PART IV

Sources and Methodology

Regional Grids and Classification

Regional grids

In any analytical study conducted at sub-national levels, the choice of the territorial unit is of prime importance. The word "region" can mean very different things both within and between countries. For instance, the smallest OECD region (Concepcion de Buenos Aires, Mexico) has an area of less than 10 square kilometres whereas the largest region (Nunavut, Canada) has over 2 000 square kilometres. Similarly, population in OECD regions ranges from about 400 inhabitants in Balance ACT (Australia) to more than 47 million in Kanto (Japan).

To address this issue, the OECD has classified regions within each member country. The classifications are based on two territorial levels (TLs). The higher level (Territorial Level 2) consists of about 300 macro-regions (Maps IV.1-IV.3) while the lower level (Territorial Level 3) is composed of more than 2 300 micro-regions[1] (Maps IV.4-IV.6). This classification – which, for European countries, is largely consistent with the Eurostat classification – facilitates greater comparability of regions at the same territorial level. Indeed, these two levels, which are officially established and relatively stable in all member countries, are used by many as a framework for implementing regional policies.[2]

Regional classification

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 both regions belong at the same territorial level. To take account of these differences, the OECD has established a regional typology according to which regions have been classified as predominantly urban, predominantly rural and intermediate. 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 (Maps IV.1-IV.6).

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

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1. Level 0 indicates the territory of the whole country and Level 1 denotes groups of macro-regions.
2. Due to low comparability, regional statistics are not reported for the following territorial units: Other Territories (Australia), Dom-Tom (France), Açores and Madeira (Portugal), Canarias and Ceuta y Melilla (Spain).
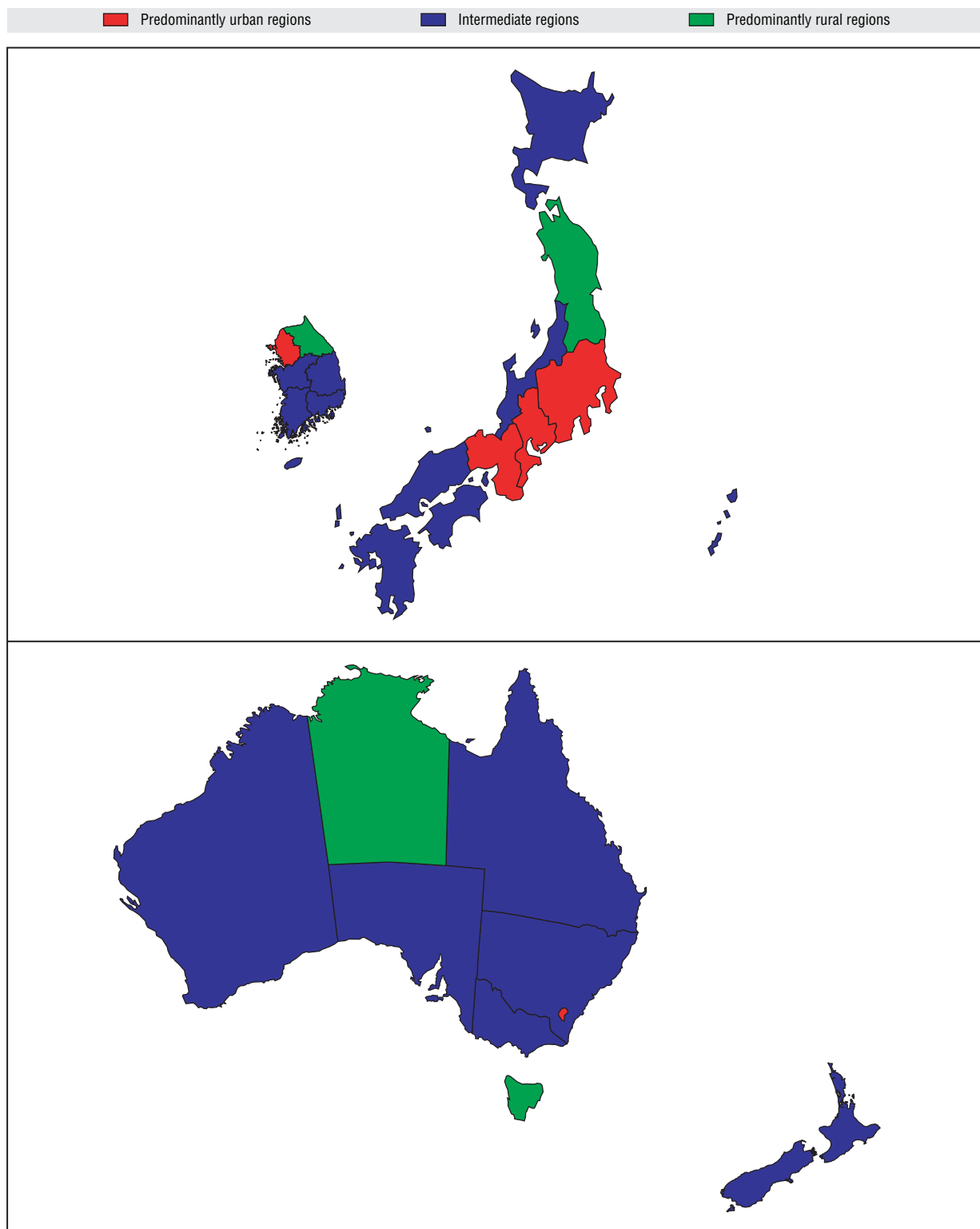
per square kilometre). The second criterion classifies regions according to the percentage of population living in rural communities. Thus, a region is classified as:

● *Predominantly rural (PR)*, if more than 50% of its population lives in rural communities.

● *Predominantly urban (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.

IV.1. **Regional typology: Asia and Oceania TL2**

Source: OECD Territorial Database.

IV.2. **Regional typology: Europe TL2**

🟥 Predominantly urban regions	🟦 Intermediate regions	🟩 Predominantly rural regions
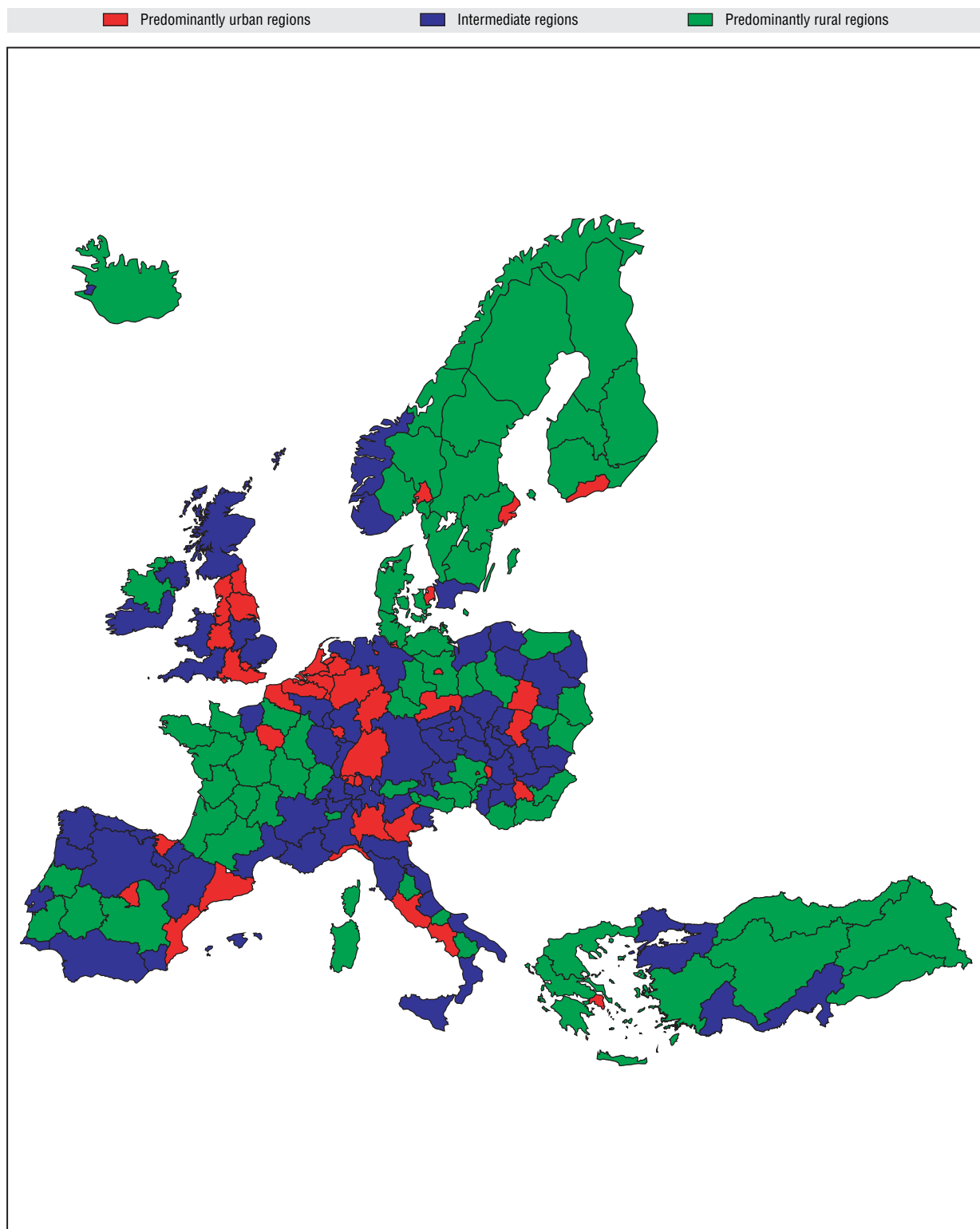
Source: OECD Territorial Database.

IV.3. **Regional typology: North America TL2**
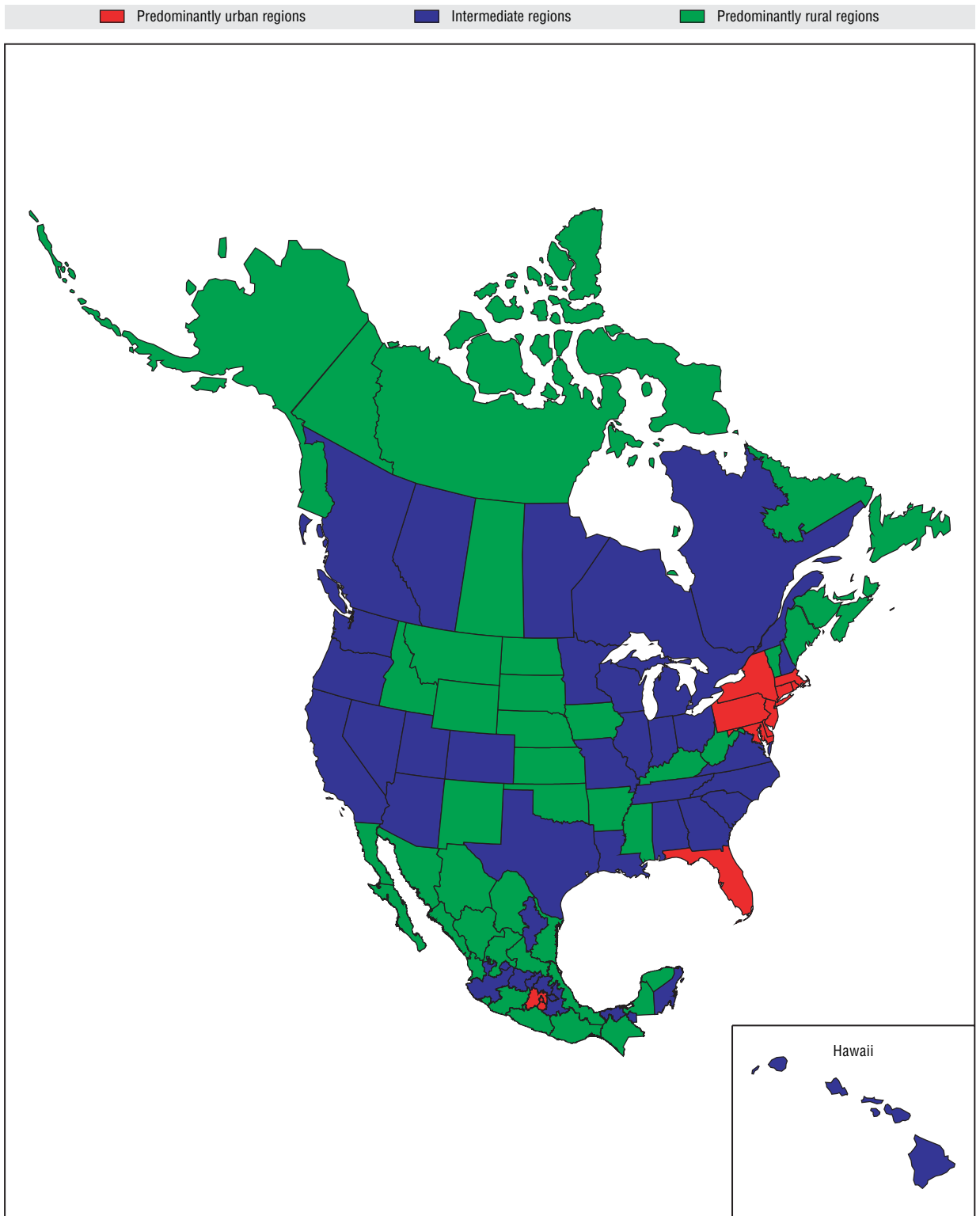
Source: OECD Territorial Database.

IV.4. **Regional typology: Asia and Oceania TL3**
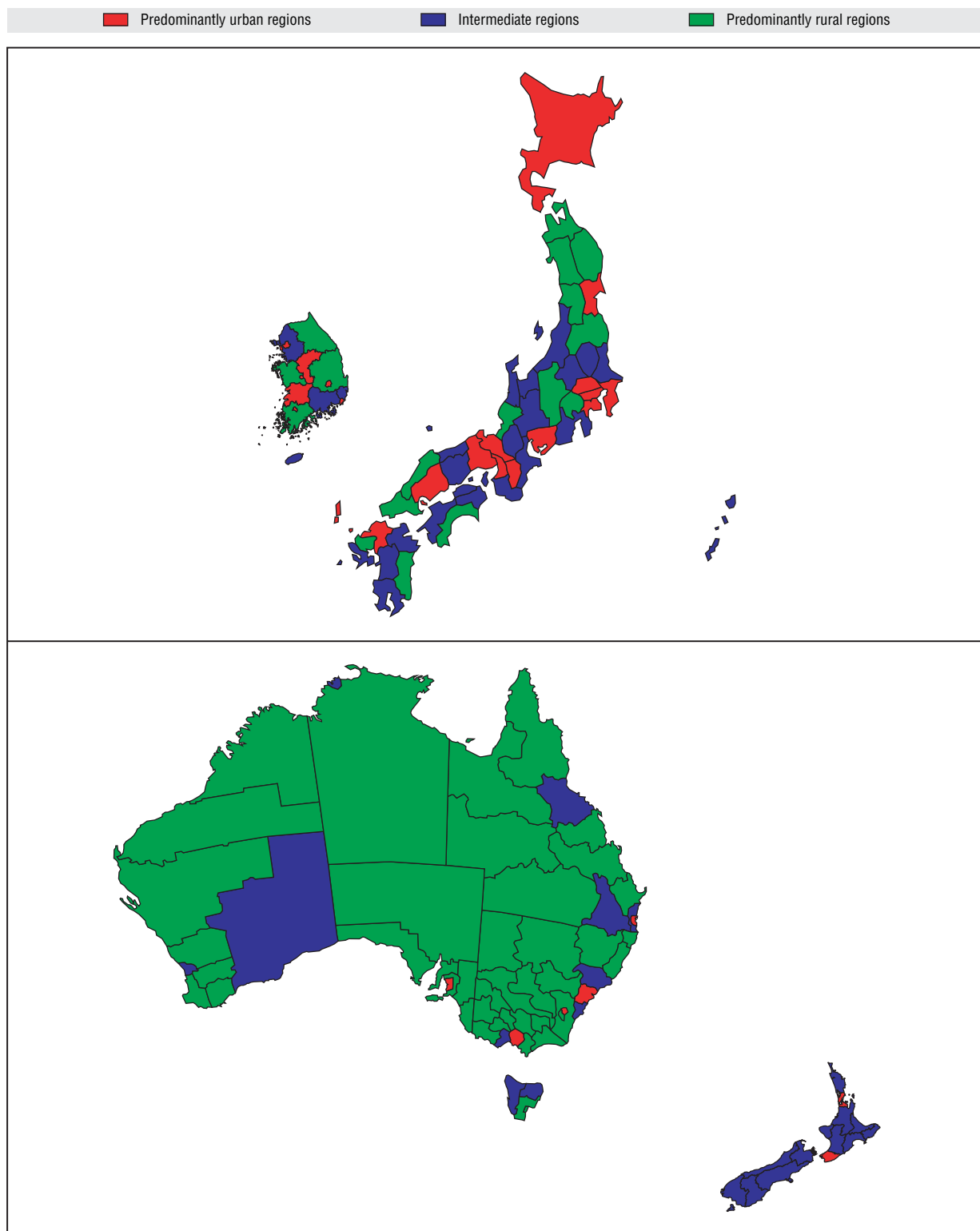
Source: OECD Territorial Database.

IV.5. **Regional typology: Europe TL3**

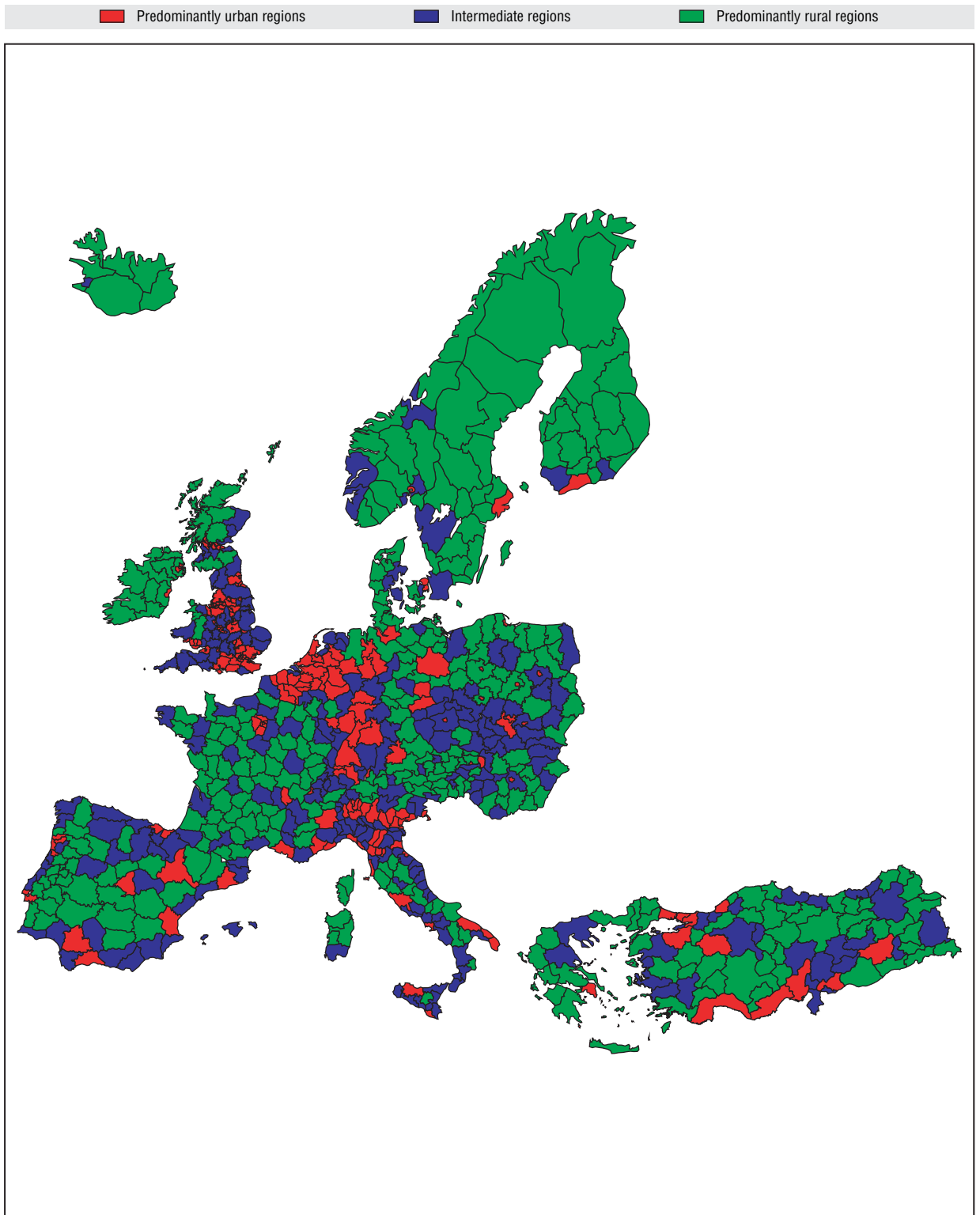| ■ Predominantly urban regions | ■ Intermediate regions | ■ Predominantly rural regions |

Source: OECD Territorial Database.

IV.6. **Regional typology: North America TL3**
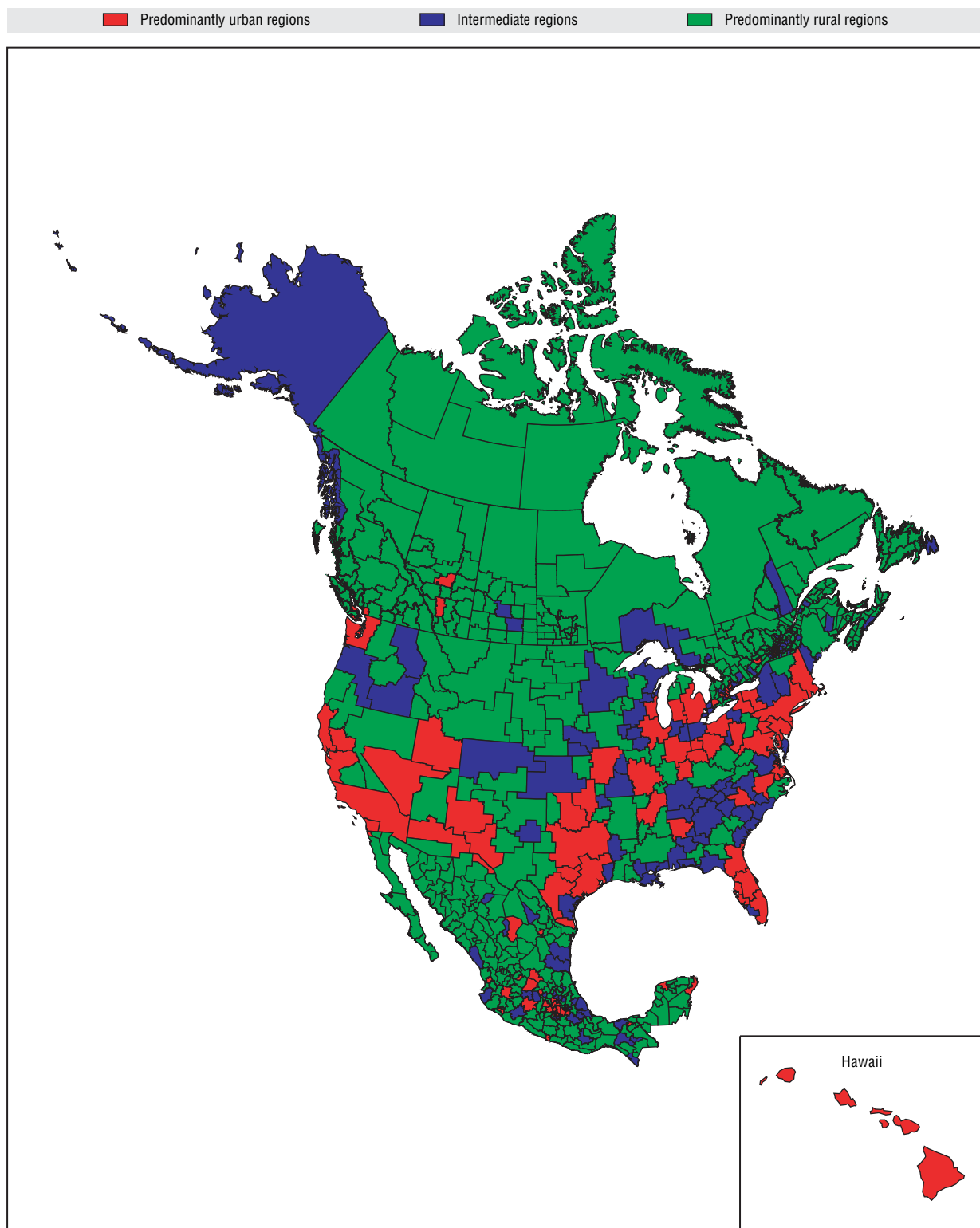
Source: OECD Territorial Database.

Indicator 1. Population

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Iceland	Statistics Iceland	2000	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	Inegi	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2001	3
Poland	Eurostat, New Cronos	2001	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis	2001	3

Country notes

Australia: Population data derive from the Census of Population and Housing.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: Data refer to the average annual population. The population is based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers.

Canada: Data refer to total population excluding institutions residents. The data derive from the Census of Population (20% sample database).

Iceland: Data refer to population as of 1 December.

Japan: Data refer to total average population.

Korea: Population data derive from resident registration at the end of the year.

Mexico: Data refer to usually resident population.

New Zealand: Data derive form the Population Census and refer to usually resident population.

Norway: Data refer to total population as of 1 January.

Poland: Data refer to population as of 31 December 2001.

Switzerland: Data refer to resident population at the end of the year.

Turkey: Data derive from the Census of Population.

United States: Census Bureau mid-year population estimates. Estimates for 2000-02 reflect country population estimates as of April 2004.

Figures

In Figure 1.2 the Geographic concentration index of population is defined as:

$$\sum_{i=1}^{N} \left| p_i - a_i \right|$$

where p_i is the population share of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 1.3 the regional population density (Dr) is calculated as follows:

$$Dr = \frac{Pr}{Ar}$$

where Pr is the population (number of inhabitants) in region r and Ar is the total area of region r in km^2.

Indicator 2. Gross domestic product (GDP)

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office	2001	3
Korea	National Statistical Office	2001	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	Inegi	2001	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis	2001	2

Country notes

Australia: GDP in millions of AUD at current prices.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies.

Canada: GDP in millions of CAD at current prices.

Japan: Real GDP in millions of JPY (1995 base year).

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices.

Mexico: GDP in thousands of MXN at current prices.

Norway: Gross value added (GVA) data in millions of NOK at current prices.

Turkey: GDP in millions of TRL at current prices.

United States: Data refer to total gross state product expressed in millions of current USD.

Figures

In Figure 2.2 the Geographic concentration index of GDP is defined as:

$$\sum_{i=1}^{N} |y_i - a_i|$$

where y_i is the GDP share of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 2.4 the Geographic Concentration Index of population is defined as:

$$\sum_{i=1}^{N} |p_i - a_i|$$

where p_i is the population share of region i, 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.

Indicator 3. Unemployment

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	3
Ireland	Eurostat, New Cronos	2001	2
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	Inegi	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74. Persons who found a job to start within a period of at most three months need not have been looking for work to be classified as unemployed.

Canada: Persons aged 15 years and over, excluding institutional residents. Persons who had definite arrangements to start a new job in four weeks or less need not have been looking for work to be classified as unemployed. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland: Registered unemployed.

Turkey: Persons aged 12 years and over.

United States: Persons aged 16 years and over. Persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work to be classified as unemployed.

Figures

In Figure 3.2 the Geographic concentration index of unemployment is defined as:

$$\sum_{i=1}^{N} \left| u_i - a_i \right|$$

where u_i is the unemployment share of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 3.4 the Geographic concentration index of the labour force is defined as:

$$\sum_{i=1}^{N} \left| lf_i - a_i \right|$$

where lf_i is the labour force share of region i, 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.

Indicator 4. Labour force

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	2
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	Inegi	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74.

Canada: Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland.[1]

Turkey: Persons aged 12 years and over.

United States: Persons aged 16 years and over.

Figures

In Figure 4.2 the Geographic concentration index of the labour force is defined as:

$$\sum_{i=1}^{N} \left| lf_i - a_i \right|$$

where lf_i is the labour force share of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 4.4 the Geographic concentration index of population is defined as:

$$\sum_{i=1}^{N} \left| p_i - a_i \right|$$

where p_i is the population share of region i, 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.

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1. The labour force includes registered unemployed people only.

Indicator 5. Patents

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Intellectual Property Australia	2002	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Canadian Intellectual Property Office	2001	2
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2000	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Iceland	Icelandic Patent Office	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2000	3
Japan	Japan Patent Office	2000	3
Korea	Korean Intellectual Property Office	2001	3
Luxembourg	Eurostat, New Cronos	2001	3
Netherlands	Eurostat, New Cronos	2001	3
Norway	Eurostat, New Cronos	2001	3
Poland	Patent Office of the Republic of Poland	2000	2
Portugal	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	United States Patent and Trademark Office	1999	3

Country notes

Australia: Data refer to the number of all Australian patent applications (Patent Co-operation Treaty [PCT] and non-PCT) by Australian applicants filed with Intellectual Property Australia. Applications with multiple applicants are counted once per unique postcode. This practice results in around a 10% overestimation of total applications, as many applications have applicants from more than one postcode.

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom: Data refer to the number of patent applications to the European Patent Office (EPO), directly filed under the Patent Convention or to applications filed under the Patent Co-operation Treaty and designating the EPO (Euro-PCT). The regional distribution of patent applications is assigned according to the inventor's region of residence. If an application has more than one inventor, the application is divided equally among all to avoid double counting.

Canada: Data refer to the number of total patent filings (PCT and non-PCT) with the Canadian Intellectual Property Office.

Germany: There are no data for TL3 units DE32 and DE161.

Italy: There are no data for TL3 units IT721, IT934 and ITB02.

Japan: Data refer to the number of patent applications made by Japanese applicants to the Japan Patent Office.

Korea: Data refer to the number of patent applications made by Korean applicants to the Korean Intellectual Property Office.

Poland: Data refer to the number of patent applications filed with the Patent Office of the Republic of Poland.

Portugal: There are no data for TL3 units PT123, PT124, PT126, PT127, PT128, PT129, PT131, PT134, PT135, PT141, PT142 and PT144.

United States: Data refer to the number of utility patents awarded to inventors in each US county, by grant date. The distribution of patents by county is, to a large extent, based on inventor city and state data. Fractional patent counts may occur for some counties when a patent is associated with multiple counties within a state. All fractional patent counts are rounded to the nearest whole number.

Figures

In Figure 5.2 the Geographic concentration index of patents is defined as:

$$\sum_{i=1}^{N} |p_i - a_i|$$

where p_i is the patents' share of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 5.4 the Geographic concentration index of the highly skilled population is defined as:

$$\sum_{i=1}^{N} |hs_i - a_i|$$

where hs_i is the share of population with tertiary education of region i, 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.

Indicator 6. Geographic concentration of skills

Sources and year of reference

	Source	Age of the population	Year of reference	Territorial level
Australia	ABS (Census of population and housing – Community profiles)	15 years and over	2001	3
Belgium	Eurostat New Cronos (LFS)	25-64	2001	3
Canada	Statistics Canada (Census)	25-64	2001	3
Czech Republic	Czech statistical office (Population and housing Census)	15 and over	2001	3
Denmark	Statistics Denmark (Labour Force Statistics)	25-64	2002	3
Finland	Statistics Finland	25-64	2000	3
France	INSEE (Recensement de la Population)	25 and over	1999	3
Germany	Eurostat, New Cronos	25-64	2001	3
Greece	Eurostat, New Cronos	25-64	2001	3
Hungary	KSH	7-64	2001	3
Ireland	Central Statistical Office (Census)	25-64	2002	3
Italy	Eurostat, New Cronos	25-64	2001	2
Japan	Statistics Bureau (Population census)	25-64	2000	3
Korea	NSO	25-64	2000	3
Luxembourg	Eurostat, New Cronos	25-64	2001	3
Mexico	INEGI, Censo general de la Población y Vivienda	15 and over	2000	3
Netherlands	Eurostat, New Cronos	25-64	2001	3
New Zealand	Statistics New Zealand (Census of usually resident population)	25-64	2001	3
Norway	Statistics Norway (Population and housing Census)	25-66	2001	3
Poland	Polish official statistics, Census data.	15 and over	2002	3
Portugal	INE, Recenseamento Geral da População e Habitação	15 and over	2001	3
Slovak Republic	Statistical office of the Slovak republic, Population and Housing Census	25-64	2001	3
Spain	INE, Censos de Población y Viviendas	Active population	2001	3
Sweden	Statistics Sweden, The Swedish Register of Education (UREG)	25-64	2001	3
Switzerland	RFP	25-64	2000	2
Turkey	SIS, Census of Population	25-64	2000	3
United Kingdom	ONS, Local labour force survey	25-64	2001	3
United States	US Census Bureau	25 and over	2000	3

General notes

ISCED		Duration
5	**First stage of tertiary education**	
	ISCED 5 programmes have an educational content more advanced than those offered at Levels 3 and 4. Entry to these programmes normally requires the successful completion of ISCED Level 3A or 3B or a similar qualification at ISCED Level 4A or 4B.	
5A	The minimum cumulative theoretical duration is three years. Completion of a research project or thesis may be involved. The programmes provide the level of education required for entry into a profession with high skills requirements or an advanced research programme.	Duration categories: Medium: 3 to less than 5 years; long: 5 to 6 years, very long: more than 6 years.
5B	Programmes are more practically oriented and occupationally specific than programmes at ISCED 5A and they do not prepare students for direct access to advanced research programmes. They have a minimum duration of two years full-time equivalent.	Duration categories: Short: 2 to less than 3 years; medium 3 to less than 5 years; long: 5 to 6 years; very long: more than 6 years.
6	**Second stage of tertiary education**	
	The level requires the submission of a thesis or dissertation of publishable quality which is the product of original research and represents a significant contribution to knowledge. It is not solely based on course work. It prepares recipients for faculty posts in institutions offering ISCED 5A programmes, as well as research posts in government and industry.	

The classification criteria are based on a manual issued by the OECD: OECD, *Classifying Educational Programmes: Manual for ISCED 97 Implementation in OECD Countries*, 1999.

The allocation of different levels of education and training to ISCED categories is often difficult. Although the ISCED provides guidance on which qualification and stages of education should be assigned, the classification does not fully reflect the heterogeneity of educational systems, in particular of non-academic vocational trainings, across countries.

Another source of discrepancy is the age of the population to which the data refer. The main impact of including younger or older people in the population cohort can cause biases on the educational level. For most countries, data are available for a population aged 25-64, but there are some exceptions. For Australia, Mexico, New Zealand, Poland and Portugal, data are available for a population aged 15 and over. This penalises the performance of these six countries. For Spain data are available only for the active population; in this case the effect will be the opposite and Spain will have a better educational performance than it would have if the entire population 25-64 was counted.

Country notes

Italy, Switzerland: Data follow the TL2 grid (see Regional Grids and Classification). Bigger regions tend to be more homogenous as internal disparities are averaged out.

Germany, United Kingdom: For several regions of these two countries data on educational attainment are not available. This affects the calculation of the concentration index.

Czech Republic, France, Germany, Ireland, Japan, Korea, Slovak Republic, Sweden, and United Kingdom: Since the ISCED classification does not always fully reflect the heterogeneity of educational systems for these countries; part of the population aged 25-64 has not been classified according to the ISCED categories and belongs to a column "other".

Figures

In Figure 6.2 the Geographic concentration index of the highly skilled population is defined as:

$$\sum_{i=1}^{N} \left| hs_i - a_i \right|$$

where hs_i is the share of population with tertiary education of region i, 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 1 (maximum concentration) in all countries and is suitable for international comparisons of geographic concentration.

In Figure 6.4 the Geographic concentration index of the labour force is defined as:

$$\sum_{i=1}^{N} \left| lf_i - a_i \right|$$

where lf_i is the labour force share of region i, 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.

Indicator 7. Population growth

Sources and period of reference

a) National annual population figures for the period 1996-2001 derive from the OECD.Stat reference series (main economic indicators).

b) Regional population data.

	Source	Period of reference	Territorial Level
Australia	Australian Bureau of Statistics	1996-2001	3
Austria	Eurostat, New Cronos	1996-2001	3
Belgium	Eurostat, New Cronos	1996-2001	3
Canada	Statistics Canada	1996-2001	3
Czech Republic	Eurostat, New Cronos	1996-2001	3
Denmark	Eurostat, New Cronos	1996-2001	3
Finland	Eurostat, New Cronos	1996-2001	3
France	Eurostat, New Cronos	1996-2001	3
Germany	Eurostat, New Cronos	1996-2001	3
Greece	Eurostat, New Cronos	1996-2001	3
Hungary	Eurostat, New Cronos	1996-2001	3
Iceland	Statistics Iceland	1995-2000	3
Ireland	Eurostat, New Cronos	1996-2001	3
Italy	Eurostat, New Cronos	1996-2001	3
Japan	Statistics Bureau, MIC	1996-2001	3
Korea	National Statistical Office	1996-2001	3
Luxembourg	Eurostat, New Cronos	1996-2001	3
Mexico	Inegi	1995-2000	3
Netherlands	Eurostat, New Cronos	1996-2001	3
New Zealand	Statistics New Zealand	1996-2001	3
Norway	Statistics Norway	1996-2001	3
Poland	Eurostat, New Cronos	1996-2001	3
Portugal	Eurostat, New Cronos	1996-2001	3
Slovak Republic	Eurostat, New Cronos	1996-2001	3
Spain	Eurostat, New Cronos	1996-2001	3
Sweden	Eurostat, New Cronos	1996-2001	3
Switzerland	Swiss Federal Statistical Office	1996-2001	3
Turkey	State Institute of Statistics	1995-2000	3
United Kingdom	Eurostat, New Cronos	1996-2001	3
United States	Bureau of Economic Analysis	1996-2001	3

Country notes

Australia: Population data derive from the Census of Population and Housing.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: Data refer to the average annual population based on data from the most recent census adjusted by the components of population change produced since the last census, or on population registers.

Canada: Data refer to total population excluding institutional residents. The data derive from the Census of Population (20% sample database).

Greece and the United Kingdom: Population data referring to 1996 are OECD estimates based on the trends in regional shares in the national population.

Iceland: Data refer to population as of 1 December.

Japan: Data refer to total average population.

Korea: Population data derive from resident registration at the end of the year. Population data referring to 1996 for TL3 units KR36 and KR38 are OECD Secretariat estimates based on the trend in population ratio between the two regions.

Mexico: Data refer to usually resident population

New Zealand: Data derive from the Population Census and refer to usually resident population.

Norway: Data refer to total population as of 1 January.

Poland: Data refer to population as of 31 December 2001.

Switzerland: Data refer to resident population at the end of the year.

Turkey: Data derive from the Census of Population. Population data referring to 1995 are OECD estimates based on average annual population growth rates between 1995 and 2000.

United States: Census Bureau mid-year population estimates. Estimates for 2000-02 reflect county population estimates as of April 2004.

Calculation of the indicator

Average annual population growth rate (*a*) during period *t*:

$$a = \sqrt[t]{Pt / Po} - 1$$

where *Po* is the population (number of inhabitants) in the initial year (*o*), *Pt* is the population (number of inhabitants) in the final year (*t*), *t* is the duration (number of years) of the period.

Indicator 8. Gross domestic product (GDP) growth

Sources and period of reference

a) National annual GDP data in national currency at 2000 constant prices (expenditure approach) for the period 1996-2001 were obtained from OECD Main Economic Indicators (MEI) reference series.

b) Regional GDP data.

	Source	Period of reference	Territorial level
Australia	Australian Bureau of Statistics	1996-2001	2
Austria	Eurostat, New Cronos	1996-2001	3
Belgium	Eurostat, New Cronos	1996-2001	3
Canada	Statistics Canada	1996-2001	2
Czech Republic	Eurostat, New Cronos	1996-2001	3
Denmark	Eurostat, New Cronos	1996-2001	3
Finland	Eurostat, New Cronos	1996-2001	3
France	Eurostat, New Cronos	1996-2001	3
Germany	Eurostat, New Cronos	1996-2001	3
Greece	Eurostat, New Cronos	1996-2001	3
Hungary	Eurostat, New Cronos	1996-2001	3
Ireland	Eurostat, New Cronos	1996-2001	3
Italy	Eurostat, New Cronos	1996-2001	3
Japan	Economic and Social Research Institute, Cabinet Office	1996-2001	3
Korea	National Statistical Office	1996-2001	3
Luxembourg	Eurostat, New Cronos	1996-2001	3
Mexico	INEGI	1996-2001	2
Netherlands	Eurostat, New Cronos	1996-2001	3
Norway	Norwegian Regional Accounts	1995-2000	3
Poland	Eurostat, New Cronos	1995-2000	3
Portugal	Eurostat, New Cronos	1996-2001	3
Slovak Republic	Eurostat, New Cronos	1996-2001	3
Spain	Eurostat, New Cronos	1996-2001	3
Sweden	Eurostat, New Cronos	1996-2001	3
Turkey	State Institute of Statistics	1995-2000	3
United Kingdom	Eurostat, New Cronos	1996-2001	3
United States	Bureau of Economic Analysis	1996-2001	2

Country notes

Australia: GDP in millions of AUD at current prices.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of EUR at current prices. The figures were recalculated into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies.

Canada: GDP in millions of CAD at current prices.

Japan: Real GDP in millions of JPY (1995 base year).

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. GDP data referring to 1996 for TL3 units KR36 and KR38 are OECD estimates based on the trend in GDP ratio between the two regions.

Mexico: GDP in thousands of MXN at current prices

Norway: Gross value added (GVA) data in millions of NOK at current prices.

Turkey: GDP in millions of TRL at 1987 constant prices.

United States: Data refer to total gross state product expressed in millions of current USD.

Calculation of the indicator

Average annual GDP growth rate (a) during period t:

$$a = \sqrt[t]{Yt / Yo} - 1$$

where Yo is the GDP at constant prices in the initial year (o), Yt is the GDP at constant prices in the final year (t), t is the duration (number of years) of the period.

All regional GDP figures at current prices were converted to 2000 constant prices by multiplying them by the national GDP (expenditure approach) deflator (base 2000) obtained from the OECD Main Economic Indicators (MEI) reference series.

$$Y_{r2000} = Y_{rc} \times D_{GDP2000}$$

where Y_{r2000} is the GDP of region r at constant 2000 prices, Y_{rc} is the GDP of region r at current prices, $D_{GDP2000}$ is the national GDP (expenditure approach) deflator (base 2000).

Indicator 9. Employment growth

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	1996-2001	3
Austria	Eurostat, New Cronos	1996-2001	3
Belgium	Eurostat, New Cronos	1996-2001	3
Canada	Statistics Canada	1996-2001	3
Czech Republic	Eurostat, New Cronos	1998-2000	3
Denmark	Eurostat, New Cronos	1996-2001	3
Finland	Eurostat, New Cronos	1996-2001	3
France	Eurostat, New Cronos	1996-2001	3
Germany	Eurostat, New Cronos	1996-2000	3
Greece	Eurostat, New Cronos	1996-2001	3
Hungary	Eurostat, New Cronos	1997-2000	3
Iceland	Statistics Iceland	1996-2001	2
Ireland	Eurostat, New Cronos	1996-2001	3
Italy	Eurostat, New Cronos	1996-2001	3
Japan	Statistics Bureau, MIC	1995-2000	3
Korea	National Statistical Office	1995-2000	3
Luxembourg	Eurostat, New Cronos	1996-2001	3
Mexico	Inegi	1995-2000	3
Netherlands	Eurostat, New Cronos	1996-2001	3
New Zealand	Statistics New Zealand	1996-2001	3
Norway	Statistics Norway	1995-2000	3
Poland	Eurostat, New Cronos	1998-2000	3
Portugal	Eurostat, New Cronos	1996-2001	3
Slovak Republic	Eurostat, New Cronos	1998-2001	3
Spain	Eurostat, New Cronos	1996-2001	3
Sweden	Eurostat, New Cronos	1996-2001	3
Switzerland	Swiss Federal Statistical Office	1995-2000	3
Turkey	State Institute of Statistics	1995-2000	3
United Kingdom	Eurostat, New Cronos	1998-2001	3
United States	Bureau of Labor Statistics	1996-2001	3

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74.

Canada: Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland: 1995 figure: OECD estimate based on decennial population census.

Turkey: Persons aged 12 years and over. 1995 data: OECD estimate based on decennial population census.

United States: Persons aged 16 years and over.

Calculation of the indicator

Average annual employment growth rate (*a*) during period *t*:

$$a = \sqrt[t]{Pt / Po} - 1$$

where *Po* is employment (number of employed people) in the initial year (*o*), *Pt* is employment (number of employed people) in the final year (*t*), *t* is the duration (number of years) of the period.

Indicator 10. Growth of the labour force

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	1996-2001	3
Austria	Eurostat, New Cronos	1996-2001	3
Belgium	Eurostat, New Cronos	1996-2001	3
Canada	Statistics Canada	1996-2001	3
Czech Republic	Eurostat, New Cronos	1998-2000	3
Denmark	Eurostat, New Cronos	1996-2001	3
Finland	Eurostat, New Cronos	1996-2001	3
France	Eurostat, New Cronos	1996-2001	3
Germany	Eurostat, New Cronos	1996-2000	3
Greece	Eurostat, New Cronos	1996-2001	3
Hungary	Eurostat, New Cronos	1997-2000	3
Iceland	Statistics Iceland	1996-2001	2
Ireland	Eurostat, New Cronos	1996-2001	3
Italy	Eurostat, New Cronos	1996-2001	3
Japan	Statistics Bureau, MIC	1995-2000	3
Korea	National Statistical Office	1995-2000	3
Luxembourg	Eurostat, New Cronos	1996-2001	3
Mexico	Inegi	1995-2000	3
Netherlands	Eurostat, New Cronos	1996-2001	3
New Zealand	Statistics New Zealand	1996-2001	3
Norway	Statistics Norway	1995-2000	3
Poland	Eurostat, New Cronos	1998-2000	3
Portugal	Eurostat, New Cronos	1996-2001	3
Slovak Republic	Eurostat, New Cronos	1998-2001	3
Spain	Eurostat, New Cronos	1996-2001	3
Sweden	Eurostat, New Cronos	1996-2001	3
Switzerland	Swiss Federal Statistical Office	1995-2000	3
Turkey	State Institute of Statistics	1995-2000	3
United Kingdom	Eurostat, New Cronos	1998-2001	3
United States	Bureau of Labor Statistics	1996-2001	3

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74.

Canada: Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland:[1] 1995 figure: OECD estimate based on decennial population census.

Turkey: Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

United States: Persons aged 16 years and over.

Calculation of the indicator

Average annual labour force growth rate (*a*) during period *t*:

$$a = \sqrt[t]{Pt/Po} - 1$$

where *Po* is the number of people in the labour force in the initial year (*o*), *Pt* is the number of people in the labour force in the final year (*t*), *t* is the duration (number of years) of the period.

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1. The labour force includes registered unemployed people only.

Indicator 11. Gross domestic product (GDP) per capita

Sources and year of reference

a) National GDP per capita data in USD at current purchasing power parities (PPPs) for the year 2001 were obtained from the OECD Main Economic Indicators (MEI) – reference series.

b) Regional GDP and population data.

	Source	Year of reference	Territorial Level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis	2001	2

Country notes

Australia: GDP in millions of AUD at current prices. Population data derive from the Census of Population and Housing.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies. Population data refer to the average annual population (population as of 31 December 2001 for Poland). The population is based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers.

Canada: GDP in millions of CAD at current prices. Population data refer to total population excluding institutions residents. The data derive from the Census of Population (20% sample database).

Iceland: GDP at current prices and current PPPs (in USD). Population data refer to population as of 1 December.

Japan: Real GDP in millions of JPY (1995 base year). Total average population.

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. Population data derive from resident registration at the end of the year.

Mexico: GDP in thousands of MXN at current prices. Usually resident population.

Norway: Gross value added (GVA) data in millions of NOK at current prices. Total population as of 1 January.

Turkey: GDP in millions of TRL at current prices. Population data derive from the Census of Population.

United States: Data refer to total gross state product expressed in millions of current USD. Census Bureau mid-year population estimates. Estimates for 2000-02 reflect country population estimates as of April 2004.

Calculation of the indicator

Regional disparities in GDP per capita 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, $F_i = \frac{i}{N}$; $Q_i = \dfrac{\sum_{j=1}^{i} y_j}{\sum_{j=1}^{N} y_j}$, and y_i is GDP per capita in region i.

The index ranges between 0 (perfect equality: GDP per capita is the same in all regions) and 1 (perfect inequality: GDP per capita is nil in all region except one).

Indicator 12. Average labour productivity

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office; Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts; Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis; Bureau of Labor Statistics	2001	2

Country notes

Australia: GDP in millions of AUD at current prices. Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies. Persons aged 15-74.

Canada: GDP in millions of CAD at current prices. Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Japan: Persons aged 15 years and over. Real GDP in millions of JPY (1995 base year).

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. Persons aged 15 years and over.

Mexico: GDP in thousands of MXN at current prices. Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

Norway: Gross value added (GVA) data in millions of NOK at current prices. Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Turkey: GDP in millions of TRL at current prices. Persons aged 12 years and over. 1995 data: OECD estimate based on decennial population census.

United States: Data refer to total gross state product expressed in millions of current USD. Persons aged 16 years and over.

Calculation of the indicator

Regional disparities in average labour productivity are measured by an unweighted Gini index. The index is defined as:

$$GINI = \frac{2}{N-1} * \sum_{i=1}^{N-1} (F_i - Q_i)$$

where N is the number of regions, $F_i = \dfrac{i}{N}$; $Q_i = \dfrac{\sum_{j=1}^{i} y_j}{\sum_{j=1}^{N} y_j}$, and y_i is labour productivity in region i.

The index ranges between 0 (perfect equality: productivity is the same in all regions) and 1 (perfect inequality: productivity is nil in all region except one).

Indicator 13. Unemployment rate

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	2
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	INEGI	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74. Persons who found a job to start within a period of at most three months need not have been looking for work to be classified as unemployed.

Canada: Persons aged 15 years and over, excluding institutional residents. Persons who had definite arrangements to start a new job in four weeks or less need not have been looking for work to be classified as unemployed. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland: Registered unemployed.

Turkey: Persons aged 12 years and over.

United States: Persons aged 16 years and over. Persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work to be classified as unemployed.

Calculation of the indicator

Regional disparities in unemployment rates are measured by an unweighted Gini index. The index is defined as:

$$GINI = \frac{2}{N-1} * \sum_{i=1}^{N-1} (F_i - Q_i)$$

where N is the number of regions, $F_i = \dfrac{i}{N}$; $Q_i = \dfrac{\sum_{j=1}^{i} u_j}{\sum_{j=1}^{N} u_j}$, and u_i is the unemployment rate of region i.

The index ranges between 0 (perfect equality: unemployment rates are the same in all regions) and 1 (perfect inequality: unemployment rates are nil in all region except one).

Indicator 14. Participation rates

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	2
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	Inegi	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: The labour force comprises persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: The labour force comprises persons aged 15-74.

Canada: The labour force comprises persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: The labour force comprises person aged 16 years and over.

Japan: The labour force comprises person aged 15 years and over.

Korea: The labour force comprises person aged 15 years and over.

Mexico: The labour force comprises person aged 12 years and over.

New Zealand: The labour force comprises civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: The labour force comprises person aged 16-74 years.

Portugal: The labour force comprises person aged 15 years and over.

Switzerland: The labour force includes registered unemployed people only.

Turkey: The labour force comprises person aged 12 years and over.

United States: The labour force comprises person aged 16 years and over.

Calculation of the indicator

Regional disparities in participation rates 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, $F_i = \dfrac{i}{N}$; $Q_i = \dfrac{\sum_{j=1}^{i} pr_j}{\sum_{j=1}^{N} pr_j}$, and pr_i is the participation rate of region i.

The index ranges between 0 (perfect equality: participation rates are the same in all regions) and 1 (perfect inequality: participation rates are nil in all region except one).

Indicator 15. The factors of regional competitiveness

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office; Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts; Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis; Bureau of Labor Statistics	2001	2

Country notes

Australia: GDP in millions of AUD at current prices. Population data derive from the Census of Population and Housing.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies. Population data refer to the average annual population (population as of 31 December 2001 for Poland). The population is based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers.

Canada: GDP in millions of CAD at current prices. Population data refer to total population excluding institutions residents. The data derive from the Census of Population (20% sample database).

Iceland: GDP at current prices and current PPPs (in USD). Population data refer to population as of 1 December.

Japan: Real GDP in millions of JPY (1995 base year). Total average population.

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. Population data derive from resident registration at the end of the year.

Mexico: GDP in thousands of MXN at current prices. Usually resident population.

Norway: Gross value added (GVA) data in millions of NOK at current prices. Total population as of 1 January.

Turkey: GDP in millions of TRL at current prices. Population data derive from the Census of Population.

United States: Data refer to total gross state product expressed in millions of current USD. Census Bureau mid-year population estimates. Estimates for 2000-02 reflect country population estimates as of April 2004.

Breakdown of GDP per capita

GDP per capita (in logarithms) in region i can be written as:

1. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

Labour force at the workplace is defined as:

2. $LFW_i = LFR_i + NC_i$

where NC_i indicates net commuting to region i.

In theory, net commuting is equal to the difference between employment at the workplace and employment at the place of residence. In practice, however, data drawn from two different sources (regional accounts for employment at the workplace and labour force survey for employment at the place of residence) will be affected by their different sampling. This sampling error is revealed by the large difference between national employment at the workplace and national employment at the place of residence: in fact, assuming that international commuting is negligible, national employment at the workplace should equal national employment at the place of residence. At the level of each region, therefore, the difference between employment at the workplace and employment at the place of residence will measure net commuting plus the sampling error due to the use of different sources.

In order to correct for the sampling error, net commuting has been computed in the following way. Let $E(S)$, $E(A)$ and E be defined as employment measured by labour force survey, employment measured by regional account and the true value of employment. Denoting EW as employment at the workplace and ER as employment a the place of residence, we obtain:

3. $\dfrac{EW(A)_i}{EW(A)} = \dfrac{EW_i}{E}$ and

4. $\dfrac{ER(S)_i}{ER(S)} = \dfrac{ER_i}{E}$

where the absence of a subscript indicates total national employment. Subtracting equation 4 from equation 3, we obtain:

5. $\dfrac{EW(A)_i}{EW(A)} - \dfrac{ER(S)_i}{ER(S)} = \dfrac{EW_i}{E} - \dfrac{ER_i}{E} = \dfrac{NC_i}{E}$

Equation 5 therefore provides a correction for the sampling error. It follows that:

6. $\dfrac{LFW(A)_i}{EW(A)} = \dfrac{LFW_i}{E} = \dfrac{LFR(S)_i}{ER(S)} + \dfrac{EW(A)_i}{EW(A)} - \dfrac{ER(S)_i}{ER(S)} = \dfrac{LFR_i}{E} - \dfrac{NC_i}{E}$

so that equation 1 can be computed as:

7. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i / E}{LFW_i / E} + \dfrac{LFW_i / E}{LFR_i / E} + \dfrac{LFR_i}{P_i}$

or, equivalently,

GDP per capita = Productivity + Employment rate + Commuting rate + Activity rate

Therefore, the difference in GDP per capita (in logarithms) between a given region and the country average is equal to:

$$\begin{matrix} \text{Difference in} \\ \text{GDP per capita} \end{matrix} = \begin{matrix} \text{Difference in} \\ \text{productivity} \end{matrix} + \begin{matrix} \text{Difference in} \\ \text{employment rates} \end{matrix} + \begin{matrix} \text{Commuting} \\ \text{rate} \end{matrix} + \begin{matrix} \text{Difference in} \\ \text{activity rates} \end{matrix}$$

Breakdown of differences in productivity

Average labour productivity in region i is equal to a weighted average of sectoral productivity:

8. $\dfrac{GDP_i}{EW_i} = \sum_j \dfrac{EW_{ij}}{EW_i} * \dfrac{GDP_{ij}}{EW_{ij}}$

where *j* indicates the sector.

The difference from the average productivity can be broken down as:

9. $\left(\dfrac{GDP_i}{EW_i} - \dfrac{GDP}{EW} \right) = \sum_j \left(\dfrac{EW_{ij}}{EW_i} - \dfrac{EW_j}{EW} \right) * \dfrac{GDP_j}{EW_j} + \sum_j \dfrac{EW_{ij}}{EW_i} * \left(\dfrac{GDP_{ij}}{EW_{ij}} - \dfrac{GDP_j}{EW_j} \right)$

The first term on the right-hand side of the equation measures the proportion of the difference in productivity due to regional specialisation.

Breakdown of differences in employment rates

The employment rate in region i is equal to a weighted average of employment rates by educational attainment:

10. $\dfrac{EW_i}{LFW_i} = \sum_j \dfrac{LFW_{ij}}{LFW_i} * \dfrac{EW_{ij}}{LFW_{ij}}$

where *j* indicates educational attainment.

The difference from the average in employment rate can be broken down as:

11. $\left(\dfrac{EW_i}{LFW_i} - \dfrac{EW}{LFW} \right) = \sum_j \left(\dfrac{LFW_{ij}}{LFW_i} - \dfrac{LFW_j}{LFW} \right) * \dfrac{EW_j}{LFW_j} + \sum_j \dfrac{LFW_{ij}}{LFW_i} * \left(\dfrac{EW_{ij}}{LFW_{ij}} - \dfrac{EW_j}{LFW_j} \right)$

The first term on the right-hand side of the equation measures the proportion of the difference in employment rates due to the skills profile of the regional labour force.

Breakdown of differences in activity rates

The activity rate in region i is equal to a weighted average of activity rates by age groups:

12. $\dfrac{LFR_i}{P_i} = \sum_j \dfrac{P_{ij}}{P_i} * \dfrac{LFR_{ij}}{P_{ij}}$

where *j* indicates the age group.

The difference from the average activity rate can be broken down as:

13. $\left(\dfrac{LFR_i}{P_i} - \dfrac{LFR}{P} \right) = \sum_j \left(\dfrac{P_{ij}}{P_i} - \dfrac{P_j}{P} \right) * \dfrac{LFR_j}{P_j} + \sum_j \dfrac{P_{ij}}{P_i} * \left(\dfrac{LFR_{ij}}{P_{ij}} - \dfrac{LFR_j}{P_j} \right)$

The first term on the right-hand side of the equation measures the proportion of the difference in activity rates due to the age profile of the regional population.

Indicator 16. Regional differences in GDP per capita accounted by differences in average labour productivity

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	2

Country notes

Australia: GDP in millions of AUD at current prices. Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies. Persons aged 15-74.

Canada: GDP in millions of CAD at current prices. Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Japan: Persons aged 15 years and over. Real GDP in millions of JPY (1995 base year).

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. Persons aged 15 years and over.

Mexico: GDP in thousands of MXN at current prices. Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

Norway: Gross value added (GVA) data in millions of NOK at current prices. Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Turkey: GDP in millions of TRL at current prices. Persons aged 12 years and over. 1995 data: OECD estimate based on decennial population census.

United States: Data refer to total gross state product expressed in millions of current USD. Persons aged 16 years and over.

Calculation of the indicator

GDP per capita (in logarithms) in region i can be written as:

1. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

Average labour productivity in region i is equal to a weighted average of sectoral productivity:

2. $\dfrac{GDP_i}{EW_i} = \sum_j \dfrac{EW_{ij}}{EW_i} * \dfrac{GDP_{ij}}{EW_{ij}}$

where j indicates the sector.

The difference from the average productivity can be broken down as:

3. $\left(\dfrac{GDP_i}{EW_i} - \dfrac{GDP}{EW} \right) = \sum_j \left(\dfrac{EW_{ij}}{EW_i} - \dfrac{EW_j}{EW} \right) * \dfrac{GDP_j}{EW_j} + \sum_j \dfrac{EW_{ij}}{EW_i} * \left(\dfrac{GDP_{ij}}{EW_{ij}} - \dfrac{GDP_j}{EW_j} \right)$

The second term on the right-hand side of equation 3 measures the differences in GDP per capita due to differences in average labour productivity, adjusted for industry specialisation (first term on the right-hand side of equation 3).

Indicator 17. Regional differences in GDP per capita that are accounted for by differences in industry specialisation

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office; Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts; Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis; Bureau of Labor Statistics	2001	2

Country notes

Australia: GDP in millions of AUD at current prices. Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovak Republic, Spain, Sweden and the United Kingdom: GDP data were initially obtained in millions of euros at current prices. The OECD Secretariat recalculated the figures into millions of national currency units (including euro zone former currencies) at current prices by utilising the annual average exchange rates between the euro and the national currencies. Persons aged 15-74.

Canada: GDP in millions of CAD at current prices. Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Japan: Persons aged 15 years and over. Real GDP in millions of JPY (1995 base year).

Korea: Gross regional domestic product in millions of KRW at 1995 constant prices. Persons aged 15 years and over.

Mexico: GDP in thousands of MXN at current prices. Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

Norway: Gross value added (GVA) data in millions of NOK at current prices. Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Turkey: GDP in millions of TRL at current prices. Persons aged 12 years and over. 1995 data: OECD estimate based on decennial population census.

United States: Data refer to total gross state product expressed in millions of current USD. Persons aged 16 years and over.

Calculation of the indicator

GDP per capita (in logarithms) in region i can be written as:

1. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

Average labour productivity in region i is equal to a weighted average of sectoral productivity:

2. $\dfrac{GDP_i}{EW_i} = \sum_j \dfrac{EW_{ij}}{EW_i} * \dfrac{GDP_{ij}}{EW_{ij}}$

where j indicates the sector.

The difference from the average productivity can be broken down as:

3. $\left(\dfrac{GDP_i}{EW_i} - \dfrac{GDP}{EW} \right) = \sum_j \left(\dfrac{EW_{ij}}{EW_i} - \dfrac{EW_j}{EW} \right) * \dfrac{GDP_j}{EW_j} + \sum_j \dfrac{EW_{ij}}{EW_i} * \left(\dfrac{GDP_{ij}}{EW_{ij}} - \dfrac{GDP_j}{EW_j} \right)$

The first term on the right-hand side of equation 3 measures the difference in GDP per capita accounted by differences in regional specialisation.

Indicator 18. Regional differences in GDP per capita accounted by differences in skills

Sources and year of reference

	Source	Age of the population	Year of reference	Territorial level
Australia	ABS (Census of population and housing – Community profiles)	15 years and over	2001	3
Belgium	Eurostat New Cronos (LFS)	25-64	2001	3
Canada	Statistics Canada (Census)	25-64	2001	3
Czech Republic	Czech statistical office (population and housing census)	15 and over	2001	3
Denmark	Statistics Denmark (labour force statistics)	25-64	2002	3
Finland	Statistics Finland	25-64	2000	3
France	INSEE (Recensement de la population)	25 and over	1999	3
Germany	Eurostat, New Cronos	25-64	2001	3
Greece	Eurostat, New Cronos	25-64	2001	3
Hungary	KSH	7-64	2001	3
Ireland	Central Statistical Office (census)	25-64	2002	3
Italy	Eurostat, New Cronos	25-64	2001	2
Japan	Statistics Bureau (population census)	25-64	2000	3
Korea	NSO	25-64	2000	3
Luxembourg	Eurostat, New Cronos	25-64	2001	3
Mexico	INEGI, Censo general de la Población y Vivienda	15 and over	2000	3
Netherlands	Eurostat, New Cronos	25-64	2001	3
New Zealand	Statistics New Zealand (census of usually resident population)	25-64	2001	3
Norway	Statistics Norway (population and housing census)	25-66	2001	3
Poland	Polish official statistics, census data.	15 and over	2002	3
Portugal	INE, Recenseamento Geral da População e Habitação	15 and over	2001	3
Slovak Republic	Statistical office of the Slovak Republic, population and housing census	25-64	2001	3
Spain	INE, Censos de Población y Viviendas	Active population	2001	3
Sweden	Statistics Sweden, The Swedish Register of Education (UREG)	25-64	2001	3
Switzerland	RFP	25-64	2000	2
Turkey	SIS, census of population	25-64	2000	3
United Kingdom	ONS, local labour force survey	25-64	2001	3
United States	US Census Bureau	25 and over	2000	3

General notes

Skills are measured as educational attainment (population with tertiary level education) and are classified according to the international standard qualification for education (ISCED 1997), which includes seven educational levels from 0 to 6. ISCED Levels 5 and 6 refer to university education.

ISCED		Duration
5	**First stage of tertiary education**	
	ISCED 5 programmes have an educational content more advanced than those offered at Levels 3 and 4. Entry to these programmes normally requires the successful completion of ISCED Level 3A or 3B or a similar qualification at ISCED Level 4A or 4B.	
5A	The minimum cumulative theoretical duration is three years. Completion of a research project or thesis may be involved. The programmes provide the level of education required for entry into a profession with high skills requirements or an advanced research programme.	Duration categories: medium: 3 to less than 5 years; long: 5 to 6 years, very long: more than 6 years.
5B	Programmes are more practically oriented and occupationally specific than programmes at ISCED Level 5A and do not prepare students for direct access to advanced research programmes. They have a minimum duration of two years full-time equivalent.	Duration categories: short: 2 to less than 3 years; medium 3 to less than 5 years; long: 5 to 6 years; very long: more than 6 years.
6	**Second stage of tertiary education**	
	This level requires the submission of a thesis or dissertation of publishable quality which is the product of original research and represents a significant contribution to knowledge. It is not solely based on course work. It prepares recipients for faculty posts in institutions offering programmes at ISCED Level 5A , as well as research posts in government and industry.	

The classification criteria are based on a manual issued by the OECD: OECD, *Classifying Educational Programmes: Manual for ISCED 97 Implementation in OECD Countries*, 1999.

The allocation of different levels of education and training to ISCED categories is often difficult. Although ISCED provides guidance on which qualification and stages of education should be assigned, the classification does not fully reflect the heterogeneity of educational systems, in particular of non-academic vocational trainings, across countries.

Another source of discrepancy is the age of the population to which the data refer. The main impact of including younger or older people in the population cohort can cause biases in the level of education. For most countries, data are available for population aged 25-64, but there are some exceptions. For Australia, Mexico, New Zealand, Poland and Portugal, data are available for population aged 15 and over. This penalises the performance of these six countries. For Spain data are available only for the active population; in this case the effect will be the opposite and Spain will have better educational performance than it would have if the entire population 25-64 was counted.

Country notes

Germany, United Kingdom: For several regions of these two countries data on educational attainment are not available.

Czech Republic, France, Germany, Ireland, Japan, Korea, Slovak Republic, Sweden, and United Kingdom: Since the ISCED classification does not always fully reflect the heterogeneity of educational systems for these countries; part of the population aged 25-64 has not been classified according to the ISCED categories and belongs to a column "other".

Calculation of the indicator

GDP per capita (in logarithms) in region i can be written as:

1. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

The employment rate in region i is equal to a weighted average of employment rates by educational attainment:

$$2. \quad \frac{E_i}{LF_i} = \sum_j \frac{LF_{ij}}{LF_i} * \frac{E_{ij}}{LF_{ij}}$$

where j indicates educational attainment.

The difference from the benchmark – either the national or the regional average employment rate – can be broken down as:

$$3. \quad \left(\frac{E_i}{LF_i} - \frac{E}{LF}\right) = \sum_j \left(\frac{LF_{ij}}{LF_i} - \frac{LF_j}{LF}\right) * \frac{E_j}{LF_j} + \sum_j \frac{LF_{ij}}{LF_i} * \left(\frac{E_{ij}}{LF_{ij}} - \frac{E_j}{LF_j}\right)$$

The first term on the right-hand side of equation 3 measures the differences in GDP per capita accounted by the educational attainments of the regional labour force.

The indicator is computed under the assumption that the distribution of the labour force by educational attainment is equal to the distribution of the sampled population.

Indicator 19. Regional differences in GDP per capita accounted by differences in employment rates

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Economic and Social Research Institute, Cabinet Office; Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Norwegian Regional Accounts; Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Economic Analysis; Bureau of Labor Statistics	2001	2

Country notes

Australia: Persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: Persons aged 15-74.

Canada: Persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: Person aged 16 years and over.

Japan: Persons aged 15 years and over.

Korea: Persons aged 15 years and over.

Mexico: Persons aged 12 years and over. 1995 figure: OECD estimate based on decennial population census.

New Zealand: Civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: Population aged 16-74 years.

Portugal: Persons aged 15 years and over.

Switzerland: 1995 figure: OECD estimate based on decennial population census.

Turkey: Persons aged 12 years and over. 1995 data: OECD estimate based on decennial population census.

United States: Persons aged 16 years and over.

Calculation of the indicator

GDP per capita (in logarithms) in region *i* can be written as:

1. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

where *P*, *EW*, *LFW* and *LFR* stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

The employment rate in region *i* is equal to a weighted average of employment rates by educational attainment:

2. $\dfrac{E_i}{LF_i} = \sum_j \dfrac{LF_{ij}}{LF_i} * \dfrac{E_{ij}}{LF_{ij}}$

where *j* indicates educational attainment.

The difference from the benchmark – either the national or the regional average employment rate – can be broken down as:

3. $\left(\dfrac{E_i}{LF_i} - \dfrac{E}{LF} \right) = \sum_j \left(\dfrac{LF_{ij}}{LF_i} - \dfrac{LF_j}{LF} \right) * \dfrac{E_j}{LF_j} + \sum_j \dfrac{LF_{ij}}{LF_i} * \left(\dfrac{E_{ij}}{LF_{ij}} - \dfrac{E_j}{LF_j} \right)$

The second term on the right-hand side of equation 3 measures the regional differences in GDP per capita that is accounted for by employment rates, adjusted for differences in educational attainment (first term on the right-hand side of equation 3).

Indicator 20. Regional differences in GDP per capita accounted by net commuting inflows

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	2
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	2
Czech Republic	Eurostat, New Cronos	2001	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2001	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2001	3
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2001	3
Korea	National Statistical Office	2001	3
Mexico	INEGI	2000	2
Netherlands	Eurostat, New Cronos	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	2

Calculation of the indicator

GDP per capita (in logarithms) in region i can be written as:

1. $$\frac{GDP_i}{P_i} = \frac{GDP_i}{EW_i} + \frac{EW_i}{LFW_i} + \frac{LFW_i}{LFR_i} + \frac{LFR_i}{P_i}$$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

Labour force at the workplace is defined as:

2. $LFW_i = LFR_i + NC_i$

where NC_i indicates net commuting to region i.

In theory, net commuting is equal to the difference between employment at the workplace and employment at the place of residence. In practice, however, data drawn from two different sources (regional accounts for employment at the workplace and labour force survey for employment at the place of residence) will be affected by their different sampling. This sampling error is revealed by the large difference between national employment at the workplace and national employment at the place of residence: in fact, assuming that international commuting is negligible, national employment at the workplace should equal national employment at the place of residence. At the level of each

region, therefore, the difference between employment at the workplace and employment at the place of residence will measure net commuting plus the sampling error due to the use of different sources.

In order to correct for the sampling error, net commuting has been computed in the following way. Let $E(S)$, $E(A)$ and E be defined as employment measured by labour force survey, employment measured by regional account and true value of employment. Denoting EW as employment at the workplace and ER as employment at place of residence, we obtain:

3. $\dfrac{EW(A)_i}{EW(A)} = \dfrac{EW_i}{E}$ and

4. $\dfrac{ER(S)_i}{ER(S)} = \dfrac{ER_i}{E}$

where the absence of a subscript indicates total national employment. Subtracting equation 4 from equation 3, we obtain:

5. $\dfrac{EW(A)_i}{EW(A)} - \dfrac{ER(S)_i}{ER(S)} = \dfrac{EW_i}{E} - \dfrac{ER_i}{E} = \dfrac{NC_i}{E}$

Equation 5 therefore provides a correction for the sampling error. It follows that:

6. $\dfrac{LFW(A)_i}{EW(A)} = \dfrac{LFW_i}{E} = \dfrac{LFR(S)_i}{ER(S)} + \dfrac{EW(A)_i}{EW(A)} - \dfrac{ER(S)_i}{ER(S)} = \dfrac{LFR_i}{E} - \dfrac{NC_i}{E}$

so that equation 1 can be computed as:

7. $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i / E}{LFW_i / E} + \dfrac{LFW_i / E}{LFR_i / E} + \dfrac{LFR_i}{P_i}$ or $\dfrac{GDP_i}{P_i} = \dfrac{GDP_i}{EW_i} + \dfrac{EW_i}{LFW_i} + \dfrac{LFW_i}{LFR_i} + \dfrac{LFR_i}{P_i}$

Indicator 21. Regional differences in GDP per capita accounted by activity rates

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	2
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	INEGI	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: The labour force comprises persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: The labour force comprises persons aged 15-74.

Canada: The labour force comprises persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: The labour force comprises persons aged 16 years and over.

Japan: The labour force comprises persons aged 15 years and over.

Korea: The labour force comprises persons aged 15 years and over.

Mexico: The labour force comprises persons aged 12 years and over.

New Zealand: The labour force comprises civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: The labour force comprises persons aged 16-74 years.

Portugal: The labour force comprises persons aged 15 years and over.

Switzerland: The labour force includes registered unemployed people only.

Turkey: The labour force comprises persons aged 12 years and over.

United States: The labour force comprises persons aged 16 years and over.

Calculation of the indicator

GDP per capita (in logarithms) in region i can be written as:

1. $$\frac{GDP_i}{P_i} = \frac{GDP_i}{EW_i} + \frac{EW_i}{LFW_i} + \frac{LFW_i}{LFR_i} + \frac{LFR_i}{P_i}$$

where P, EW, LFW and LFR stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

The activity rate in region i is equal to a weighted average of activity rates by age groups:

2. $$\frac{LFR_i}{P_i} = \sum_j \frac{P_{ij}}{P_i} * \frac{LFR_{ij}}{P_{ij}}$$

where j indicates the age group.

The difference from the average activity rate can be broken down as:

3. $$\left(\frac{LFR_i}{P_i} - \frac{LFR}{P} \right) = \sum_j \left(\frac{P_{ij}}{P_i} - \frac{P_j}{P} \right) * \frac{LFR_j}{P_j} + \sum_j \frac{P_{ij}}{P_i} * \left(\frac{LFR_{ij}}{P_{ij}} - \frac{LFR_j}{P_j} \right)$$

The second term on the right-hand side of equation 3 measures the difference in GDP per capita that is accounted for by differences in activity rates, adjusted for the age profile of the population (first term on the right-hand side of equation 3).

Indicator 22. Regional differences in GDP per capita accounted for by ageing

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Australian Bureau of Statistics	2001	3
Austria	Eurostat, New Cronos	2001	3
Belgium	Eurostat, New Cronos	2001	3
Canada	Statistics Canada	2001	3
Czech Republic	Eurostat, New Cronos	2000	3
Denmark	Eurostat, New Cronos	2001	3
Finland	Eurostat, New Cronos	2001	3
France	Eurostat, New Cronos	2001	3
Germany	Eurostat, New Cronos	2000	3
Greece	Eurostat, New Cronos	2001	3
Hungary	Eurostat, New Cronos	2000	3
Iceland	Statistics Iceland	2001	2
Ireland	Eurostat, New Cronos	2001	3
Italy	Eurostat, New Cronos	2001	3
Japan	Statistics Bureau, MIC	2000	3
Korea	National Statistical Office	2000	3
Luxembourg	Eurostat, New Cronos	2001	3
Mexico	INEGI	2000	3
Netherlands	Eurostat, New Cronos	2001	3
New Zealand	Statistics New Zealand	2001	3
Norway	Statistics Norway	2000	3
Poland	Eurostat, New Cronos	2000	3
Portugal	Eurostat, New Cronos	2001	3
Slovak Republic	Eurostat, New Cronos	2001	3
Spain	Eurostat, New Cronos	2001	3
Sweden	Eurostat, New Cronos	2001	3
Switzerland	Swiss Federal Statistical Office	2000	3
Turkey	State Institute of Statistics	2000	3
United Kingdom	Eurostat, New Cronos	2001	3
United States	Bureau of Labor Statistics	2001	3

Country notes

Australia: The labour force comprises persons aged 15 years and over.

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Slovak Republic, Spain, Sweden and the United Kingdom: The labour force comprises persons aged 15-74.

Canada: The labour force comprises persons aged 15 years and over, excluding institutional residents. Data are from the Census of Population (20% sample database).

Iceland: The labour force comprises persons aged 16 years and over.

Japan: The labour force comprises persons aged 15 years and over.

Korea: The labour force comprises persons aged 15 years and over.

Mexico: The labour force comprises persons aged 12 years and over.

New Zealand: The labour force comprises civilian non-institutionalised usually resident New Zealand; population aged 15 and over.

Norway: The labour force comprises persons aged 16-74 years.

Portugal: The labour force comprises persons aged 15 years and over.

Switzerland: The labour force includes registered unemployed people only.

Turkey: The labour force comprises persons aged 12 years and over.

United States: The labour force comprises persons aged 16 years and over.

Calculation of the indicator

GDP per capita (in logarithms) in region *i* can be written as:

1. $$\frac{GDP_i}{P_i} = \frac{GDP_i}{EW_i} + \frac{EW_i}{LFW_i} + \frac{LFW_i}{LFR_i} + \frac{LFR_i}{P_i}$$

where *P*, *EW*, *LFW* and *LFR* stand, respectively, for population, employment at the workplace, labour force at the workplace and labour force at the place of residence.

The activity rate in region *i* is equal to a weighted average of activity rates by age groups:

2. $$\frac{LFR_i}{P_i} = \sum_j \frac{P_{ij}}{P_i} * \frac{LFR_{ij}}{P_{ij}}$$

where *j* indicates the age group.

The difference from the average activity rate can be broken down as:

3. $$\left(\frac{LFR_i}{P_i} - \frac{LFR}{P}\right) = \sum_j \left(\frac{P_{ij}}{P_i} - \frac{P_j}{P}\right) * \frac{LFR_j}{P_j} + \sum_j \frac{P_{ij}}{P_i} * \left(\frac{LFR_{ij}}{P_{ij}} - \frac{LFR_j}{P_j}\right)$$

The first term on the right-hand side of equation 3 measures the regional differences in GDP per capita accounted by the age profile of the population.

Indicator 23. Accessibility: distance in time from a major centre

Definition

City is defined as a large locality of a country (United Nations, International Merchandise Trade Statistics – Concepts and Definitions. Series F, No. 52, Rev. 2, para. 2.51 (United Nations publication, Sales No. E.98.XVII.16).

Urban Agglomeration comprises the city or town and also the suburban fringe or thickly settled territory lying outside, but adjacent to, its boundaries. A single large urban agglomeration may comprise several cities or towns and their suburban fringes (United Nations. Principles and Recommendations for Population and Housing Censuses, Revision 1. Series M, No. 67, Rev. 1, para. 2.51 (United Nations publication, Sales No. E.98.XVII.1).

Methodology

Choice of cities and urban agglomeration

In order to make a selection of major centres from which to calculate the distance in time to peripheral regions, the population threshold was generally established at a minimum of 300 000 for cities and a minimum of 500 000 for urban agglomerations (time/distance for a region hosting a centre is therefore nil). The thresholds have been calculated on the basis of the 1998 *UN Demographic Yearbook* data for cities with more than 100 000 inhabitants.

Time-distance calculation

To calculate the distance in time for European countries, the Eurostat Matrix was used (weighted distance-time by road and by rail). The time-distance to go through a major centre (to go from the city limit to the centre) varies according to the size of the centre or the agglomeration (centres < 1 000 000, 35 minutes; centres 1-2 million, 40 minutes; centres 2-3 million, 45 minutes; centres 3-4 million, 50 minutes; centres 4-5 million, 55 minutes; centres 5-6 million, 60 minutes; centres 6-8 million, 65 minutes; centres 8-10 million, 70 minutes; centres > 10 million, 75 minutes).

Time-distances for Australia, New Zealand, Canada, Japan, Korea, Mexico and Turkey were measured with a cartographic work (GIS software). A measure of speed (km/h) was used according to the type of communication, motorway (90 km/h), national road (60 km/h), maritime transport (35 km/h).

Therefore:

(km motorway × 90) + (km national road × 60) + (km maritime transport × 35) = ^{time}/road.

Owing to lack of information, ^{time}/rail has not been taken into consideration for non-European countries (for Japan, it was possible to constitute a precise temporal relation between towns with the help of the train timetable but it was decided to not take rail into account).

For the United States distances were calculated with the help of the *Zip Code Distance Wizard* software. Linear distances were calculated from each county seat (city hall) to the closest major centre (city hall). Time-distances were then calculated taking 75 km/h as the average speed of motorways and national road (about 45 miles per hour). On the map, which is presented at Bureau of Economic Analysis (BEA) economic areas level, an average distance to the major centre was calculated for the counties belonging to an economic area.

The calculations for this variable were done in 2001 (2004 for the United States) but data on population come from the 1998 *UN Demographic Yearbook*.

Country notes

Australia, Poland: The population threshold for cities is 400 000 inhabitants.

France: The population threshold for cities is 250 000 inhabitants, the population threshold for urban agglomeration is 450 000 inhabitants.

Iceland: The population threshold for Cities and urban agglomeration is 100 000 inhabitants.

Ireland: Belfast is included among the selected urban units > 300 000 although it has 297 300 inhabitants.

Italy: The population threshold for urban agglomeration is 300 000 inhabitants, Venice is included among the selected urban units > 300 000 although it has 297 743 inhabitants.

Japan: The population threshold for cities is 800 000 inhabitants.

Korea: The population threshold for cities is 1 million inhabitants.

Luxembourg: the population threshold for cities is 100 000 inhabitants.

Mexico: The population threshold for urban agglomeration is 800 000 inhabitants.

Turkey, United States: The population threshold for cities is 500 000 inhabitants, the population threshold for urban agglomerations is 800 000 inhabitants.

Figures

Figure 23.1: Maximum value of x_c – where x is the time/distance in country c.

Figure 23.2: Average time/distance in regions of the same type (predominantly urban, intermediate, predominantly rural, see "Regional Grids and Classification").

$$\overline{x}_{t_c} = \frac{1}{n} \sum_{i=1}^{n} x_{t_c}$$

where $\overline{x}_{t_c}$ is the average time-distance in regions of type t in country c, x_{t_c} is the time-distance in regions of type t in country c, n is the number of regions of type t in country c.

Indicator 24. Home ownership

Definition

The person whose name figures in the real property taxation register is considered the owner. In the population register, the address of the owner has to correspond with the address of the dwelling owned. In this case, the dwelling is considered to be occupied by the owner. A dwelling is considered owned either if it is fully owned or being purchased.

The indicator is obtained by dividing the number of dwellings inhabited by the owner by the total number of occupied dwellings.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	Census, Basic community profiles	2001	3
Austria	Statistik Austria	2001	3
Canada	Census of population	1996	3
Czech Republic	Census	2001	3
Denmark	Statistics Denmark	2001	3
Finland	Statistics Finland	2002	3
France	INSEE Census	1999	3
Greece	Statistics Greece, Census	2001	3
Ireland	Statistics Ireland, Census	2002	3
Italy	General census of population and housing	2001	3
Japan	Housing and land survey	1998	3
Korea	NSO	2000	3
Mexico	INEGI Census	2000	3
Netherlands	Statistics Netherlands, Census	2001	3
New Zealand	Statistics New Zealand, Census	2001	3
Norway	Statistics Norway	2001	3
Poland	Population and Housing Census	2002	3
Portugal	INE Census, definitive results	2001	3
Slovak Republic	Population and Housing Census	2001	3
Spain	INE	2001	3
Switzerland	RF	2000	3
Turkey	Census of Population, SIS	2001	3
United Kingdom	NSO, Census (England and Wales)	2001	2
United States	Census Bureau	2001	3

Country notes

Australia: Homes being purchased under a rent/buy scheme not included in owned accommodations.

Greece, Netherlands, Japan, Turkey: The percentage of occupied dwellings is the ratio of dwellings inhabited by the owner to the total number of dwellings (not the total number of occupied dwellings).

Poland: Data concern permanently occupied dwellings.

Calculation of the indicator

$$HOR_i = \frac{n_i}{N_i} \times 1000$$

where HOR_i is the home ownership rate of region i, n_i is the number of dwellings occupied by the owner in region i, N_i is the total number of occupied dwellings in region i.

Figures

In Figure 24.1 this rate is reported as percentage of the national rate $= \dfrac{HOR_i}{HOR_c}$

where HOR_c is the home ownership rate of country c.

In Figure 24.2 a rate is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification") which is reported as a percentage of the national rate $= \dfrac{HOR_t}{HOR_c}$

where HOR_t is the number of dwellings occupied by the owner in region of type t.

Indicator 25. Enrolment in tertiary education

Definition

Total enrolment in all types of schools and education institutions, including public, private and all other institutions that provide advanced (tertiary-level) organised educational programmes (ISCED 5-6; see OECD, *Classifying Educational Programmes, ISCED Implementation in OECD Countries*, OECD, 1999) regardless of age.

The indicator is calculated by dividing the number of students enrolled in tertiary education by the total population.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	ABS Census, Basic Community Profile	2001	2
Austria	Statistik Austria	2001	2
Belgium	Eurostat, New Cronos	2001	2
Canada	Statistics Canada	1999-2000	2
Denmark	Statistics Denmark	2001	2
Finland	Statistics Finland	2000	2
France	Eurostat, New Cronos	2001	2
Germany	Eurostat, New Cronos	2001	2
Greece	Eurostat, New Cronos	1999	2
Hungary	KSH – MRSTAR	2001	2
Iceland	Statistics Iceland Student Register	2002-2003	2
Ireland	Eurostat, New Cronos	2001	2
Italy	Eurostat, New Cronos	2001	2
Japan	School Basic Survey	2000	2
Korea	MEHRD	2000	2
Luxembourg	Eurostat, New Cronos	2001	2
Mexico	INEGI. Base de datos del XII Censo General de Población y Vivienda	2000	2
Netherlands	Eurostat, New Cronos	2001	2
Norway	Statistics Norway, Education statistics	2000	2
Poland	CSO Poland	2000-2001	2
Portugal	INE Portugal	2002-2003	2
Slovak Republic	Ministry of Education (Institute of information and prognosis of Education)	2001-2002	2
Spain	Eurostat, New Cronos	2001	2
Sweden	Eurostat, New Cronos	2001	2
Turkey	MEB	2001-2002	2
United Kingdom	Eurostat, New Cronos	2000	2
United States	Census Bureau	2001	2

Country notes

Canada: Data include all registrations in public, private and federal schools and schools for the visually and hearing impaired, as well as DND schools overseas.

Calculation of the indicator

Rate of enrolment in tertiary education:

$$ETE_i = \frac{e_i}{POP_i} \times 1000$$

where ETE$_i$ stands for enrolment in tertiary education rate in region i, e_i is the number of students enrolled in tertiary education (ISCED 5-6) in region i, POP_i is the total population in region i.

Figures

In Figure 25.1 a variation coefficient of the rate of enrolment in tertiary education is calculated:

$$CV_{ETE_c} = \frac{\sigma_{ETE_c}}{\mu_{ETE_c}}$$

where σ_{ETEc} is the standard deviation of the enrolment rate in country c, μ_{ETEc} is the average enrolment rate in country c.

In Figure 25.2 a rate is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification"), which is reported as a percentage of the national rate:

$$\frac{ETE_t}{ETE_c}$$

where ETE_t is the rate of enrolment in tertiary education in regions of type t, ETE_c is the rate of enrolment in tertiary education of country c.

Indicator 26. Age-adjusted mortality rates

Definition

Death is the permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capability of resuscitation) (this definition does not apply to foetal deaths).

For reasons of comparison between regions the rate has been adjusted for age, which is a primary factor of mortality. Regions with higher percentages of older residents will almost always have much higher crude death rates than regions with a younger population. Age-adjusted rates eliminate the age bias in the makeup of the populations being compared, thereby providing a much more reliable rate for comparison purposes.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Source and year of reference

	Source	Year of reference	Territorial level
Australia	ABS, Demographic Summary, Statistical areas	2002	2
Austria	Statistics Austria	2000	2
Belgium	Eurostat, New Cronos	2001	2
Canada	Statistics Canada	2001	2
Czech republic	Eurostat, New Cronos	2000	2
Denmark	Statistics Denmark, Medical birth and death statistics	2001	2
Finland	Statistics Finland	2000	2
France	INSEE	2000	2
Germany	Statistics Germany	2001	2
Greece	Statistics Greece	2001	2
Hungary	Eurostat, New Cronos	2000	2
Iceland	Statistics Iceland	2003	2
Japan	Vital Statistics of Japan	2002	2
Korea	Korea NSO, Population and Housing Census	2000	2
Luxembourg	Annuaires démographiques internationaux	2001	2
Mexico	INEGI, *Estadísticas Vitales*	2001	2
Netherlands	CBS Statline	2003	2
Norway	Statistics Across Borders 2003, Nordic Regional Statistics	2001	2
Poland	Eurostat, New Cronos	2000	2
Portugal	INE, Demographic Statistics	2000	2
Slovak Republic	SO SR, Demographic Statistics	2000	2
Spain	INE, Vital statistics. Volume II.	2001	2
Sweden	Eurostat, New Cronos	1999	2
United Kingdom	NSO, Vital Statistics, People and Society/Population and Migration	1998	2
United Sates	CDC/NCHS, National vital statistical system, Mortality	2001	2

Country notes

Australia: Data presented in this ABS product refer to deaths registered during the year shown. There is usually an interval between occurrence and registration of a death; as a result some deaths are not registered in the year in which they occur. However, most deaths are registered within six months of occurrence. More than 99% of deaths occurring in one year are registered by 30 June of the following year. Death statistics are presented on

the basis of the state or territory of usual residence of the deceased, regardless of where in Australia the death occurred or was registered. Deaths of Australian residents that occurred overseas are not included. Deaths in Australia of persons usually resident overseas are included in these statistics and are classified according to the state or territory in which the death was registered.

Korea: Deaths abroad and of unknown age were excluded.

United Kingdom: As with births, within England and Wales, a death is normally assigned to the area of usual residence of the deceased. If this is outside England and Wales, the death is included in an aggregate figure for England and Wales as a whole, but excluded from the figures for any individual region or area. There were 1 441 deaths of non-residents in 1998.

Calculation of the indicator

Variables needed: Number of deaths, average population, age-specific mortality rates:

$$SMR_i = \frac{\sum_{i=1}^{n} d_{i_g}}{\sum_{i=1}^{n} M_{c_g} \times pop_{i_g}}$$

where SMR_i is the standardised mortality rate in region i, d_{i_g} is the observed number of deaths in region i for age group g, M_{c_g} is the age-specific mortality rate in the standard population of country c for persons in age group g, pop_{i_g} is the average population in region i in age group g.

where SMR_i is the standardised mortality rate in region i, d_{i_g} is the observed number of deaths in region i for age group g, pop_{i_g} is the average population in region i in age group g, and M_{c_g} is the age-specific mortality rate in the standard population of country c for persons in age group g. Age-specific mortality rates are defined as d_{c_g}/pop_c, where d_{c_g} are the number of deaths in country c in age group g, and pop_{c_g} is the population of country c in age group g.

Figures

Figure 26.1: See Calculation of the indicator.

Figure 26.2: A coefficient of variation of the age-adjusted mortality rate is calculated:

$$CV_{SMR_c} = \frac{\sigma_{SMR_c}}{\mu_{SMR_c}}$$

where σ_{SMR_c} is the standard deviation of the age-adjusted mortality rate in country c, μ_{SMR_c} is the average age-adjusted mortality rate in country c.

Indicator 27. Health resources: number of medical practitioners

Definition

Data for physicians are comprehensive of physicians in activity. This category includes physicians with a medical practice and those without one (working in industry administration or research) (Eurostat, *European Regional Statistics, Reference Guide*, 2003).

The indicator is obtained by dividing the number of physicians in activity by the total population.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial Level
Australia	Australian Medical Publishing	2004	2
Austria	Eurostat, New Cronos	2001	2
Belgium	Eurostat, New Cronos	2000	2
Canada	Statistics Canada (National Occupational Classification for Statistics)	2001	2
Czech Republic	Eurostat, New Cronos	2001	2
Finland	Eurostat, New Cronos (data only available for two regions)	2001	2
France	Eurostat, New Cronos	2001	2
Germany	Eurostat, New Cronos	2001	2
Greece	Eurostat, New Cronos	2001	2
Hungary	Eurostat, New Cronos	2001	2
Iceland	Directorate of Health, Register of licensed physicians	2002	2
Italy	Eurostat, New Cronos	2001	2
Japan	Survey of physicians , dentists and pharmacists	2000	2
Korea	Ministry of Health and Welfare, Health Resources Division.	2001	2
Luxembourg	Eurostat, New Cronos	2000	2
Mexico	INEGI Base de datos del XII Censo General de Población y Vivienda	2000	2
Netherlands	Eurostat, New Cronos	2001	2
New Zealand	New Zealand Health Information Service	2002	2
Norway	The Norwegian Medical Association	2002	2
Poland	Eurostat, New Cronos	2001	2
Portugal	INE Portugal	2002	2
Slovak Republic	Eurostat, New Cronos	2001	2
Spain	Eurostat, New Cronos	2000	2
Sweden	Eurostat, New Cronos	2000	2
Switzerland	OFS/EPFL-CHOROS	2000	2
Turkey	MoH	2001	2
United Kingdom	Eurostat, New Cronos	2000	2
United Sates	American Medical Association (AMA).	2001	2

Country notes

Austria, Belgium, Germany, Greece, France, Luxembourg, Sweden: Includes only physicians in activity with a medical practice (Eurostat, *European Regional Statistics, Reference Guide*, 2003).

Italy, Finland, Netherlands, Portugal and Spain: Includes physicians "entitled to practise". This concept covers certain physicians in activity and some who are not. A physician may be entitled to practice but have not a medical practice (work in industry, research, etc.) or have no activity (unemployed) (Eurostat, *European Regional Statistics, Reference Guide*, 2003).

Poland: Data concern practising physicians only.

Korea: Number of doctors active in hospitals, clinics, midwifery clinics, health centres, sub-health centres and primary health-care posts.

United Kingdom: Includes physicians in activity with a medical practice working in the public sector only.

United States: Include active non-federal physicians and doctors of medicine in patient care.

Calculation of the indicator

$$PHR_i = \frac{ph_i}{POP_i} \times 1000$$

where PHR_i is the rate of active physicians per 1 000 population in region i, ph_i is the number of physicians in region i, POP_i is the total population in region i.

Figures

In Figure 27.1 a variation coefficient of the rate of doctors per 1 000 population is calculated:

$$CV_{PHR_c} = \frac{\sigma_{PHR_c}}{\mu_{PHR_c}}$$

where σ_{PHR_c} is the standard deviation of the rate of doctors for 1 000 inhabitants in country c, μ_{PHR_c} is the average rate of doctors per 1 000 inhabitants in country c.

In Figure 27.2 a rate is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification"), which is reported as a percentage of the national rate:

$$\frac{PHR_t}{PHR_c}$$

where PHR_t is the rate of physicians per 1 000 population in regions of type t, PHR_c is the rate of physicians per 1 000 population of country c.

Indicator 28. Reported criminal offences against property

Definition

Offences against property include: forgery, arson, burglary, theft, fraud, robbery, malicious damage to property.

The indicator is calculated by dividing the number of offences against property by the total population.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	ABS, Recorded Crime – Victims.	2003	2
Austria	Ministry of Interior	2003	2
Canada	Statistics Canada, CANSIM, Table 252-0013.	2003	2
Denmark	The Central Register of Reported Criminal Offences	2001	2
Finland	Statistics Finland	2000	2
France	Ministère de l'intérieur – Direction générale de la Police nationale – Direction centrale de la Police judiciaire	2002	2
Greece	Statistics Greece	2001	2
Hungary	KSH-TSTAR	2002	2
Iceland	The National Commissioner of the Icelandic Police	2002	2
Ireland	Garda Síochána anual report	2001	2
Italy	Forze di Polizia	2001	2
Japan			2
Korea	The Supreme Public Prosecutor's Office, Analytical Report on Crimes.	2001	2
Mexico	INEGI. Base de datos. Juzgados de Primera instancia	2000	2
Netherlands	CBS, policestatistics	2003	2
New Zealand	Police Statistics	2001	2
Norway	Statistics Norway, Crime statistics	2002	2
Poland	Statistical Yearbook of the Regions, (data of the General Police Headquarters)	2003	2
Portugal	Justice statistics	2001	2
Slovak Republic	Ministry of Interior of the Slovak Republic	2000	2
Spain	Estadística Penal Común. Audiencias Provinciales y Juzgado de lo Penal	2001	2
Sweden	National Council for Crime Prevention	2001	2
Switzerland	Reported offences: Police statistics from file je-f-19(1).3.1.1-crimes	2000	2
Turkey	General Directorate of Security	2003	2
United Kingdom	NSO	2000-01	2
United Sates	FBI	2001	2

Country notes

Australia: Includes only robbery (armed and unarmed) and black extortion (victims are individual persons or organisations).

Canada: Includes breaking and entering, motor vehicle theft, theft over CAD 5 000, theft CAD 5 000 and under, possession of stolen goods, fraud.

Denmark: Includes forgery, arson, burglary theft, fraud, robbery, 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 and if

a violation of the law includes more than a single victim it will also be registered as one offence. If more than one person has reported the violation of the law to the police, more than one reported criminal offence can in exceptional cases be registered.

Korea: Includes only the number of crimes in big cities of population ≥ 150 000 persons.

Mexico: sentenced offences registered in federal and local law courts of first instance by state where offences occurred.

Norway: Includes offences of narcotics, environment offences, work environment offences, traffic offences, and other offences.

Sweden: Includes theft, robbery, other offences of stealing, fraud and other acts of dishonesty, crimes inflicting damage, crimes of falsification.

Switzerland: Statistics on reported offences are only available for the whole country. At the level of cantons, data are available on the number of condemnations for each type of crime. Total offences for Switzerland are distributed proportionally by cantons and great regions.

United Kingdom: Data available for England and Wales only.

Calculation of the indicator

Number of reported offences against property per 1 000 population:

$$OPR_i = \frac{opr_i}{POP_i} \times 1000$$

where OPR_i is the number of reported offences against property per 1 000 population in region i, opr_i is the number of reported offences against property in region i, POP_i is the total population in region i.

Figures

In Figure 28.1 a variation coefficient of the number of reported offences against property per 1 000 population is calculated:

$$CV_{OPR_c} = \frac{\sigma_{OPR_c}}{\mu_{OPR_c}}$$

where σ_{OPR_c} is the standard deviation of the number of reported offences against property per 1 000 population in country c, μ_{OPR_c} is the average number of reported offences against property per 1 000 population in country c.

In Figure 28.2 the number of reported offences against property per 1 000 population is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification"), which is reported as percentage of the national rate:

$$\frac{OPR_t}{OPR_c}$$

where OPR_t is the number of reported offences against property per 1 000 population in regions of type t, OPR_c is the number of reported offences against property per 1 000 population in country c.

Indicator 29. Reported criminal offences against persons

Definition

Violence against persons includes homicide, attempted murder, sexual offences and assault. Assault includes intentional application of force without consent, attempt or threat to apply force to another person, accosting or impeding another person, assault with a weapon, threats to use a weapon (or an imitation), assault causing bodily harm, which wounds, maims, disfigures or endangers the life of complainant. It also includes unlawfully causing bodily harm, discharging firearms with intent, abductions, assaults against police officers, assaults against other peace or public officers, dangerous operation of motor vehicle, boat, vessel or aircraft, dangerous operation of motor vehicle, boat, vessel or aircraft causing bodily harm or death, driving motor vehicle while prohibited and failure to stop or remain.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial level
Australia	ABS, Recorded Crime – Victims.	2003	2
Austria	Ministry of Interior	2003	2
Canada	Statistics Canada, CANSIM, Table 252-0013.	2003	2
Denmark	The Central Register of Reported Criminal Offences	2001	2
Finland	Statistics Finland	2000	2
France	Ministère de l'intérieur – Direction générale de la Police nationale – Direction centrale de la Police judiciaire	2002	2
Greece	Statistics Greece	2001	2
Hungary	KSH-TSTAR	2002	2
Iceland	The National Commissioner of the Icelandic Police	2002	2
Ireland	Garda Síochána anuual report	2001	2
Italy	Forze di Polizia	2001	2
Japan			2
Korea	The Supreme Public Prosecutor's Office, Analytical Report on Crimes.	2001	2
Mexico	INEGI. Base de datos. Juzgados de Primera instancia	2000	2
Netherlands	CBS, policestatistics	2003	2
New Zealand	Police Statistics	2001	2
Norway	Statistics Norway, Crime statistics	2002	2
Poland	Statistical Yearbook of the Regions, (data of the General Police Headquarters)	2003	2
Portugal	Justice statistics	2001	2
Slovak Republic	Ministry of Interior of the Slovak Republic	2000	2
Spain	Estadística Penal Común. Audiencias Provinciales y Juzgado de lo Penal	2001	2
Sweden	National Council for Crime Prevention	2001	2
Switzerland	Reported offences: Police statistics from file je-f-19(1).3.1.1-crimes	2000	2
Turkey	General Directorate of Security	2003	2
United Kingdom	NSO	2000-01	2
United Sates	FBI	2001	2
Australia	ABS, Recorded Crime – Victims.	2003	2
Austria	Ministry of Interior	2003	2
Canada	Statistics Canada, CANSIM, Table 252-0013.	2003	2
Denmark	The Central Register of Reported Criminal Offences	2001	2

Country notes

Australia: Includes murder, attempted murder, manslaughter, assault, child abduction, driving causing death (victims are individual persons).

Denmark: A violation of the law committed by more than one person is registered as one offence and if a violation of the law includes more than a single victim it will also be registered as one offence. If more than one person has reported the violation of the law to the police, more than one reported criminal offence can in exceptional cases be registered.

Korea: Includes only the number of crimes in big cities of population of $\geq$ 150 000 persons.

Mexico: sentenced offences registered in federal and local law courts of first instance by state where offences occurred.

Poland: Excluding crimes against freedom, freedom of conscience and religion, sexual freedom and morals as well as against the family and custody.

Sweden: Includes crimes against life and health, violence against public servants.

Switzerland: Statistics on reported offences are only available for the whole country. On the level of cantons, data are available on the number of condemnations for each type of crime. Total offences for Switzerland are distributed proportionally by cantons and "grandes régions".

United Kingdom: Data available for England and Wales only.

Calculation of the indicator

Number of reported offences against persons per 1 000 population:

$$OPE_i = \frac{ope_i}{POP_i} \times 1000$$

where OPE_i is the number of reported offences against persons per 1 000 population in region i, ope_i is the number of reported offences against persons in region i, POP_i is the total population in region i.

Figures

In Figure 29.1 a variation coefficient of the number of reported offences against the person per 1 000 population is calculated:

$$CV_{OPE_c} = \frac{\sigma_{OPE_c}}{\mu_{OPE_c}}$$

where σ_{OPE_c} is the standard deviation of the number of reported offences against persons per 1 000 population in country c, μ_{OPE_c} is the average number of reported offences against persons per 1 000 population in country c.

In Figure 29.2 the number of reported offences against persons per 1 000 population is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification") which is reported as percentage of the national value:

$$\frac{OPE_t}{OPE_c}$$

where OPE_t is the number of reported offences against persons per 1 000 population in regions of type t, OPE_c is the number of reported offences against persons per 1 000 population in country c.

Indicator 30. Road safety: fatal traffic accidents

Definition

Any accident involving at least one road vehicle in motion on a public or private road resulting in at least one person killed. Included are collisions between road vehicles, between road vehicles and pedestrians, between road vehicles and animals or fixed obstacles and of one road vehicle alone.

The indicator is calculated by dividing the number of fatal traffic accidents by the total population.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial Level
Australia	Australian Transport Safety Bureau, 'Road Fatalities Australia'.	2001	2
Austria	Eurostat, New Cronos	2000	2
Belgium	Eurostat, New Cronos	1999	2
Canada	Statistics Canada (International Classification for Disease)	2002	2
Czech Republic	Eurostat, New Cronos	2001	2
Denmark	Police report on road traffic accidents with casualties	2003	2
Finland	Eurostat, New Cronos	2000	2
France	Eurostat, New Cronos	2000	2
Germany	Eurostat, New Cronos	2000	2
Greece	Eurostat, New Cronos	1999	2
Hungary	Eurostat, New Cronos	2001	2
Ireland	National Road Authority, road accident information recorded by An garda Síochána	2001	2
Italy	Eurostat, New Cronos	2000	2
Japan	National Policy Agency	2000	2
Luxembourg	Eurostat, New Cronos	2000	2
Mexico	Accidentes de Tránsito Terrestre en Zonas Urbanas y Suburbanas	2001	2
Netherlands	Eurostat, New Cronos	2000	2
New Zealand	Land and transport safety authority	2001	2
Norway	Statistics Norway	2003	2
Poland	CSO Poland; 2002 Statistical Yearbook of the Regions	2002	2
Portugal	INE – Serviço de Estatísticas dos Serviços, Inquerito a Direcção Geral de viação.	2003	2
Slovak Republic	Eurostat, New Cronos	2001	2
Spain	Eurostat, New Cronos	2000	2
Sweden	Eurostat, New Cronos	2000	2
Switzerland	OFS/EPFL-Chôros	2000	2
Turkey	n.a.	2002	2
United Kingdom	Eurostat, New Cronos	2000	2
United Sates	Federal Highway Administration	2000	2

Country notes

Australia, Canada, Denmark, Ireland, Japan, New Zealand, Norway, Portugal: Figures refer to persons killed in traffic accidents (not to the number of traffic accidents with fatalities).

Canada: Traffic accidents are defined as code range E810-E819 in the International Classification of Disease (ICD) 9th revision.

Denmark: The statistics only include fatalities reported by the police.

Finland: Data available only for two regions (Ita-Suomi, Aland).

Japan: People who die within 24 hours of the accident.

Mexico: All persons who die at the time of the accident or within a period of 30 days as a consequence of the accident.

Calculation of the indicator

Number of fatal traffic accidents per 100 000 population:

$$FTA_i = \frac{fta_i}{POP_i} \times 100000$$

where FTA_i is the number of fatal traffic accidents per 100 000 population in region i, fta_i is the number of number of traffic accidents in region i, POP_i is the total population in region i.

Figures

In Figure 30.1 the number of fatal traffic accidents per 100 000 population is calculated for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification") which is reported as percentage of the national rate:

$$\frac{FTA_t}{FTA_c}$$

where FTA_t is the number of fatal traffic accidents per 100 000 population in regions of type t, FTA_c is the number of fatal traffic accidents per 100 000 population in country c.

In Figure 30.2 the range of variation in the number of fatal traffic accidents per 100 000 population is calculated for each country:

$$Range_{FTA_c} = FTA_{max_c} - FTA_{min_c}$$

where FTA_{max_c} is the region with the highest number of fatal traffic accidents per 100 000 population in country c, FTA_{min_c} is the region with the lowest number of fatal traffic accidents per 100 000 population in country c.

Indicator 31. Environment: stock of private vehicles

Definition

Road motor vehicle, other than a motorcycle, intended for the carriage of passengers and designed to seat no more than nine persons including the driver. The term passenger car therefore covers micro-cars (do not need a permit to be driven), taxis and hired passenger cars, provided that they have fewer than ten seats. This category may also include pick-ups.

Data comparability is a problem for all social indicators owing to discrepancies between the statistical bases of different countries. The results must therefore be interpreted with caution.

Sources and year of reference

	Source	Year of reference	Territorial Level
Australia	Motor vehicle census	2001	2
Austria	Eurostat, New Cronos	2001	2
Belgium	Eurostat, New Cronos	1999	2
Canada	Statistics Canada (road motor vehicle registration – annual survey)	2003	2
Czech Republic	Eurostat, New Cronos	2001	2
Finland	Eurostat, New Cronos	2001	2
France	Eurostat, New Cronos	2001	2
Germany	Eurostat, New Cronos	2001	2
Hungary	Eurostat, New Cronos	2001	2
Ireland	Eurostat, New Cronos	2001	2
Italy	Eurostat, New Cronos	2001	2
Japan	Ministry of Land , Infrastructure and Transport	2000	2
Luxembourg	Eurostat, New Cronos	2001	2
Mexico	Estadística de Vehículos de Motor Registrados en Circulación (VMRC)	2001	2
Netherlands	Eurostat, New Cronos	2001	2
New Zealand	Transport Registry Centre, Land and Transport Safety Authority	2003	2
Norway	Statistics Norway	2002	2
Poland	CSO Poland; 2002 Statistical Yearbook of the Regions	2002	2
Slovak Republic	Eurostat, New Cronos	2001	2
Spain	Eurostat, New Cronos	2001	2
Sweden	Eurostat, New Cronos	2001	2
Switzerland	OFS	2000	2
Turkey	n.a.	2002	2
United Kingdom	Eurostat, New Cronos	2001	2
United Sates	US Census Bureau	2001	2

Country notes

Australia: Data refer to all registered motor vehicles for the carriage of passengers (sedans and station wagons).

Finland: Data available for two regions only (Ita-Suomi, Aland).

Mexico: Includes all vehicles designed to seat no more than ten persons including the driver.

Calculation of the indicator

Stock of private vehicles per 100 population:

$$SPV_i = \frac{spv_i}{POP_i} \times 100$$

where SPV_i is the stock of private vehicles per 100 population in region i, spv_i is the stock of private vehicles in region i, POP_i is the total population in region i.
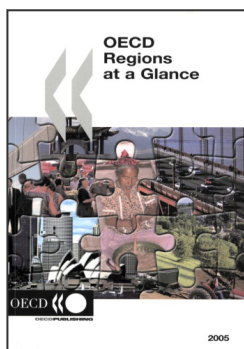
Figures

Figure 31.1 shows the country average of the stock of private vehicles per 100 population.

Figure 31.2 shows the stock of private vehicles per 100 population for regions of the same type (predominantly urban, intermediate and predominantly rural, see "Regional Grids and Classification") reported as a percentage of the national rate:

$$\frac{SPV_t}{SPV_c}$$

where SPV_t is the stock of private vehicles per 100 population in regions of type t, SPV_c is the stock of private vehicles per 100 population in country c.