Comparative statistics on education at regional level have been collected by Eurostat since school year 1990-1991. At a time when mobility and equal opportunities are at the top of the agenda for EU policy-makers within the overall framework of lifelong learning in the knowledge based society, it is relevant to focus on data at a more detailed level rather than just the national perspective.

Data on both educational attainment (from the Community Labour Force Survey) and on participation in education (from Eurostat's questionnaire on enrolment in education by regions) are presented in this paper. Educational attainment is used as a proxy for human capital and participation in education can be interpreted as an investment in human resource development. By combining this information, it may be possible to measure the development potential of a region in terms of available human resources.

The data refer to the school year 1998-99 and are based on the latest version of the Nomenclature of Territorial Units for Statistics (NUTS) classification, NUTS 99.

The role of regional characteristics is evident for certain educational issues. For instance, capital cities and other large cities well endowed with tertiary education institutions and facilities attract many students wishing to continue their studies at the end of their secondary education. In most cases, these are also the regions where the highest rates of well qualified people are found, suggesting that people tend to settle in such areas once their studies are over.

The national borders also seem to play a part in issues such as the study of foreign languages and the migration of tertiary education students.

Not all educational phenomena, however, are so much related to regional variations. Enrolment in vocational or general streams, for example, seems to depend on national policy rather than regional characteristics.

Differences can be also observed not only within national boundaries but also at EU level. Some examples of such comparisons are given.
Levels of educational attainment vary greatly according to geographical location

Two different indicators presenting the educational attainment of the population will be considered. The data are collected on an individual basis via the Community Labour Force Survey.

The map shows the percentage of the population aged 25-59 who completed compulsory education but did not continue their studies to obtain an upper secondary qualification.

In the European Union in 1999, 38% of the adults aged 25-59 stopped their studies before obtaining an upper secondary qualification. The percentage of those without this qualification was at its lowest in the new German Länder (at less than 10%) and highest in Portugal where it reached around 80% in all regions except Lisboa e Vale do Tejo (70%).
The map indicates clear differences between the southern and northern regions of the European Union: in nearly all the regions in the southern countries (Spain, Portugal, Greece and Italy), more than half of the 25-59 age group did not have an upper secondary qualification. On the other hand, in all the regions of Germany, Austria, Sweden, Denmark, as well as in the majority of Finland, less than a third of adults in the age group 25-59 did not go beyond compulsory education in 1999. In the Benelux countries, the national averages stood between 34 and 40%, while France and the UK were on an equal footing at 37%. Nevertheless, there were some regions within Belgium, France and the UK where proportions were similar to those found in the southern countries.

Some regional variations within national boundaries were evident, whereby regions either very close to or containing the capital city boasted a relatively better qualified population. For example, in the region of Attiki in Greece only about a third of its population of 25-59 year olds did not have an upper secondary qualification compared to well over half in nearly all other Greek regions. Similarly, Rome’s region of Lazio had the lowest rate in Italy of those not holding a post compulsory qualification, as did Spain’s capital Comunidad de Madrid. In the UK, however, although the southern counties of Surrey, East and West Sussex, along with Inner London and Berkshire, Bucks and Oxfordshire had the smallest percentage of lesser-qualified people (27-29%), it is interesting to note that most Scottish regions also had similar results. In Belgium, it was not the capital region of Brussels (at 40%) that had a better qualified population, but the neighbouring region of Brabant Wallon (with only 28% who had not attained the upper secondary level of education). Similarly, the lowest figure in the Netherlands was in Utrecht (28%) and not in Amsterdam’s region of Noord-Holland.

Contrary to such patterns, the capital city regions of France and Sweden shared their low rates with other non-neighbouring regions. Thus, Île de France, where a third of the population aged 25-59 were without a post compulsory education qualification, was on a par with other parts of the country such as Alsace, Aquitaine and Rhône-Alpes, and Stockholm and Övre Norrland both shared 17% compared to the least qualified Swedish region of Småland med öarna (26%). Moreover, in Austria, the lowest percentage recorded was 18 in Kärnten situated in the south of the country away from Vienna (Wien).

Figure 1 complements the map by providing information on the percentage of the same population who obtained a tertiary education qualification. Just over one in five citizens of the European Union aged between 25-59 were in possession of a tertiary education qualification in 1999. The region in which this proportion was at its highest was Inner London in the UK where the figure stood at 46%, 25 percentage points higher than the EU average.

![Figure 1: Percentage of adults aged 25-59 with a tertiary education qualification (ISCED 5-6) at national level and regional extremes, NUTS 2, 1999](image-url)
Figure 1 shows that the populations of the capital city regions were the best qualified, suggesting a high incidence of migration of well qualified people either to, or within close proximity of, the main cities. Thus, although the Belgian and Dutch capital city regions of Brussels (36%) and Noord-Holland (27%) were not top, they fell only slightly behind their respective neighbouring regions of Brabant Wallon and Utrecht.

Spain was an exception, where the non-neighbouring regions of Pais Vasco and Comunidad Foral de Navarra in the north of the country were more or less on a par with Comunidad de Madrid.

Nevertheless, figures for Lazio, Lisboa e Vale do Tejo and Vienna show that despite these regions being at the top nationally, the percentages fell below the EU average. It should also be noted that the relatively high percentages found in other capital city areas were not necessarily representative of the individual countries as a whole. The highest range between the upper and lower extremes was found in the UK at 26 percentage points, whereas the lowest regional variation in educational attainment at tertiary level, with a range of 10 or below, was seen in Ireland, Italy, Austria and Portugal. The remaining countries showed ranges of between 10 and 20 points.

The areas of the EU featuring the lowest percentage of the adult population who successfully completed tertiary education at around 10% or less included the north western, north eastern and southern regions of Italy, all regions in Portugal except Lisboa e Vale do Tejo (14%), the Greek region of Sterea Ellada and all regions in Austria except Salzburg (13%) and Vienna (17%). In contrast to Italy, Portugal and Greece, however, Austria's low ranking at this tertiary level was offset by having the highest figures in the Union for attaining upper secondary education (above 60%) whilst still having relatively low proportions of those who had not completed compulsory education.

Enrolees in post-compulsory education tend to cluster in capital city regions and large cities

Having considered regional diversity in terms of the educational attainment of a large proportion of the adult population, regional fluctuations in the extent of participation in education will now be explored. Such data are collected on the basis of enrolment in educational programmes and education institutions. Pupils and students are counted in the region in which they attend school as opposed to the region in which they are resident.

With compulsory education in the EU ending typically at 15 or 16 years in most Member States, 20-year olds who are still in education are assumed to be participating in post-compulsory education and thus furthering their education. In 1999, almost half of the young people aged 20 in the European Union were participating in post-compulsory education.

Figure 2: Participation rates of 20-year olds in post-compulsory education at national level and regional extremes, NUTS 2, 1999

![Diagram showing participation rates of 20-year olds in post-compulsory education at national level and regional extremes, NUTS 2, 1999](image)
Whilst significant regional variations were evident, data should be interpreted with caution, bearing in mind that migration between regions in order to study is common. This, in itself, could be construed as indicating that certain regions either offer more educational opportunities than others, or are seen as more appealing by students as areas in which to study. Finland and Sweden showed the least regional deviation from their national participation rates both of 47%. This was in stark contrast to the situation in Belgium and Austria in particular. For instance, Belgium's capital Brussels revealed rates of over 100% in comparison to its neighbouring region of Brabant Wallon which had the lowest rate of 24% and thus suggesting strong student migration to the capital from this region. Interestingly, however, the participation rate was not particularly low in the other adjacent region of Vlaams Brabant (55%).

In Austria, the regions of Burgenland and Niederösterreich revealed very low rates of about 10%, perhaps most plausibly explained by their proximity to Vienna and the likelihood of students choosing to study in the capital which had the relatively high rate of 73%. Nevertheless, despite this high rate and the fact that the lowest rate in the EU was actually recorded in the Italian mountain region of Valle d’Aosta (6%), the Austrian national participation rate in post-compulsory education for this age was the EU’s lowest at 29%.

Of course it should not be assumed that it is just the capital city regions that are likely to boast larger student populations and thus higher participation rates for 20-year olds. For instance, Spain’s capital Comunidad de Madrid only narrowly featured the highest rate as its northern regions of País Vasco, Comunidad Foral de Navarra and Castilla y León were very close behind with 69%. Also, in the UK where the practice of moving away from one region to study in another is very common, the highest participation rates were found in Wales (60%), the East and West Midlands, Yorkshire and the Humber (55%). In Germany, the top participation rate was found in Bremen. This was the highest in the EU after with just over three quarters of 20 year olds participating in post-compulsory education. Similarly, two western regions of France, namely Bretagne and Midi-Pyrénées, shared the highest French rate of 62%. However, with the exception of Corse, vast regional variations within France were not so apparent.

The effect of border regions on certain educational issues

The following indicators explore whether the proximity of neighbouring countries has an effect on the mobility of non-nationals and on the foreign languages studied.

Non-national tertiary education students (ISCED 5-6) are concentrated in capital city and border areas.

In the European Union in 1999, around 726,000 students (both from within and outside the EU) were studying in a tertiary education institution outside the borders of their own country. This represented 6% of the total student population.

Table 1: Non-nationals as a percentage of the total student population in tertiary education (ISCED 5-6) at national level and regional variations, NUTS 2, 1999

<table>
<thead>
<tr>
<th>EU-15</th>
<th>NUTS 2 Regions with minimum value</th>
<th>NUTS 2 Regions with maximum value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgique-België</td>
<td>10.3 West-Vlaanderen</td>
<td>0.5 Luxembourg</td>
</tr>
<tr>
<td>Danmark</td>
<td>6.5</td>
<td>Berlin</td>
</tr>
<tr>
<td>BR Deutschland</td>
<td>8.5 Thüringen</td>
<td>3.3 Voreio Aigaio</td>
</tr>
<tr>
<td>Essa</td>
<td>0.4 Thessalia</td>
<td>0.2 Comunidad Foral de Nav</td>
</tr>
<tr>
<td>España</td>
<td>1.8 Ceuta y Melilla</td>
<td>0.2 Alsace</td>
</tr>
<tr>
<td>Francia</td>
<td>6.5 Pays de la Loire</td>
<td>2.7 Alzace</td>
</tr>
<tr>
<td>Ireland</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Italia</td>
<td>1.3 Basilicata</td>
<td>0.3 Friuli-Venezia Giulia</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>12.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Nederland</td>
<td>2.9 Friesland/Flevoland</td>
<td>0.6 Limburg</td>
</tr>
<tr>
<td>Österreich</td>
<td>11.8 Niederösterreich</td>
<td>2.7 Tirol</td>
</tr>
<tr>
<td>Portugal</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Suomi/Finnland</td>
<td>1.8 Pohjols-Suomi</td>
<td>1.2 Åland</td>
</tr>
<tr>
<td>Sverige</td>
<td>7.3 Norra Mellansverige</td>
<td>3.2 Stockholm</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>11.2 South East/West</td>
<td>8.8 London</td>
</tr>
</tbody>
</table>

As indicated in table 1, it was either capital city or border regions that housed the largest percentage of these non-national students. The indicator shows the relative concentration of foreign students in the student population of the area: high percentages do not suggest that these regions necessarily attracted the highest actual numbers of non-national students, but that students from other countries made up the highest proportion in these areas, although their student populations may be smaller than other regions.

An extreme example of this situation is in Åland which ranks highest because this region had by far the fewest students in Finland. Instead, a more comparable figure is that for the capital region of Uusimaa which had 2.6% of non-national students, of which around one in five were from the EU.
The high density of non-national students in border regions was most pronounced in the Belgian province of Luxembourg and in the region of Tirol in southern Austria. In both cases, many of these students came from neighbouring EU countries (19.6% and 20.4% respectively) indicating a strong tendency of cross border mobility of tertiary education students. Likewise, Limburg in the Netherlands situated on the borders of the Flemish part of Belgium, had the highest national percentage of non-national students amongst its total student population. Again, the majority of these were EU nationals. The situation in France also revealed similar results whereby Alsace in the east of France had 10.6% of non-nationals amongst its students, although less than half of these were from within the EU.

France’s southern neighbour attracted many of its nationals possibly explaining why Comunidad Foral de Navarra had the highest proportion of non-nationals in Spain, although this figure of 3% was also shared by the region containing the capital (Comunidad de Madrid) and its neighbour Castilla y León, both of which had much larger student populations, and this level reaching proportions of 90% and over. Lower figures were seen in Germany’s Saarland and Spain’s Ceuta y Melilla (85%), perhaps due to the influence of French from neighbouring countries as the percentage of those learning it was higher in these areas than others. Thus, the percentage of those learning French in Germany reached maximum proportions of nearly 60% in Saarland and of just under half in the other border regions of Rheinland-Pfalz and Baden-Württemburg. Similar proportions, however, were also found in the capital and, rather more surprisingly, in Thüringen.

In Italy, too, Valle d’Aosta (64%) and Sardegna (60%) had the lowest proportion of students learning English but the highest learning French. Indeed, within Italy there was the largest regional variation suggesting that although English was the most widely taught language, its popularity was not such a national phenomenon as in the other countries for which data were available. The learning of French was also very popular in Luxembourg (89%) and Ireland (64%), whereas in the Scandinavian countries German was much more popular than French.

Learning foreign languages as part of upper secondary general education (ISCED 3)

In 1999, the effect of a region’s border location on foreign language learning in the school system was very evident in the French regions of Franche-Comté, Lorraine and particularly Alsace, where there were rates of 64%, 52% and 83%, respectively, of students learning German compared to the national average of just over a third. Likewise, in the Alpine regions of Trentino-Alto Adige, Valle d’Aosta and Friuli-Venezia Giulia bordering Austria, proportions of students learning German were relatively high compared to the rest of Italy. In the southern regions of France, over two thirds of students were learning Spanish (although in general the study of Spanish was more common in France than in other countries). The learning of French was not however reciprocated in Spain: despite high spots of 23% in Ceuta y Melilla and just over a third in Andalucía, this latter figure was more than double the proportion shown in all other Spanish regions.

In the countries for which data were provided (D, DK, E, F, I, L, FIN, S), English still prevailed as the most widely taught foreign language with the percentage of students learning it at a level reaching proportions of 90% and over. Lower figures were seen in Germany’s Saarland and Spain’s Ceuta y Melilla (85%), perhaps due to the influence of French from neighbouring countries as the percentage of those learning it was higher in these areas than others. Thus, the percentage of those learning French in Germany reached maximum proportions of nearly 60% in Saarland and of just under half in the other border regions of Rheinland-Pfalz and Baden-Württemburg. Similar proportions, however, were also found in the capital and, rather more surprisingly, in Thüringen.

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Little regional deviation from the national pattern concerning the vocational or general option

In many EU countries in 1999, studies of a vocational rather than general nature were preferred by approximately two thirds of upper secondary students, with little regional deviation from the national pattern. Exceptions were found in Belgium’s Brabant Wallon and Flevoland in the Netherlands where general education proved more popular. In Germany too, the rate of those enrolled in vocational studies in Berlin was lower than in other regions.

On the other hand, uniformly across the regions of Greece, Ireland and Portugal more students enrolled in general education. In Spain this was also the case, but to a lesser extent, and indeed in most of its four north eastern regions the distribution between the two education types was equal. Similarly, a fairly evenly balanced distribution was seen in the Scandinavian Member States with little regional variation, apart from Åland in Finland which had a smaller proportion of students in general education.
ABBREVIATIONS: : = not available . = not applicable

B Belgium, DK Denmark, D Germany, EL Greece, E Spain, F France, IRL Ireland, I Italy, L Luxembourg, NL Netherlands, A Austria, P Portugal, FIN Finland, S Sweden, UK United Kingdom

DATA SOURCES:
The data on educational attainment were obtained from the Community Labour Force Survey (LFS). The conditions of successful completion vary and can be determined by various criteria, e.g. the award of a certificate, attendance of a number of hours, exams passed.

The regional data concerning participation in education by age, type of education, foreign language study and foreign students were obtained from the Eurostat questionnaire sent to EU Member States. National data were taken from the joint UNESCO/OECD/Eurostat (UOE) questionnaires. Both of these sources collect data on an annual basis using administrative sources.

Data from Eurostat’s demographic database were used for the calculation of participation rates.

EDUCATIONAL LEVELS (web reference for ISCED 1997: http://unesco.stat.unesco.org/uisen/pub/pub0.htm):

ISCED 0: Pre-primary education - Preceding primary education, not compulsory in most countries. Data refer to the education-oriented institutions which obligatorily recruit staff with specialized qualifications in education.

ISCED 1: Primary education - Depending on countries, it begins between 4 and 7 years of age and generally lasts from 5 to 6 years. Programmes are designed to give pupils a sound basic education in reading, writing and mathematics along with an elementary understanding of other subjects.

ISCED 2: Lower secondary education - Is a part of compulsory schooling in all countries analysed. Programmes are typically more subject-focused. Usually the end of this level coincides with the end of full-time compulsory education.

ISCED 3: Upper secondary education - Typically starts at 15 or 16 years, at the end of full-time compulsory education. Instruction is even more subject-oriented and often teachers need to be more qualified than at ISCED 2 level. Education can be general or pre-vocational (two types of education often aggregated) or vocational. Many programmes enable access to ISCED 5.

ISCED 4: Post-secondary non-tertiary education - These programmes straddle the boundary between upper-secondary and tertiary education from an international point of view. They serve to broaden the knowledge of ISCED 3 graduates. Typical examples are programmes designed to prepare students for studies at level 5 while other programmes prepare students for direct labour market entry.

ISCED 5 and 6: Tertiary education
a) ISCED 5 (first stage): entry to these programmes normally requires the successful completion of ISCED 3 or 4. Level 5A includes programmes with academic orientation and longer duration, and level 5B those which occupational orientation.

b) ISCED 6 (second stage): leads to an advanced research qualification and typically includes the submission of a thesis or dissertation which is the product of original research and represents a significant contribution to knowledge.

NUTS – Nomenclature of Territorial Units for Statistics

It classifies the Community regions at three interrelated levels, level 1 territorial units comprising a whole number of level 2 units and level 2 units a whole number of level 3 units. Luxembourg is regarded as a level 1, 2 and 3 territorial unit. Denmark is regarded as a level 1 and 2 territorial unit, and Ireland and Sweden as level 1 units. Education data are collected at NUTS levels 1 and 2 only.

F: Data exclude the overseas departments (DOM)
D, UK: Apart from the LFS data, data are available at NUTS 1 level only.

SOME DEFINITIONS:
The data cover school-based general education and vocational education/training as well as programmes combining studies at school with work (e.g. apprenticeships), such as the dual system. They cover pupils and students enrolled in full-time and part-time education, in public and private establishments situated on the national or regional territory.

The participation rate for a given age is the ratio of the number of students of this age enrolled in education and the total population of this age. For the vast majority of countries, the reference age is as at 31 December/1 January of the school year. For the UK, data refer to the age of students on 31 August at the beginning of the academic year. It is important to bear in mind that the participation rates are calculated by dividing the number of students enrolled in a region by the resident population in that region. As some young people may be resident in one region and in education in another, this interregional mobility may influence the results.

The data on foreign languages cover only general education. Languages that are taught as “foreign languages” are included. Data refer to foreign languages studied in 1998/99.
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