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Subnational variations in educational attainment and labour market outcomes

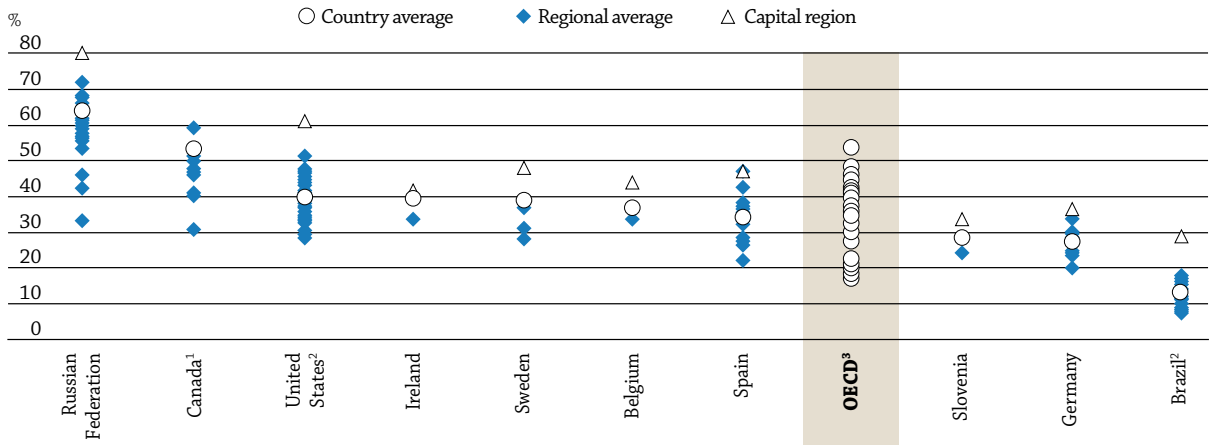
- **Levels of educational attainment do not only vary among countries, but also within them. In many countries, people with tertiary education – usually the most skilled people – are more highly represented in the capital region.**
- **Regional employment rates in many countries vary more widely among adults without upper secondary education than among those with upper secondary education or higher.**
- **In many countries, the percentage of young people neither in employment nor in education or training (NEET) is twice as high in some regions as in others.**

Education at a Glance (EAG) is the leading statistical report on international education comparisons. International indicators can help national policy makers compare the pace of progress in their own country against other relevant countries. While national policy makers are the primary decision makers in many OECD countries, regional governments play the primary decision-making role in federal countries such as Canada, Germany and the United States. While national and regional policy makers in these countries do use international comparisons of national data, these comparisons would be much more useful to them if they could compare the indicators with national and subnational data from other countries. In addition, both federal and non-federal countries need to continue to monitor disparities within their own subnational units to ensure that appropriate steps are being taken to limit inequalities and ensure consistently high-quality education opportunities throughout their countries.

There are large regional disparities in the distribution of human capital within countries.

The level of educational attainment is frequently used as a proxy measure of human capital. On average, about 34% of 25-64 year-olds in OECD countries have attained tertiary education, but one in four (24%) have not finished upper secondary

Figure 1. **Percentage of 25-64 year-olds with tertiary education, by subnational entities (2014)**



Notes: The country average is the weighted average of the regions for 25-64 year-olds.
1. Canada: Data refer to 2012. The province of Ontario has been presented as a regular region because the capital Ottawa is a comparatively small urban centre in the province of Ontario.
2. Brazil, United States: Data refer to 2013.
3. Data from 2014 or most recent available year. Each circle represents an OECD country.
Source: OECD/NCES (2015), *Education at a Glance Subnational Supplement*, http://nces.ed.gov/surveys/AnnualReports/oecd/.

education. Across OECD countries, the percentage of 25-64 year-olds with tertiary education ranges from a low of 17% to a high of 54%, and the percentage of those without upper secondary education varies even more widely, from a low of 7% to a high of 66%.

Educational attainment varies at least as much across regions within a country as across countries. For instance, in the United States the proportion of tertiary-educated people ranges from 29% in the state of West Virginia to 61% in the District of Columbia, a ratio of 2.1:1 between the highest and the lowest (Figure 1). Six out of the ten countries participating in the EAG subnational supplement (see box) have a similar ratio of tertiary attainment rates, close to 2.0:1, and the high/low ratio reaches 3.9:1 in Brazil. However, in Belgium, Ireland and Slovenia the ratio is close to 1:1, indicating minimal regional disparities in the level of educational attainment.

Subnational data collection and subnational entities

In *Education at a Glance 2015*, the OECD, with support from the U.S. National Center for Education Statistics, released selected subnational data for six indicators. These were: data on educational attainment (Indicator A1), employment rates by educational attainment (Indicator A5), annual expenditure per student (Indicator B1), enrolment rates by age (Indicator C1), enrolment rates in early childhood and primary education (Indicator C2), and enrolment and work status of 15-29 year-olds (Indicator C5). Ten countries participated in this pilot compilation of subnational estimates by providing information for some or all of the indicators: Belgium, Brazil, Canada, Germany, Ireland, the Russian Federation, Slovenia, Spain, Sweden and the United States. Subnational estimates were provided by countries using national data sources or were calculated by Eurostat based on data for Level 2 of the Nomenclature of Territorial Units for Statistics (NUTS 2).

When interpreting the results, readers should take into account that the population size of subnational entities can vary widely within countries. For example, in Canada, the population of Nunavut is 38 585, while the population of the province of Ontario is 13.7 million (OECD, 2016).

Also, regional disparities tend to be higher when more subnational entities are used in the analysis (Wong, 2009).

The human capital of a country is often concentrated in the capital region.

In some countries, the capital region encompasses a significant portion of the population, the skilled labour force and the wealth of the country. For example, the county of Stockholm (Sweden) contains 24% of the population, 32% of the GDP and 29% of the tertiary-educated labour force; similarly the community of Madrid (Spain) has 14% of the population, 19% of the GDP and 19% of the tertiary-educated labour force (OECD, 2016). In contrast, in Brazil, Germany and the United States, there are many other subnational areas with larger shares of the population, and higher proportions of tertiary-educated adults and economic activity.

Ireland and Slovenia are particular cases as they are divided into only two regions at the subnational level (NUTS 2) and the capital region encompasses most of their population and national wealth.

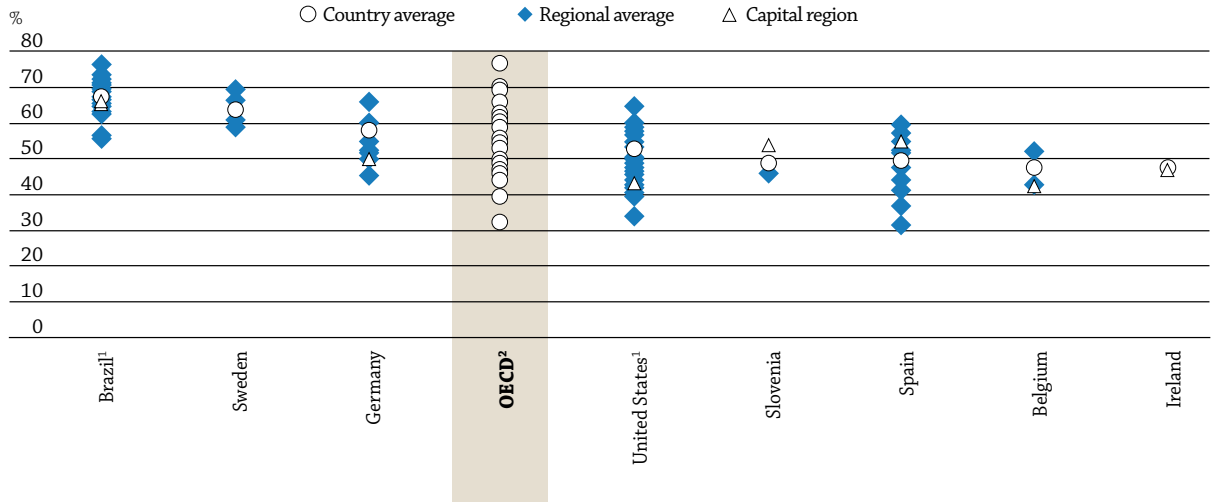
In most countries, the share of population with tertiary education is much higher in the capital region than in any other region and well above the country average. In Germany, the Russian Federation, Spain and Sweden the percentage of tertiary educated people in the capital region is more than 1.2 times greater than the country average; in Brazil the figure is 2.1 times the national average (Figure 1). However, the federal district of Brasilia encompasses only 1.5% of the country's adult population (aged 25-64).

The more highly-educated have better employment outcomes, regardless of where they live. Across OECD countries, tertiary-educated people have the best employment opportunities. Among 25-64 year-olds with tertiary education 83% are employed, compared with only 74% with upper secondary education and 56% among those who have not reached this educational attainment level (OECD, 2015).

The fact that tertiary-educated people enjoy better labour market opportunities also holds at the subnational level. For instance, in all states of the United States, individuals with a tertiary degree enjoy higher employment rates than those without.

Employment rates tend to vary more greatly across regions among those with lower levels of education than for those with higher levels of education. For instance in Spain, among adults without upper secondary education the employment rates ranges from 32% in the Ciudad Autónoma of Melilla to 59% in the Balearic Islands; whereas the employment rate among

Figure 2. **Employment rates of 25-64 year-olds with below upper secondary education, by subnational entities (2014)**



Notes: The country average is the weighted average of the regions for 25-64 year-olds.
1. Brazil, United States: Data refer to 2013.
2. Data from 2014 or most recent available year. Each circle represents an OECD country.
Source: OECD/NCES (2015), *Education at a Glance Subnational Supplement*, http://nces.ed.gov/surveys/AnnualReports/oecd/.

adults with upper secondary education ranges from 59% in Andalucía to 74% in the Balearic Islands. This equates to a ratio of 1.9:1 versus 1.3:1.

As Figure 2 shows, the high/low ratio of employment rates for adults without upper secondary education is highest in Spain and the United States (both 1.9:1). In Germany the high/low ratio of employment rates is 1.5:1, and in Belgium and Brazil 1.3:1.

Capital regions do not necessarily offer the best employment prospects for all attainment levels. For less educated people, the capital regions seem to offer fewer employment opportunities than other regions. For instance, in the United States the employment rates for less educated workers – those with below upper secondary education – are higher in South Dakota (64%) and Wyoming (65%) than in the District of Columbia (43%); similarly, in Germany, the employment rates for low-skilled people are higher in Baden-Württemberg (66%) and Bayern (66%) than in Berlin (49%); and in Belgium the employment rates for less educated people are higher in the Flemish Region (52%) than in the Brussels Capital Region (42%).

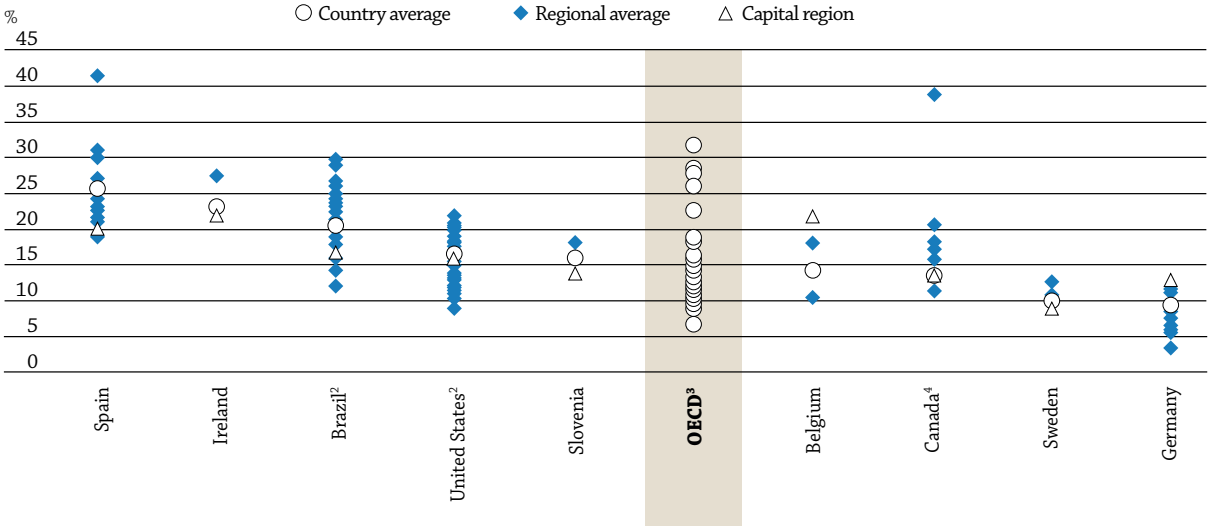
There are large regional disparities in the percentage of young people not in employment, education or training.

The proportion of young people who are neither in employment nor in education or training (NEET) is a measure of the difficulties young people face when entering the labour market. On average, across OECD countries some 15.5% of 15-29 year-olds are NEET. The share of NEETs ranges from 9.2% in Germany to 25.9% in Spain, among countries with available subnational data.

Figure 3 illustrates the subnational variations in the percentage of 15-29 year-olds who are NEET. In six of the nine countries with subnational data, the high/low ratio is greater than 2:1. The ratios are highest in Germany (3.9:1) and Canada (3.4:1). The distribution in both Canada and Spain is skewed by each having one region with a small population and a very high rate of NEETs.

Bringing young NEET adults back into school may help to increase their employment prospects by equipping them with the necessary skills. In regions with a high percentage of NEETs, local communities, with their network of schools, employers, community groups and families, can be effective at reaching out to these young people and providing them with educational and/or employment opportunities (OECD, forthcoming).

Figure 3. **Percentage of NEETs[1] among 15-29 year-olds, by subnational entities (2014)**



Notes: The country average is the weighted average of the regions of 25-64 year-olds.
1. "NEET" refers to young people neither in employment nor in education or training.
2. Brazil, United States: Data refer to 2013.
3. Data from 2014 or most recent available year. Each circle represents an OECD country.
4. Canada: Data refer to 2012. The province of Ontario has been presented as a regular region because the capital Ottawa is a comparatively small urban centre in the province of Ontario.
Source: OECD/NCES (2015), *Education at a Glance Subnational Supplement*, http://nces.ed.gov/surveys/AnnualReports/oecd/.

The bottom line: Significant variations in educational attainment and labour market outcomes exist not only across OECD countries but also within them. Some regions concentrate the human capital of a country. In particular, many countries' capital regions stand out for their high share of tertiary-educated people. However, overall employment prospects are often better in other regions, especially for adults without upper secondary education. The proportions of young people who are neither in employment nor in education or training vary widely among regions. National, regional and local policies can help to reduce the percentage of young adults neither in employment nor in education and training in the most affected regions.

For more information

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