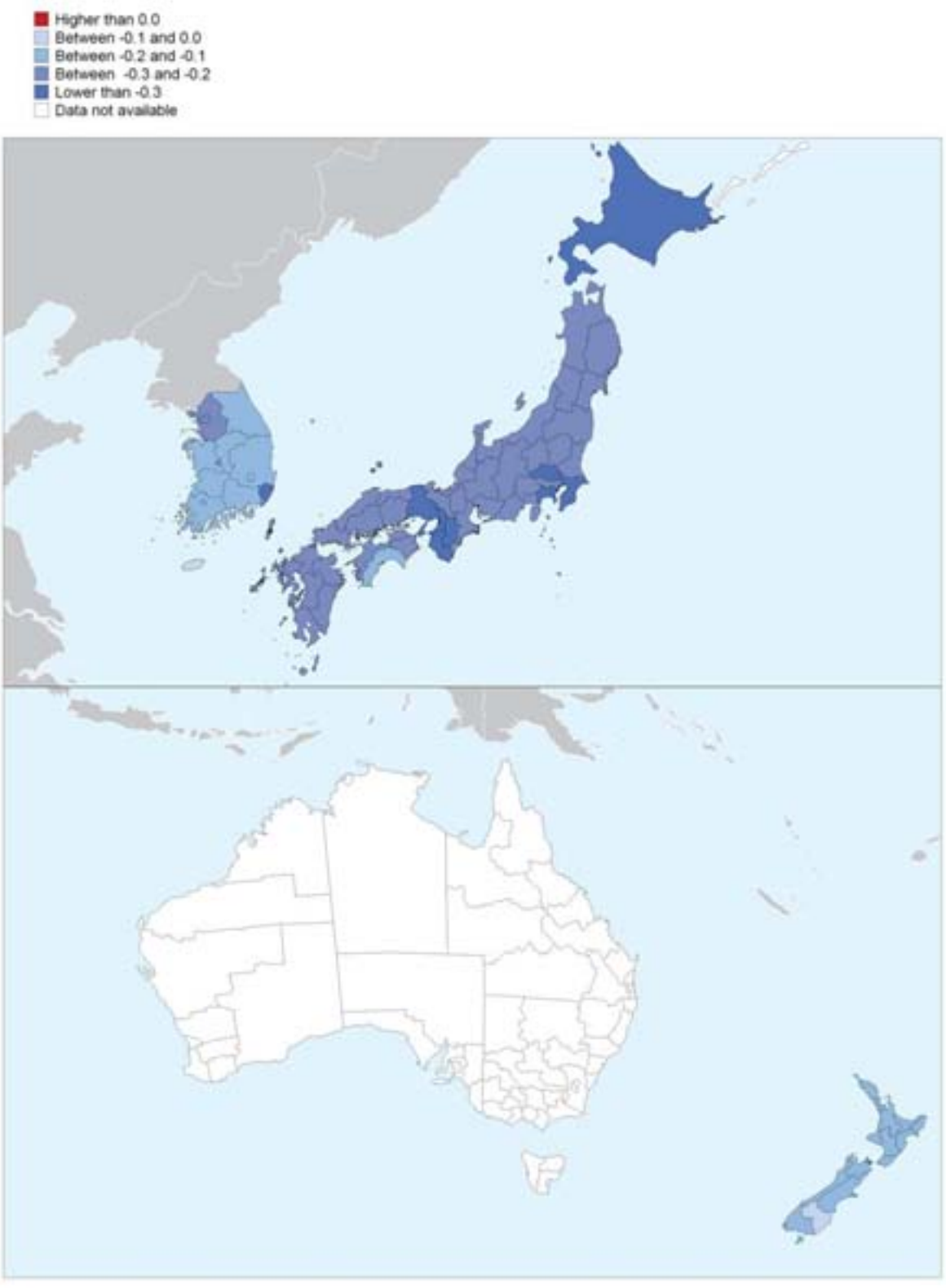
In 2006, participation rates across OECD regions were higher in urban than in rural regions in many countries.



StatLink http://dx.doi.org/10.1787/524087335052

19.5 Regional gender participation rates: Asia and Oceania

Difference between female and male participation rates, TL3 regions, 2006

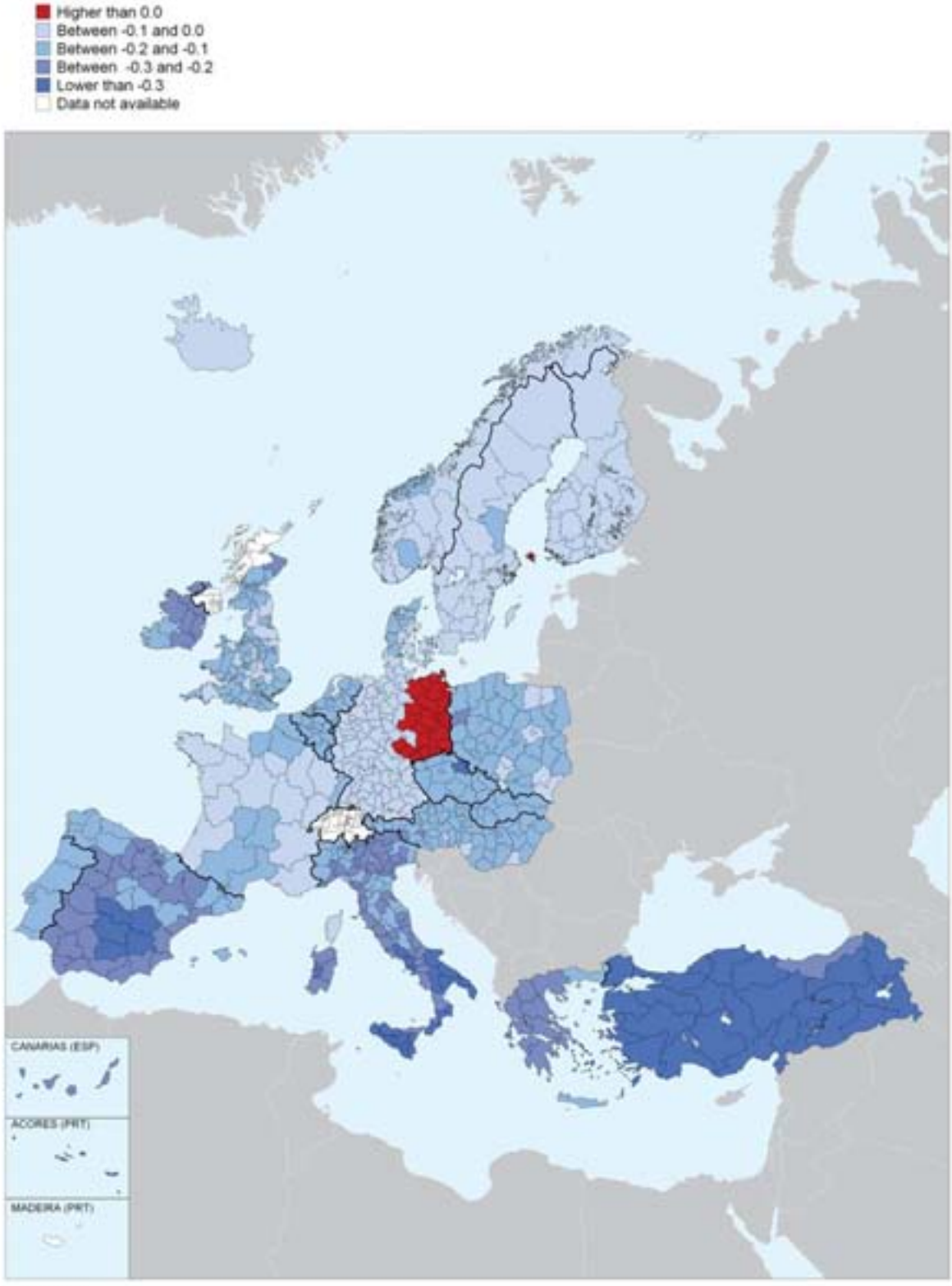


StatLink http://dx.doi.org/10.1787/524806440785

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

19.6 Regional gender participation rates: Europe

Difference between female and male participation rates, TL3 regions, 2006

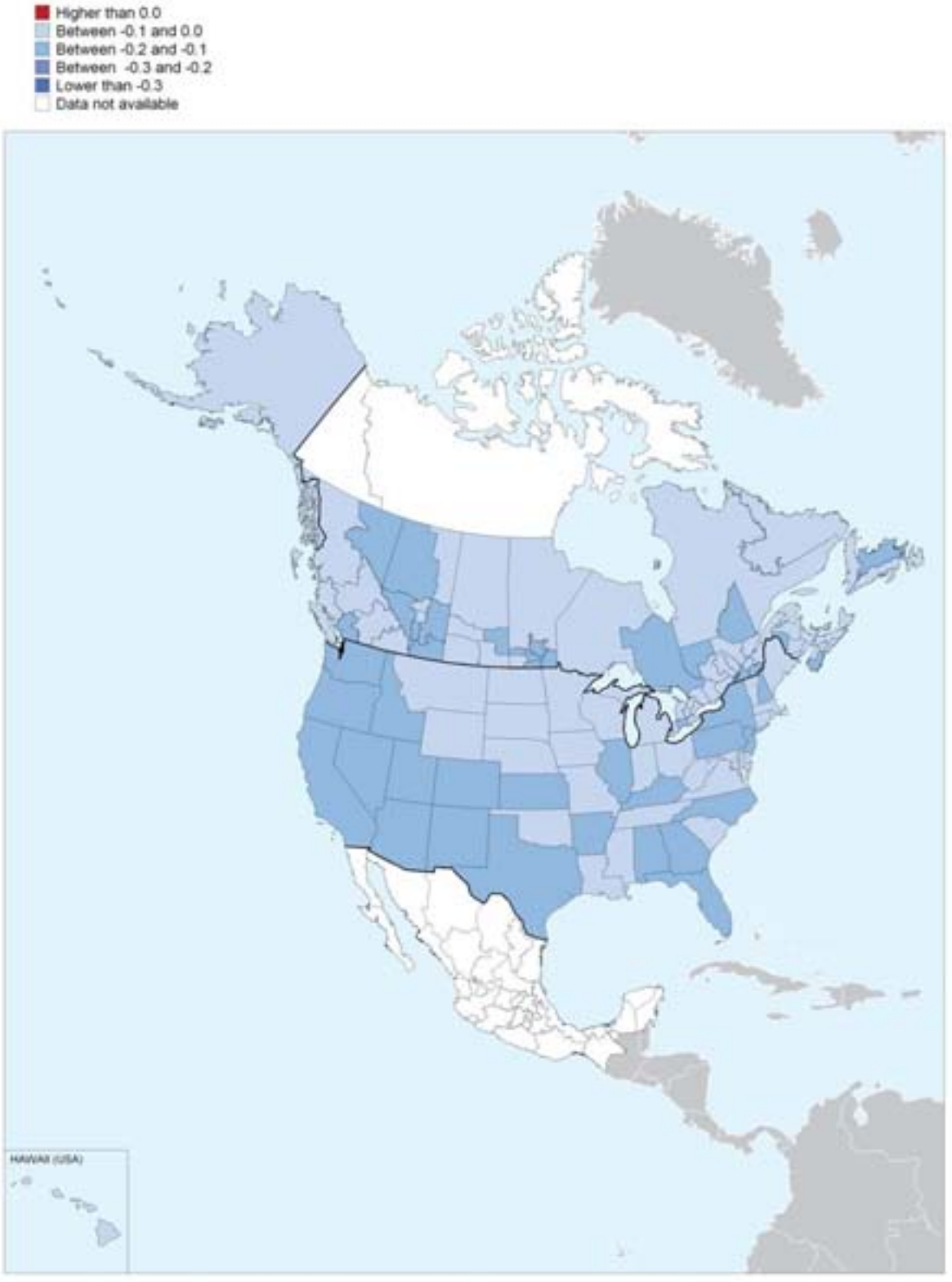


France, Portugal and Turkey TL2 regions.

StatLink http://dx.doi.org/10.1787/524806440785

19.7 Regional gender participation rates: North America

Difference between female and male participation rates, 2006



Canada Non Official Grids (NOG), United States TL2 regions.

StatLink http://dx.doi.org/10.1787/524806440785

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Impact on regional disparities of different jobs opportunities

Participation rates, *i.e.* the ratio between the labour force and the working age population, vary greatly among regions both within and among OECD countries. Demographic factors, the labour market participation of women and economic opportunities are the three main factors behind these differences.

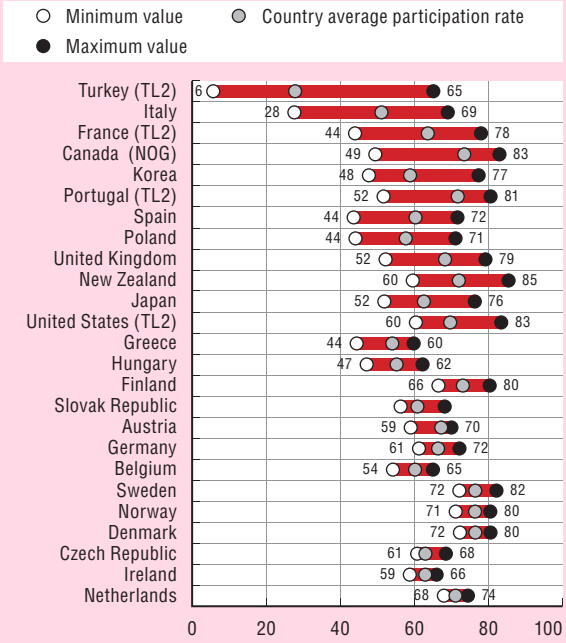
Age affects the propensity to participate in the labour market: participation is low for young people during education and for older adults around retirement age. Therefore the larger the share of the young or old in a given population the lower the participation rate.

The gender composition of the population and the role of women in society also affect participation rates. With the exception of some regions in Germany and Finland, female participation rates are lower than male participation rates everywhere (Maps 19.5-19.7). Female participation rates tend to increase with the availability of adequate services to reconcile family and work life (*i.e.* child care, day care facilities, parental leave, etc.). Regional differences in female participation rates within countries are very large in Turkey, Italy, France, Canada, Korea, Portugal and Spain (more than 30 points) (Figure 19.8). These differences signal that female participation rates tend to be higher where more economic opportunities and adequate services are in place; in fact in 2006, female participation rates were higher in urban regions than in rural regions in 14 out of 19 OECD countries.

The third factor affecting participation rates is the degree of economic opportunity. Regional differences in employment and unemployment rates show that job opportunities vary significantly among regions also in the same country. The higher the unemployment rate and the long-term unemployment rate (Chapter 18), the lower the probability that an individual will find a job and therefore will enter the labour market. In fact 18 OECD countries displayed a significant negative correlation between regional participation rates and regional unemployment rates (Figure 19.9). This general pattern is reinforced in some regions by discouraging effects such that a decrease in the unemployment rates does not necessarily imply an increase in the labour market participation.

19.8 Range in TL3 regional female participation rate, 2006[1]

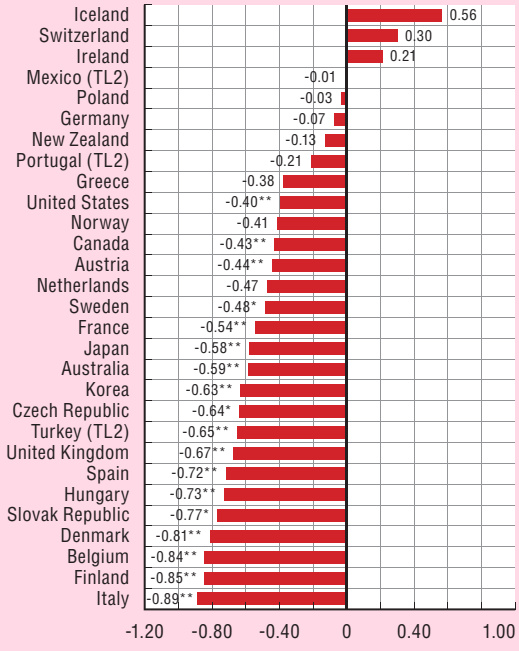
In 7 countries, regional differences in female participation rates were as high as 30 percentage points.



1. No regional data available for Australia, Iceland, Mexico and Switzerland. France, Portugal, Turkey and the United States at TL2. Last available year Japan 2000, Finland and Sweden 2005, the United States 2004.

19.9 Correlation between regional participation rates and regional unemployment rates, 2006

In 18 countries, regional participation rates were negatively correlated with regional unemployment rates.



* Significant at 95%.
** Significant at 99%.

StatLink http://dx.doi.org/10.1787/524087335052

IV. KEY DRIVERS OF REGIONAL GROWTH

20. Overall regional performance
21. Regional factors and performance
22. Regional factors: Population and GDP per capita
23. Regional factors: Labour productivity
24. Regional factors: Employment, participation and ageing

National factors of growth are strongly localised in a small number of regions (Part II). At the same time differences in economic performance at the regional level are often much larger than at the national level (Part III). Marked variations in regional growth rates occur as a result of differences in endowments and assets within regions, as well as regions' ability to mobilise these resources. Successful, competitive regions tend to grow relatively faster and therefore increase their share of OECD GDP. Regional benchmarking helps identify the factors behind certain regions' success and the existence of unused resources in others by comparing a region's growth rate to that of all other OECD regions. This is the joint result of several factors, both regional and national. In order to account for the contribution of these different factors, this part breaks down changes in each region's share of total OECD GDP into: 1) national factors; 2) labour productivity; 3) employment rates; 4) participation rates; 5) age activity rates; and 6) population. Each of these factors can be viewed as an indicator of a determinant of regional economic performance.

Regional performance is a result of both national and common factors (*e.g.* national policies and the business cycle) and regional factors (*e.g.* demographic trends and regional policies). If all regions in a country grow faster than the regions in other OECD countries, this faster growth can be ascribed to that country's good performances (national factors) or to factors influencing the performance of all regions within that country (a common factor such as the business cycle). On the other hand, if a region exhibits faster growth than all other OECD regions, including those in the same country, that growth can be ascribed to the region's good performance (regional factors). In sum, overall movements in a region's share of GDP are ascribed to regional and national factors.

During 1999-2005 less than half of OECD TL2 regions – 112 regions out of 313 – increased their share of total OECD GDP. The 20 regions with the largest increase of OECD GDP were: the United States: Nevada, Wyoming, Florida and Arizona; Korea: Chungcheong, Gyeongbuk, Gyeongnam, and the Capital Region; Canada: Alberta and Newfoundland and Labrador; Ireland: Border, Midlands Western and Southern and Eastern; Australia: Western Australia, Northern Territory and Queensland; Hungary: Kosep-Magyarorszag; Mexico: Quintana Roo; Greece: Attiki; Spain: Murcia; and the Slovak Republic: Bratislav Kraj (Figure 20.1).

Over the same period, more than half – 201 out of 313 – of regions reduced their share of total OECD GDP. The 20 regions with the largest per cent decline in their share of OECD were: Italy: Molise, Basilicata, Piemonte, Liguria, Valle d'Aosta, P.A. Bolzano-Bozen, Puglia, Sicilia, Umbria, Campania, P.A. Trento; Turkey: Balıkesir, Adana, Ankara, Bursa; Germany: Berlin; Portugal: Norte; France: Picardie; and Greece: Voreia Ellada and Kentriki Ellada (Figure 20.2).

Among the 20 fastest-growing regions the strong performance of the Irish regions Border, Midlands Western and Southern and Eastern is largely due to national and common factors; the same applies to four Korean regions: Chungcheong, Gyeongbuk Gyeongnam and Gangwon (Figure 20.3). In contrast regional factors were mainly responsible for the good performance of the Mexican region Quintana Roo, and the Greek region Attiki.

Among the 20 slowest-growing regions, national factors were most strongly at play in the case of the Italian regions (Figure 20.4). However, it was regional factors, rather than national, that was mainly responsible for the poor performance of Kentriki Ellada from Greece, Berlin from Germany, Scotland from the United Kingdom, Picardie from France, and Balıkesir, Adana, Ankara, and Bursa from Turkey.

Definition

Gross domestic product (GDP) is the standard measure of the value of the production activity (goods and services) of resident producer units. Regional GDP is measured according to the definition of the 1993 System of National Accounts. To make comparisons over time and across countries, it is expressed at constant prices (year 2000), using the OECD deflator and then it is converted into USD purchasing power parities (PPPs) to express each country's GDP into a common currency.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

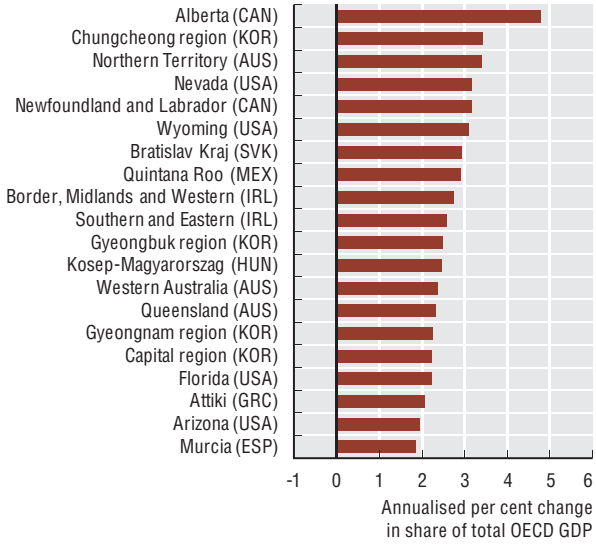
The decomposition of a region's share of OECD GDP is run in this section on TL2 regions over the period 1999-2005, with the following exceptions: Australia, Canada, Germany, Greece and Korea 1995-2005; Japan, Norway and the United States 1997-2005; Mexico 1998-2004; Turkey 1995-2001.

Regional GDP not available for Iceland, New Zealand and Switzerland.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

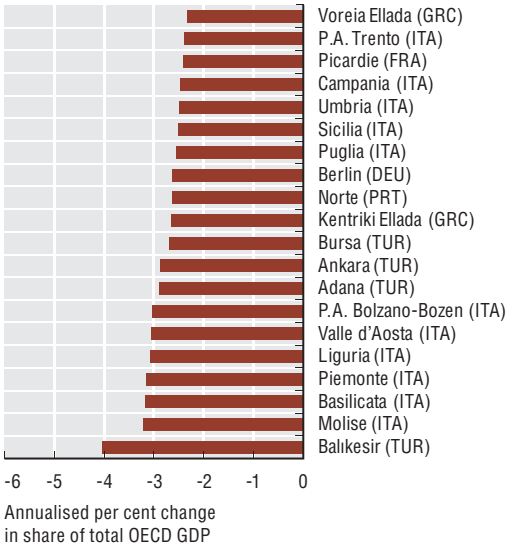
20.1 Annual increase in GDP share of the 20 fastest-growing TL2 regions, 1999-2005

Among fastest-growing regions, GDP increased the most in Alberta, Canada, and the least in Murcia, Spain.



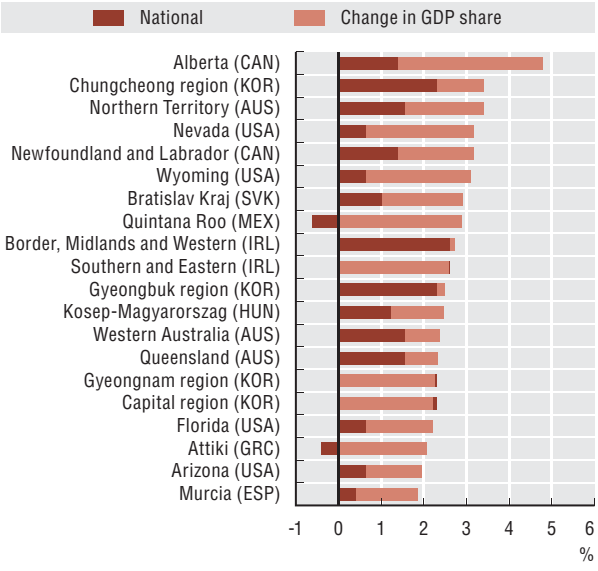
20.2 Annual decrease in GDP share of the 20 slowest-growing TL2 regions, 1999-2005

Among slowest-growing regions, GDP decreased the most in Balıkesir, Turkey, and the least in Voreia Ellada, Greece.



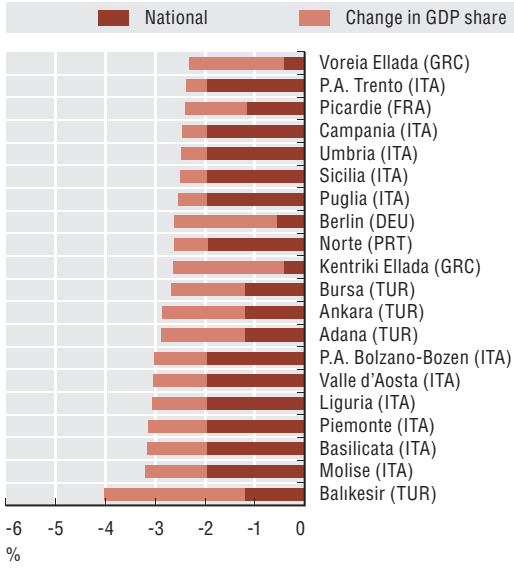
20.3 Contribution of national factors in the top 20 OECD TL2 regions, 1999-2005

Among fastest-growing regions, national factors supported growth most in the Irish regions and in four Korean regions.



20.4 Contribution of national factors in the bottom 20 TL2 OECD regions, 1999-2005

Among slowest-growing regions, regional factors affected growth in France, Germany, Greece, Turkey and the UK.



StatLink http://dx.doi.org/10.1787/524113723784

Although national (and common) factors can influence the performance of regions, the extent that a region exhibits faster growth than all other OECD regions, including those in the same country, can be ascribed to regional factors.

Among the 112 regions that increased their share in total OECD GDP during from 1999 to 2005, in more than half of them regional factors explain more than 25% of the increase in their share of total GDP. Furthermore among these 60 regions the increase due to region-specific factors was larger than the increase due to national and common factors in 76% (or 46) of regions.

During the same period 201 OECD regions experienced a decline in their share of GPD, and in half of them regional factors were responsible for no less than 25% of the decline. Among these 103 regions the decline due to region-specific factors was larger than the decline due to national and common factors in 29% (or 60) of regions. Therefore in a significant number of cases a regions' international performance is largely determined by regional factors rather than national and common factors.

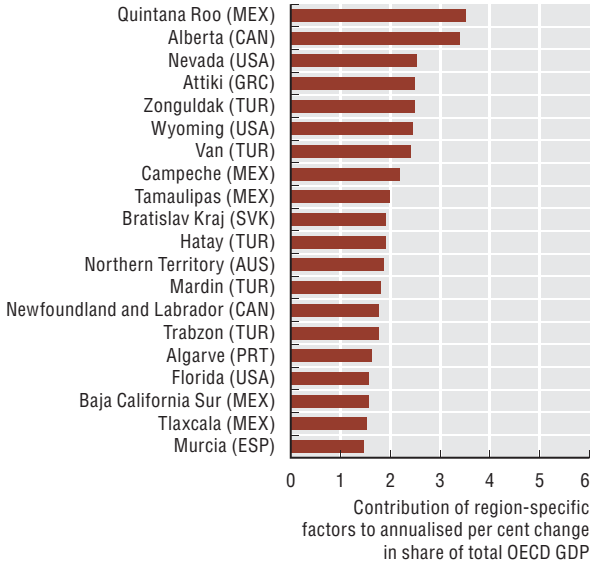
After accounting for national factors, the region with the largest increase in GDP share due to regional factors is Quintana Roo (Mexico) (Figure 21.1).

Over the same period, the region with the largest decline in its GDP share due to regional factors is Balıkesir (Turkey) (Figure 21.2).

Although national and regional factors are in many cases highly correlated this is not always the case: among the 112 regions increasing their share in total OECD in 40% (or 45) of them, regional factors were negative despite positive gains in national and common factors. Similarly among the 201 regions with a declining share of total OECD GDP in approximately one-third of them – 31% or 63 regions – regional factors were positive despite the poor performance of national factors.

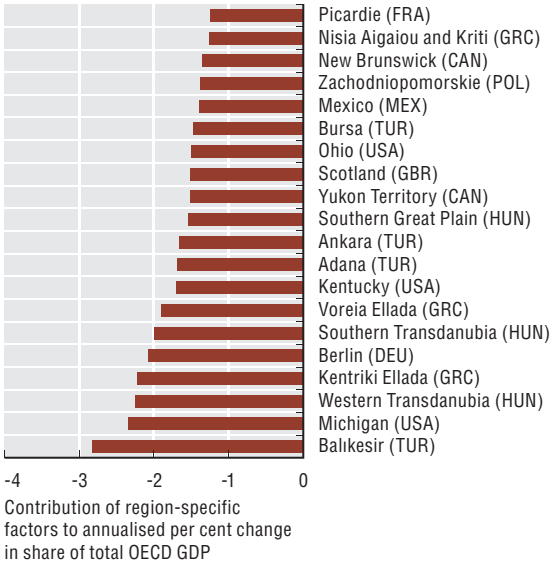
21.1 Increase in regional share of national GDP of the 20 TL2 fastest growing regions due to region-specific factors, 1999-2005

Among fastest-growing regions, regional factors had most influence in Quintana Roo, Mexico, and least in Murcia, Spain.



21.2 Decrease in regional share of national GDP in countries of the 20 TL2 slowest-growing regions due to region-specific factors, 1999-2005

Among slowest-growing regions, regional factors had most influence in Balıkesir, Turkey, and least in Picardie, France.

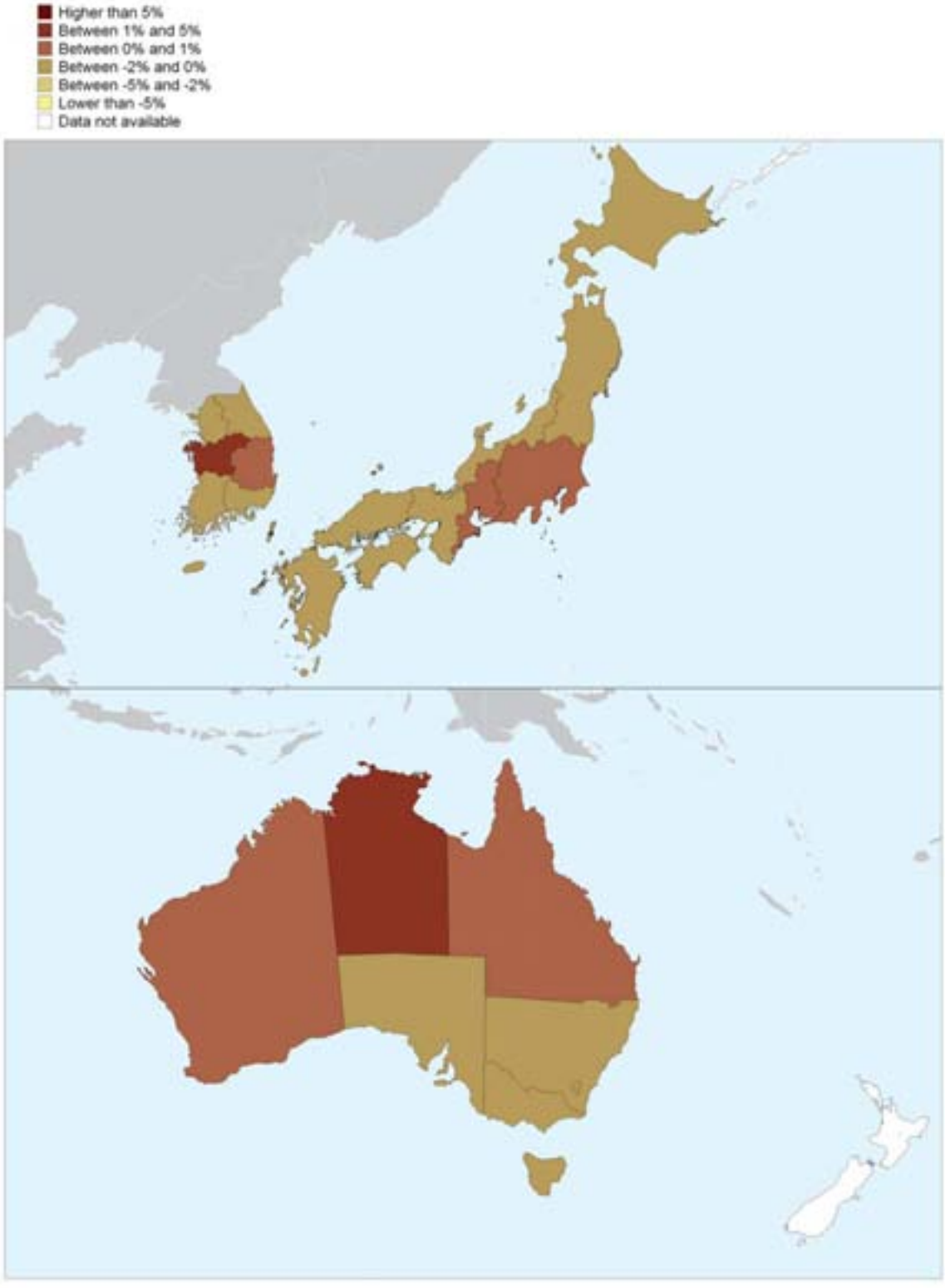


StatLink http://dx.doi.org/10.1787/524147010074

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

21.3 Change in the GDP share of the OECD due to change in the GDP share of regions in their countries: Asia and Oceania

TL2 regions, annual change 1999-2005

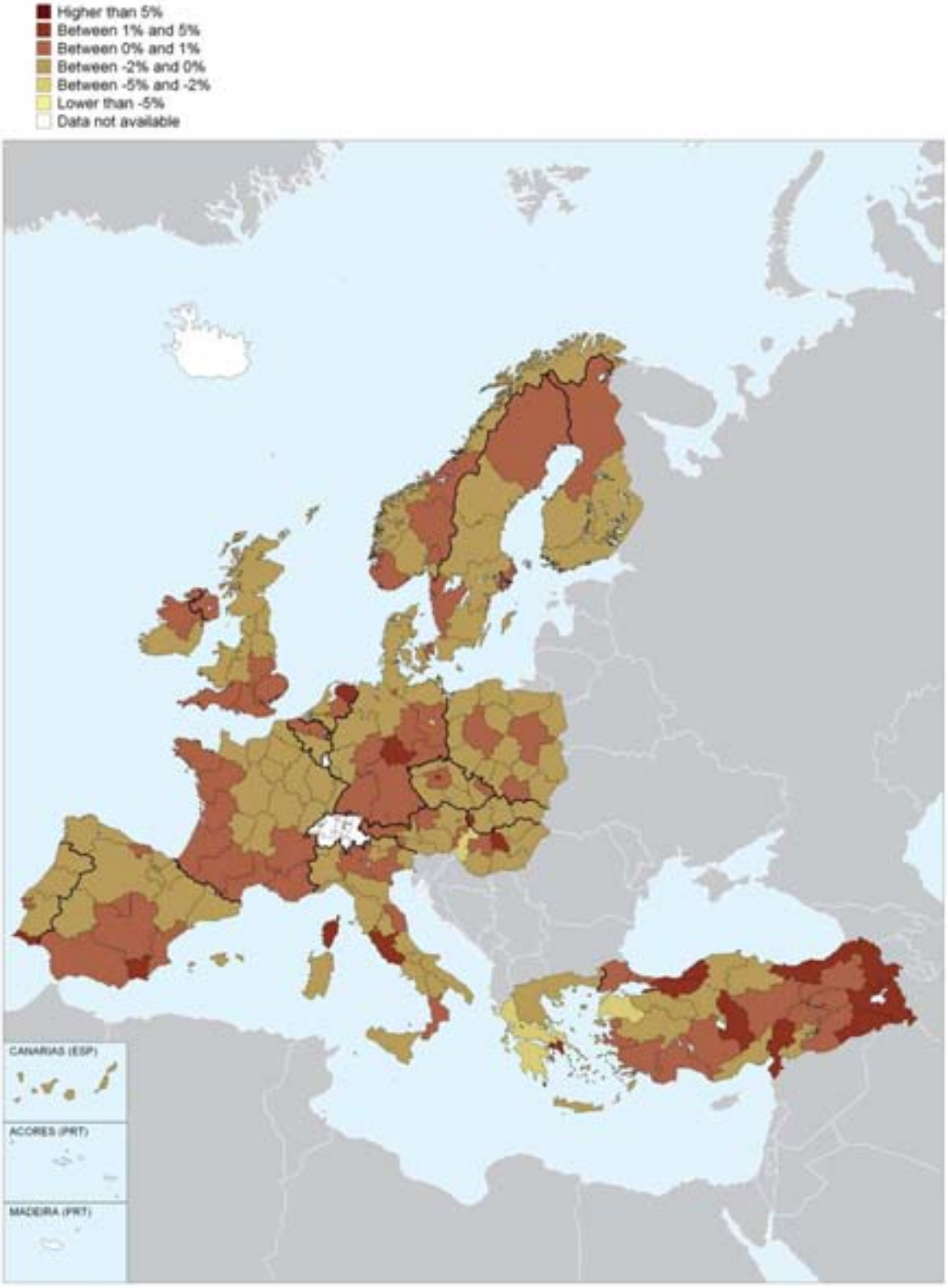


Australia and Korea 1995-2005; Japan 1997-2005.

StatLink http://dx.doi.org/10.1787/524823107826

21.4 Change in the GDP share of the OECD due to change in the GDP share of regions in their countries: Europe

TL2 regions, annual change 1999-2005



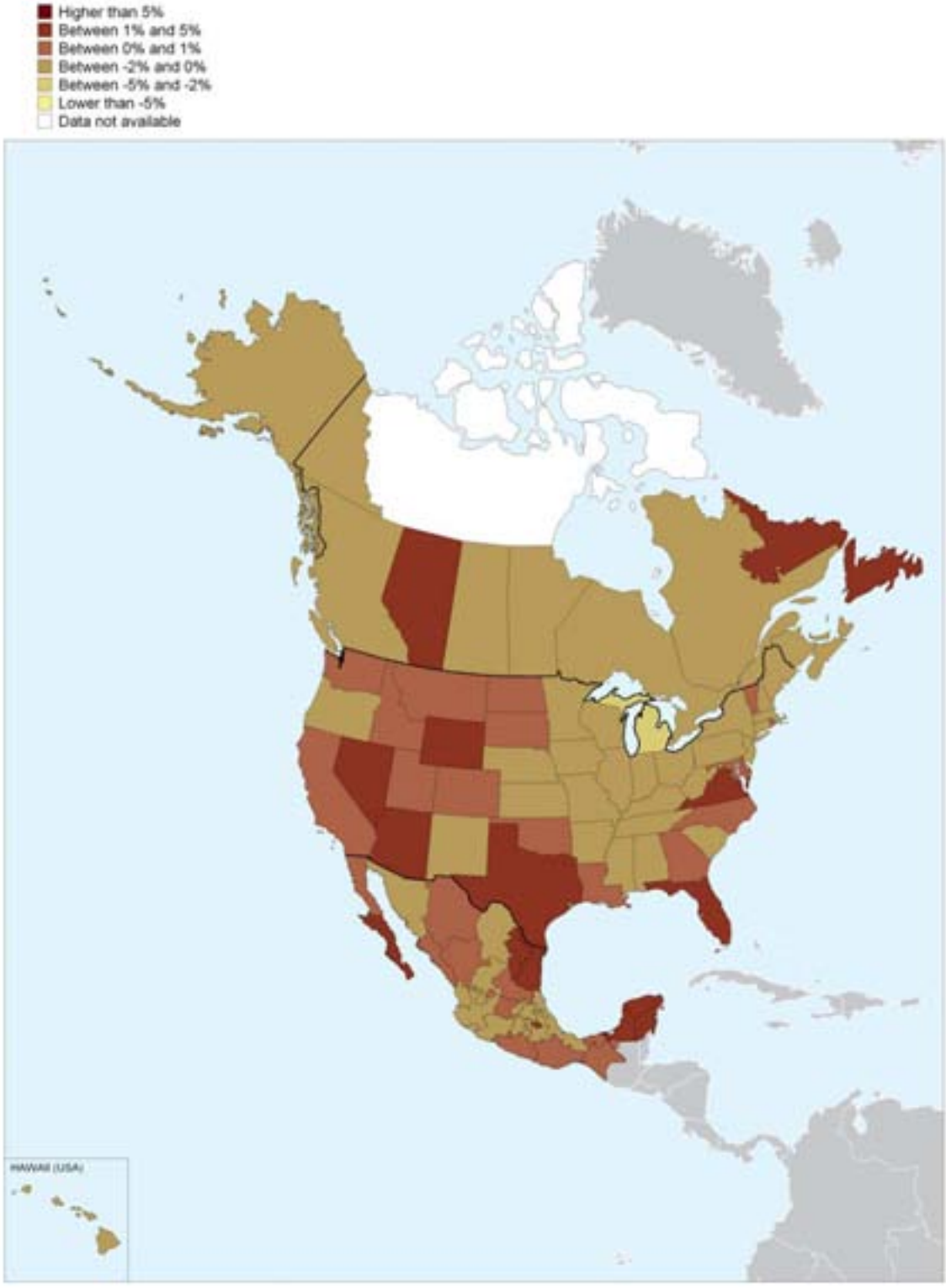
Germany and Greece 1995-2005; Norway 1997-2005 and Turkey 1995-2001.

StatLink http://dx.doi.org/10.1787/524823107826

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

21.5 Change in the GDP share of the OECD due to change in the GDP share of regions in their countries: North America

TL2 regions, annual change 1999-2005



Canada 1995-2005, Northwest Territories and Nunavut is excluded for lack of data for comparable years; the United States 1997-2005 and Mexico 1998-2004.

StatLink http://dx.doi.org/10.1787/524823107826

A region's change in its OECD GDP share can be decomposed into national factors (*i.e.* changes in the national GDP share), population growth or changes in GDP per capita. Changes in population are due to natural demographic trends and migrants from other regions and countries. Growth in GDP per capita may be further decomposed into changes in GDP per worker (labour productivity), in employment rates (employment to labour force), participation rates (labour force to working age population) or in age activity rates (working age to total population) (see Annex C for formula).

From 1999 to 2005, among the 112 regions with an increased GDP share of total OECD, the increase was mainly due to region-specific factors (*i.e.* regional factors being no less than one-fourth) in 60 regions. Among these 60 regions the increase was entirely due to population growth in 22% (or 13) of regions. In 40% (or 24) the increase was entirely due to GDP per capita growth, and in the remaining 38 % (or 23) it was due to a relative increase in both components.

The relative increase in population was the main component of change of GDP growth in several of the 20 top performing regions (Figure 22.1); particularly in Quintana Roo (Mexico), Nevada, Arizona and Florida (United States), Murcia (Spain) and Alberta (Canada).

Among the top 20 highest performing regions, the (relative) increase in population in the Capital Region (Korea), Nevada and Arizona (United States) was large enough to offset the (relative) decrease in GDP per capita (Figure 22.3). In contrast the population decline in Newfoundland and Labrador (Canada), Wyoming (United States), Bratislav Kraj (Slovak Republic), Southern and Eastern (Ireland), Gyeongbuk and Gyeongnam region (Korea) was offset by the increase in GDP per capita (Figure 22.3) and by national factors in maintaining the ratio of regional aggregate GDP as a per cent of aggregate OECD GDP.

During 1999-2005, 34% (or 103) of OECD regions decreased their share in total OECD owing to region specific factors. The decline was entirely due to a decrease in population in 20% (or 19) of them (*i.e.* the growth difference in population between a region and its respective country was negative while the growth difference in GDP per capita between a region and its country was positive), a relative decrease in GDP per capita in 25% (or 26) of them. In the remaining 55% (or 57) regions the relative decrease was due to both components.

Among the 20 lowest performing regions in terms of growth of aggregate GDP, declines in GDP per capita were larger than declines in population (Figure 22.2). In fact among these regions there were none with positive movements in GDP per capita, and only a few with positive gains in population growth. This means the (relative) increase in population in P.A. Trento, P.A. Bolzano-Bozen, Valle d'Aosta and Umbria (Italy) and in Bursa, Ankara and Adana (Turkey) was offset by the (relative) decrease in GDP per capita and by national factors (Figure 22.4).

Definition

Gross domestic product (GDP) is the standard measure of the value of the production activity (goods and services) of resident producer units. Regional GDP is measured according to the definition of the 1993 System of National Accounts. To make comparisons over time and across countries, it is expressed at constant prices (year 2000), using the OECD deflator and then it is converted into USD purchasing power parities (PPPs) to express each country's GDP into a common currency.

The total population of a given region can be either the annual average population or the population at a specific date during the year considered.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

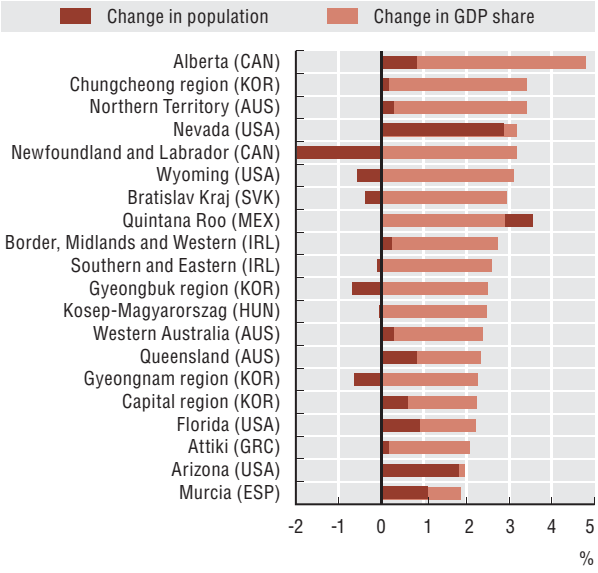
The decomposition of a region's share of OECD GDP is run in this section on TL2 regions over the period 1999-2005, with the following exceptions: Australia, Canada, Germany, Greece and Korea 1995-2005; Japan, Norway and the United States 1997-2005; Mexico 1998-2004; Turkey 1995-2001.

Regional GDP not available for Iceland, New Zealand and Switzerland.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

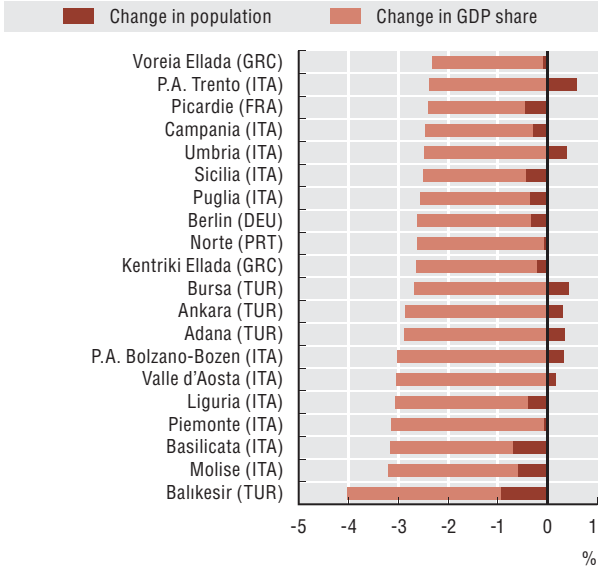
22.1 Annual change in population for TL2 regions ranked by largest increase in regional GDP relative to all GDP, 1999-2005

Relative increase in population was a key component of GDP growth in Quintana Roo, Mexico, and Arizona, US.



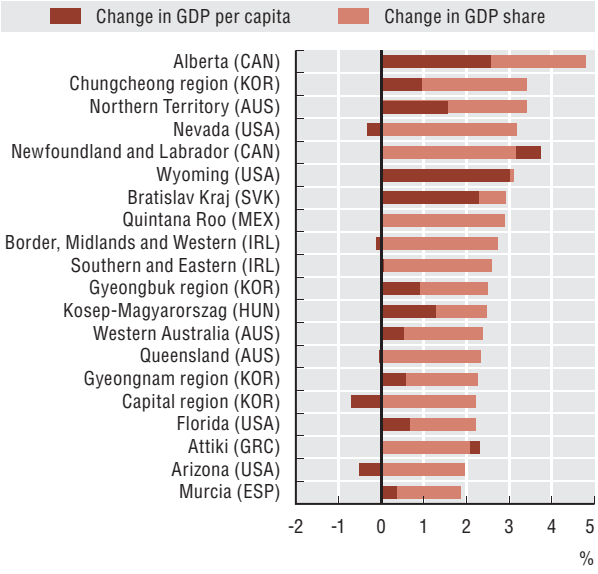
22.2 Annual change in population for TL2 regions ranked by largest decrease in regional GDP relative to all GDP, 1999-2005

Among the 20 bottom performing regions, declines in GDP per capita were larger than declines in population.



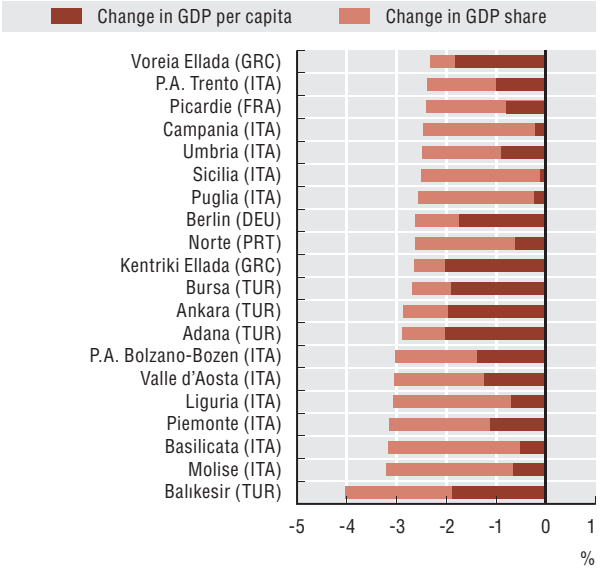
22.3 Annual change in GDP per capita for TL2 regions ranked by largest increase in regional GDP relative to all GDP, 1999-2005

Among the top 20 performing regions, the increase in population Capital Region, Korea, and Nevada, US, offset the decrease in GDP per capita.



22.4 Annual change in GDP per capita for TL2 regions ranked by largest decrease in regional GDP relative to all GDP, 1999-2005

Among the 20 bottom performing regions, none displayed positive movements in GDP per capita.



StatLink http://dx.doi.org/10.1787/524158817618

At the regional level, labour productivity is measured by GDP per worker capturing the efficiency of the regional production system. Although many factors influence a region's level of efficiency, labour productivity mainly depends on the balance between capital and labour (*i.e.* capital to labour ratios) and on the available technology (*i.e.* multifactor productivity) in a given region.

Differences in labour productivity are driven by both differences in natural endowments and by regional assets available in regions. The share of productivity growth due to irreproducible inputs (*e.g.* land, oil) can be seen as attributable to natural endowments. In contrast improvements due to reproducible resources (*e.g.* infrastructure, technology and skills) can be regarded as a function of the available assets in a region.

A rise in labour productivity relative to the country's growth rate may be due to a composition effect (*i.e.* a switch to more workers employed in sectors with higher value added *i.e.* higher capital to labour ratios), or to improvements in the average productivity of existing sectors (*e.g.* increasing the capital to labour ratios within sectors, better infrastructure, higher skill levels or more efficient production technology). Unfortunately at the regional level we cannot distinguish between these effects due to data limitations.

Increases in labour productivity are a key component of regional growth among top performing OECD regions. In fact labour productivity was the main source of growth increases in five out of the seven regions with the largest increase in total OECD GDP share from 1999 to 2005. These regions include Alberta and Newfoundland and Labrador (Canada), Northern Territory (Australia), Wyoming (United States) and Bratislav Kraj (Slovak Republic) (Figure 23.1). Among the remaining fastest 20 growing regions labour productivity was the main contributor of fast growth in Attiki (Greece). Among the 20 slowest-growing regions in the GDP share of OECD, the decreases in labour productivity were particularly significant in the Turkish regions and Kentriki Ellada (Greece) (Figure 23.2).

Definition

Labour productivity is measured as the ratio of constant GDP in 2000 prices, to total employment where the latter is measured at place of work.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

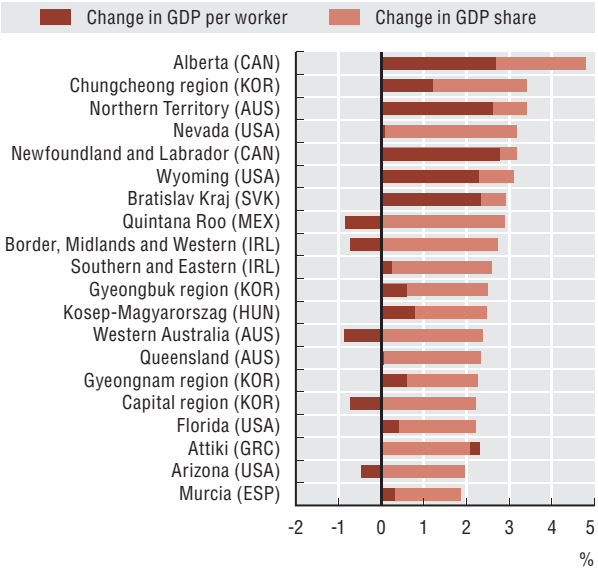
Reference years and territorial level

The decomposition of a region's share of OECD GDP is run in this section on TL2 regions over the period 1999-2005, with the following exceptions: Australia, Canada, Germany, Greece and Korea 1995-2005; Japan, Norway and the United States 1997-2005; Mexico 1998-2004; Turkey 1995-2001.

Regional GDP not available for Iceland, New Zealand and Switzerland.

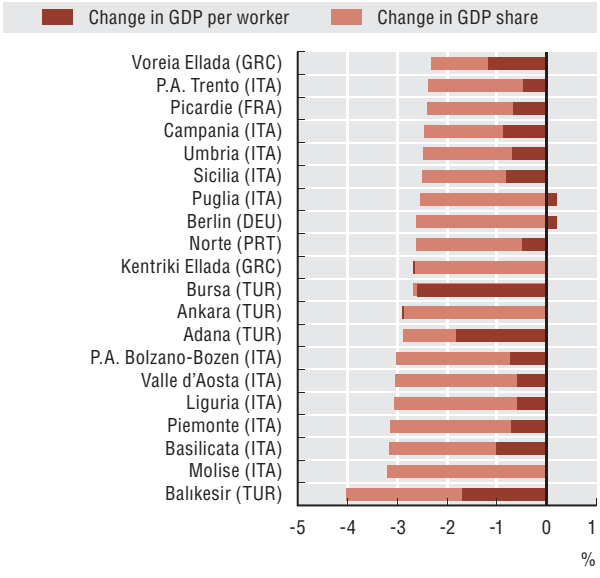
23.1 Contribution of GDP per worker in the top 20 OECD TL2 regions, 1999-2005

Labour productivity was the main source of growth in 6 out of the 20 regions with the largest increase in total OECD GDP share.



23.2 Contribution of GDP per worker in the bottom 20 OECD TL2 regions, 1999-2005

Declines in labour productivity were particularly marked in Turkish regions.

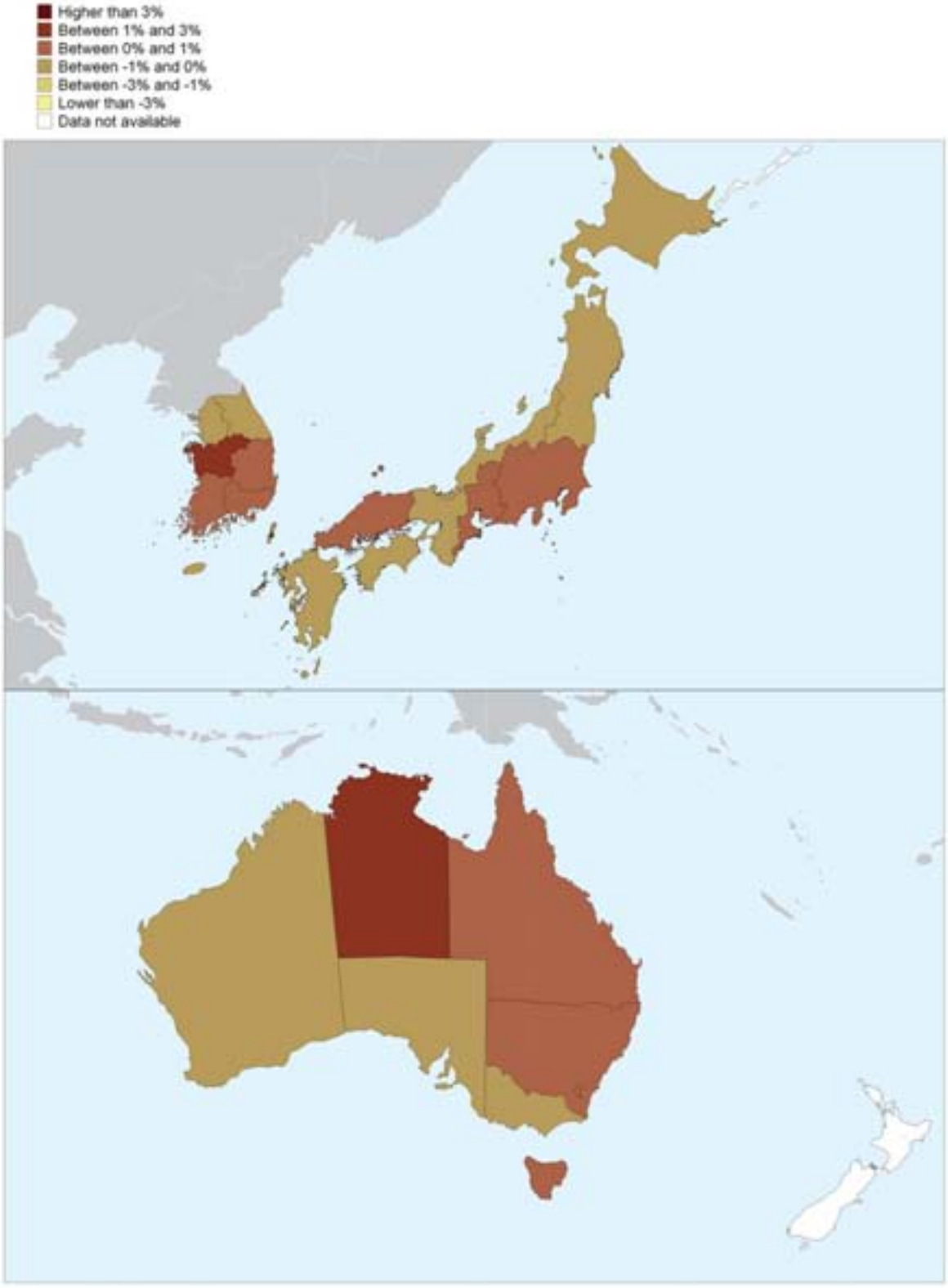


StatLink http://dx.doi.org/10.1787/524163226074

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

23.3 Change in the GDP share of the OECD due to change in GDP per worker: Asia and Oceania

TL2 regions; annual change 1999-2005

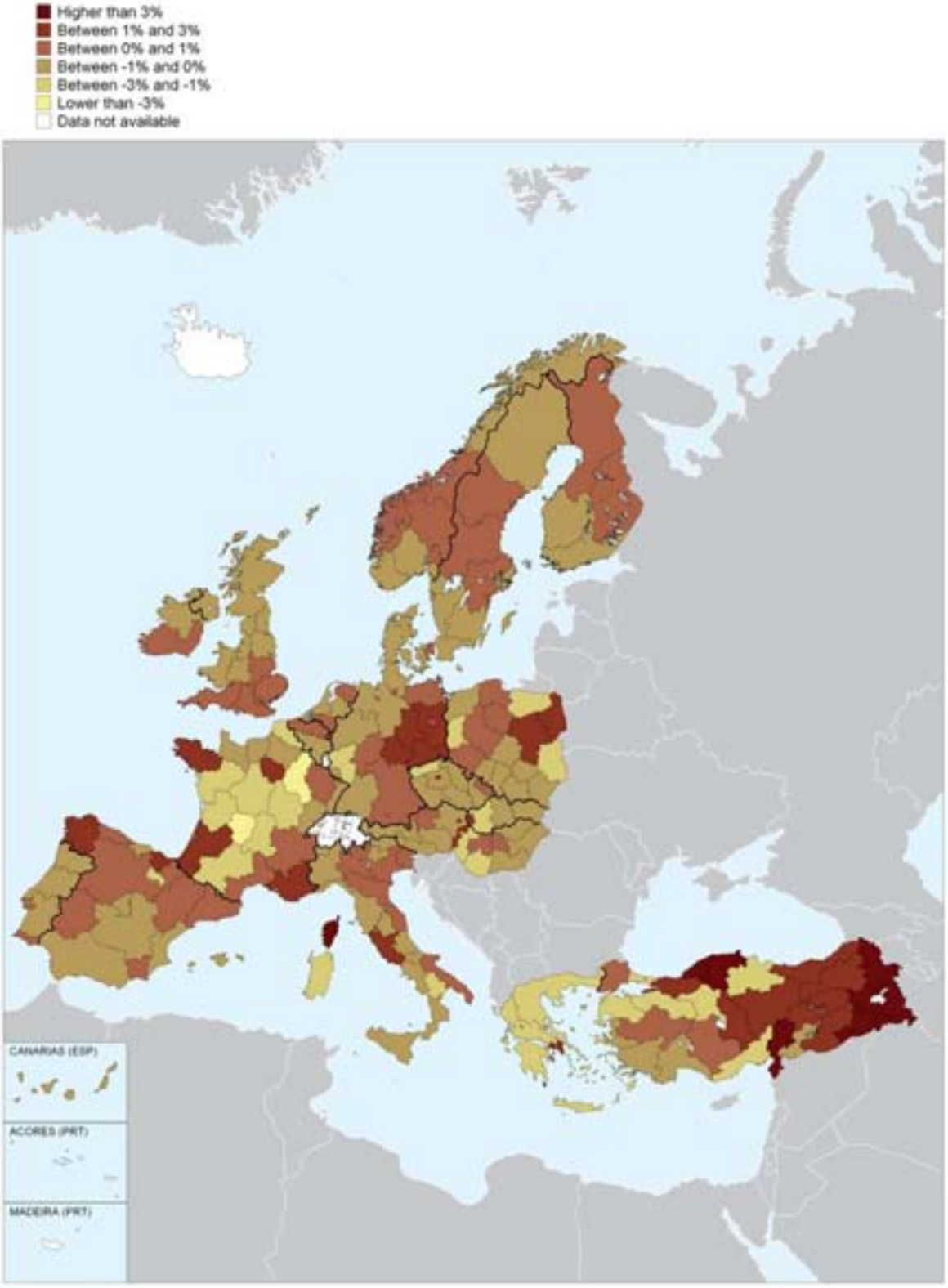


Australia and Korea 1995-2005; Japan 1997-2005.

StatLink http://dx.doi.org/10.1787/524838822036

23.4 Change in the GDP share of the OECD due to change in GDP per worker: Europe

TL2 regions, annual change 1999-2005



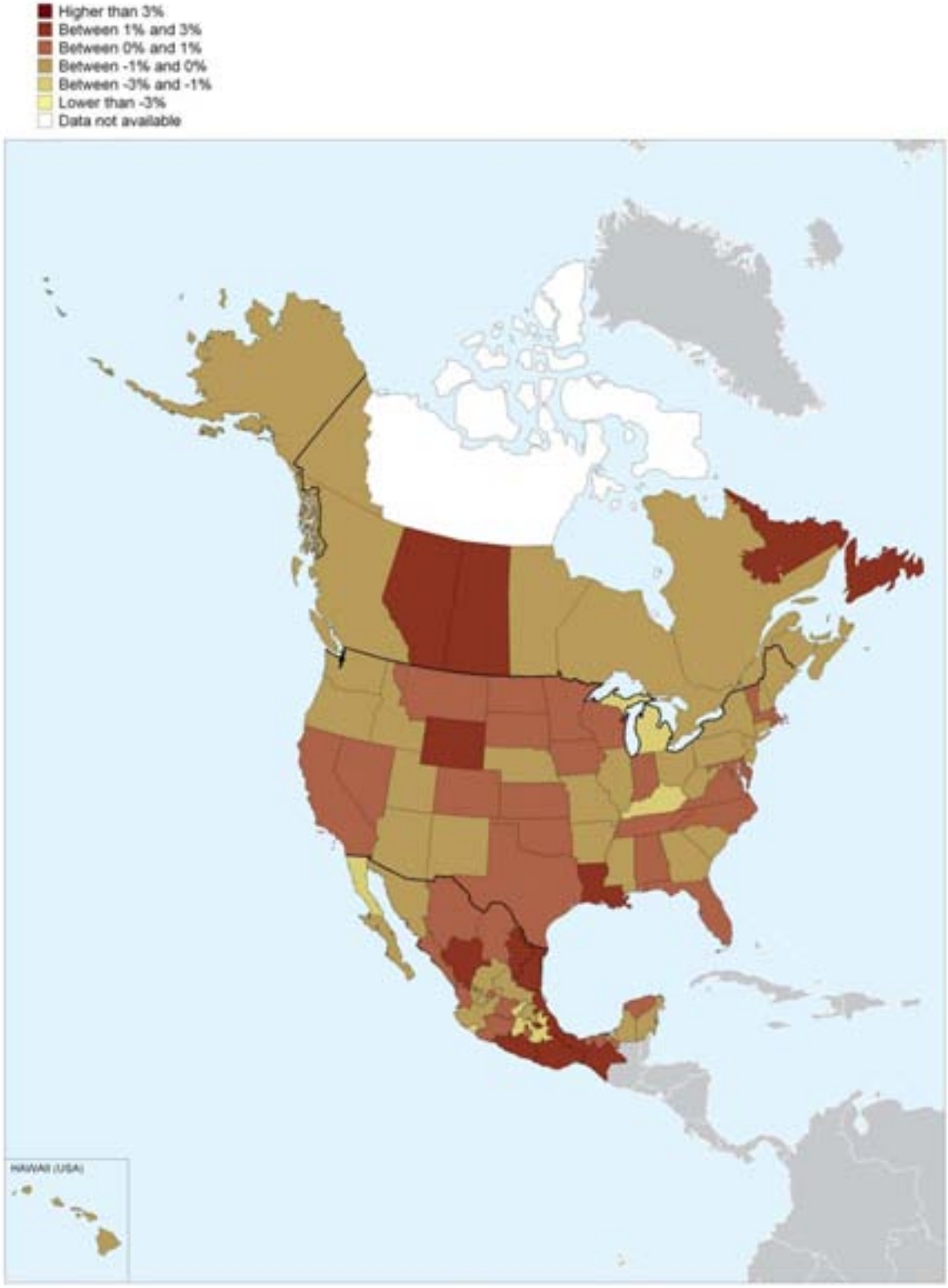
Germany and Greece 1995-2005; Norway 1997-2005; Turkey 1995-2001.

StatLink http://dx.doi.org/10.1787/524838822036

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

23.5 Change in the GDP share of the OECD due to change in GDP per worker: North America

TL2 regions, annual change 1999-2005



Canada 1995-2005, Northwest Territories and Nunavut is excluded for lack of data for comparable years; the United States 1997-2005 and Mexico 1998-2004.

StatLink http://dx.doi.org/10.1787/524838822036

Employment rates, participation rates and age activity rates influence regional performance. High growth in employment rates may be due to higher skill levels or to greater efficiency of the local labour market. Both can be regarded as resulting from regional assets: skills can be upgraded through training and education, and changes in employment regulations and active labour market programs can increase the regional labour market efficiency.

A relative rise in age activity rates may be the result of an increase in the working-age population or of an increase in participation rates across all age groups. As young and elderly individuals tend to have lower participation rates, the difference in activity rates due to the population age profile can be seen as resulting from natural endowments. In contrast, higher participation rates across all age groups are an indicator of regional assets.

Among the 20 fastest-growing regions in total OECD GDP share from 1999 to 2005 (Figure 24.1), the largest gains in employment rates (employment to labour force) occurred in Bratislav Kraj (Slovak Republic) and Attiki (Greece), while the contribution of participation rates (labour force to working age population) was most significant in Western Australia (Australia), Newfoundland and Labrador (Canada) and Quintana Roo (Mexico). The largest gains in activity rates (working age population to total population) occurred in Florida, Nevada and Wyoming (United States) and Border, Midlands and Western (Ireland).

During the same period among the 20 slowest-growing regions (Figure 24.1), the decreases in employment rates had the largest impact in P.A. Bolzano-Bozen and P.A. Trento (Italy) and in Berlin (Germany). The effect of lower participation rates was greatest in Molise (Italy) and Berlin (Germany). Finally declines in the age activity rate were the largest in Liguria and Piemonte (Italy), Balıkesir (Turkey) and Voreia Ellada (Greece).

Definition

Employment rate is defined as the per cent of labour force that is employed.

Participation rate is the ratio between the labour force and working age population (aged 15-64).

Age activity rate is the ratio between the working age population (aged 15-64) and the total population.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

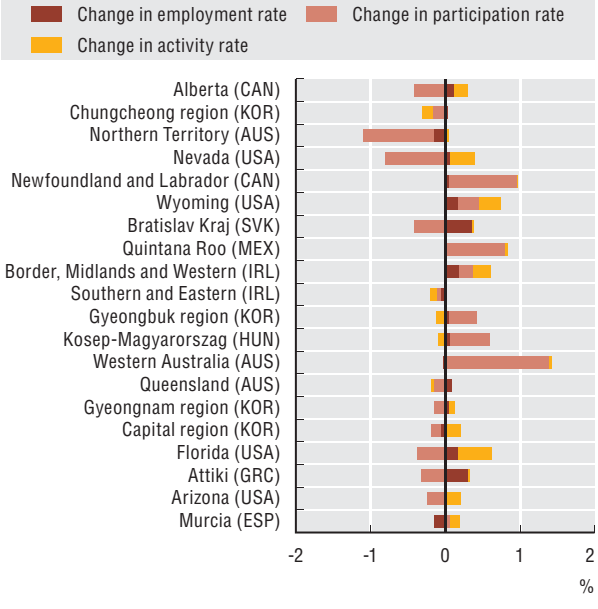
Reference years and territorial level

The decomposition of a region's share of OECD GDP is run in this section on TL2 regions over the period 1999-2005, with the following exceptions: Australia, Canada, Germany, Greece and Korea 1995-2005; Japan, Norway and the United States 1997-2005; Mexico 1998-2004; Turkey 1995-2001.

Regional GDP not available for Iceland, New Zealand and Switzerland.

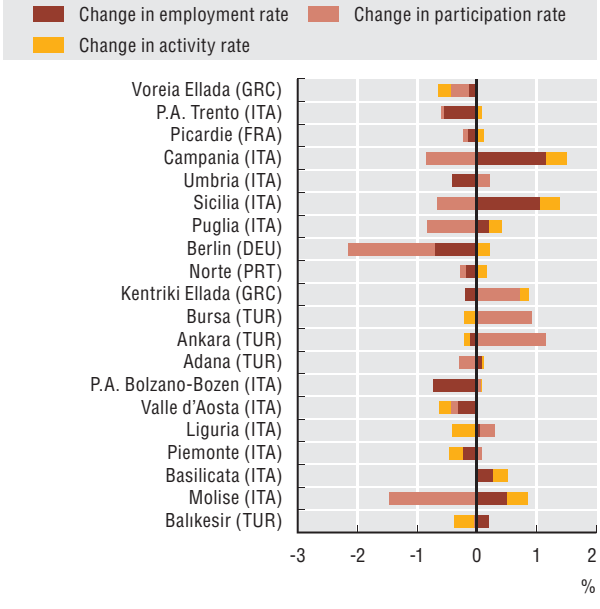
24.1 Components of change in GDP per capita for the top 20 TL2 regions in terms of change in GDP per capita, 1999-2005

Among the fastest-growing regions, the contribution of participation rates was most significant in Western Australia.



24.2 Components of change in GDP per capita for the lowest 20 TL2 regions in terms of change in GDP per capita, 1999-2005

Declines in employment rates had most impact in the Italian regions P.A. Bolzano-Bozen and P.A. Trento and Berlin, Germany.

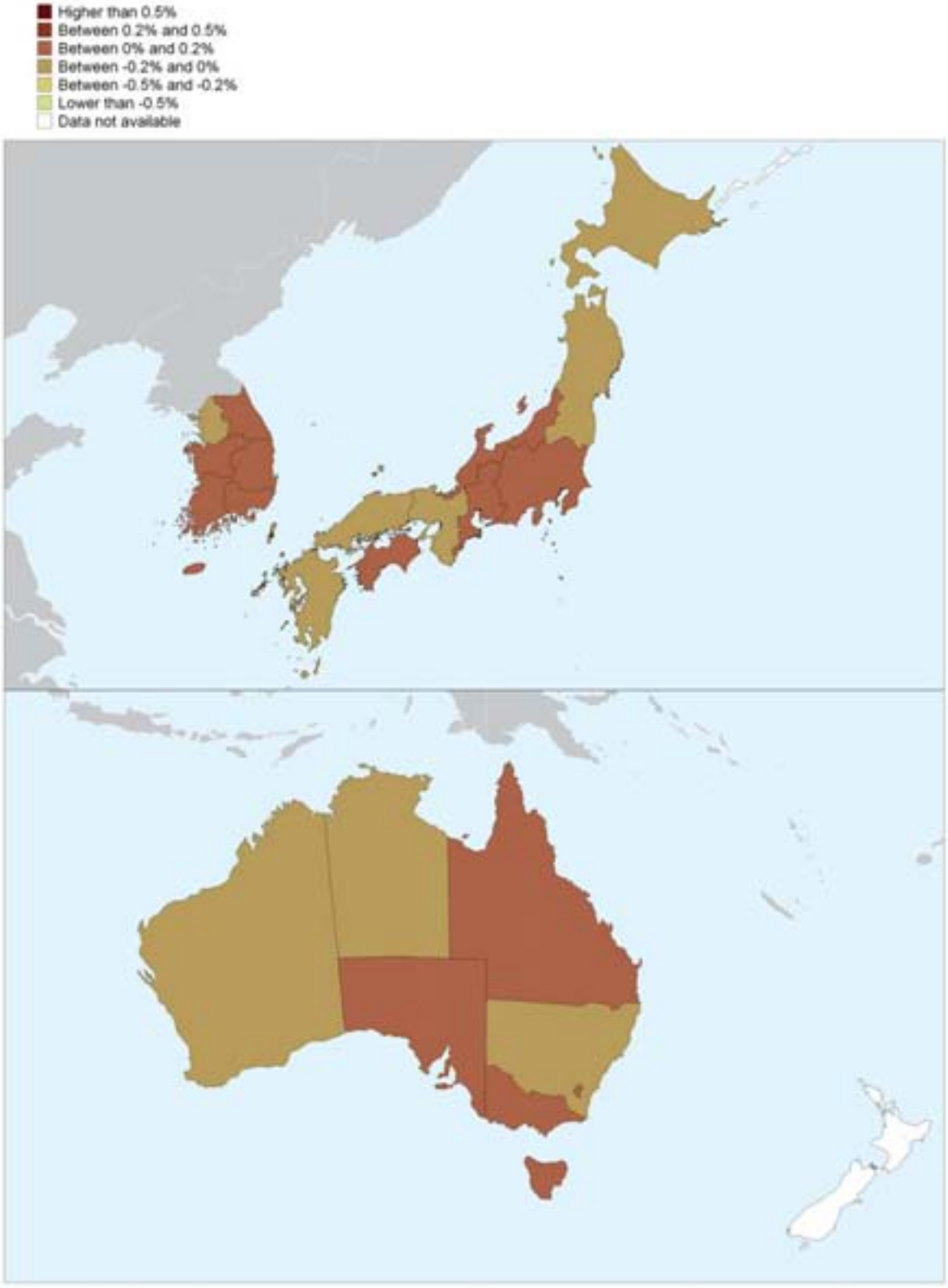


StatLink http://dx.doi.org/10.1787/524167506814

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

24.3 Change in the GDP share of the OECD due to change in employment: Asia and Oceania

TL2 regions, annual change 1999-2005

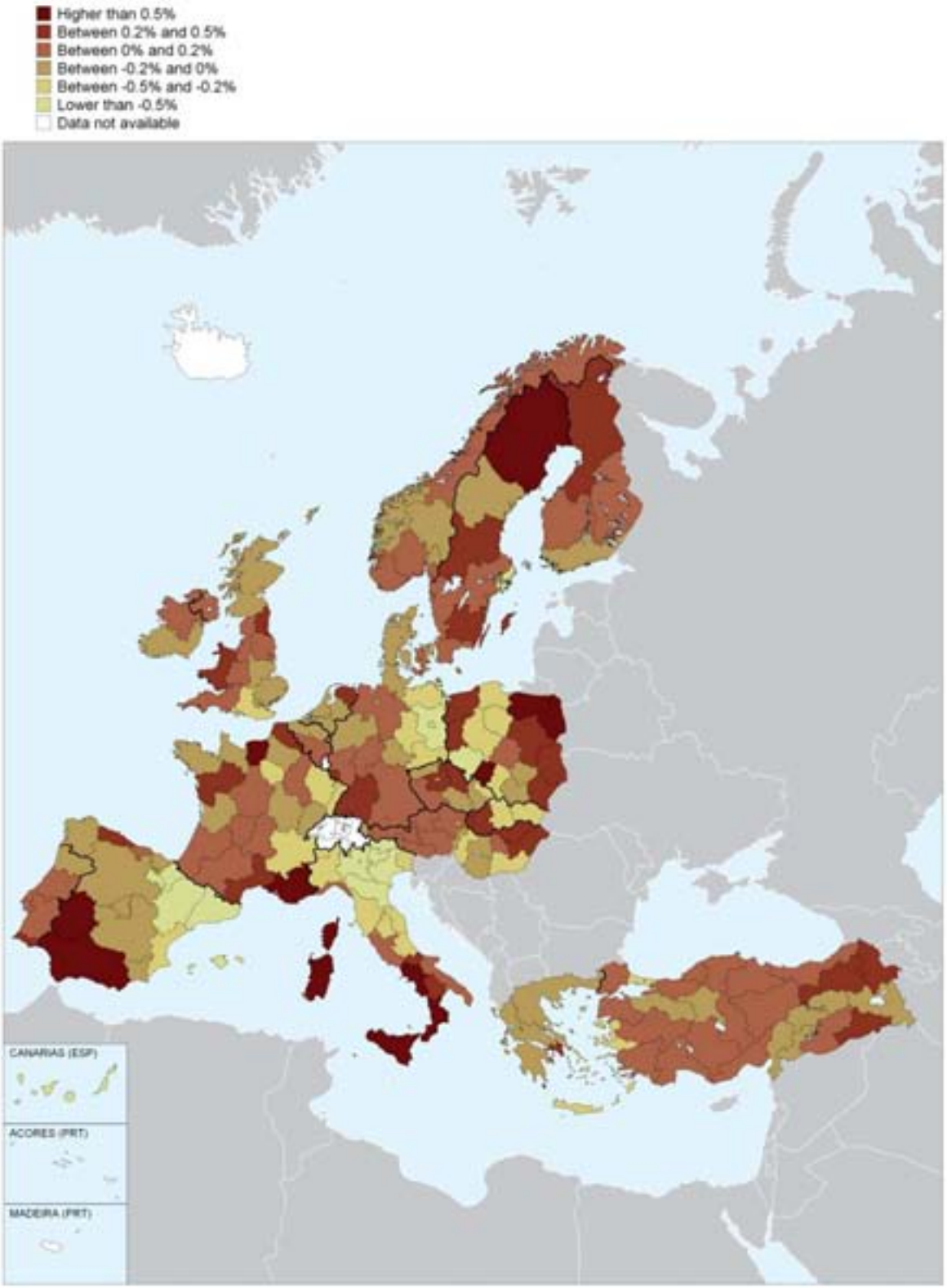


Australia and Korea 1995-2005; Japan 1997-2005.

StatLink http://dx.doi.org/10.1787/525000783865

24.4 Change in the GDP share of the OECD due to change in employment: Europe

TL2 regions, annual change 1999-2005



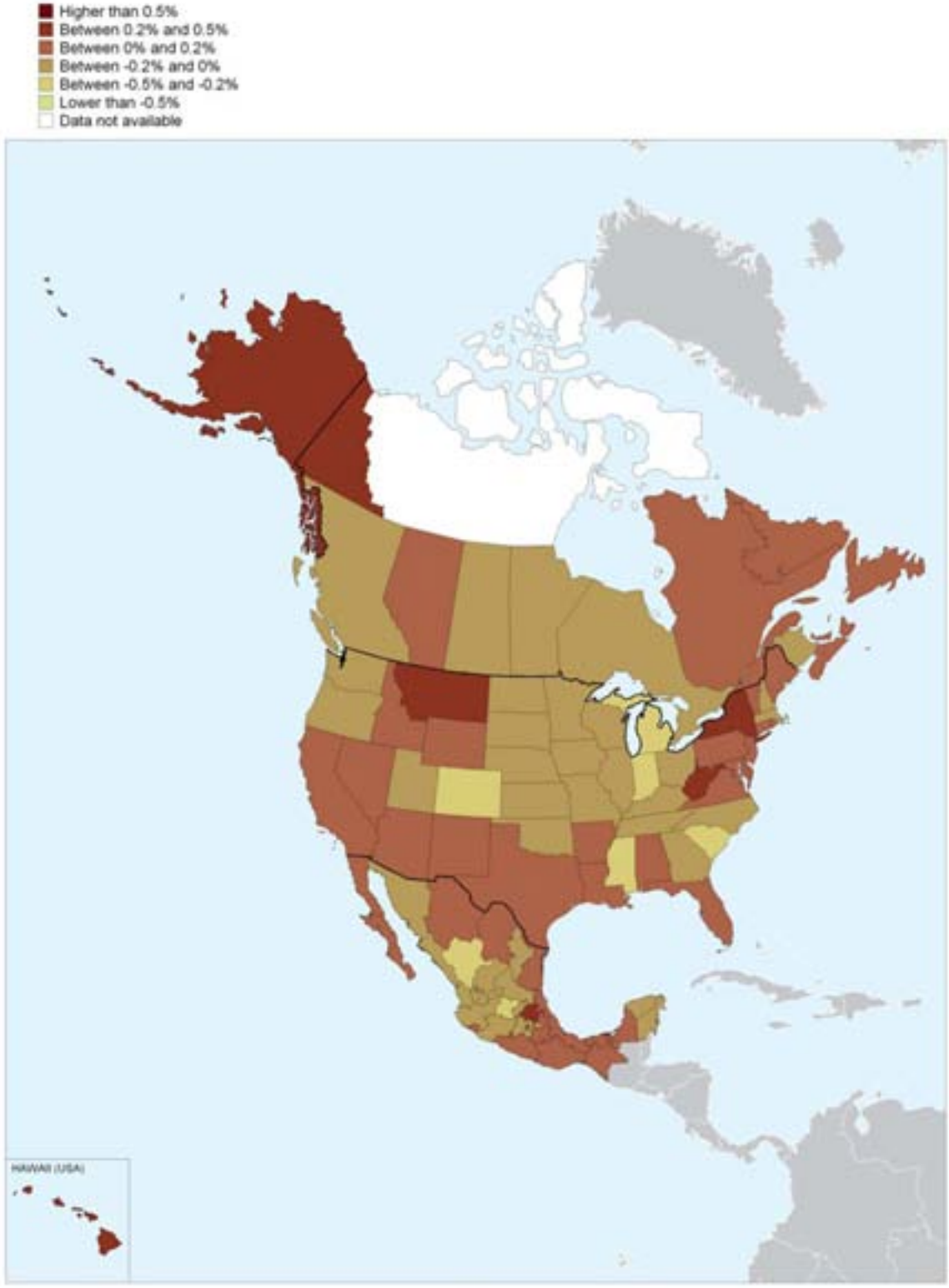
Germany and Greece 1995-2005; Norway 1997-2005; Turkey 1995-2001.

StatLink http://dx.doi.org/10.1787/525000783865

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

24.5 Change in the GDP share of the OECD due to change in employment: North America

TL2 regions, annual change 1999-2005



Canada 1995-2005, Northwest Territories and Nunavut is excluded for lack of data for comparable years; the United States 1997-2005 and Mexico 1998-2004.

StatLink http://dx.doi.org/10.1787/525000783865

V. COMPETING ON THE BASIS OF REGIONAL WELL-BEING

25. Health: Age-adjusted mortality rate
26. Health resources: Number of physicians
27. Safety: Reported crimes against property
28. Safety: Reported murders
29. Environment: Municipal waste
30. Environment: Private vehicle ownership
31. Voter turnout in national elections
32. Access to education

Macroeconomic indicators such as growth and employment opportunity cannot alone describe a region's quality of life and its ability to attract people and business. Security, health, education, quality of environment, social capital and trust in the institutions are all factors that contribute to improving "regional well-being". This complements the analysis of economic regional resources and their spatial concentration and disparities as carried out in the previous sections. Disparities among OECD regions in access and quality of services such as health, education or waste management are still large. These differences have an impact not only on the well-being of people and on the social cohesion of a country, but also on a region's competitiveness. The analysis in this part is constrained by the availability of data at the sub-national level, a typical challenge for international comparison of social and environmental indicators. In addition, data on outcomes or on quality of services like education and health are not collected in a systematic and internationally comparable way at regional level. Nevertheless, country studies suggest that regional differences persist also in the quality and efficiency of these services.

25. HEALTH: AGE-ADJUSTED MORTALITY RATE

The health status of populations is measured by mortality rates, which are age-adjusted to eliminate differences in mortality rates due to different population structures. A value of the age-adjusted mortality rate higher than the OECD average, therefore, indicates that after taking into account the differences in age, that country's mortality rate is higher than the OECD average.

In 2005, the average age-adjusted mortality rate for OECD countries was 8.4 per 1 000 inhabitants. Japan had the lowest age-adjusted mortality rate (6 per 1 000 inhabitants), while Hungary displayed the highest value (12 per 1 000 inhabitants). Regional differences in mortality rates within countries were also quite large. In 2005, the gap between the region with the lowest and the largest age-adjusted mortality rate was the widest in Mexico, the United States and Portugal. In contrast, the regional pattern of age-adjusted mortality rate was more balanced in Greece, Netherlands and Ireland (Figure 25.1).

A positive correlation, in 18 out of 25 countries, was found between the age-adjusted mortality rate and the regional share of population in rural regions (Figure 25.2).

Definition

Age-adjusted mortality rates eliminate the difference in mortality rates due to a population's age profile and are comparable across countries and regions. Age-adjusted mortality rates are calculated by applying the age-specific death rates of one region to the age distribution of a standard population, in this case the population by age class averaged over all OECD regions.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the age-adjusted mortality rate and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

2005; TL2

Belgium 2003; Australia, Italy and the United Kingdom 2004; Korea 2000.

No regional data available for New Zealand and Turkey.

Further information

Rowland, D.T. (2003), "Demographic Methods and Concepts", Oxford University Press.

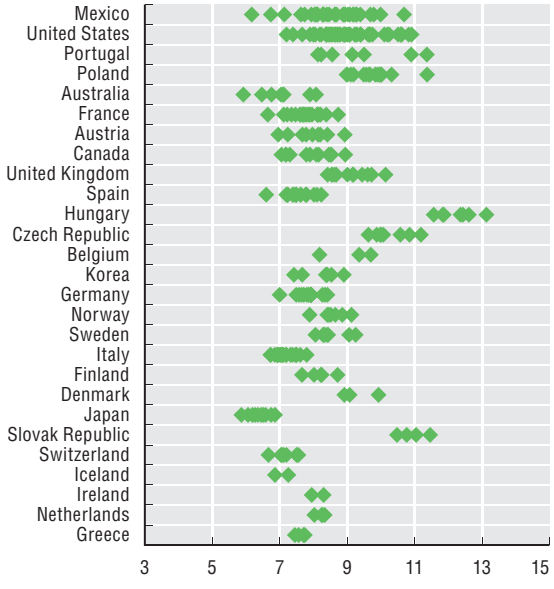
Figure notes

Figure 25.1: Number of deaths for 1 000 inhabitants.

Figure 25.2: For each country three correlations are run between the regional age-adjusted mortality rates and the share of regional population living in PU, IN and PR regions.

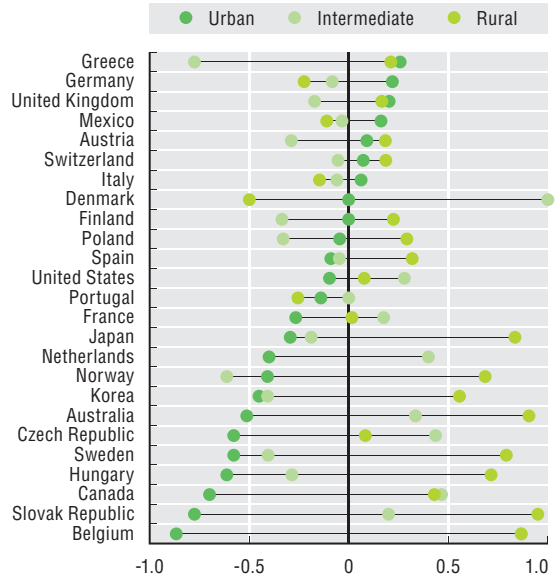
25.1 Range in TL2 regional age-adjusted mortality rates, 2005

In 2005, Mexico had the largest range across TL2 regions in mortality rates.



25.2 Spearman correlation coefficient between mortality rates and population share by regional type, 2005 (TL2)

In 2005, the Slovak Republic and Australia had highest association between regional mortality rates and population in rural regions.

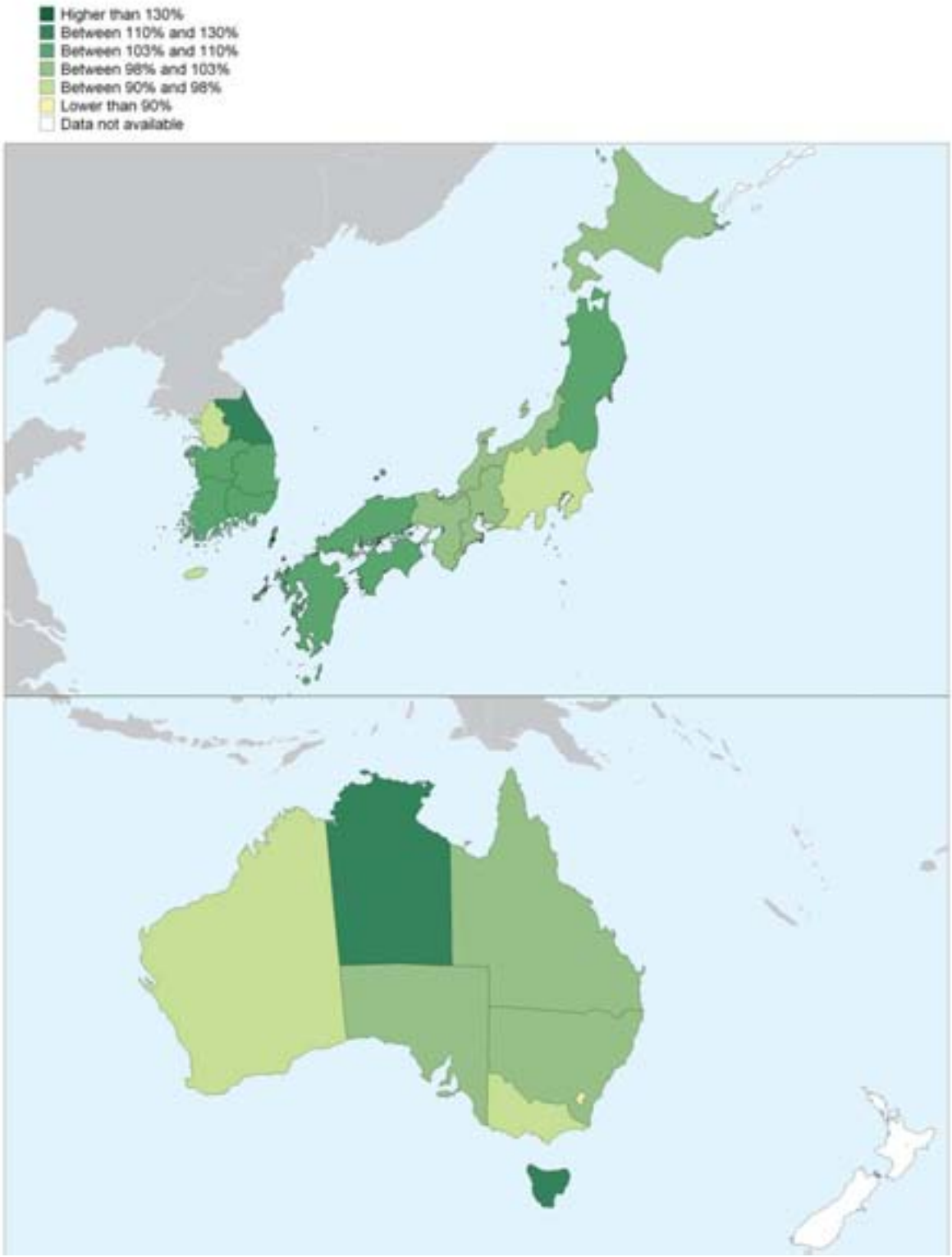


StatLink http://dx.doi.org/10.1787/524174666067

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

25.3 Regional age-adjusted mortality rates: Asia and Oceania

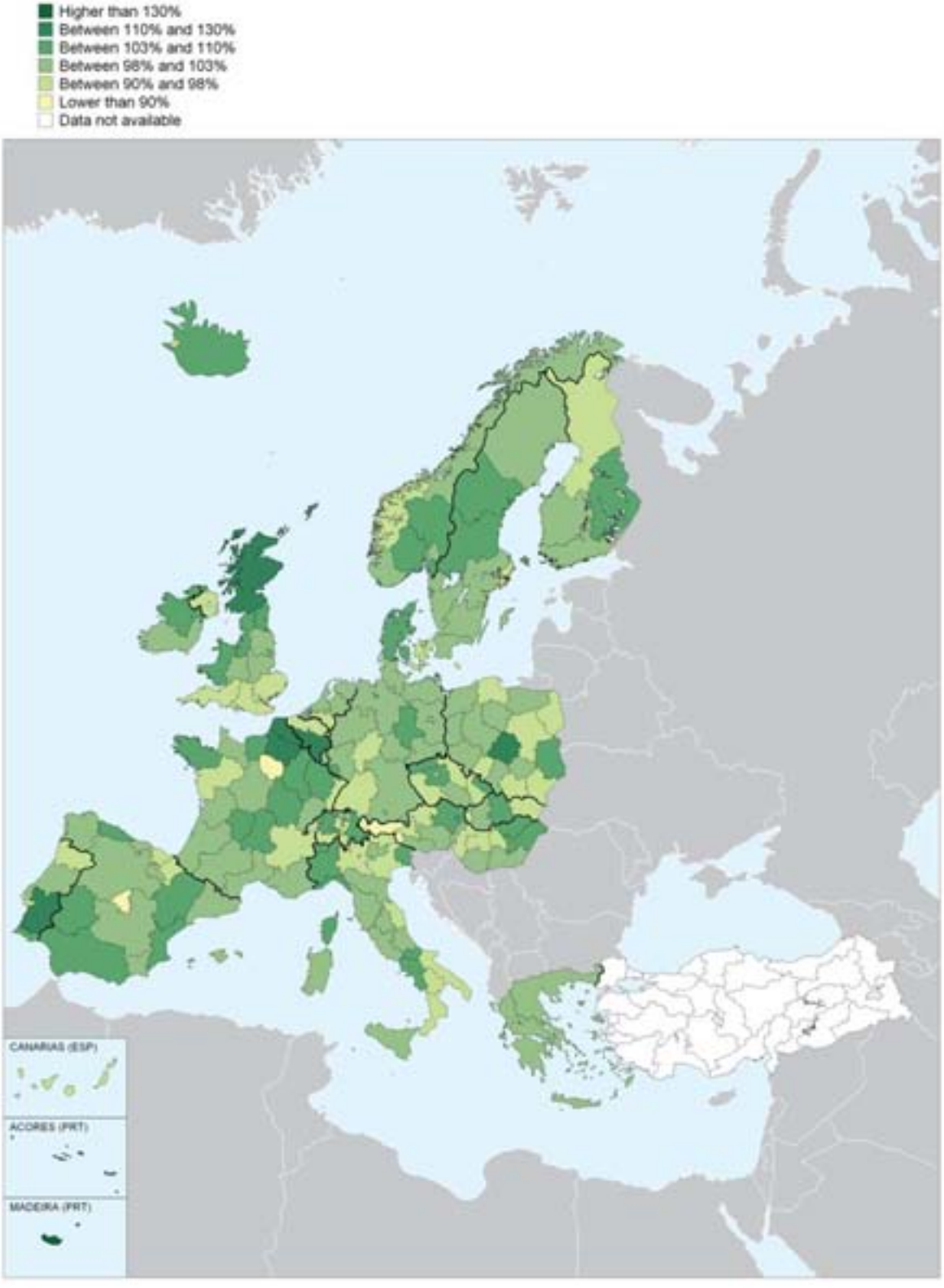
Per cent of country average, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525016235388

25.4 Regional age-adjusted mortality rates: Europe

Per cent of country average, TL2 regions, 2005

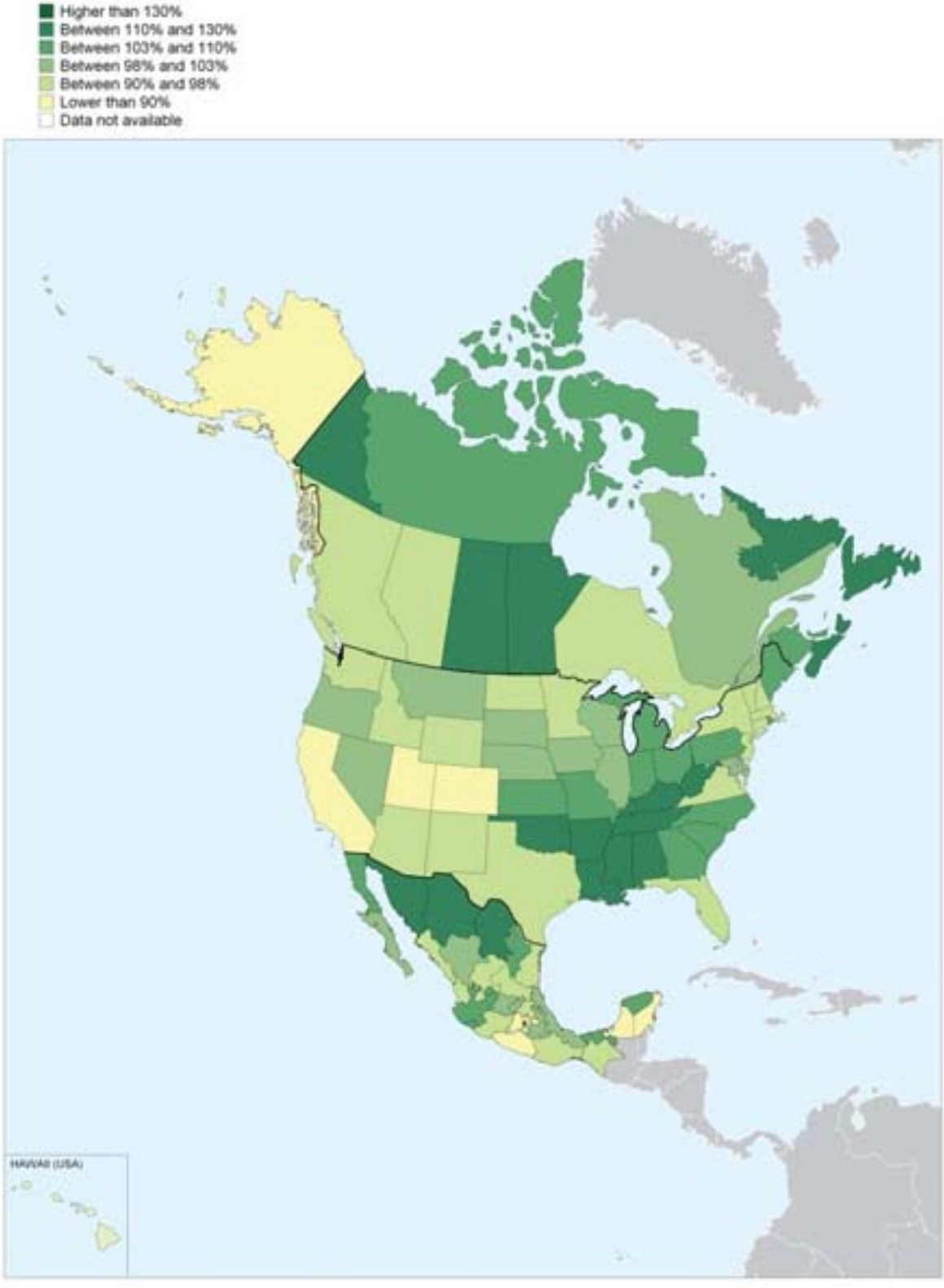


StatLink http://dx.doi.org/10.1787/525016235388

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

25.5 Regional age-adjusted mortality rates: North America

Per cent of country average, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525016235388

26. HEALTH RESOURCES: NUMBER OF PHYSICIANS

The delivery of safe, high-quality medical services requires among other things an adequate number of physicians. OECD countries display very different levels in the number of physicians. In 2005, the density of physicians in Turkey (1.5 per 1 000 inhabitants) was half the OECD average, while Greece had 5 practising physicians per 1 000 inhabitants (Figure 26.1).

The variation in the number of physicians among OECD countries is an indicator of the services provided by physicians. Even though other components of health systems (such as nurse practitioners and tele-health technology) can substitute for physicians, the variation in the number of physicians reflects differences in the design and territorial management of the health system.

Disparities in the number of physicians among regions within the same country, gives an indication of the accessibility of health services. In 2005, the regional variation in the number of physicians was the widest in the United States and the Czech Republic. In both countries the large variation is due to the fact that the national capital region has a high density of practising physicians, compared to the other regions. In the United States, the District of Columbia has a physician density three times higher than the country average, while the density in the region of Prague (the Czech Republic) is two times higher than the country average. A more balanced regional distribution in the number of physicians is observed in New Zealand, Japan and Poland (Figure 26.2).

As expected, the density of physicians is greater in regions with a prevalence of urban population due to the concentration of higher order services (such as surgery and specialised practitioners) in metropolitan centres. A positive correlation between the number of physicians and the share of population in urban regions is found in 19 out of 21 countries. The highest values are observed in Greece, the Slovak Republic, Germany and Sweden (Figure 26.3).

Definition

The number of physicians is the number of general practitioners and specialists, actively practicing medicine in a region during the year, in both public and private institutions.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the density of physicians and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

OECD Health Database, *http://dotstat/wbos/*, National practicing physicians.

Reference years and territorial level

2005; TL2

Japan and the Netherlands 2004; Portugal and Turkey 2003; Iceland and Switzerland 2002; the United Kingdom 2000.

No regional data available for Denmark, Finland, Ireland and Korea.

Figure notes

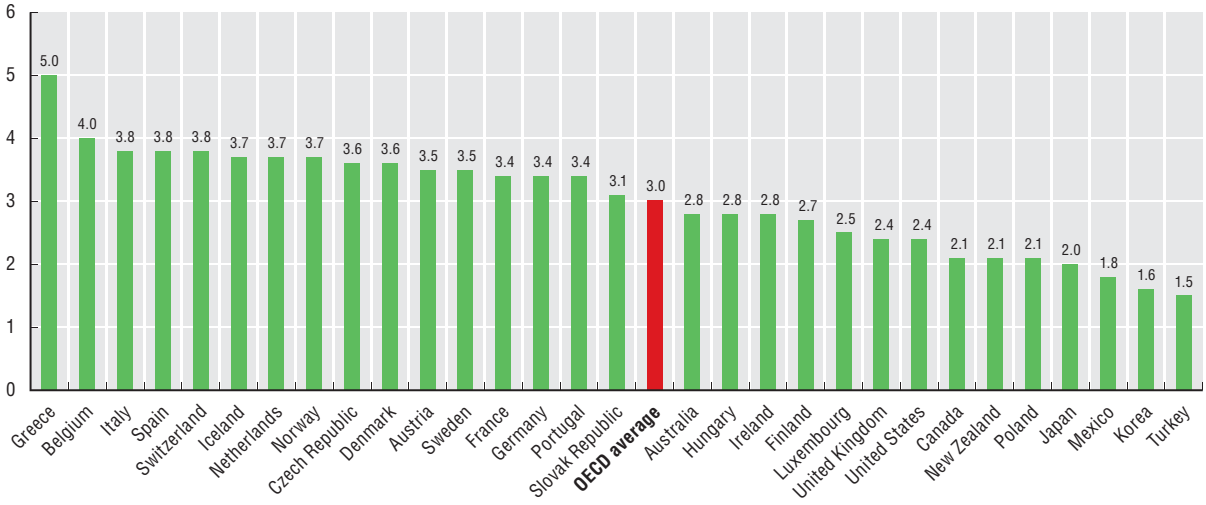
Figure 26.1: *Source:* OECD Health Database. Denmark, Japan and the Slovak Republic 2004.

Figure 26.3: For each country three correlations are run between the regional physician density and the share of regional population living in PU, IN and PR regions.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

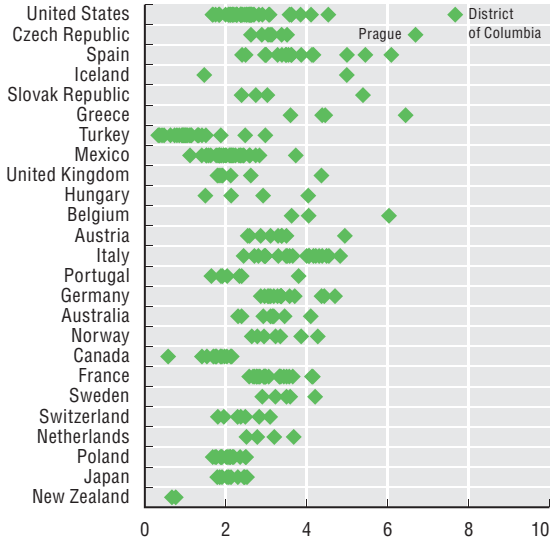
26.1 Practicing physicians, density per 1 000 inhabitants, 2005

The number of active physicians in Greece is double that of Luxembourg and almost triple that of Turkey.



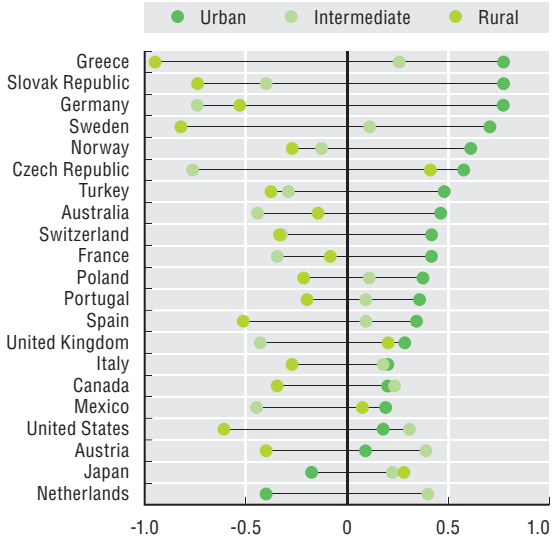
26.2 Range in TL2 regional number of physicians per 1 000 inhabitants, 2005

The regional variation in the number of physicians is largest in the United States and the Czech Republic.



26.3 Spearman correlation coefficient between regional physician density and population share by regional type, 2005 (TL2)

The density of physicians is greater in urban than in rural regions.



StatLink http://dx.doi.org/10.1787/524186874757

Safety is an important component of a region's attractiveness. Statistics on reported crime are usually affected by how crime is defined in the national legislation and by the statistical criteria used in recording offences. The lack of international standards for crime statistics makes international comparisons difficult. In addition, the public propensity to record offences varies greatly, not only among countries, but among regions in the same countries.

Figure 27.1 shows the variation of the rate of crime against property with respect to the country average. Spain, Mexico and the Czech Republic have the highest regional variation and New Zealand, Denmark and the Netherlands the lowest. The large variation in Spain is mainly due to two regions (Ceuta and Melilla) with a crime rate four times higher than the country average. In Mexico, the State of Baja California Norte, and in the Czech Republic, the region of Prague, both have a crime rate three times higher than their country average.

The correlation between the rate of crime against the property and the share of population living in urban regions is positive in all countries considered except the United States and Mexico (Figure 27.2). Most countries show a significant negative correlation between crime rates and share of population living in rural regions, except for the United States, Mexico and Canada.

Definition

The rate of crime against property is the number of reported crimes per 100 inhabitants. Reported crime against the property is the number of crimes reported to the police. Crimes against the property include: Forgery, arson, burglary, theft, robbery and malicious damage to property.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the rate of crime against property and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

2005; TL2

Ireland, Spain and the United Kingdom, 2004; Italy, 2006.

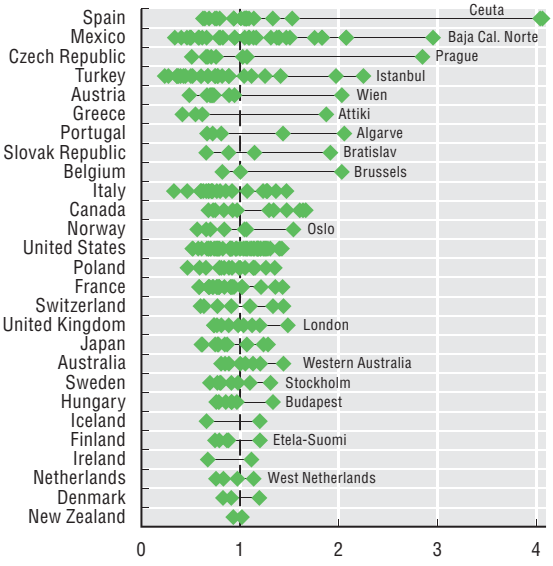
No regional data available for Germany and Korea.

Figure notes

Figure 27.2: For each country three correlations are run between the regional crimes against property and the share of regional population living in PU, IN and PR regions.

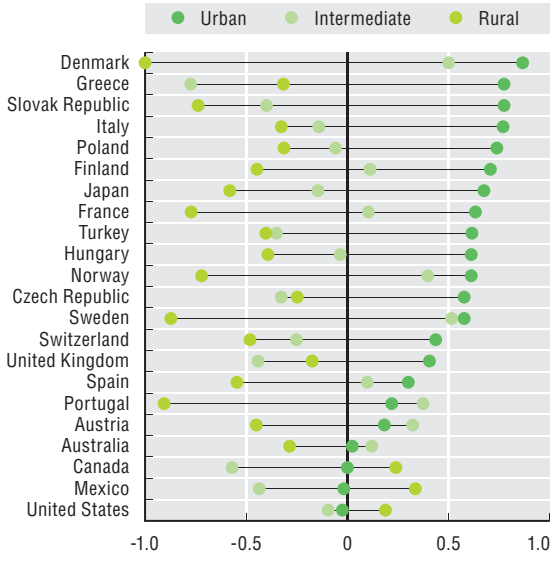
27.1 Range in TL2 regional crimes against property per 100 inhabitants, 2005

The highest regional variation in property crime is seen in Spain, the least in New Zealand.



27.2 Spearman correlation between crime against property and population share by regional type, 2005 (TL2)

In most countries, property crime rates are positively associated to the share of population living in urban regions.

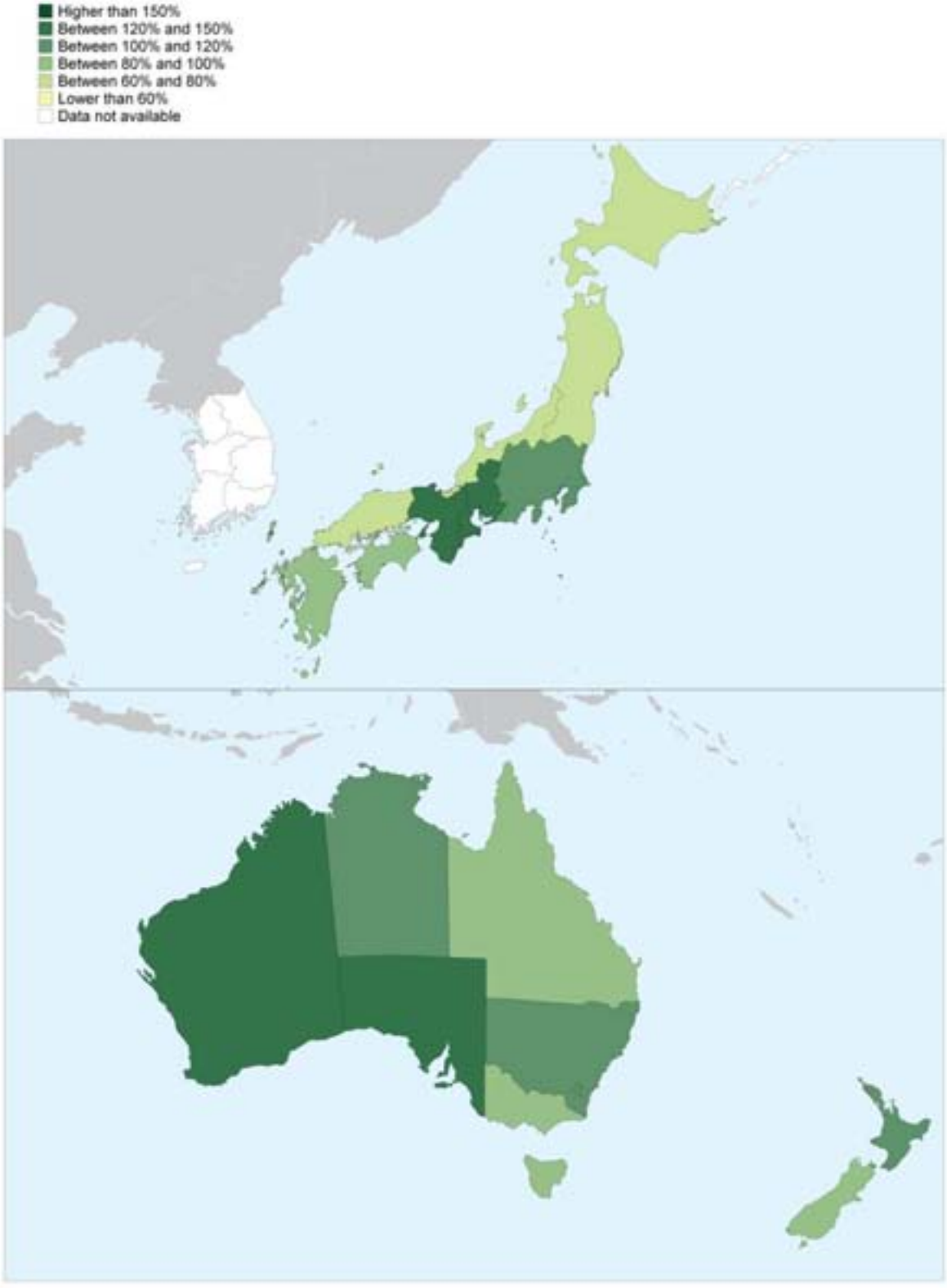


StatLink http://dx.doi.org/10.1787/524262444343

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

27.3 Rate of crime against property: Asia and Oceania

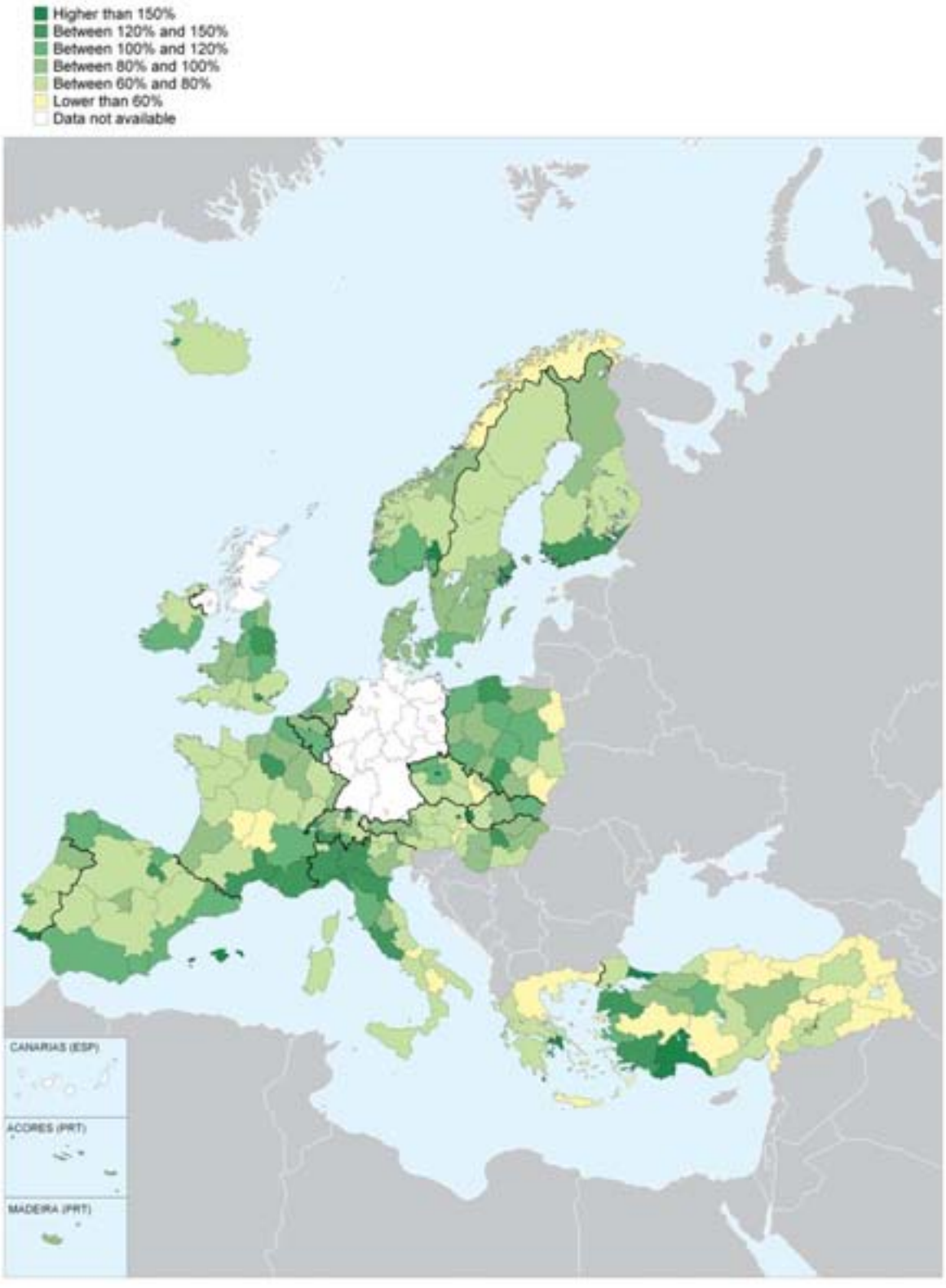
Per cent of country average, TL2, 2005



StatLink http://dx.doi.org/10.1787/525047275565

27.4 Rate of crime against the property: Europe

Per cent of country average, TL2 regions, 2005

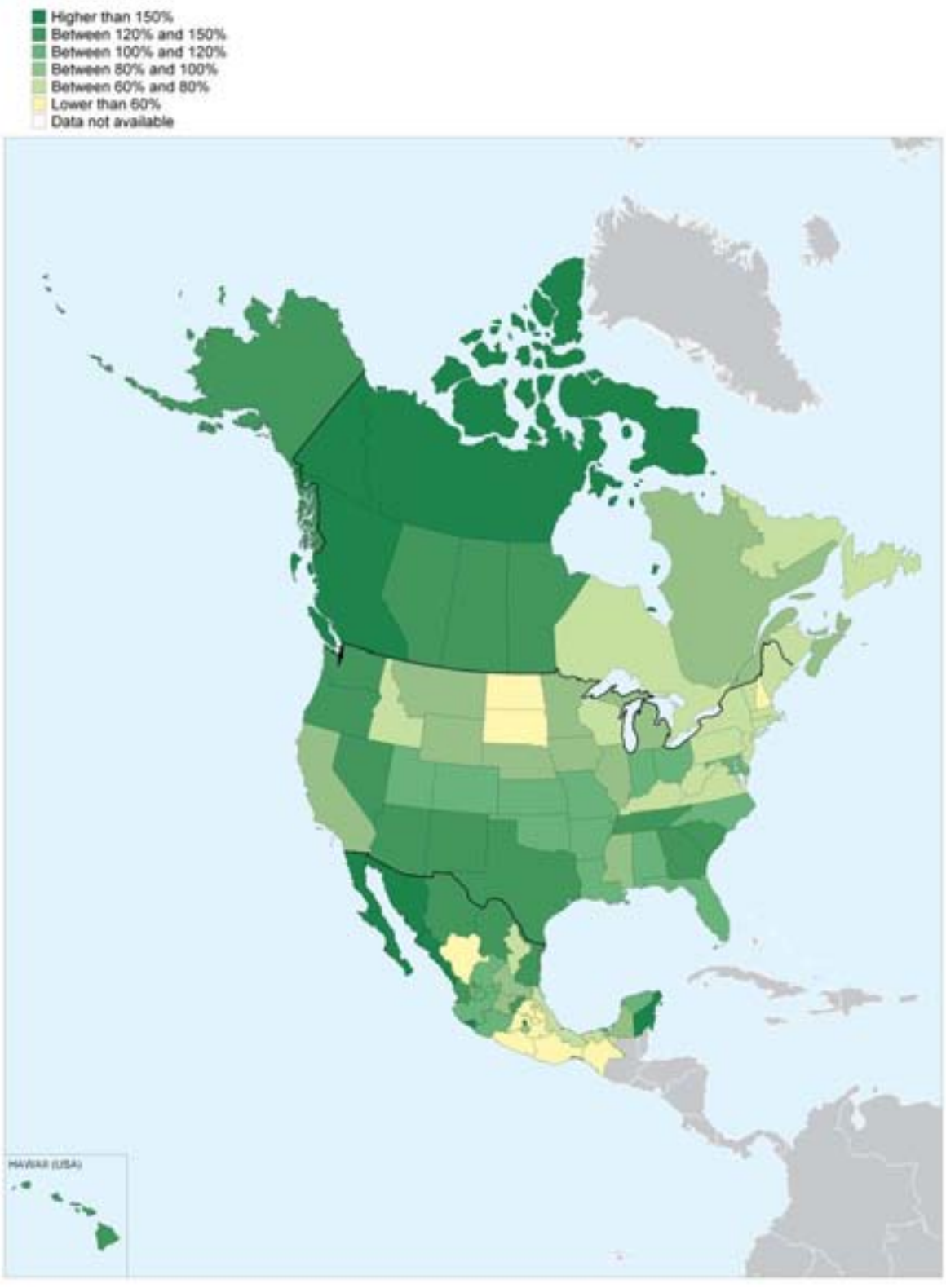


StatLink http://dx.doi.org/10.1787/525047275565

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

27.5 Rate of crime against the property: North America

Per cent of country average, TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525047275565

28. SAFETY: REPORTED MURDERS

The number of murders per inhabitant is an indicator of a region's safety level. Unlike other safety indicators, such as reported property crime, the number of reported murders is not affected by the public propensity to report an offence. It is therefore more suitable for international comparisons.

Turkey and the United States had the highest murder rate in 2005 (both at 5.6 murders per 100 000 inhabitants) (Figure 28.1). On the other side Austria and Norway were the countries with the lowest rates (below 0.7 murders per 100 000 inhabitants).

France, Australia, the United States and Italy show the greatest regional variation in the country murder rate average (Figure 28.2). For all these countries this large variation is due to an outlier region with a very high rate. In France the Corse region had a rate over six times the country average. In Australia, the Northern Territories, and in the United States, Washington DC, have murder rates four times higher than the country average. In Italy, the outlier region is Calabria. Spain, Sweden, Norway, Finland and Japan also have a single region with a murder rate higher than the the other regions.

Small regional variation is seen in New Zealand, Portugal and Ireland. Few countries had one or more regions with no murders in 2005: Italy (Valle d'Aosta), Canada (Prince Edward Island and Northwest Territories) and Finland (Aland).

Definition

Murder is the unlawful killing of a human being with malice aforethought, more explicitly intentional murder. Reported murders are the number of murders reported to the police. The murder rate is the number of reported murders per 100 000 inhabitants.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

National Data: UN, Ninth UN Survey of Crime Trends and Operations of Criminal Justice Systems and Eurostat.

Reference years and territorial level

2005; TL2

United Kingdom 2004.

No regional data available for Belgium, Germany, Korea and Iceland.

Figure notes

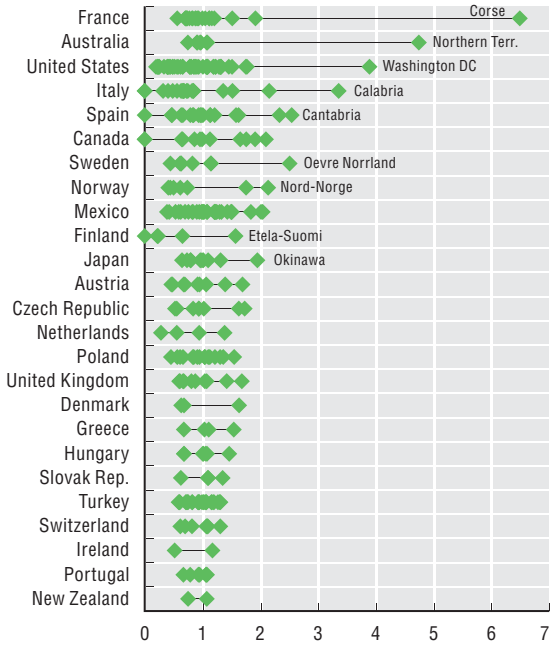
Figure 28.1: Available data: France and Korea, 2004.

28.1 Murders per 100 000 inhabitants, 2005

In 2005, murder rates were the highest in Turkey and the US.

28.2 Range in TL2 regional murders per 100 000 inhabitants, 2005

Regional variation in the murder rate is greatest in France and Australia.

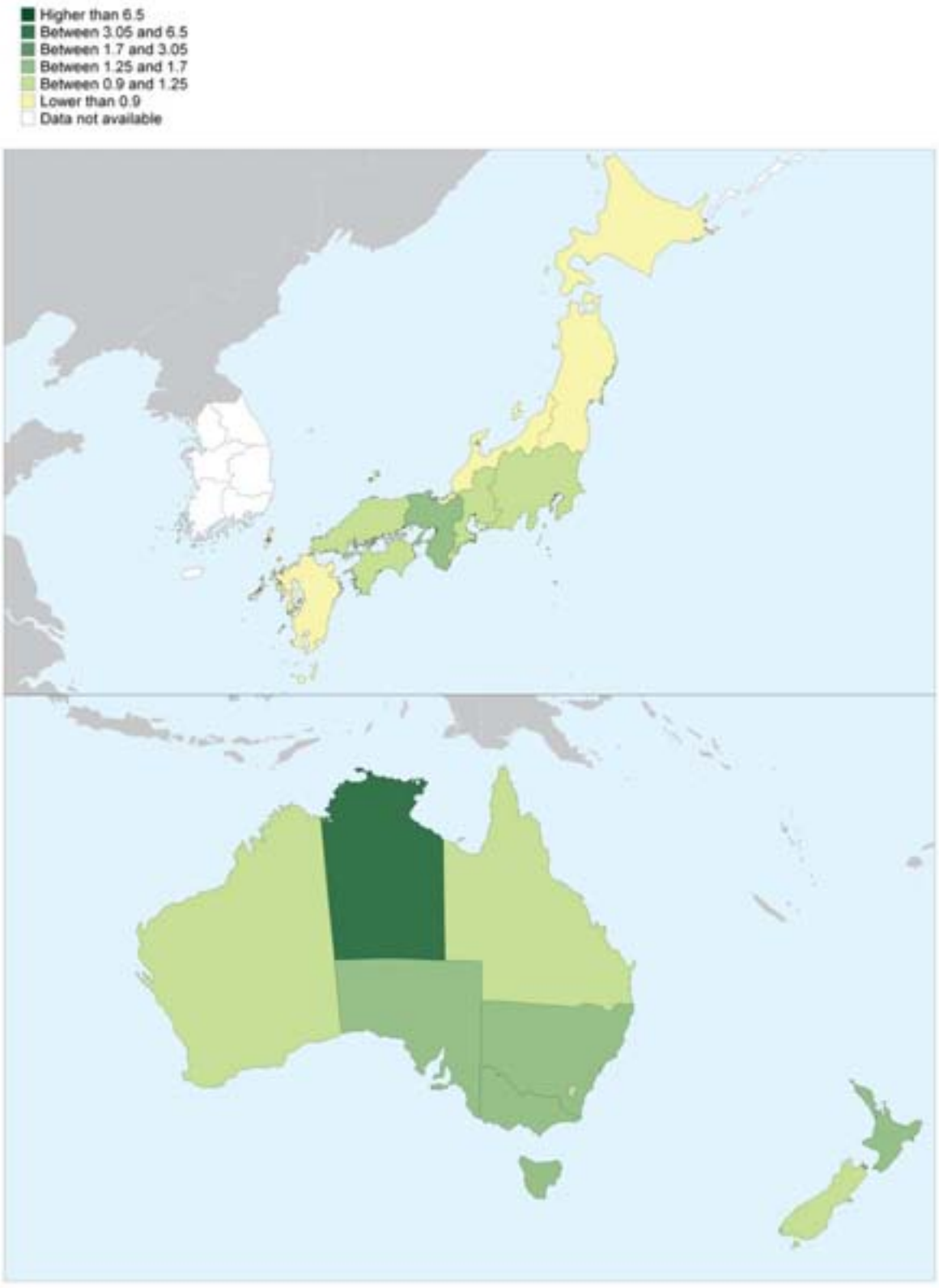


StatLink http://dx.doi.org/10.1787/524327524153

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

28.3 Murders per 100 000 inhabitants: Asia and Oceania

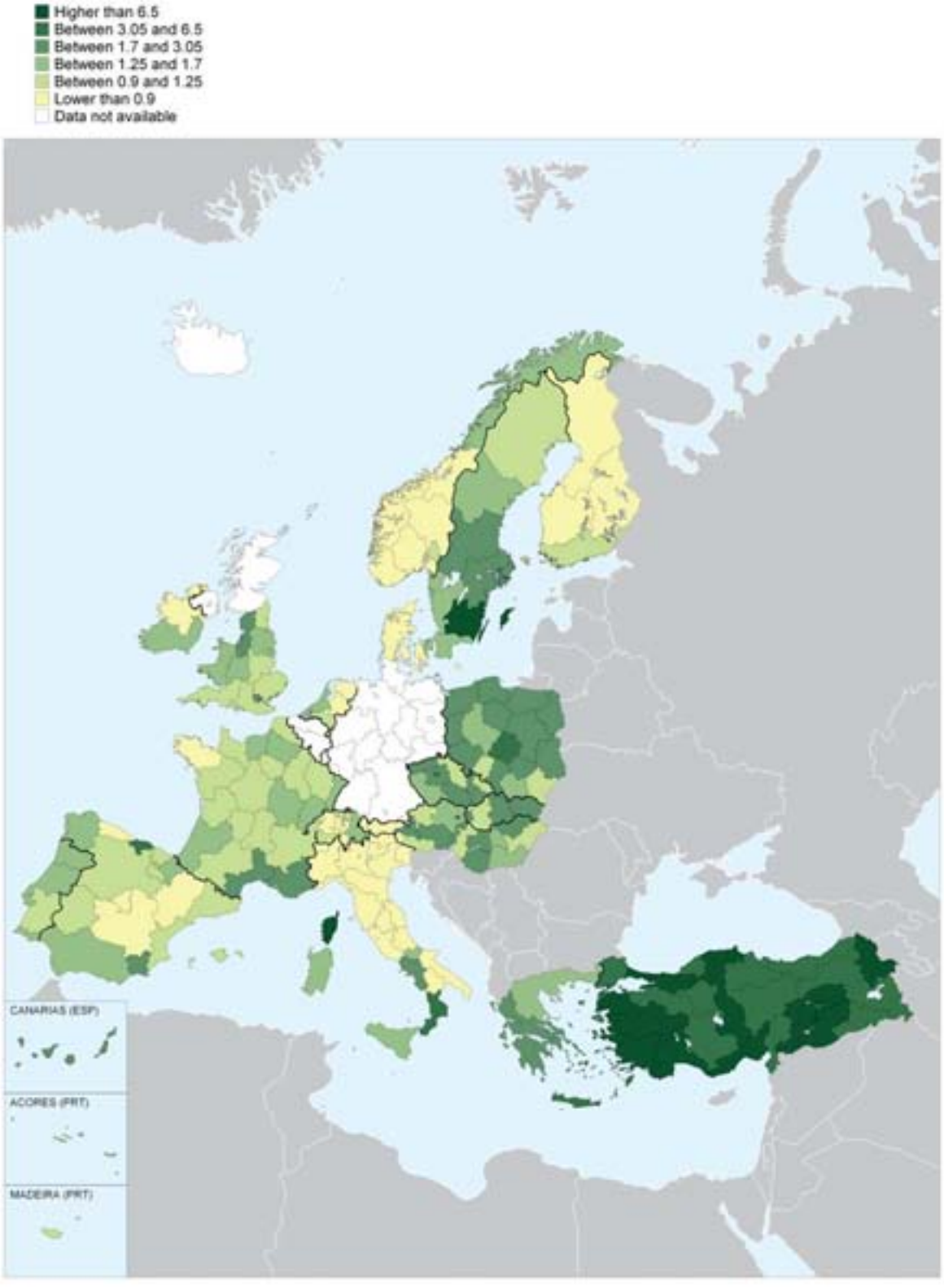
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525067024404

28.4 Murders per 100 000 inhabitants: Europe

TL2 regions, 2005

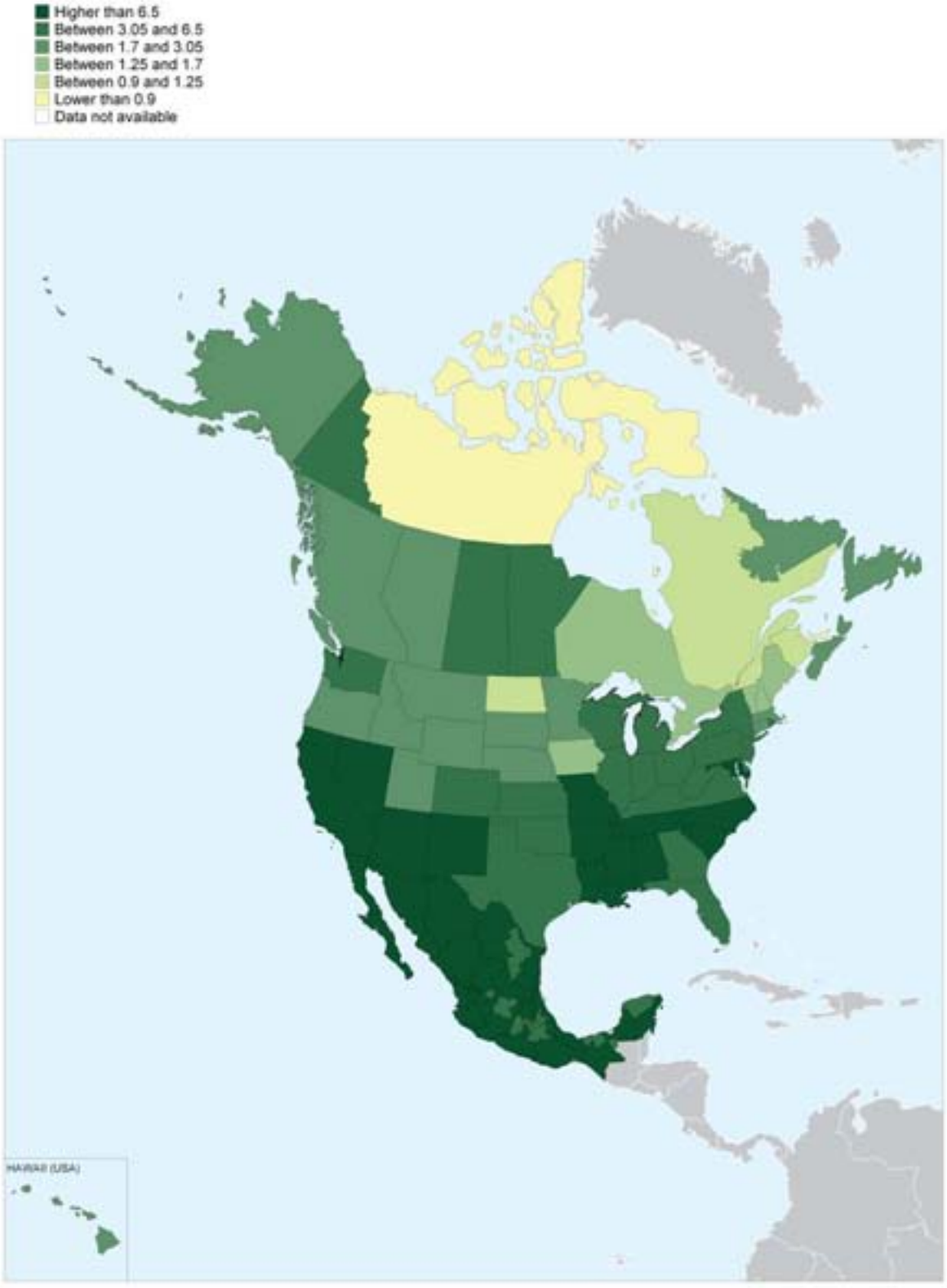


StatLink http://dx.doi.org/10.1787/525067024404

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

28.5 Murders per 100 000 inhabitants: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525067024404

Waste management has potential impacts on human health and ecosystems. There are also concerns about the treatment and disposal capacity of existing facilities, and on the location and social acceptance of new facilities. The economic, environmental and social impact of waste is relevant in regions also because waste disposal is usually managed at the local level. Many OECD member countries have strengthened measures for waste minimisation, recycling, product life cycle management and extended producer responsibility.

The amount of municipal waste generated gives an approximation of the potential pressure on the environment, and economic cost for management and treatment. Studies show that municipal waste can represent more than one-third of the public sector's financial efforts to abate and control pollution.

In 2005, OECD member countries municipal waste production varied from 760 kg per inhabitant in Norway to 250 in Poland (Figure 29.1). The different amount depends on the level and pattern of consumption, the rate of urbanization, lifestyle and also on national waste management practices. Between 1995 and 2005, OECD member countries increased the municipal waste generated by an average of 40 kilo per inhabitant. The increase was greatest in Ireland (230 kg per inhabitant), followed by Denmark (170), and Spain and Greece (140). Nevertheless, these data have to be interpreted with great caution since they may be biased by changes in the methodology for collecting the information.

Data indicate that Poland, the Slovak Republic, the Czech Republic and Korea reduced the municipal waste produced. Once again, caution in interpreting these data is necessary because countries may use different classification and data collection methods. Nevertheless, they give an indication of the level and trend of municipal waste production in these countries.

When looking at regional data, the volume of municipal waste per inhabitant varies significantly among regions within and across countries. In 2005, Mexico displayed the widest regional variation having the region of Distrito Federal with municipal waste per capita almost two times higher than the national average and the region of Oaxaca around half of the country average volume. Large regional disparities were also seen in Portugal and Turkey. Ireland, the United Kingdom and the Netherlands are the countries with the most balanced regional distribution of municipal waste per capita (Figure 29.2).

The production of municipal waste per capita is positively associated with the share of population living in urban regions in 12 out of the 20 countries considered. In Hungary, Spain and Austria the positive correlation is higher in intermediate than in urban regions (Figure 29.3).

Definition

Municipal waste is generally defined as the total waste collected by or on behalf of municipalities. It includes waste from households, commerce, institutions and small business, yard and garden; the definition excludes municipal waste from construction and demolition and municipal sewage.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the municipal waste per capita and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

National data: OECD Environmental data: Compendium (2007).

The sum of collected regional data on waste does not always match the OECD national data.

Reference years and territorial level

2005; TL2

Last available year for Australia 2003; Canada 2002; France, Japan, Turkey and the United Kingdom 2004; Germany 2007.

No regional data available for Belgium, Denmark, Finland, Iceland, Korea, New Zealand, Switzerland and the United States.

Further information

OECD Key Environmental Indicators (2008).

Figure notes

Figure 29.1: *Source:* Own elaborations from OECD Environmental Data Compendium (2007). Years for Canada 1980 and 1990; Australia 1990 and 2000.

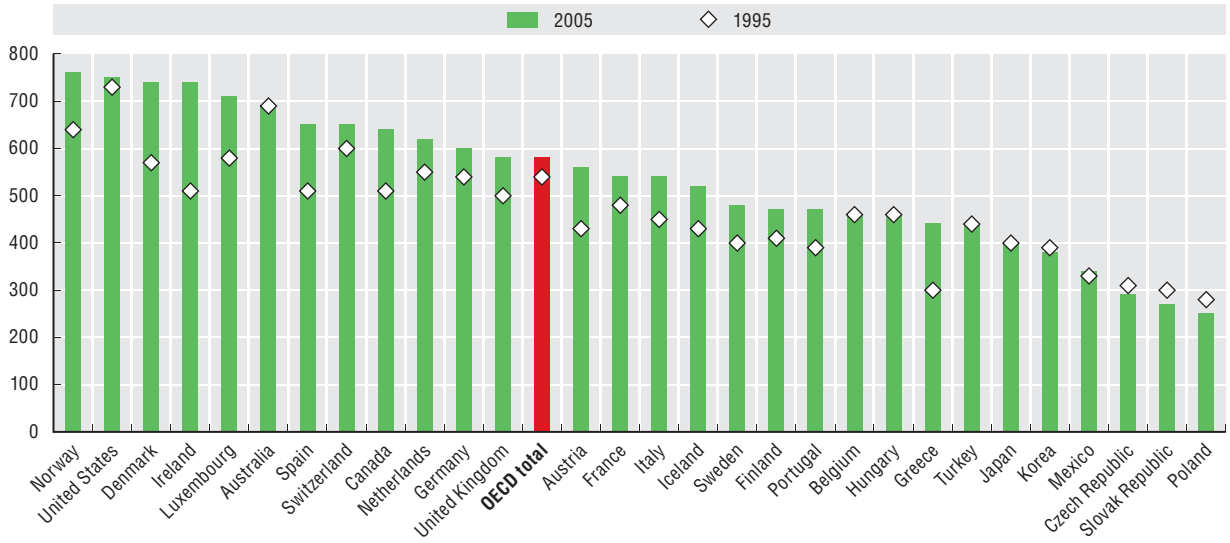
Figure 29.2: As a percentage of the country average.

Figure 29.3: For each country three correlations are run between the regional municipal waste per capita and the share of regional population living in PU, IN and PR regions.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

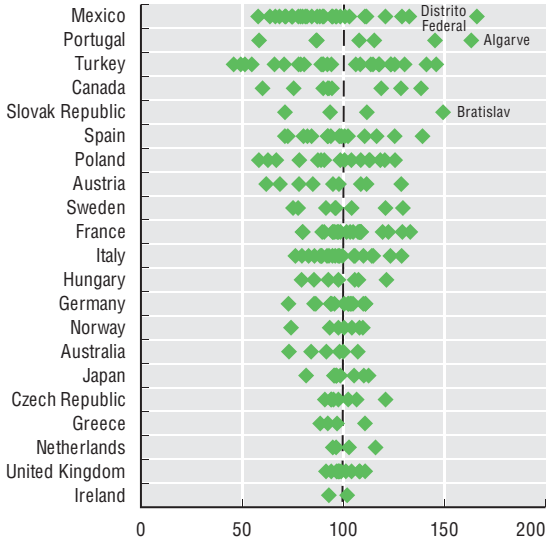
29.1 Municipal waste (kg per capita), 2005 and 1995

On average, OECD countries produced almost 600 kg per person of municipal waste in 2005.



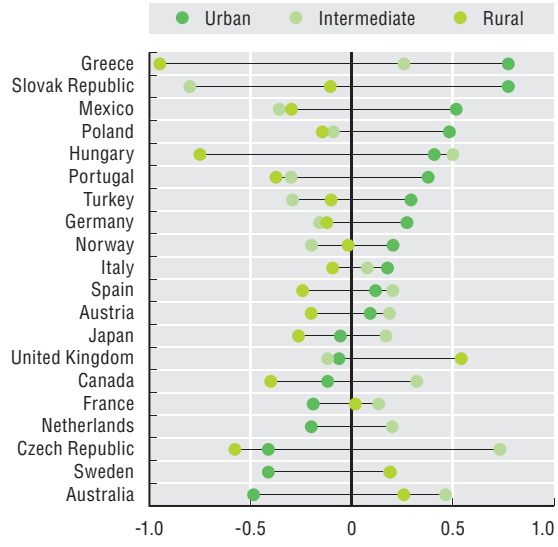
29.2 Range in TL2 regional municipal waste per capita, 2005

The volume of municipal waste per inhabitant varies greatly in Mexico and Portugal.



29.3 Spearman correlation coefficient between municipal waste and share of population by regional type, 2005 (TL2)

In 12 out of 20 countries, municipal waste per capita is higher in urban regions.



StatLink http://dx.doi.org/10.1787/524330511788

Transport activity generates pressures on the environment through air pollution and consumption of natural resources such as land and energy. In urban areas, motor vehicles are the main contributors to ground-level ozone, a major component of smog. The number of private vehicles per capita is the indicator most commonly used to set policy targets for integrating environmental objectives with transportation policies.

The variation in the number of private vehicles per capita is large with OECD, ranging from around 8 vehicles per 100 inhabitants in Turkey to 70 in Denmark (the ranking among countries does not change when taking into account the relative weight of people under the driving age). Regional variations within countries are large as well. The largest variations occur in Canada (ranging from 36 to 88), Korea (from 16 to 66), the United States (from 18 to 62) and Japan (from 34 to 75). In these countries, with the exception of the United States, the large variation is due to one outlier region with a very high number of vehicles per capita – the Yukon Territory (Canada), Jeju (Korea) and Toukai (Japan). France, Greece, Mexico and the Slovak Republic also had one region with value much higher than the rest of the country. Ireland, Iceland, Belgium and the Netherlands displayed almost no regional variation (Figure 30.1).

The correlation between the number of private vehicles per capita and the share of population by typology of region (PU, IN, PR) does not show a clear trend across OECD regions (Figure 30.2). The correlation is positive for urban regions in 13 countries out of the 25 considered and it is negative for rural regions in 13 countries.

Definition

Private vehicles are defined as the number of motor vehicles other than motorcycles, intended for the carriage of passengers and designed to seat no more than nine persons including the driver.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the number of private vehicle per capita and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

2005; TL2

Denmark and Iceland last available year 2003.

No regional data available for New Zealand and Portugal.

Further information

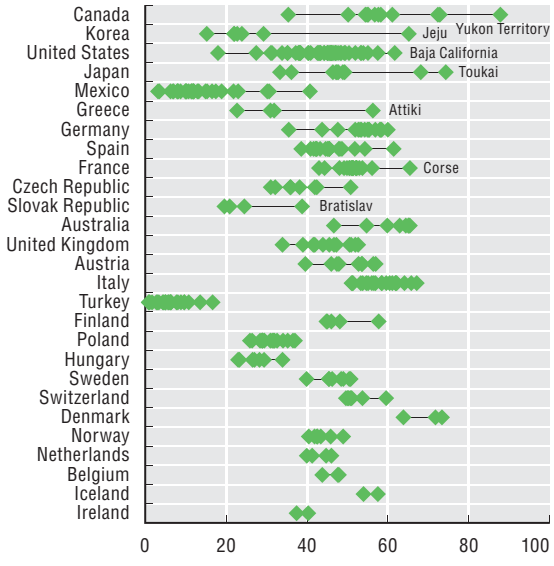
OECD Key Environmental Indicators (2008).

Figure notes

Figure 30.2: For each country three correlations are run between the number of vehicles per capita and the share of regional population living in PU, IN and PR regions.

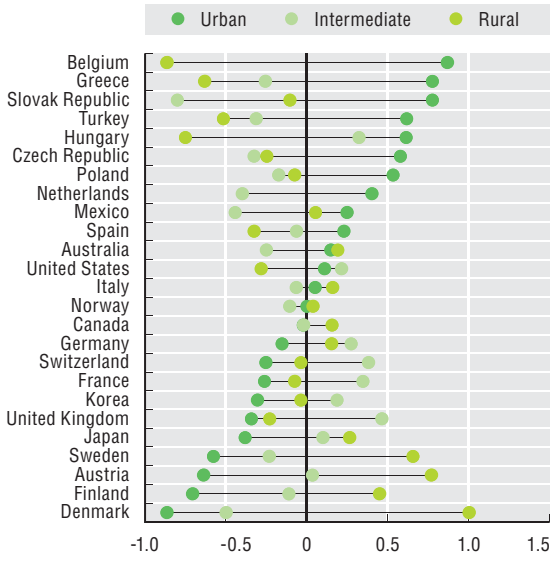
30.1 Range TL2 regional variation in the number of vehicles per 100 inhabitants, 2005

The largest regional variation in vehicle ownerships occurs in Canada and Korea.



30.2 Spearman correlation between private vehicles and population share by regional type, 2005 (TL2)

Urban regions do not always display a higher number of private vehicles per capita.

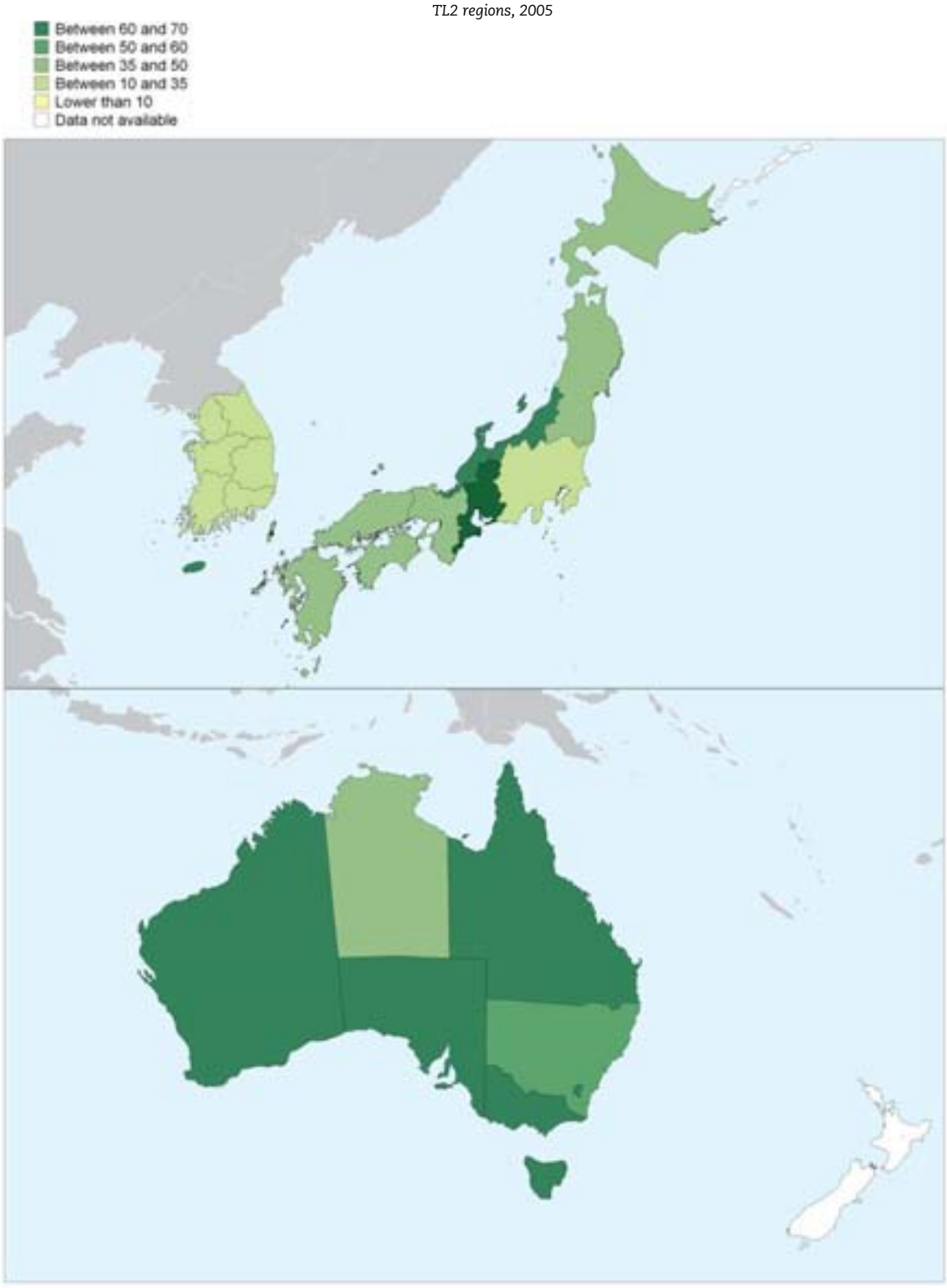


StatLink http://dx.doi.org/10.1787/524345055654

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

30.3 Number of private vehicles per 100 inhabitants: Asia and Oceania

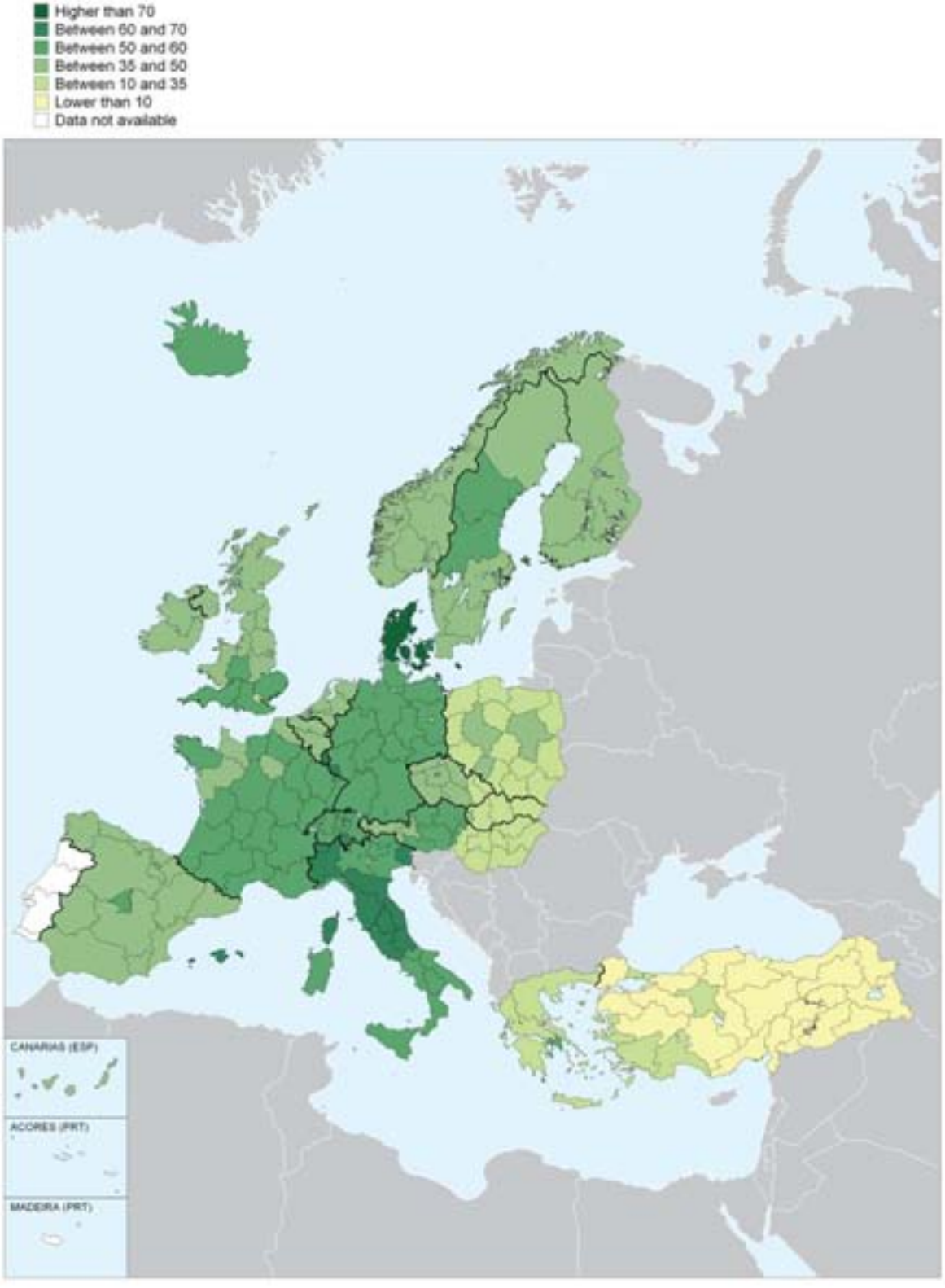
TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525117040633

30.4 Number of private vehicles per 100 inhabitants: Europe

TL2 regions, 2005

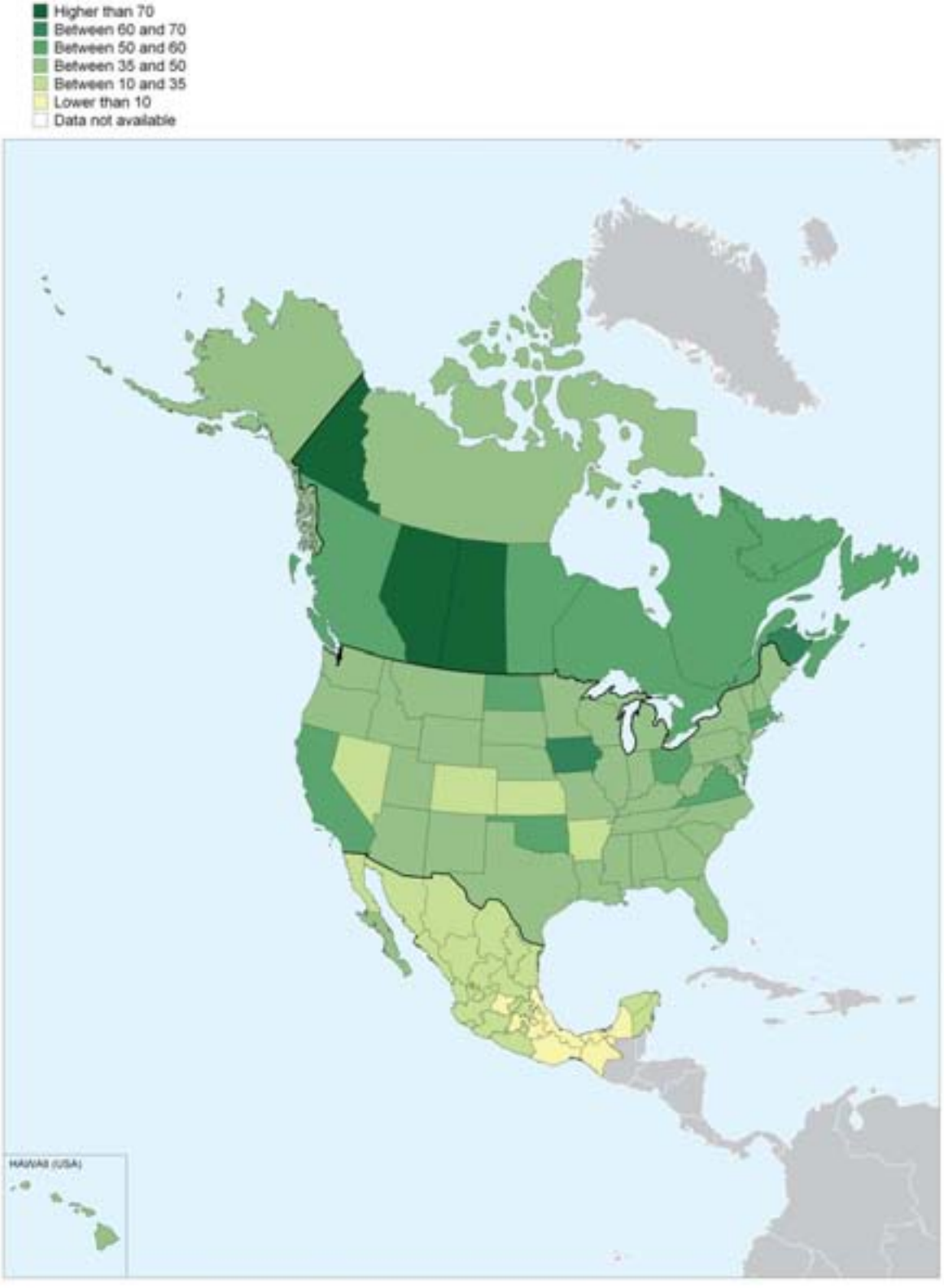


StatLink http://dx.doi.org/10.1787/525117040633

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

30.5 Number of private vehicles per 100 inhabitants: North America

TL2 regions, 2005



StatLink http://dx.doi.org/10.1787/525117040633

31. VOTER TURNOUT IN NATIONAL ELECTIONS

Voter turnout is an indication of the degree of public trust in government and of citizens' participation in the political process.

Voter turnout varies across OECD regions (Figure 31.1). Australia and Belgium (where voting is mandatory), Austria, Turkey, and Italy display very high turnout (in some regions over 90%). The Czech Republic and Poland display the lowest turnout, lower than 40% in all Czech regions and lower than 50% in Polish regions. The United States has the largest regional variation: a difference of 31 points between Minnesota 77% and Hawaii 46%. Spain, Mexico and Finland also have large variation, while small differences are found in New Zealand, Sweden and Ireland (Figure 31.1). Variation in Spain, Finland and Australia is mainly due to a single region with lower turnout than the rest of the country: Melilla, Aland and Northern Territory, respectively.

The correlation between voter turnout and share of population by type of region (PU, IN or PR) reveals no clear trend across OECD member countries (Figure 31.2). In urban regions the correlation is positive in 12 out of 22 countries. In the Czech Republic, Australia, Portugal and Sweden the correlation of the voter turnout rate with the share of population in urban and rural regions is positive, but in Portugal and Sweden the coefficient is higher in rural regions.

Definition

Voter turnout is defined as the ratio between the number of voters to the number of persons with voting rights. The last national election is considered.

The Spearman correlation coefficient measures the strength and direction of the relationship between two variables, in this case the voter turnout and the share of population in predominantly urban (PU), intermediate (IN) or predominantly rural (PR) regions. A value close to zero means no relationship (see Annex C for formula).

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

Different years (latest national elections); TL2.

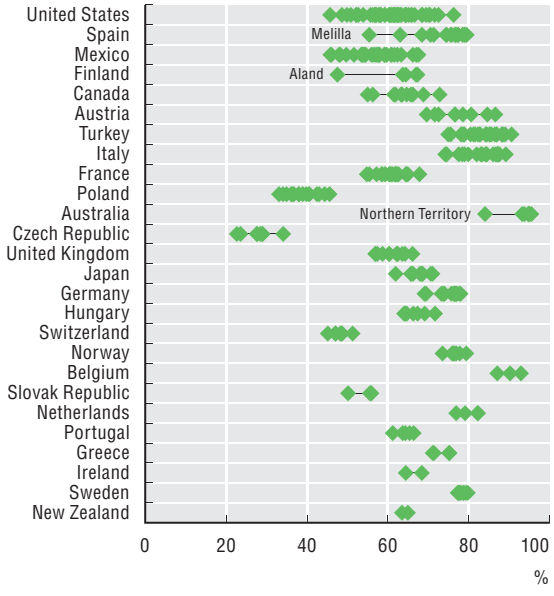
No regional data available for Denmark, Iceland and Korea.

Figure notes

Figure 31.2: For each country three correlations are run between the regional voter turnout and the share of regional population living in PU, IN and PR regions.

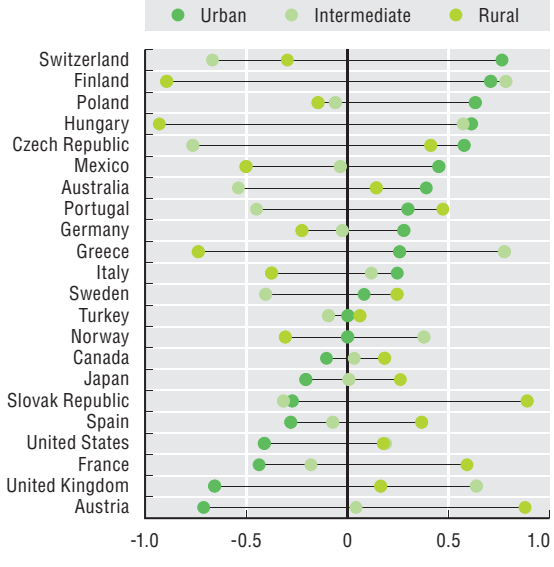
31.1 Range in TL2 regional voter turnout

The US and Spain display the largest regional differences in voter turnout.



31.2 Spearman correlation coefficient between voter turnout and share of population by regional type (TL2)

There is no clear correlation across OECD countries between the propensity to vote and the typology of the regions.

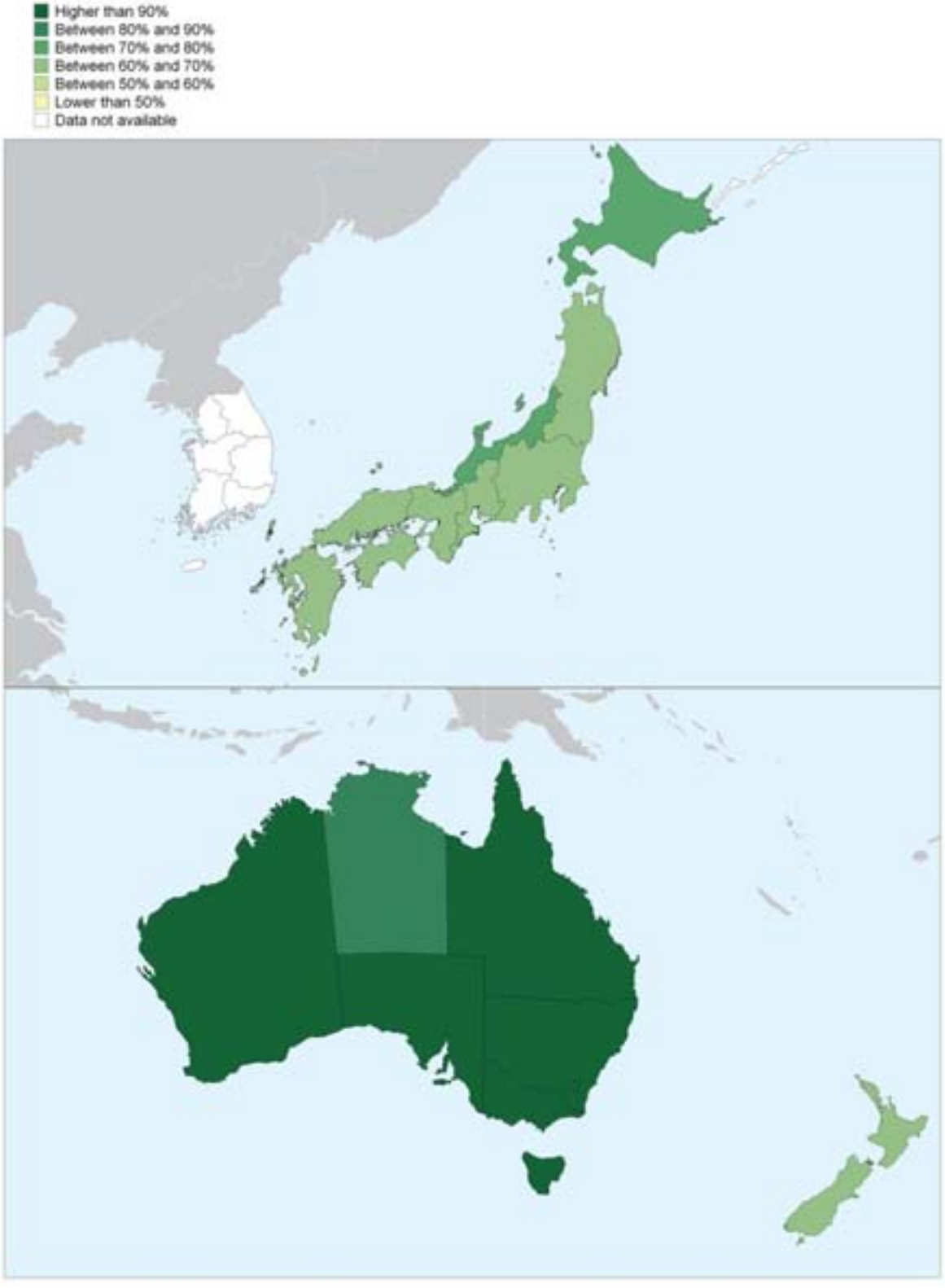


StatLink http://dx.doi.org/10.1787/524380682208

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

31.3 Regional voter turnout: Asia and Oceania

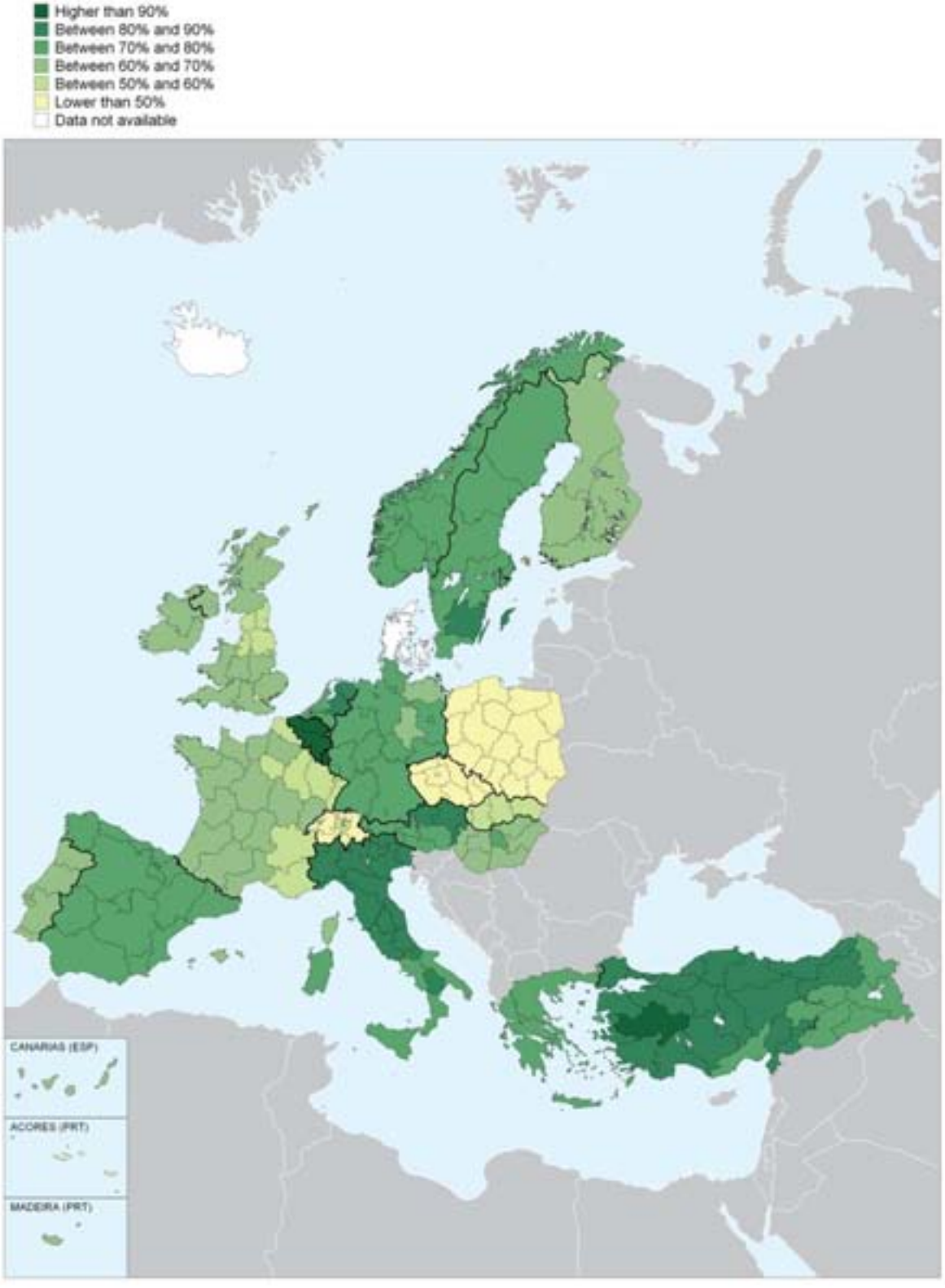
TL2 regions, latest available year



StatLink http://dx.doi.org/10.1787/525144615613

31.4 Regional voter turnout: Europe

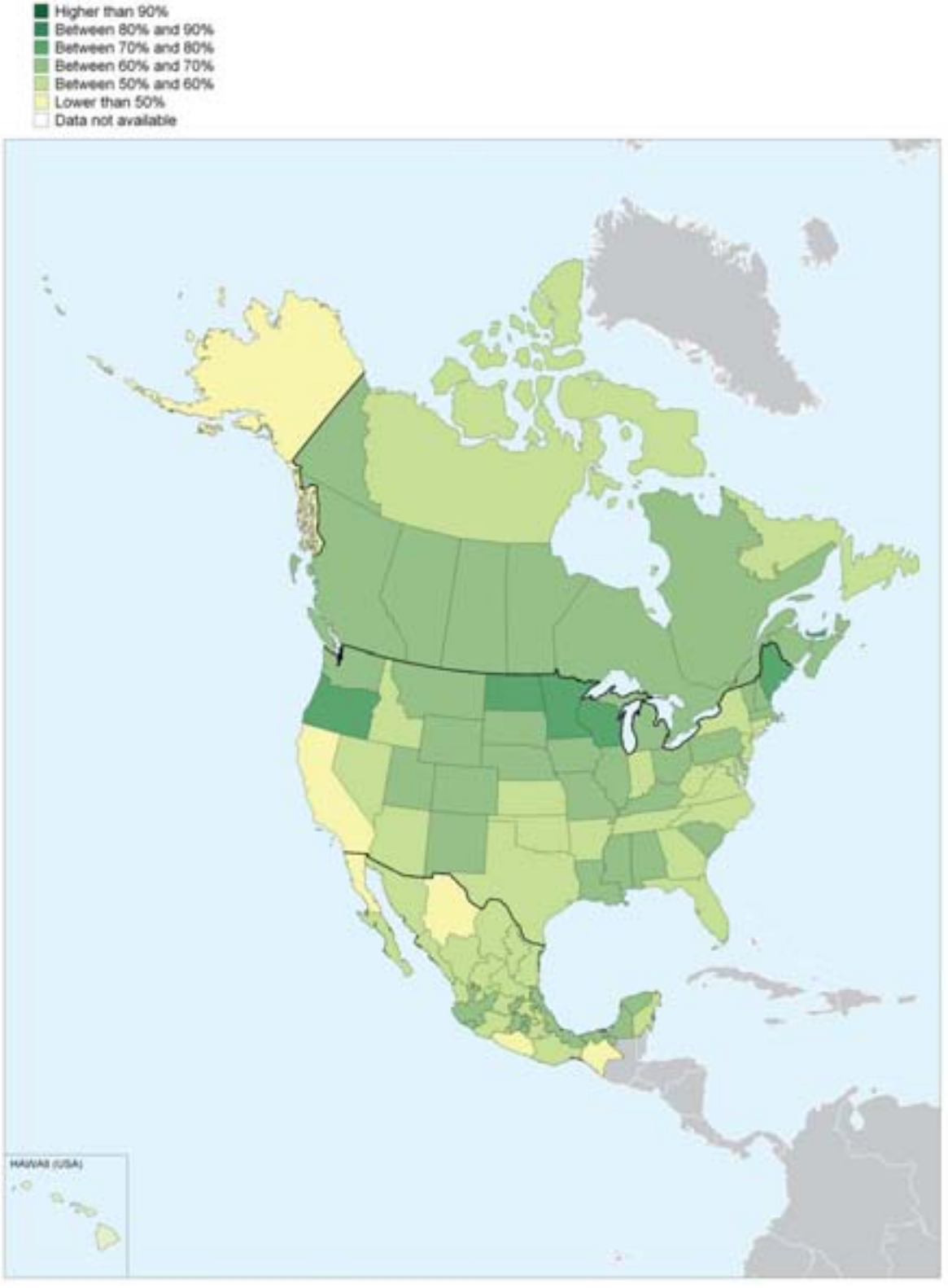
TL2 regions, latest available year



StatLink http://dx.doi.org/10.1787/525144615613

31.5 Regional voter turnout: North America

TL2 regions, latest available year



StatLink http://dx.doi.org/10.1787/525144615613

32. ACCESS TO EDUCATION

In 2006, half of the labour force in OECD countries had an upper secondary education. In the knowledge based economy, the demand for skills is increasing and a high school diploma has become the minimum level to fully participate in the job market and a pre-requisite for higher education. Nevertheless, almost one-fourth of the OECD labour force in 2006 had received only a basic education (lower than upper secondary school). This is a result of different patterns among countries. In 2006 Portugal was the country with the highest proportion of people with only basic education attainment (around 70%), while in the Czech Republic this proportion was below 10% (Figure 32.1).

A well-educated population is a key factor for the social and economic well-being of a region. Education provides individuals with knowledge and competencies to participate effectively in a society and to break the heredity of disadvantage. The proportion of people in a region or a country with a certain level of education gives a measure of the current stock of human capital. Therefore, large regional differences in the education attainment within a country suggest disparities in the access to education; these disparities will in turn reduce the development of a country.

Regional disparities in the level of education within countries remain high in many OECD countries. In 2006 the range of regional variation in the proportion of adults with only basic education attainment was higher than 20 points in Mexico, Spain, Greece, Portugal, France and Italy. The same countries showed a higher than the OECD average proportion of adults with only basic education (more than 28% as compared to 24% on OECD average) (Figure 32.3).

Similarly the proportion of people with at most upper secondary education varied in 2006 between 79% in the Slovak Republic to 11% in Portugal. Eastern European countries and Austria displayed the highest proportion of inhabitants with at most an upper secondary education attainment. Regional variation within the same country was highest in Australia (37 percentage points between New South Wales and Australian Capital Territory), followed by the United States and France (both at 24 percentage points each) (Figure 32.4).

While the range shows the difference between the regions with the highest and the lowest proportion of adults with a certain level of education attainment, the Gini index measures the regional disparities among all regions within a country. According to this index, Korea had the highest regional disparity in basic education attainment followed by the Czech Republic and Greece. Portugal and Belgium were the countries with the highest inequality in the upper secondary education attainment (Figure 32.2). In one-third of OECD countries, regional disparities in the education attainment narrowed thanks to an improvement of the education attainments in the least favored regions, between 1999 and 2006.

Definition

The education attainment rate is defined as the proportion of labour force with a certain level of education. The international standard classification for education (ISCED 97) is used to define the levels of education. Pre-primary, primary and lower secondary education comprises the 3 lowest ISCED levels: 0, 1 and 2. For simplicity, here it is referred as basic education or lower upper secondary education (mostly equivalent to high school diploma). Upper secondary education comprises the ISCED levels 3-4, while tertiary education the levels 5-6.

The Gini index is a measure of inequality among all regions of a given country (see Annex C for the formula). The index takes on values between 0 and 1, with zero interpreted as no disparity. It assigns equal weight to each region regardless of its size; therefore differences in the value of the index among countries may be partially due to differences in the average size of regions in each country.

Source

OECD Regional Database, *http://dotstat/wbos/*, theme: Regional Statistics.

See Annex B for data sources and country related metadata.

Reference years and territorial level

2006; TL2

No regional data available for Iceland, Japan and Turkey.

Last available year for Australia and Mexico 2005.

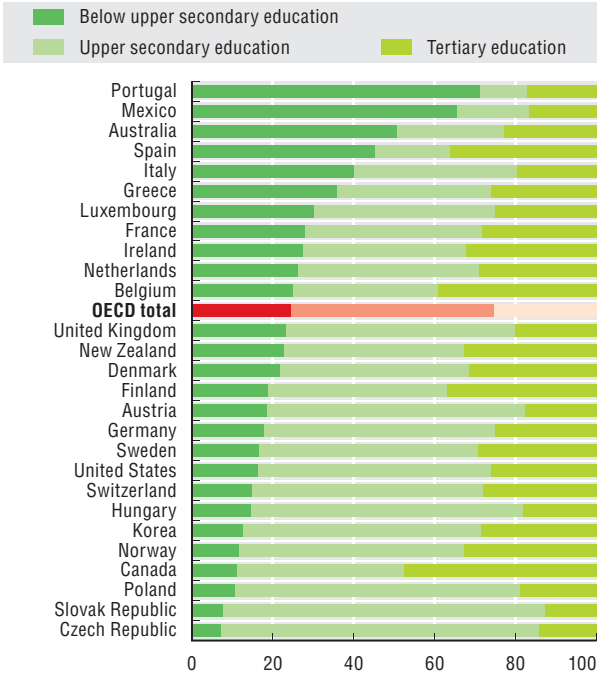
Figure notes

Figures 32.1 and 32.4: Below upper secondary education includes pre-primary, primary and lower secondary education (ISCED levels 0-2); upper secondary education comprises the ISCED levels 3-4 and tertiary education the ISCED levels 5-6.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

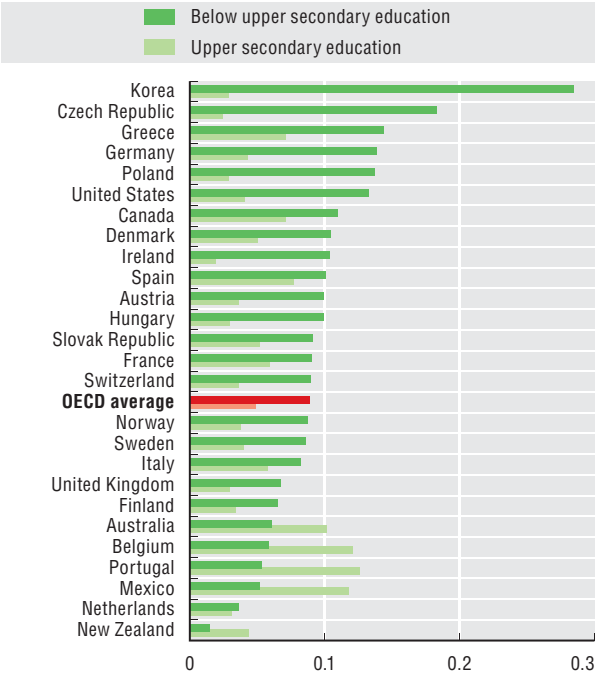
32.1 Labour force by educational attainment, 2006

One-fourth of the OECD labour force has received only basic education.



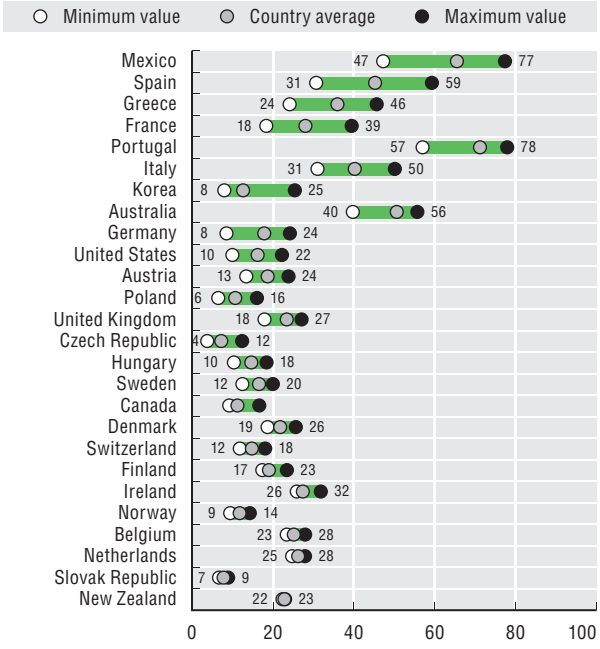
32.2 Gini index of education attainment in TL2 regions, 2006

Large regional differences in educational attainments suggest disparities in the access to education.



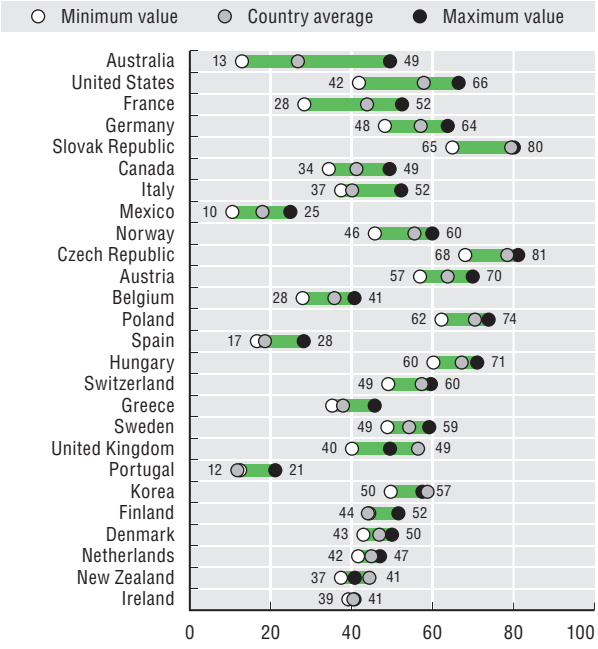
32.3 Range in TL2 regional basic education attainment, 2006

Mexico and Spain display the largest regional disparities in access to primary education.



32.4 Range in TL2 regional upper secondary education attainment, 2006

Australia and the US display the largest regional differences in access to secondary education.



StatLink http://dx.doi.org/10.1787/524383311852

ISBN 978-92-64-05582-7
OECD Regions at a Glance 2009

ANNEX A

Regional Grids and Typology

Table A.1. **Regional grid of OECD member countries**

Region	Territorial levels 2	Non Official Grid (NOG)	Territorial levels 3
Australia	States/Territories (8)	LFS, Dissemination Regions (30)	Statistical Divisions (60)
Austria	Bundesländer (9)	–	Gruppen von Politischen Bezirken (35)
Belgium	Régions (3)	–	Provinces (11)
Canada	Provinces and Territories (12)	LFS, Economic Areas (71)	Census Divisions (288)
Czech Republic	Oblasti (8)	–	Kraje (14)
Denmark	Regions (3)	–	Amter (15)
Finland	Suuralueet (5)	–	Maakunnat (20)
France	Régions (22)	–	Départements (96)
Germany	Länder (16)	–	Spatial planning regions (97)
Greece	Groups of Development regions (4)	–	Development regions (13)
Hungary	Planning Statistical Regions (7)	–	Counties + Budapest (20)
Iceland	Regions (2)	–	Landsvaedi (8)
Ireland	Groups Regional Authority Regions (2)	–	Regional Authority Regions (8)
Italy	Regioni (21)	–	Province (103)
Japan	Groups of prefectures (10)	–	Prefectures (47)
Korea	Regions (7)	–	Special city, Metropolitan area and Province (16)
Luxembourg	State (1)	–	State (1)
Mexico	Estados (32)	–	Grupos de Municipios (209)
Netherlands	Landsdelen (4)	–	Provinces (12)
New Zealand	Groups of regional Councils (2)	–	Regional Councils (14)
Norway	Landsdeler (7)	–	Fylker (19)
Poland	Voïvodships (16)	–	Subregions (45)
Portugal	Comissaoes de coordenaçao regional + Regioes autonomas (7)	–	Grupos de Concelhos (30)
Slovak Republic	Zoskupenia Karajov (4)	–	Kraj (8)
Spain	Comunidades autonomas (19)	–	Provincias (52)
Sweden	Riksomraden (8)	–	Län (21)
Switzerland	Grandes regions (7)	–	Cantons (26)
Turkey	Regions (26)	–	Provinces (81)
United Kingdom	Government Office Regions + Countries (12)	–	Upper tier authorities or groups of lower tier authorities or groups of unitary authorities or LECs or groups of districts (133)
United States	States (51)	–	Economic Areas (179)

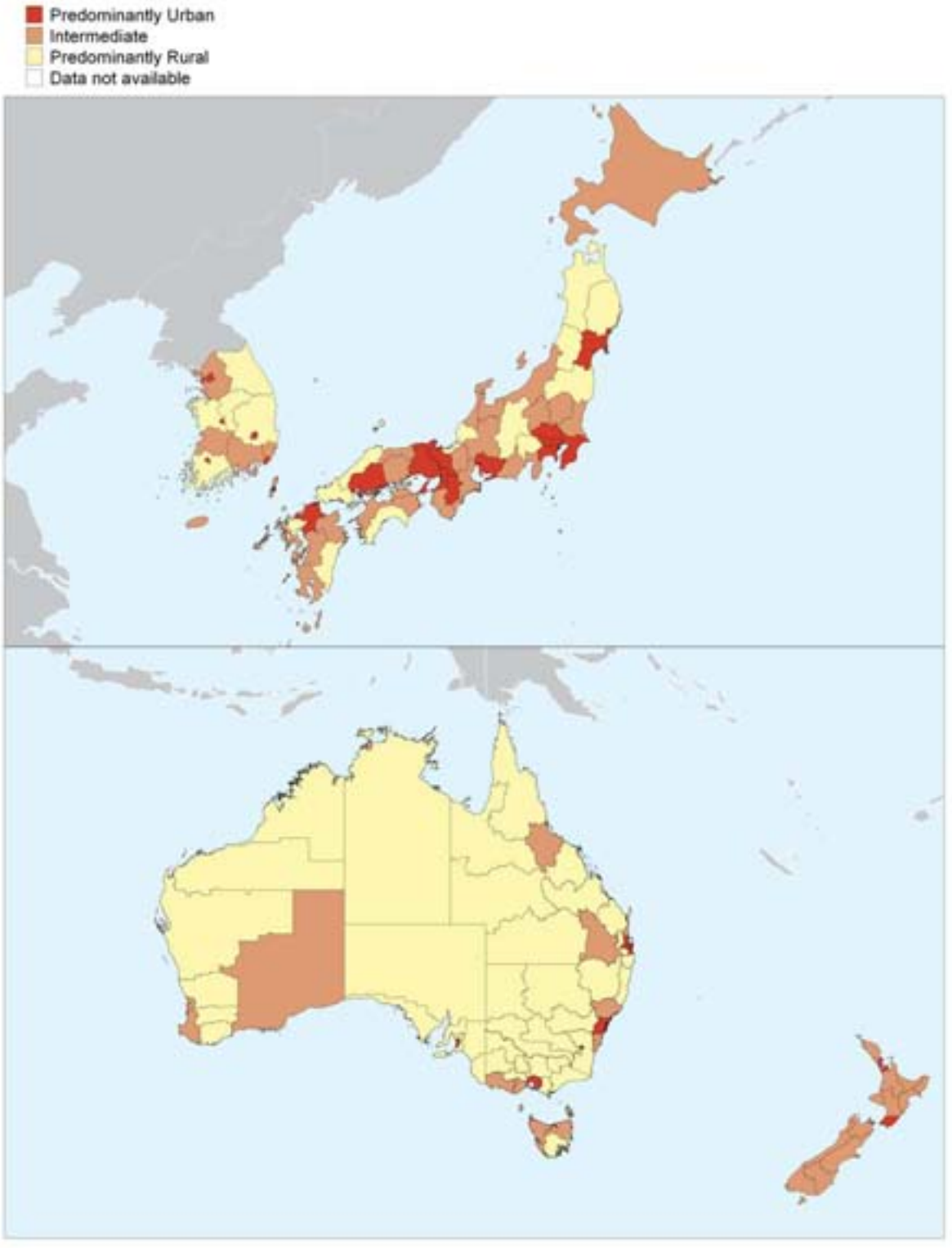
Table A.2. **Percentage of national population living in predominantly urban, intermediate and predominantly rural regions (TL3) and number of regions classified as such in each country**

	Percentage of population (2005)			Number of regions (TL3)		
	Urban	Intermediate	Rural	Urban	Intermediate	Rural
Australia	57	21	22	6	13	41
Australia (NOG)	–	–	–	6	7	17
Austria	23	31	46	2	8	25
Belgium	83	14	2	8	2	1
Canada	54	17	29	27	38	223
Canada (NOG)	37	37	26	6	18	47
Czech Republic	11	84	5	1	12	1
Denmark	29	32	39	3	4	8
Finland	25	21	54	1	3	16
France	29	55	17	11	49	36
Germany	50	40	10	27	50	20
Greece	36	24	40	1	2	10
Hungary	17	42	41	1	8	11
Iceland	0	62	38	0	1	7
Ireland	29	0	71	1	0	7
Italy	54	37	9	34	49	20
Japan	54	32	13	12	22	13
Korea	45	36	20	6	5	5
Luxembourg	0	100	0	0	1	0
Mexico	46	17	37	34	30	145
Netherlands	85	15	0	7	5	0
New Zealand	42	58	0	2	12	0
Norway	11	39	49	1	5	13
Poland	23	39	38	8	15	22
Portugal	51	27	22	7	8	15
Slovak Republic	11	63	25	1	5	2
Spain	45	42	13	10	25	17
Sweden	21	30	50	1	2	18
Switzerland	41	50	9	7	12	7
Turkey	46	26	28	13	23	45
United Kingdom	70	28	2	82	40	11
United States	43	20	37	26	21	132

StatLink http://dx.doi.org/10.1787/525154082222

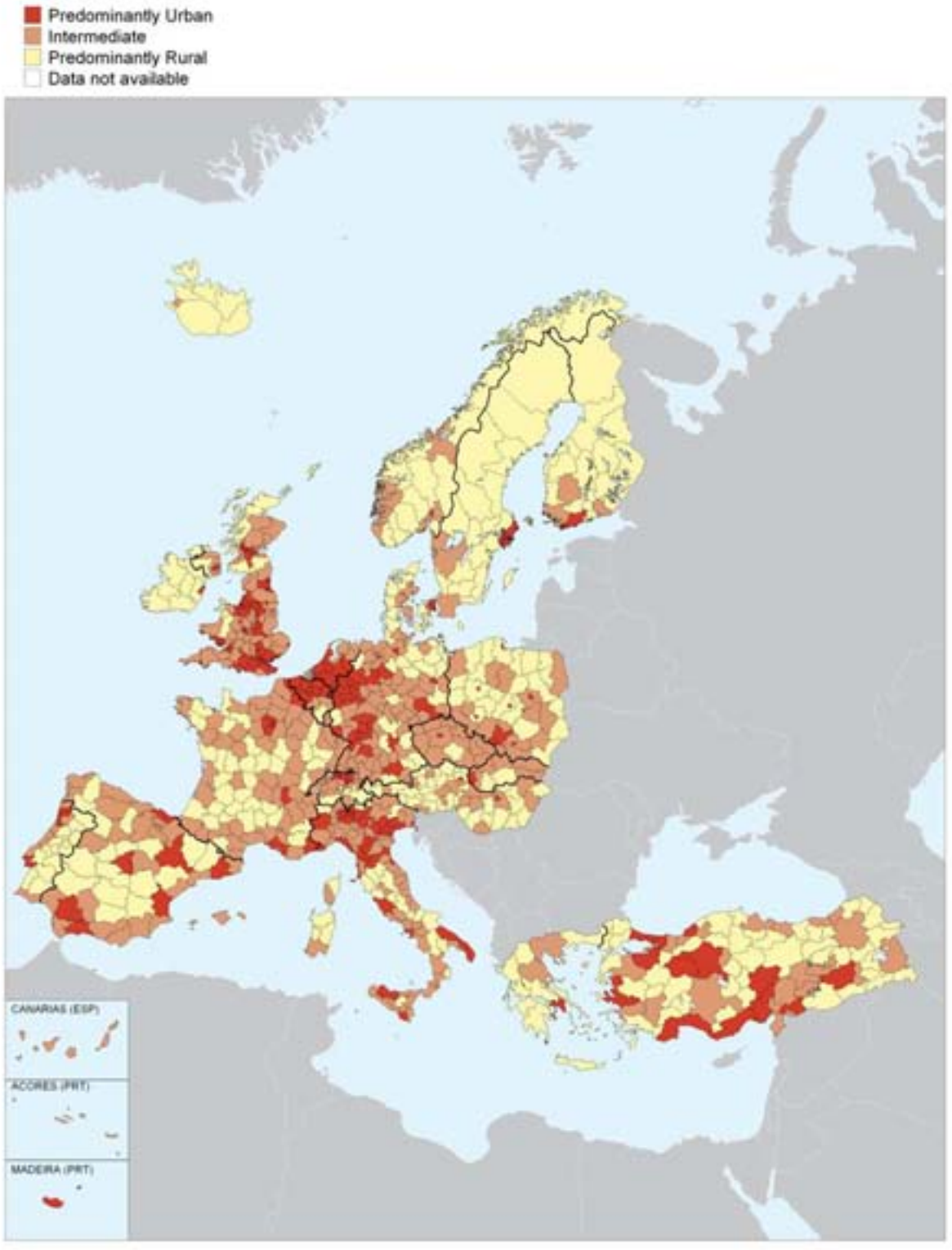
OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Figure A.1. **Regional typology, OECD countries: Asia and Oceania (TL3)**



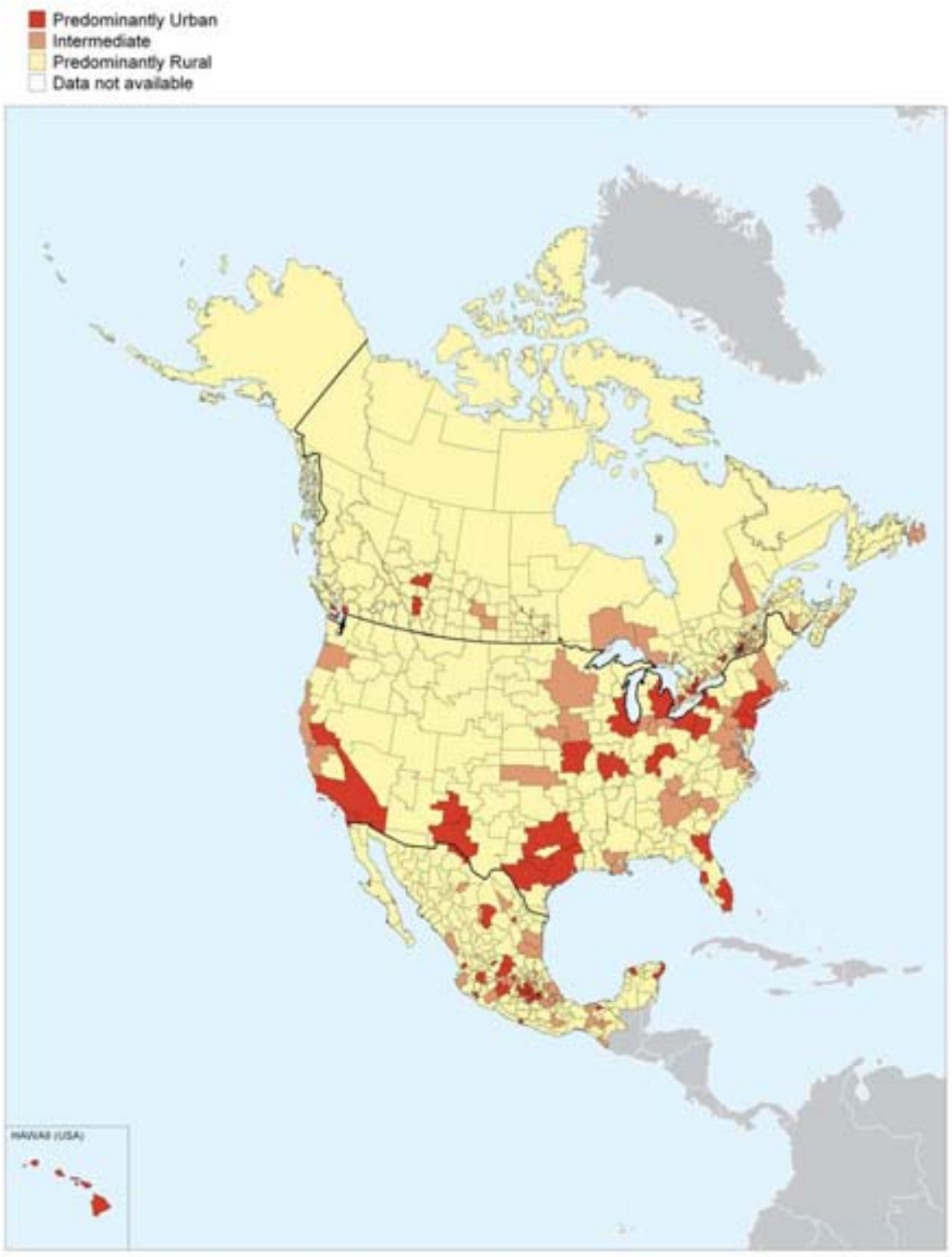
StatLink http://dx.doi.org/10.1787/525151552254

Figure A.2. **Regional typology, OECD countries: Europe (TL3)**



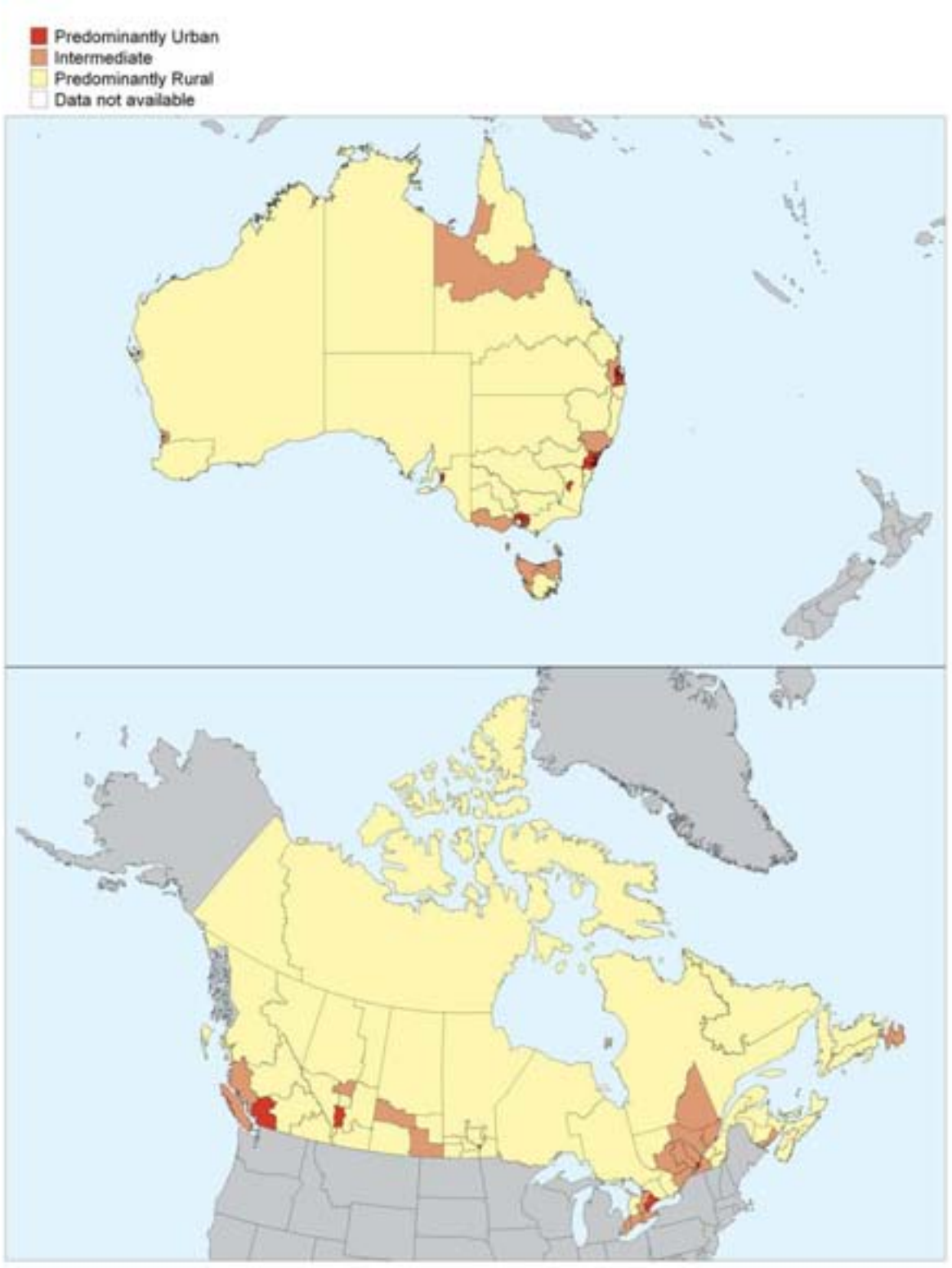
StatLink http://dx.doi.org/10.1787/525151552254

Figure A.3. **Regional typology, OECD countries: North America (TL3)**



StatLink http://dx.doi.org/10.1787/525151552254

Figure A.4. **Regional typology: Canada and Australia (NOG)**



StatLink http://dx.doi.org/10.1787/525151552254

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

ANNEX B

Sources and Data Description

User guide: List of indicators and variables by chapter

Chapters	Indicator	Variables used	Pages
Chapter 1	Research and development expenditures	R&D expenditures by performing sector, GDP, Number of PCT patent applications	174-175
Chapter 2	Personnel employed in research and development activities	R&D personnel; Total employment, R&D expenditures	174-175; 181
Chapter 3	Regional concentration of patents	Number of PCT patent applications, Average total population	175; 178
Chapter 4	Regional patent co-operation	Patents with at least one co-inventors living in another region	175
Chapter 5	Student enrolment in tertiary education	Enrolment in tertiary education (ISCED 5-6), Average total population), Labour force by educational attainments (ISCED 5-6), Lifelong learning	176; 178; 190
Chapter 6	Advanced educational qualifications	Labour force by educational attainments (ISCED 5-6), Total labour force, Enrolment in tertiary education (ISCED 5-6)	176; 181; 190
Chapter 7	Employment in knowledge-oriented sectors	Employment in high-tech manufacturing, Employment in knowledge-intensive services, Total employment	177
Chapter 8	Distribution of population and regional typology	Total population; Area	177-178
Chapter 9	Geographic concentration of population	Total population; Area	177-178
Chapter 10	Regional contribution to growth in national GDP	Gross domestic product	180
Chapter 11	Regional contribution to change in employment	Total employment	181
Chapter 12	Geographic concentration of elderly population	Population by age (0-14; 15-64; 65+)	179
Chapter 13	Geographic concentration of GDP	Gross domestic product; Total population; Area	178; 180
Chapter 14	Geographic concentration of industries	Employment by industry (6 sectors)	182
Chapter 15	Regional disparities in GDP per capita	Gross domestic product; Total population	178; 180
Chapter 16	Regional disparities in labour productivity	Gross domestic product; employment by place of work	180; 182
Chapter 17	Regional disparities in specialisation	Employment by industry (20 sectors)	183
Chapter 18	Regional disparities in unemployment rates	Unemployment; long term unemployment; labour force; youth unemployment rate	181; 183-184
Chapter 19	Regional disparities in participation rates and female participation rates	Labour force by sex; population by age (0-14; 15-64; 65+) and sex	179; 181
Chapter 20	Overall regional performance	Gross domestic product	180
Chapter 21	Regional factors and regional performance	Gross domestic product	180
Chapter 22	Regional factors: Population and GDP per capita	Gross domestic product; total population	178; 180
Chapter 23	Regional factors: Labour productivity	Gross domestic product; Employment by place of work	180; 182
Chapter 24	Regional factors: Employment, participation and ageing	Employment; Labour force; population by age (0-14; 15-64; 65+)	179; 181
Chapter 25	Health: Age-adjusted mortality rates	Number of deaths by age; population by age	179; 184
Chapter 26	Health resources: Number of physicians	Number of physicians; total population	179; 185
Chapter 27	Safety: Reported crime against property	Crime against property; total population	179; 186
Chapter 28	Safety: Reported murders	Number of murders; total population	179; 187
Chapter 29	Environment: Municipal waste	Municipal waste; total population	179; 188
Chapter 30	Environment: Private vehicle ownership	Stock of private vehicles; total population	179; 189
Chapter 31	Voter turnout in national elections	Voter turnout	189
Chapter 32	Access to education	Labour force by education attainment (three levels)	190

R&D expenditures by performing sector* – Chapters 1 and 4

National data: OECD, Main Science and Technology Indicators Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional Science and technology Statistics, R&D expenditures and personnel, Total intramural R&D expenditure (GERD) by sectors of performance and region.	2005	2
Australia	(2)	For the Business performing sector: ABS, 8104.0 Research and Experimental Development, Business.	2005	2
Canada		Statistics Canada, *www.statcan.ca/english/freepub/88-221-XIE/2008001/tablesectionlist.htm.* Table 2 Provincial Gross Domestic Expenditures on Research and Development, in the total sciences.	2005	2
Iceland	(4)	–	–	–
Japan	(4)	–	–	–
Korea	–	Korea Institute of Science and Technology Evaluation and Planning (KISTEP).	2005	2
Mexico	(4)	–	–	–
New Zealand	(4)	–	–	–
Norway		Eurostat, Regional Science and technology Statistics, R&D expenditures and personnel, Total intramural R&D expenditure (GERD) by sectors of performance and region.	2005	2
Switzerland	(4)	–	–	–
Turkey	(4)	–	–	–
United States	(3)	National Science Foundation (NSF)/Division of Science Resources Statistics (SRS).	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Austria and France refer to the year 2004.
   1.2. Denmark: Data not available at the regional level.
2. Australia: Missing values for the Northern Territory region are estimated by the OECD secretariat subtracting from the Australian total the total of all regions including overseas. The totals are obtained summing up the regional values and do not include Overseas and Australian External Territories (AET). When the values for some regions are missing the national totals are taken from ABS: 8112.0 – Research and Experimental Development, All Sector Summary, Australia: *www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/07E66F957A46864BCA25695400028C64?opendocument*. Data refer to the Fiscal year. Data for the fiscal year 2004-05 are attributed to the year 2005 (the Australian government's fiscal year begins on July 1 and concludes on June 30 of the following year).
3. United States: State totals differ from US totals reported elsewhere for four reasons: 1) some R&D expenditures cannot be allocated to 1 of 50 states or District of Columbia; 2) non-federal sources of other non-profit R&D expenditures could not be allocated by state; 3) state-level U&C data have not been adjusted to eliminate double counting of funds passed through from one academic institution to another; and 4) state-level R&D data are not converted from fiscal years to calendar years.
4. Iceland, Japan, Mexico, New Zealand, Switzerland and Turkey: Data not available at the regional level.

* Sectors include: business enterprise, government, higher education and private and non-profit. The **Business Enterprise** sector is comprehensive of all firms, organisations and institutions whose primary activity is the market production of goods or services (other than higher education) for sale to the general public at an economically significant price. It also includes the private non-profit institutions mainly serving the above mentioned firms, organisations and institutions (see *Frascati Manual*, Section 3.4). The **Government sector** is comprehensive of all departments, offices and other bodies which furnish, but normally do not sell to the community, those common services, other than higher education, which cannot otherwise be conveniently and economically provided, as well as those that administer the state and the economic and social policy of the community (Public enterprises are included in the business enterprise sector). It also includes non-profit institutions controlled and mainly financed by government, but not administered by the higher education sector (see *Frascati Manual*, Section 3.5). The **Higher education sector** is comprehensive of all universities, colleges of technology and other institutions of post-secondary education, whatever their source of finance or legal status. It also includes all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher education institutions (see *Frascati Manual*, Section 3.7). The **Private non-profit sector** is comprehensive of Non-market, private non-profit institutions serving households (*i.e.* the general public) and private individuals or households (see *Frascati Manual*, Section 3.6).

R&D personnel (headcounts) – Chapter 2

National data: OECD, Main Science and Technology Indicators Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Total R&D personnel by sectors of performance (employment) and region.	2005	2
Australia	(3)	–	–	–
Canada	(2)	Statistics Canada, Science Statistics, May 2008 edition, 88-001-X, *www.statcan.ca/english/freepub/88-001-XIE/2008001/tablesectionlist.htm*.	2005	2
EU countries	(2)	Eurostat, Total R&D personnel by sectors of performance (employment) and region.	2005	2
Iceland	(3)	–	–	–
Japan	(3)	–	–	–
Korea	–	Korea Institute of Science and Technology Evaluation and Planning (KISTEP).	–2005	2
Mexico	(3)	–	–	–
New Zealand	(3)	–	–	–
Norway	–	Eurostat, Total R&D personnel by sectors of performance (employment) and region.	2005	2
Switzerland	(3)	–	–	–
Turkey	(3)	–	–	–
United States	(3)	–	–	–

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Austria refer to the year 2004 and data for France refer to the year 2001.
   1.2. Denmark and Sweden: Data not available at the regional level.
2. Canada: Data are expressed in full-time equivalent.
3. Australia, United Kingdom, Iceland, Japan, Mexico, New Zealand, Switzerland, and Turkey: Data not available at the regional level.

Number of PCT patents applications – Chapters 3 and 4

National data: OECD REGPAT Database (corresponds to the sum of regional data).

	Notes	Source	Years	Territorial level
All countries	(1) (2)	OECD REGPAT Database.	2005	2
Iceland	(3)	–	2005	2
New Zealand	(3)	–	2005	2

1. The OECD REGPAT Database presents patent data that have been linked to regions according to the addresses of the applicants and inventors. For more information on the database see: *www.oecd.org/dataoecd/22/19/40794372.pdf*.
2. A patent is generally granted by a national patent office or by a regional office that does the work for a number of countries, such as the European Patent Office and the African Regional Intellectual Property Organization. Under such regional systems, an applicant requests protection for the invention in one or more countries, and each country decides as to whether to offer patent protection within its borders. In this publication the patent data comes from the WIPO-administered Patent Co-operation Treaty (PCT) which provides for the filing of a single international patent application which has the same effect as national applications filed in the designated countries. An applicant seeking protection may file one application and request protection in as many signatory states as needed. More info on PCT can be found here: *www.wipo.int/export/sites/www/pct/en/basic_facts/faqs_about_the_pct.pdf*.
3. Iceland and New Zealand: Data not available at the regional level.

Enrolment in education institutions by educational level – Chapter 6

National Data: OECD Education Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional education statistics.	2005	2
Australia	–	Australian Bureau of Statistics.	2005	2
Canada	(2)	Statistics Canada. For ISCED 0-2 and 3-4 Statistics Canada, Elementary-Secondary Education Statistics Project (ESESP). Data for ISCED 5-6 come from the Centre for Education Statistics, Survey of Colleges and Institutes, Post Secondary Student Information System (PSIS).	2005	2
Iceland	(6)	–	–	–
Japan	–	Ministry of Education, Culture, Sports, Science and Technology.	2005	2
Korea	–	Statistical year book of education.	2005	2
New Zealand	(6)	–	–	–
Norway		Eurostat, Regional education statistics.	2005	2
Switzerland	(4)	Federal Statistical Office.	2005	2
Turkey	–	Turkish Ministry of Education.	2005	2
United States	(5)	Census Bureau, American Community Survey (ACS).	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Denmark: Data obtained from Statistics Denmark, Education and culture, Number of students, Students by level of education, U11: Students by municipality of residence, education, age and sex (DISCONTINUED).
   1.2. Germany: Data obtained from Regional statistics Germany, Spatial Monitoring System of the BBR.
2. Canada: ISCED 0-2 include enrolled from junior kinder garden to grade 9 included. ISCED 3-4 include enrolled in grade 10 to 12 included. Data for ISCED 5-6 is the sum of enrolled in public colleges and institutes and enrolled in universities.
3. Mexico: Populations aged 5 and over by State and educational level.
4. Switzerland: Before beginning tertiary education, ISCED 5-6 students are distributed among regions according to their place of residence. This results in an underestimation of the number of people in this educational level (students living abroad before the beginning of theirs studies are not taken into account).
5. United States: US Census Bureau, Census ACS (American Community Survey). B14001. School enrollment by level of school for the population 3 years and over – Universe: population 3 years and over data are based on a sample and are subject to sampling variability. Data have been translated into ISCED in the following way: Enrolled in nursery school, preschool + Enrolled in kindergarten + Enrolled in grade 1 to grade 4 + Enrolled in grade 5 to grade 8 = ISCED 0-2, Enrolled in grade 9 to grade 12 = ISCED 3-4, Enrolled in college, undergraduate years + Graduate or professional school = ISCED 5-6.
6. Iceland and New Zealand: Data not available at the regional level.

Lifelong learning – Chapter 6

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional education statistics.	2005	2

Definition: Participation of adults aged 25-64 in education and training. Life-long learning is defined as a learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective. Thus the whole spectrum of learning, formal, non-formal and informal is covered in this broad definition, as are active citizenship, personal fulfilment, social inclusion, professional/vocational and employment related aspects.

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Denmark are not available.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Employment in high-tech manufacturing and employment in knowledge-intensive services – Chapter 7

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Employment in technology and knowledge-intensive sectors at the regional level, by gender (htec_emp_reg).	2005	2
Australia	(2)	–	–	–
Canada	–	Statistics Canada, special tabulation from the LFS.	2005	2
Iceland	(2)	–	–	–
Japan	(2)	–	–	–
Korea	–	Korean Institute for Industrial Economics and Trade (KIET) – Regional Statistics and Information Database (RSID).	2005	2
Mexico	(2)	–	–	–
New Zealand	–	–	–	–
Norway	–	Eurostat, Employment in technology and knowledge-intensive sectors at the regional level, by gender (htec_emp_reg).	2005	2
Switzerland	–	Eurostat, Employment in technology and knowledge-intensive sectors at the regional level, by gender (htec_emp_reg).	2005	2
Turkey	–	Eurostat, Employment in technology and knowledge-intensive sectors at the regional level, by gender (htec_emp_reg).	2006	2
United States	–	Bureau of Labour Statistics (BLS), State and County Employment and Wages (Quarterly Census of Employment and Wages – QCEW).	2005	2

1. EU19 countries : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Austria and France refer to the year 2004.
   1.2. Denmark: Data obtained from Statistics Denmark, Register based-labour force statistics (RAS statistics). Data for Manufacturing total, Services total and Employment total have been downloaded from the Statbank Denmark, Table RASU2.
2. Australia, Iceland, Mexico and Japan: Data not available at the regional level

Area – Chapters 8, 9 and 13

	Notes	Source
EU19 countries	(1)	Eurostat: General and regional statistics, demographic statistics, population and area.
Australia	–	Australian Bureau of Statistics, summing up SLAs.
Canada	–	Statistics Canada, *www12.statcan.ca/english/census01/products/standard/popdwell/Table-CD-P.cfm?PR=10&T=2&SR=1&S=1&O=A.*
Iceland	–	Statistics Iceland.
Japan	–	Statistical Office, Area by Configuration, Gradient and Prefecture, *www.stat.go.jp/English/data/nenkan/1431-01.htm.*
Korea	–	Korea National Statistical Office.
Mexico	–	INEGI.
New Zealand	–	Statistics New Zealand, data come from the report "Water Physical Stock Account 1995-2005", *www.stats.govt.nz/analytical reports/water physical stock account 1995–2005.htm.*
Norway	–	Statistics Norway, StatBank Table 01402: Area of land and fresh water (km^2). (M) (2005-07).
Switzerland	–	Federal Statistical Office, ESPOP, RFP.
Turkey	–	Eurostat: General and regional statistics, demographic statistics, population and area.
United States	–	Census Bureau, *www.census.gov/population/www/censusdata/density.html.*

1. EU19 countries : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for 2006, except for Belgium (2005), Germany, Poland and United Kingdom (2004).

Population – Chapters 8, 9 and 15

	Notes	Source	Years	Territorial level
EU19 countries	–	Eurostat, Regional demographic statistics, Annual average population.	1995-2005	3
Australia	–	Australian Bureau of Statistics, 3201.0.	1995-2005	3
Canada	(1)	Statistics Canada, CANSIM Table 051-0036, Estimates of population.	1995-2005	3
Iceland	(2)	Statistics Iceland.	1995-2005	3
Japan	(3)	Statistics Bureau, MIC.	1995-2005	3
Korea	(3)	Korean National Statistical Office.	1995-2005	3
Mexico	(5)	Secretariat estimates based on Census of population (INEGI).	1995-2005	3
New Zealand	(6)	Statistics New Zealand, Estimated Resident Population.	1996-2005	3
Norway	–	Statistics Norway, StatBank.	1995-2005	3
Switzerland	(7)	Federal Statistical Office, Statweb.	1995-2005	3
Turkey	(8)	Turkish Statistical Institute.	1995-2005	3
United States	(8)	US Census Bureau, Intercensal estimates.	1995-2005	3

1. Canada: Census Divisions according to Census 2001 boundaries.
2. Iceland: population at 1st of December
3. Japan: population at 1st of October.
4. Korea: data for 2001-04 are based on population projections.
5. Mexico: data for 1998 and 2003 are estimated using the exponential growth function based on the period 1995-2000 and 2000-05.
6. New Zealand: population as of 30th June. Population estimates at 30 June 1996-2000 are based on 2001 Regional Council boundaries, whereas estimates from 2001 onwards are based on 2005 Regional Council boundaries.
7. Switzerland: Permanent resident population at the end of the year.
8. Turkey and United States: Mid-year population estimates.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Population by age and sex – Chapters 12, 19 and 24

	Notes	Source	Years	Territorial level
Australia	–	Australian Bureau of Statistics, 3201.0.	1996-2005	3
Austria	(1)	Secretariat estimates based on Statistics Austria.	2001-05	3
Belgium	(2)	Eurostat, Regional demographic statistics.	1995-2005	3
Canada	(3)	Statistics Canada, CANSIM Table 051-0036, Estimates of population.	1995-2005	3
Czech Republic	(4)	Czech Statistical Office.	1995-2005	3
Denmark	(5)	Statistics Denmark, Statbank.	1995-2005	3
Finland	–	Statistics Finland.	1995-2005	3
France	(2)	INSEE, Local population estimates.	1995-2005	3
Germany	–	Regional statistics Germany, Spatial Monitoring System of the BBR.	1995-2005	3
Greece	(2)	Eurostat, Regional demographic statistics.	1995-2005	3
Hungary	(2)	KSH, Hungarian Statistical Office.	1995-2005	3
Iceland	–	Statistics Iceland.	1997-2005	3
Ireland	–	Central Statistics Office, Ireland (Census of population).	1995-2005	3
Italy	(2)	ISTAT, Intercensal population estimates.	1995-2005	3
Japan	(6)	Statistics Bureau, MIC.	1995-2005	3
Korea	(7)	Korean National Statistical Office.	1995-2005	3
Luxembourg	(2)	Eurostat, Regional demographic statistics.	1995-2005	3
Mexico	–	INEGI (Census of population)	1995-2005	3
Netherlands	(2)	Eurostat, Regional demographic statistics.	1995-2005	3
New Zealand	–	Statistics New Zealand (Census of population).	1995-2005	3
Norway	(2)	Statistics Norway, Statbank.	1995-2005	3
Poland	–	Central Statistical Office, Poland.	2000-05	3
Portugal	(8)	Statistics Portugal (INE).	1995-2005	3
Slovak Republic	(4)	Statistical Office of the Slovak Republic.	1996-2005	3
Spain	(9)	National Statistics Institute (INE).	1995-2005	3
Sweden	(10)	Statistics Sweden.	1995-2005	3
Switzerland	(11)	Federal Statistical Office, Statweb.	1995-2005	3
Turkey	(12)	Turkish Statistical Institute.	1995-2005	3
United Kingdom	–	National Statistical Office, population estimates.	1995-2004	3
United States	(13)	US Census Bureau, Population Estimates Program.	1995-2005	3

1. Austria: Data are estimated using population at TL2; before 2004 the data refer to the population as of 1st January 2004. For the following years the data refer to annual average population.
2. Belgium, France, Greece, Hungary, Italy, Luxembourg, Netherlands, Norway: Population as of 1st January.
3. Canada: Census Divisions according to Census 2001 boundaries.
4. Czech Republic and Slovak Republic: Population as of 31st December.
5. Denmark: Population as of 1st January. The source of the statistics is Statistic Denmark's population register, which yearly, receives partly an annual outdraw of the total population and partly a weekly outdraw which include information about the weekly events such as removals, emi-/immigrations, births and deaths from CPR (Central Person Register).
6. Japan: Population as of 1st October.
7. Korea: Data for 2001-04 are based on population projections.
8. Portugal: Provisional Estimates of Resident Population, as of 31th December, for the period 2001-06. Definitive Estimates of Resident Population, as of 31st December, for 1991 to 2000.
9. Spain: Data for the period 1991-99 are Intercensal estimates of the population. Data for the period 2000-06 are population projections.
10. Sweden: Conditions on December 31st for each respective year according to administrative subdivisions of 1st January of the following year.
11. Switzerland: Permanent resident population at the end of the year.
12. Turkey: Midyear population estimates.
13. United States: Population as of 1st April.

Gross domestic product – Chapters 10, 13, 15, 16, 20, 21, 22 and 23

National Data: OECD, National Accounts Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional economic accounts.	1995-2005	3
Australia	(2)	Australian Bureau of Statistics, 5220.0.	1995-2005	2
Canada	–	Statistics Canada, Provincial economic accounts.	1995-2005	2
Iceland	(5)	–	–	–
Japan	(3)	Economic and Social Research Institute, Cabinet Office.	1995-2005	3
Korea	–	Korean National Statistical Office.	1995-2005	3
Mexico	–	INEGI, System of national accounts of Mexico.	1995-2004	2
New Zealand	–	Statistics New Zealand.	2000-2003	3
Norway	(4)	Norwegian Regional Accounts.	1995-2005	3
Switzerland	(5)	–	–	–
Turkey	–	Turkish Statistical Institute.	1995-2001	3
United States	–	Bureau of Economic Analysis.	1997-2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Euro zone former currencies are Euro/ECU series. For growth rate comparison among countries GDP is expressed in euro-fixed series in the years preceding the adoption of the euro. Data for countries which did not adopt the euro were initially obtained in millions of Euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units at current prices by utilising the annual average exchange rates between the euro and the national currencies.
   1.2. Italy, Poland and Germany: Due to changes in the NUTS classification, data for 2005 have been obtained from the National Statistical Offices. Poland GDP per capita data available 2000-05. Italy GDP growth rates available 2000-05.
2. Australia: Gross State Product. Figures are based on fiscal year (July-June).
3. Japan: Real GDP in millions of JPY at current prices. Figures are based on fiscal year (April-March).
4. Norway: Gross value added (GVA) data in millions of NOK at current prices. The OECD Secretariat estimates the GDP at territorial levels 2 and 3 based on national GDP.
5. Iceland and Switzerland: Data not available at the regional level.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Labour force, employment at place of residency by sex and unemployment – Chapters 11, 18, 19 and 24

National Data on Employment and Unemployment: OECD, Annual Labour Force Statistics Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional labour force market statistics, LFS.	1999-2006	3
Australia	(2)	Australian Bureau of Statistics, LFS, Table 6291.0.55.001.	1999-2006	NOG
Canada	(3)	Statistics Canada, LFS, CANSIM Table 282-0055.	1999-2006	NOG
Iceland	–	Statistics Iceland.	1999-2005	3
Japan	–	Statistics Bureau, MIC.	1999-2006	3
Korea	–	Korean National Statistical Office.	1999-2006	3
Mexico	(4)	INEGI, LFS (National survey of occupation and employment).	2000-2006	2
New Zealand	(5)	Statistics New Zealand, LFS.	1999-2006	3
Norway	–	Statistics Norway, Statbank Table 05613.	1999-2006	3
Switzerland	(6)	Secretariat estimates based on Swiss Federal Statistical Office.	1999-2006	3
Turkey	(7)	Turkish Statistical Institute, Census.	2000, 2004-06	2
United States	(8)	Bureau of Labour Statistics, Labour force data by county.	1999-2006	3

Data for employment by sex are available only at TL2 level.

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   - 1.1. Finland: 2006 Employment data for regions FI191 Satakunta, FI192 Pirkanmaa, FI193 Keski-Suomi, FI194 Etelä-Pohjanmaa and FI195 Pohjanmaa are estimated with data collected at the Statistics Finland website (*www.stat.fi/til/tyti/2008/03/tyti_2008_03_2008-04-22_tau_031_fi.html*).
   - 1.2. Germany and Italy: due to changes in the NUTS classification, data have been collected from the delegates (Germany: Statistics of the Federal Agency of Labour Market, Spatial Monitoring System of the BBR, without self-employed).
   - 1.3. Poland: Reference years 2000-06 (PL126 Warszawski and PL127 Miasto Warszawa regions data are missing in 1999).
   - 1.4. Portugal: Data not available for the regions Região Autónoma dos Açores and Região Autónoma da Madeira. Labour force data are available only at TL2 level.
   - 1.5. Sweden: data for 2006 at TL3 level are estimated with data from Statistics Sweden (Befolkningen 16-64 år (AKU), 1000-tal efter region, arbetskraftstillhörighet, kön) and adjusted with data from Eurostat at TL2.
   - 1.6. United Kingdom: 2006 missing data from Eurostat have been estimated with data from the Office for National Statistics (Nomis) and the Annual Population Survey in Scotland. Data not available for the regions Caithness and Sutherland, Ross and Cromarty, Comhairle Nan Eilan (Western Isles).
2. Australia: Data are based on the Labour Force Dissemination Regions as defined by the Australian Bureau of Statistics.
3. Canada: Data are based on a grouping of TL3 regions according to the Economic Regions as defined in the Guide to the Labour Force Survey, Statistics Canada 2006, (Ottawa: Statistics Canada, Catalogue No. 71-543, *www.statcan.ca/bsolc/english/bsolc?catno=71-543-G*).
4. Mexico: Data at TL3 level are available only for the year 2000 from the Census (Censo general de población y vivienda 2000) and employed is for the class age 12 years and over.
5. New Zealand: For regions NZ015-NZ016 and NZ021-NZ021 data are aggregated in the LFS dissemination regions. Data for the merged regions have been estimated on the basis of population share.
6. Switzerland: Data at TL3 are estimated from unemployment at TL2 using the share of labour force as weights.
7. Turkey: Data at TL2 come from the Census of Population for the year 2000 and from Turkstat Household labour survey for the years 2004-06. At TL3 data are available only for the year 2000.
8. United States: US117 New Orleans-Metairie-Bogalusa (Louisiana) figure is estimated for 2006 due to missing values in some Local Area Unemployment Statistics components of this region. Data expressed as annual averages.

Employment by industry (6 sectors) – Chapter 14

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional economic accounts, Branch accounts, Employment.	1995-2005	2
Australia	–	Australian Bureau of Statistics, LFS, Table 6291.0.55.003.	1995-2005	2
Canada	(2)	Statistics Canada, data sent by the delegate.	1995-2005	2
Iceland	–	Statistics Iceland.	1995-2005	2
Japan	–	Statistics Bureau, Establishment and Enterprise Census.	1999, 2004, 2006	2
Korea	–	Korean National Statistical Office – KOSIS Census on basic characteristics of establishments.	1999-2004	2
Mexico	–	Economic Census.	1998-2004	2
New Zealand	–	Statistics New Zealand.	1999-2005	2
Norway	–	Statistics Norway.	2000-06	2
Switzerland	–	Federal Statistical Office (FSO), Census of population, Table VZ0024KD.	2000	2
Turkey	–	Turkish Statistical Institute, Number of local units and employment by economic activity branches.	2002	2
United States	–	Bureau of Economic Analysis.	2005	2

Industries are defined according to the Standard Industrial Classification (ISIC) rev. 3.1. Due to regional data availability, industries are aggregated into six sectors: 1) Agriculture, fishing and forestry; 2) Manufacturing, mining and quarrying, electricity, gas and water supply; 3) Construction; 4) Trade, hotels and restaurants, transport, storage and communication; 5) Financial intermediation, real estate, renting and business activities; 6) Public administration and defence, health and other public activities.

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Germany: 1996-2005; Netherlands: 1995-2004; Poland: 1998-2005; United Kingdom: 2003-07.
   1.2. Sweden: Data from the Swedish Statistical Office, 2003-06.
2. Canada: Data not available for the regions Yukon Territory and Northwest Territories.

Employment at place of work – Chapters 16 and 23

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional economic accounts, Branch accounts, Employment.	1995-2005	3
Australia	–	Australian Bureau of Statistics, LFS, Table 6291.0.55.003.	1996, 2001, 2006	2
Canada	–	Statistics Canada, Census, Employed labour force by place of work.	1996, 2001, 2006	2
Iceland	(2)	–	–	–
Japan	–	Statistics Bureau, MIC.	1995, 2000-01, 2005-06	2
Korea	–	Korean National Statistical Office.	1996-2005	3
Mexico	–	INEGI, LFS (National survey of occupation and employment).	2000, 2005-06	2
New Zealand	–	Statistics New Zealand, LEED, Annual, Table 3.5: Length of Continuous Job Tenure.	1999-2005	3
Norway	–	Statistics Norway, Employees 16-64 years by region of work by region and period.	1995, 1998-2001, 2005-06	3
Switzerland	(2)	–	–	–
Turkey	–	Turkish Statistical Institute, Census.	2000	3
United States	–	Bureau of Labour Statistics, State and area employment (sm series).	1995-2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Denmark: 1997-2005; Germany: 1995-2004; Netherlands: 1999-2005; Sweden: 1999-2005.
2. Iceland and Switzerland: Data not available at the regional level.

Employment by detailed industry (20 sectors) – Chapter 17

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Structural business statistics, Employment.	2005	2
Australia	–	Australian Bureau of Statistics, LFS, Table 6291.0.55.003.	2007	2
Canada	(2)	Statistics Canada, data sent by the delegate.	2004	2
Iceland	–	Statistics Iceland.	2005	2
Japan	–	Statistics Bureau, Establishment and Enterprise census.	2006-	–
Korea	(3)	–	–	–
Mexico	–	–	2003	–
New Zealand	(3)	–	–	–
Norway	–	Statistics Norway.	2005	2
Switzerland	–	–	–	–
Turkey	–	Turkish Statistical Institute, Number of local units and employment by economic activity branches.	2002	2
United States	–	Bureau of the Census, US Department of Commerce.	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Eurostat, Structural business statistics records regional data for employment by industry only for market services and the real economy. Therefore industries dominated by non market production, such as public administration, education, health, defence, are excluded. Similarly the financial sector is excluded. The classification aggregates the following sectors: 1) Mining and quarrying; 2) Food products, beverages and tobacco; 3) Manufacture of textiles, wearing apparel and tanning; 4) Manufacture of wood and of products of wood and cork, except furniture 5) Manufacture of paper and paper products; 6) Publishing, printing and reproduction of recorded media; 7) Manufacture of energy products, chemicals, rubber and plastic 8) Manufacture of other non-metallic mineral products; 9) Manufacture of basic metals; 10) Manufacture of fabricated metal products, except machinery and equipment; 11) Manufacture of machinery and equipment n.e.c.; 12) Electrical and optical equipment; 13) Manufacture of transport equipment; 14) Manufacturing nec; recycling; 15) Electricity, gas and water supply; 16) Construction; 17) Wholesale and retail trade; repair of motor vehicles, and household goods; 18) Hotels and restaurants; 19) Transport, storage and communications; 20) Real estate, renting and business activities.
   1.2. Data for Belgium and the Netherlands refer to year 2004.
   1.3. Denmark: Data not available at the regional level.
2. Canada: Data not available for the regions Yukon Territory and Northwest Territories.
3. Korea, New Zealand and Switzerland: Data not available at the regional level.

Youth unemployment – Chapter 18

	Notes	Source	Reference population	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional labour market statistics, unemployment.	15-24	1999-2006	2
Australia	–	Australian Bureau of Statistics, youth unemployment, Cat. 4102.0.	15-24	1999-2006	2
Canada	(2)	Statistics Canada, CANSIM, Table 109-5304.	15-24	2001-07	2
Iceland	–	–	–	–	–
Japan	–	Statistics Bureau, MIC.	15-24	2006	2
Korea	–	–	–	–	–
Mexico	–	–	–	–	–
New Zealand	–	–	–	–	–
Norway	(3)	Statistics Norway, Employees 16-64 years by region of work by region and period.	15-24	1999-2006	2
Switzerland	–	–	–	–	–
Turkey	–	Turkish Statistical Institute, LFS.	15-24	2004-06	2
United States	–	–	–	–	–

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Denmark: Data not available at the regional level.
   1.2. Italy: Data not available for the region Valle d'Áosta.
   1.3. Netherlands: 1999-2005; Sweden: 1999-2005.
2. Canada: Data not available for the regions Yukon Territory and Northwest Territories.
3. Norway: Data not available for the regions Hedmark og Oppland and Trondelag.

Long-term unemployment – Chapter 18

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Regional labour market statistics, Regional unemployment.	1999-2006	2
Australia	–	Australian Bureau of Statistics, LFS.	1993-2007	2
Canada	(2)	Statistics Canada, LFS.	1990-2007	2
Iceland	(3)	–	–	–
Japan	(3)	–	–	–
Korea	(3)	–	–	–
Mexico	(3)	–	–	–
New Zealand	–	–	1991-2006	2
Norway	–	Statistics Norway.	1999-2006	2
Switzerland	(3)	–	–	–
Turkey	–	Turkish Statistical Institute, LFS.	2004-06	2
United States	(3)	–	–	–

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Denmark: Data not available at the regional level.
2. Canada: Data not available for the regions Yukon Territory and Northwest Territories.
3. Iceland, Japan, Korea, Mexico, Switzerland and United States: Data not available at regional level.

Age-adjusted mortality rate – Chapter 25

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat. Regional demographic statistics.	2005	2
Australia	–	Australian Bureau Statistics, Demographic Summary, Statistical Areas.	2004	2
Canada	(2)	Statistics Canada, 2005. Table 102-0503.	2005	2
Denmark	–	Statbank Denmark.	2005	2
Iceland	–	Statistics Iceland.	2005	2
Japan	–	Vital Statistics of Japan.	2005	2
Korea	–	Korea National Statistical Office. Population and Housing Census.	2000	2
Mexico	–	INEGI. Mortality statistics.	2005	2
New Zealand	(3)	–	–	–
Norway	–	Eurostat. Regional demographic statistics.	2005	2
Switzerland	–	Eurostat. Regional demographic statistics.	2005	2
Turkey	(3)	–	–	–
United States	–	National Centre for Health Statistics.	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data refer to the age reached during the year, except for Belgium, Ireland and United Kingdom for which the data refer to the age in completed years.
   1.2. Data for Italy and Ireland refer to the year 2004.
2. Canada: Death refer to the permanent disappearance of all evidence of life at any time after a live birth has taken place. Stillbirths are excluded. Age attained at the last birthday preceding death.
3. New Zealand and Turkey: Data not available at the regional level.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Number of physicians – Chapter 26

National Data: OECD, Health Database.

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat. Regional health statistics.	2005	2
Australia	(2)	AIHW, Medical labour force survey.	2005	2
Canada	(3)	Canadian Institute of Health Information (CIHI).	2005	2
Denmark	(7)	–	–	–
Iceland	–	Directorate of Health, Register of Physicians.	2002	2
Ireland	(7)	–	–	–
Japan	(4)	Statistics and Information Department, Minister's Secretariat, Ministry of Health, Labour and Welfare.	2004	2
Korea	(7)	–	–	–
Luxembourg	–	Eurostat. Regional health statistics.	2004	2
Mexico	(5)	Ministry of Health (SSA). Bulletin of statistical information, Vol. I, No. 23, 24 and 25.	2005	2
New Zealand		Medical Council, The New Zealand Medical Force in 2005.	2005	2
Norway	–	Eurostat. Regional health statistics.	2005	2
Switzerland	–	OFAS ; FSO, Statistics yearbook 2002.	2002	2
Turkey		Eurostat. Regional health statistics.	2003	2
United Kingdom	–	Eurostat. Regional health statistics.	2000	2
United States	(6)	American Medical Association.	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data for Portugal refer to the year 2003; data for Luxembourg and the Netherlands refer to the year 2004; data for the United Kingdom refer to the year 2000.
2. Australia: The data refers to the number of employed medical practitioners, including clinicians and non-clinicians.
3. Canada: Includes physicians in clinical and/or non-clinical practice. Excludes residents and unlicensed physicians who requested that their information not be published as of December 31, 2005. *http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=AR_14_E*.
4. Japan: Data are based on the Survey of Physicians, Dentists and Pharmacists and the Report on Public Health Administration.
5. Mexico: The data for public practitioners are based on the population forecasted by the CONAPO. Total values include information regarding the National Health Institutes and the Federal Reference Hospitals (Hospitales Federales de Referencia) that cannot be divided by state.
6. United States: Excludes doctors of osteopathy, and physicians with addresses unknown and who are inactive. Includes all physicians not classified according to activity status.
7. Denmark, Finland, Ireland and Korea: Data not available at the regional level.

Reported crime against property – Chapter 27

	Notes	Source	Years	Territorial level
Australia	(1)	Australian Bureau Statistics – Reported Crime 4510.0.	2005	2
Austria	–	Ministry of Interior, Criminal statistics, Sect. II 3-4.	2005	2
Belgium	–	Statistics Belgium, Criminalité enregistrée.	2005	2
Canada	(2)	Statistics Canada, CANSIM, Table 252-0013.	2005	2
Czech Republic	–	Police Headquarters of the Czech Republic.	2005	2
Denmark	(3)	Statistics Denmark, STRAF1: Reported criminal offences by region and type of offence.	2005	2
Finland	–	Statistics Finland.	2005	2
France	–	INSEE.	2005	2
Germany	(9)	–	–	–
Greece	–	National Statistical Service of Greece (ESYE)	2005	2
Hungary	–	Ministry of Justice and Law Enforcement.	2005	2
Iceland	(4)	Statistics Iceland; The National Commissioner of the Icelandic Police.	2005	2
Ireland	–	Central Statistics Office Ireland.	2004	2
Italy	–	ISTAT, Statistiche giudiziarie; Ministero dell'interno, Sistema informativo dell'interno (SDI).	2006	2
Japan	–	National Police Agency.	2005	2
Korea	(9)	–	–	–
Luxembourg	–	Luxembourg Statistical Portal.	2005	–
Mexico	(5)	INEGI. Estadísticas judiciales en materia penal. Delitos de los presuntos delincuentes.	2005	2
Netherlands	–	Statistics Netherlands (CBS)-STATLINE.	2005	2
New Zealand	–	Statistics New Zealand.	2005	2
Norway	–	Statistics Norway, Offences reported to the police, by group of offence and scene of crime (county).	2005	2
Poland	(6)	Central Statistical Office, Statistical Yearbook of the Regions.	2005	2
Portugal	–	INE, clasificación de los delitos por provincias y naturaleza del delito.	2005	2
Slovak Republic	–	Ministry of Interior of the Slovak Republic.	2005	2
Spain	–	Estadística Penal Común. Audiencias Provinciales y Juzgado de lo Penal.	2004	2
Sweden	–	National Council for Crime Prevention.	2005	2
Switzerland	(7)	Federal Statistical Office/EFPF-choros	2005	2
Turkey	–	Turkish Statistical Institute.	2005	2
United Kingdom	(8)	National Statistical office	2004	2
United States	–	Federal Bureau of Investigation (FBI).	2005	2

1. Australia: Crime against the property consists in the following offences: robbery, blackmail/extortion, unlawful entry with intent, motor vehicle theft, other theft.
2. Canada: Crime against the property includes breaking and entering, motor vehicle theft, and theft over 5000 CAD, theft CAD 5 000 and under, possession of stolen goods, fraud.
3. Denmark: Crime against the property includes forgery, arson, burglary theft, fraud, robbery, and theft of registered vehicles, theft of motorcycles, mopeds, theft of bicycles, malicious damage to property. A violation of the law committed by more than one person is registered as one offence only and if a violation of the law includes more than a single victim it will also be registered as one offence only. If more than one person has reported the violation of the law to the police, more than one reported criminal offence can be registered.
4. Iceland: Data were obtained by adding up the following variables: Forgery, Offences of Acquisition, and Offences against Property.
5. Mexico: Crime against the property includes: crimes against personal and private property (cattle theft, burglary, damage to private property, fraud and robbery), crimes against the security of persons (robbery) and crimes against the public faith (falsification of documents, currencies, certificates, credit and administrative documents, seals, brands and other objects).
6. Poland: Ascertain crimes against property in completed preparatory proceedings.
7. Switzerland: Data at the regional level refer to the number of condemnations by type of crime. Total offences for Switzerland are distributed proportionally by large regions.
8. United Kingdom: Data refer to the financial year. Offences against property include: robbery, burglary in a dwelling, theft of and from a motor vehicle. Data for Northern Ireland come from the Northern Ireland Police Service and for Scotland from Scottish Executive Statistics.
9. Germany and Korea: Data not available at the regional level.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

Number of murders – Chapter 28

National Data: UN, Ninth UN Survey of Crime Trends and Operations of Criminal Justice Systems and Eurostat.

	Notes	Source	Years	Territorial level
Australia	–	Australian Bureau of Statistics – Reported Crime 4510.0	2005	2
Austria	(1)	Ministry of Interior, data source on criminal statistics, Ministry of Interior, Sect. II 3-4.	2005	2
Canada	–	Statistics Canada, CANSIM, Table 252-0013.	2005	2
Czech Republic	–	Police Headquarters of the Czech Republic.	2005	2
Denmark	–	Statistics Denmark.	2005	–
Finland	–	Statistics Finland.	2005	2
France	–	INSEE, data sent by the delegate.	2005	2
Germany	(7)		2005	–
Greece	–	National Statistical Service of Greece (ESYE). Data sent by the delegate.	2005	2
Hungary	–	Ministry of Justice and Law Enforcement.	2005	–
Iceland	(7)	–	–	–
Ireland	–	Garda Síochána Annual Report.	2005	2
Italy	–	ISTAT, Statistiche giudiziarie; Ministero dell'interno, Sistema informativo dell'interno (SDI).	2005	2
Japan	–	National Police Agency.	2005	2
Korea	(8)	Analytical Report on Crimes 1999-2006.	2005	–
Luxembourg	–	–	2005	–
Mexico	–	INEGI. Estadísticas judiciales en materia penal. Delitos de los presuntos delincuentes.	2005	2
Netherlands	–	Statistics Netherlands (CBS)-STATLINE.	2005	2
New Zealand	(2)	Statistics New Zealand.	2005	2
Norway	–	Statistics Norway, Crime statistics Offences reported to the police.	2005	2
Poland	(3)	Central Statistical Office, Statistical Yearbook of the Regions.	2005	2
Portugal	–	Statistics Portugal (INE).	2005	2
Slovak Republic	(4)	Administrative data, The Presidium of Police Force under Ministry of Interior of the SR.	2005	2
Spain	(5)	National Statistics Institute.	2005	2
Sweden	(7)	National Council for Crime Prevention.	2005	2
Switzerland	(6)	FSO/EFPF-choros.	2005	2
Turkey	–	Turkish Statistical Institute.	2005	2
United Kingdom	–	Coleman, K., C. Hird and D. Povey (2006), *Violent Crime Overview,Homicide and Gun Crime 2004/2005*, Home Office Statistical Bulletin 02/06: Home Office.	2004	2
United States	–	Federal Bureau of Investigation (FBI).	2005	2

1. Data for Austria and Sweden include manslaughter.
2. New Zealand: the specific offence of Murder is defined in Section 172 of the Crimes Act (1961). Statistics reported within the police "Offence Type" "Murder" cover a broader range of murder-related offences, including inciting, counselling or attempting to procure murder (Section 174), conspiracy to murder (Section 175) and accessory after the fact to murder (Section 176).
3. Poland: Crime against life and health refers to ascertained crimes in completed preparatory proceedings. Data include manslaughter.
4. Slovak Republic: Data on criminality is surveyed within the Registration Statistical System of Criminality.
5. Spain: The data takes into account the number of condemned under the category of "Homicides and Types" used by the National Statistics Institute.
6. Switzerland: These data only takes into account the type of homicide considered as "Vollendete Tötungsdelikte".
7. Belgium, Germany and Iceland: Data not available at the regional level.
8. Korea: Data available for metropolitan cities only.

Volume of produced municipal waste – Chapter 29

National data: OECD Environmental data – Compendium (2007).

	Notes	Source	Years	Territorial level
Australia	–	Australian Bureau of Statistics, 8698.0, Waste management survey.	2003	2
Austria	–	Austrian Environmental Agency (UBA).	2005	2
Belgium	(2)	–	–	–
Canada	–	Statistics Canada.	2002	2
Czech Republic	–	Statistical Office of the Czech Republic.	2005	2
Denmark	(2)	–	–	–
Finland	(2)	–	–	–
France	–	Eurostat. Regional waste statistics.	2004	2
Germany	–	Federal Statistical Office.	2007	2
Greece	–	Eurostat. Regional waste statistics.	2001	2
Hungary	–	Eurostat. Regional waste statistics.	1998	2
Iceland	(2)	–	–	–
Ireland	–	Eurostat. Regional waste statistics.	1998	2
Italy		Apat, Annuario dei dati ambientali e Rapporto rifiuti, 2006.	2005	2
Japan	–	Ministry of Internal Affairs and Communication.	2004	2
Korea	(2)	–	–	–
Luxembourg	–	Eurostat. Regional waste statistics.	1999	2
Mexico	–	INEGI. Con base en SEDESOL. DGOT. Subdirección de Asistencia Técnica a Organismos Operadores Urbanos Regionales.	2005	2
Netherlands	–	Statistics Netherlands.	2005	2
New Zealand	(2)	–	–	–
Norway	–		2005	2
Poland		Central Statistical Office, Statistical Yearbook of the Regions.	2005	2
Portugal		Statistics Portugal (INE), Environment Statistics for 1998-2001 data and Municipal waste statistics for 2002-05 data.	2005	2
Slovak Republic		Statistical survey of the Statistical Office of the SR. Annual reports on municipality waste are collected from municipalities and processed.	2005	2
Spain	–	Eurostat. Regional waste statistics.	2005	2
Sweden	–	Eurostat. Regional waste statistics.	1998	2
Switzerland	(2)	–	–	–
Turkey	–		2004	2
United Kingdom	(1)	Department for Environment, Food and Rural Affairs – Municipal Waste Management Survey.	2004	2
United States	(2)	–	–	–

1. United Kingdom: Within the United Kingdom, data come from the following sources: Scottish Environmental Protection Agency (Scotland); Welsh Assembly Government (Wales); Environment and Heritage Service (Northern Ireland).
2. Belgium, Iceland, Korea, New Zealand, Denmark, Finland, Switzerland and United States: Data not available at the regional level.

Number of private vehicles – Chapter 30

	Notes	Source	Years	Territorial level
EU countries	(1)	Eurostat, Regional transport statistics.	2005	2
Australia	(2)	Australian Bureau of Statistics, Motor Vehicle Census 9309.0.	2005	2
Canada	(3)	Statistics Canada, Canadian Vehicle Survey 2005.	2005	2
Iceland	–	Statistical Iceland.	2003	2
Japan	–	Ministry of Land, Infrastructure and Transport.	2005	2
Korea	–	Korean National Statistical Office.	2005	2
Mexico	–	INEGI, Statistics of motor-vehicles in operation.	2005	2
New Zealand	(4)	–	–	–
Norway	–	Statistics Norway.	2005	2
Switzerland	–	Federal Statistical Office.	2005	2
Turkey	–	Eurostat. Regional transport statistics.	2005	2
United States	–	US Department of Transportation.	2005	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Portugal: Data not available at the regional level.
2. Australia: ABSD Motor Vehicle Census comprises: sedans, station wagons, and forward control passenger vehicles, campervans, and utilities panel vans.
3. Canada: Number of vehicles on the registration lists. Following the Canadian classification used in the CVS, the data takes into account light vehicles with gross vehicle weights below 4.5 tonnes. Catalogue No. 53-223-XIE.
4. New Zealand: Data not available at the regional level.

Voter turnout in national elections – Chapter 31

	Notes	Source	Years	Territorial level
Australia	–	Australian Electoral Commission.	2004	2
Austria	–	Statistics Austria, Statistical Yearbook 2008, p. 498, 36.08.	2006	2
Belgium	–	Electoral results – *www.ibzdgip.fgov.be* website.	2003	2
Canada	–	Elections Canada – *www.elections.ca.*	2006	2
Czech Republic	–		2004	2
Denmark	(4)	–	–	–
Finland	–	Ministry of Interior.	2003	2
France	–	Ministry of Interior.	2007	2
Germany	–	Regional Statistics Germany, Spatial Monitoring System of the BBR.	2005	2
Greece	(1)	Ministry of Interior.	2007	2
Hungary	–	National Election Office Hungary.	2006	2
Iceland	(4)	–	–	–
Ireland	–		1997	2
Italy	–	Ministry of Interior.	2006	2
Japan	(1)	Ministry of Internal Affairs and Communication.	2005	2
Korea	(4)	–	–	–
Luxembourg	–	–	2004	2
Mexico	–	Federal Electoral Institute. Federal Election Statistics 2006.	2006	2
Netherlands	–	Statistics Netherlands.	2003	2
New Zealand	–	General Elections, *http://2005.electionresults.govt.nz.*	2005	2
Norway	–	Statistical Yearbook.	2005	2
Poland	–	State Election Commission.	2005	2
Portugal	(2)	Secretariat for the electoral process (STAPE), Ministry of Internal Administration.	2005	2
Slovak Republic	–	Statistical Office of the Slovak Republic.	2004	2
Spain	–	Spanish Congress, *www.congreso.es.*	2006	2
Sweden	–	Election Authority.	2006	2
Switzerland	–	Federal Statistical Office.	2007	2
Turkey	–	Turkish Statistical Institute.	2007	2
United Kingdom	–	The Electoral Commission, *www.electoralcommission.org.uk.*	2005	2
United States	(3)	US Census Bureau, *www.census.gov/population/www/socdemo/voting.html.*	2004	2

1. Japan: representatives elections.
2. Portugal: data refers to elections to parliament.
3. United States: the ratio is estimated dividing the total voted by the total citizen population.
4. Denmark, Iceland and Korea: Data not available at the regional level.

Labour force by educational attainment – Chapters 6 and 32

	Notes	Source	Years	Territorial level
EU19 countries	(1)	Eurostat, Labour Force Survey.	1999-2006	2
Australia	(2)	Australian Bureaus of Statistics, Table 6227.0 Education and Work, LFS.	2001-05	2
Canada	(3)	Statistics Canada, Labour Force Survey.	1999-2006	2
Iceland	(10)	–	–	–
Japan	(10)	–	–	–
Korea	(4)	KOSIS, Economically Active Population Survey.	2000-06	2
Mexico	(5)	INEGI, Conteo de Población y Vivienda, 2005.	2000; 2005	2
New Zealand	(6)	Statistics New Zealand.	1999-2006	2
Norway	(7)	Eurostat, Labour Force Survey.	1999-2006	2
Switzerland	(8)	Federal Statistical Office, Labour Force Survey.	1999-2006	2
Turkey	(10)	–	–	–
United States	(9)	Census Bureau, American Community Survey (ACS).	1999-2006	2

1. EU19 countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden, and the United Kingdom.
   1.1. Data refer to the labour force aged 15 and over.
   1.2. For Germany, Ireland and the United Kingdom the "Non respondent" value has been allocated according to the proportion of the year 2006 to the ISCED 02, 34, and 56. The sum of the 3 ISCED levels is now equal to the total labour force.
   1.3. Denmark: Data refer to the labour force aged 25-64. Data obtained from the Register based labour force statistics. Data compiled by the Danish Centre for Studies in Research and Research Policy and Published by Statistics Denmark.
   1.4. Sweden: The data obtained from Statistics Sweden.
2. Australia: Data refer to total labour force.
3. Canada: Data refer to the labour force aged 25-64.
4. Korea: Data refer to total labour force.
5. Mexico: Data refer to the total population.
6. New Zealand: The "Non respondent" value has been allocated according to the proportion of the year 2006 to the ISCED 02, 34, and 56. The sum of the 3 ISCED levels is now equal to the total labour force.
7. Norway: Data refer to the labour force aged 15 and over.
8. Switzerland: Data refer to total labour force. Break in series from 2004 due to ISCED changes regarding 3C short.
9. United States: Data refer to the population aged 18 and over.
10. Iceland, Japan and Turkey: Data not available at the regional level.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

ANNEX C

Indexes and Formulas

Part I – Regional focus on innovation and Part II – Regions as actors of national growth

Geographic concentration index

Definition: The Geographic concentration index for the variable *y* (*e.g.* population, GDP, etc.) is defined as:

$$\left[\sum_{i=1}^{N}\left|y_i - a_i\right| \Big/ 2\right] * 100$$

where y_i is the share of region *i* to the national total, a_i is the area of region *i* as a percentage of the country area, *N* stands for the number of regions and | | indicates the absolute value.

The index lies between 0 (no concentration) and 100 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

Interpretation: The geographic concentration index offers a picture of the spatial distribution of a certain variable within a country, as it compares the share of the variable and the land area of each region. Differences in geographic concentration between two countries may be partially due to differences in the average size of regions in each country. A comparison in the rate of change of the concentration index in two countries indicates the speed that the country is moving to capture agglomeration economies.

Part III – Making the most of regional assets

Gini Index

Definition: Regional disparities are measured by an unweighted Gini index. The index is defined as:

$$GINI = \frac{2}{N-1}\sum_{i=1}^{N-1}\left|F_i - Q_i\right|$$

where *N* is the number of regions, $F_i = \frac{i}{N}$, $Q_i = \frac{\sum_{j=1}^{i} y_j}{\sum_{i=1}^{n} y_i}$ and y_i is the value of variable *y* (*e.g.* GDP per capita, unemployment rate, etc.) in region *j* when ranked from low (y_1) to high (y_N) among all regions within a country.

The index ranges between 0 (perfect equality: *y* is the same in all regions) and 1 (perfect inequality: *y* is nil in all region except one).

Interpretation: The index assigns equal weight to each region regardless of its size; therefore differences in the values of the index among countries may be partially due to differences in the average size of regions in each country.

Weighted coefficient of variation

Definition: Regional inequalities can be measured by a weighted coefficient of variation. The weighted coefficient of variation of variable *y* (*e.g.* GDP per capita) in a country *i* is defined as:

$$CV = \frac{1}{\bar{y}_i}\left\{\sum_{j=1}^{N}\left[\left(y_{i,j} - \bar{y}_i\right)^2\left(\frac{p_{i,j}}{p_i}\right)\right]\right\}^{1/2}$$

where $y_{i,j}$ is the variable *y* in region *j* of country *i*; $\bar{y}_i$ is the country average of variable *y*; $p_{i,j}$ and p_i are, respectively, the population of region *j* and country *i*.

Interpretation: The weighted coefficient of variation is a relative measure of dispersion standardised with the mean value of the variable; the differences from the mean are weighted by the share of national population living in the region. The coefficient of variation is independent by the size of the variable and therefore usually adapted to measure a country's inequality over time.

Part I – Regional focus on innovation and Part III – Making the most of regional assets

Specialisation index

Definition: Specialisation is measured according to the Balassa-Hoover index, which measures the ratio between the weight of an industry in a region and the weight of the same industry in the country:

$$BH_i = \frac{Y_{ij}/Y_j}{Y_i/Y}$$

where Y_{ij} is total employment of industry *i* in region *j*, Y_j is total employment in region *j* of all industries, Y_i is the national employment in industry *i*, and *Y* is the total national employment of all industries. A value of the index above 1 shows specialisation in an industry and a value below 1 shows lack of specialisation.

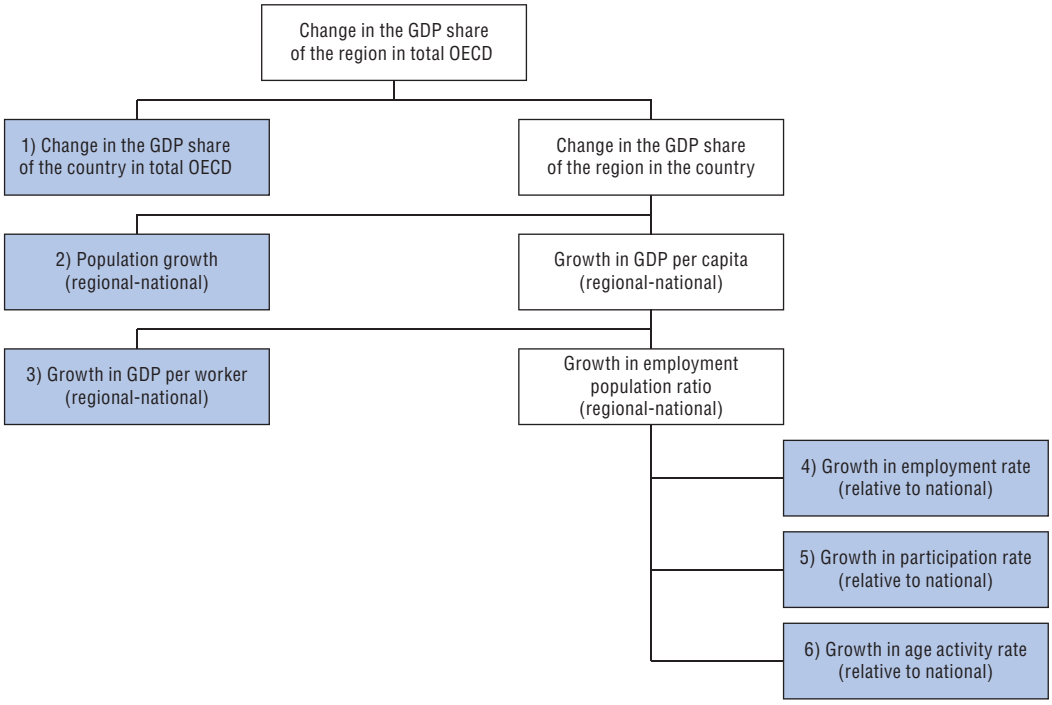
Interpretation: The value of the specialisation index decreases with the level of aggregation of industries. Therefore, the specialisation index based on a 1-digit industry (*e.g.* manufacturing) would underestimate the degree of specialisation in all 2-digit industries belonging to it (*e.g.* textile, chemistry, etc.).

Part IV – Key drivers of regional growth

Marked variation in regional growth rates occur as a result of differences in endowments and assets within regions, as well as regions' ability to mobilise these resources. Regional benchmarking helps identify the factors behind certain regions' success and the existence of unused resources in others by comparing a region's growth rate to that of all other OECD regions. Successful, competitive regions tend to grow relatively faster and therefore raise their share of GDP in the OECD. This is the joint result of several factors, both regional and national. In order to account for the contribution of these different factors, this

part breaks down changes in each region's share of GDP in total OECD GDP into: 1) national factors; 2) labour productivity; 3) employment rates; 4) participation rates; 5) age activity rates; and 6) population. Each of these components can be viewed as an indicator of the determinants of economic performance at the regional level.

Decomposing growth rates



Methodology for decomposing regional GDP growth

The share of region *i* in the total GDP of the *OECD* can be written as:

$$1.\ \frac{GDP_i}{GDP_{OECD}} = \frac{GDP_j}{GDP_{OECD}} * \frac{GDP_i}{GDP_j}$$

where *j* denotes the country of region *i*. The GDP share of region *i* in country *j* is then equal to:

$$2.\ \frac{GDP_i}{GDP_j} = \frac{GDP_i/E_i}{GDP_j/E_j} * \frac{E_i/LF_i}{E_j/LF_j} * \frac{LF_i/WA_i}{LF_j/WA_j} * \frac{WA_i/P_i}{WA_j/p_j} * \frac{P_i}{p_j}$$

where *P*, *E*, *LF* and WA stand, respectively, for population, employment, labour force and working age (15-64) population. Therefore the GDP share of region *i* in country *j* is a function of its productivity, employment rate, participation rate, age-activity rate and population, relative to, respectively, the productivity, employment rate, participation rate, age-activity rate and population of its country defined as following:

- Productivity is defined as GDP per worker (GDP/E), where employment is measured at the place of work.
- The employment rate is defined as the per cent of labour force that is employed (E/LF), where the labour force is the sum of employed and unemployed.

- The participation rate is the ratio between the labour force and the working age population (LF/WA), where the working age population is the population in the ages 15 to 64.
- The activity rate is the population in the working age class (ages 15 to 64) as a per cent of the total population.

By substituting equation 2 into equation 1, taking the logarithm and differentiating it, one obtains:

$$3.\ \left(g_i - g_j\right) = \left(g_{p,i} - g_{p,j}\right) + \left(g_{e,i} - g_{e,j}\right) + \left(g_{lf,i} - g_{lf,j}\right) + \left(g_{wa,i} - g_{wa,j}\right) + \left(g_{p,i} - g_{p,j}\right)$$

or, equivalently:

Difference in GDP growth between region *i* and the country *j*	=	Growth difference in GDP per worker between region *i* and country *j*	+	Growth difference in the employment rate between region *i* and country *j*	+	Growth difference in the participation rate between region *i* and country *j*	+	Growth difference in the activity rate between region *i* and country *j*	+	Growth difference in population between region *i* and country *j*

Part V – Competing on the basis of regional well-being

Age-adjusted mortality rates

Definition: The age-adjusted mortality rate of a region *i* is defined as the sum over the age group g (g = 1,…, G) of the product of the mortality rate in the age group *g* and the share of the standard population in the same age group.

$$MR_i = \sum_{g=1}^{G} M_{g,i} \times P_{g,std}$$

where MR_i is the age-adjusted mortality rate in region *i*, $M_{g,i}$ is the mortality rate in the *g-th* group of the region, and $P_{g,std}$ is the share of the standard population in the age group *g*.

Part I – Regional focus on innovation and Part V – Competing on the basis of regional well-being

Spearman correlation coefficient

Definition: The Spearman correlation coefficient is a measure of association between two variables to test whether the two variables covary, that is to say whether as one increases the other tends to increase or decrease. The two variables are converted to ranks and a correlation analysis is done on the ranks. The Spearman correlation coefficient varies between –1 and 1 and the significance of this is tested in the same way as for a regular correlation.

In this publication, for each country three Spearman correlation coefficients are computed between the TL2 regional values of a certain variable (for example, mortality rate, municipal waste, labour force with tertiary educational attainments, etc.) and the share of population in the TL2 regions living, respectively, in predominantly urban (PU), intermediate (IN), or predominantly rural (PR) TL3 regions.

OECD REGIONS AT A GLANCE 2009 – ISBN 978-92-64-05582-7 – © OECD 2009

OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(04 2009 01 1 P) ISBN 978-92-64-05582-7 – No. 56505 2009

OECD Regions at a Glance 2009

The performance of regional economies and the effectiveness of regional policy matter more than ever. They help determine a nation's growth and shape the measure of well-being across the entire OECD map. Indeed, well over one-third of the total economic output of OECD countries was generated by just 10% of OECD regions between 1995 and 2005.

Policy makers need both a handy reference of individual regional performance and a broader analysis of territorial trends and disparities, based on sound information comparable across countries. *OECD Regions at a Glance* is the one-stop guide for understanding regional competitiveness and performance, relying on comparative statistical information at the sub-national level, graphs and maps. It identifies new ways that regions can increase their capacity to exploit local factors, mobilise resources and link with other regions. Measuring such factors as education levels, employment opportunities and intensity of knowledge-based activities, this publication offers a statistical snapshot of how life is lived – and can be improved – from region to region in the OECD area.

This third edition provides the latest comparable data and trends across regions in OECD countries, including a special focus on the spatial dimension for innovation. It relies on the OECD Regional Database, the most comprehensive and comparable set of statistics at the sub-national level on demography, economic and labour market performance, education, healthcare, environmental outputs and knowledge-based activities.

This publication provides a dynamic link (StatLink) for each graph and map, which directs the user to a web page where the corresponding data are available in Excel®. And, for the first time, the OECD Regional Database can be fully explored through OECD eXplorer, a unique, web-based tool that combines interactive maps and other visual presentations in a flexible, user-friendly and effective way. Visit OECD eXplorer at ***www.oecd.org/gov/regional/statisticsindicators/explorer***.

OECDpublishing
www.oecd.org/publishing

ISBN 978-92-64-05582-7
04 2009 01 1 P