

The Europe of education

A territory with multiple and evolving profiles

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The European countries are territories in the real sense of the term, but they also form cultural areas in a more general sense. From the point of view of the organization of instruction, there is an area of "educational continuum" in the North and in the East, the one of a "common core" of education in the West and South, and finally the one of a "school with streams" in Germany and some other countries. From an economic point of view, the North and the West are distinguished by the fact that they pay their teachers better and give young people higher skills and qualifications, whereas the South and the East are more at risk of dropping out of school and offer more expensive access to higher education. However, this dichotomy does not stand up to a more detailed analysis. Borders between the different areas are currently being recomposed, since the organization of education tends to become uniform; the North/West and South/East divide is thus called into question, as it is through the use of a more diverse selection of criteria for educational success and national investment in education.

INTRODUCTION

In the present article, the European educational territory is observed at two levels: the level of the Member States of the European Union and the one of the geographical and cultural zones formed by them. Therefore, the article calls upon properly territorial concepts such as the 'country', the 'state', the 'European Union' or the 'educational systems' – all of which are linked to an 'authority' and a 'jurisdiction' (Paquot, 2011) – but it also discusses geographical and cultural areas that are not strictly speaking territories and must be assumed partly arbitrary. These groupings of large territories do not themselves have a legal or administrative basis, or even a statistical basis, insofar as they do not correspond to the subdivisions of the European nomenclature of territorial units for statistics.

This article builds upon a previous publication entitled *Education in Europe: Key Figures* (DEPP-MENJS, 2020), which compared the countries of the European Union according to various criteria, ranging from the organisation of teaching to the different results of education. It also showed various groupings of territories, reflecting economic realities, cultural traditions, historical heritages and linguistic similarities between countries. Following on from this publication, while considerably enriching the analysis of non-territorial groupings, the article will highlight the complexity and richness of the 'European education area' which the EU authorities and its member countries wish to see fully developed by 2025 (COM, 2020c).

With regard to geographical and cultural zones, the article will not only study their main characteristics, but also propose to question their cohesion. Do "Northern European" and "Southern European" countries make relevant groups? Is there a clear line separating countries with a "stream school" from those with a "common core" of education? How do these predominant structures affect the weight of streams in a system? Do they also determine the extent of school drop-out or the proportion of the population with a higher education diploma? Is the divide between the North-West and the South-East visible whatever the result observed and, in particular, do the financial efforts made in education follow the demarcation according to the wealth of the countries, which is spatially rooted? Is there a geography of the results of European education systems, especially when measured on the scale of economic and social issues? These are the main questions that this article seeks to answer.

As in *Education in Europe: Key Figures*, various sources are used here, in particular data and work from Eurostat, other European Commission bodies and, to a lesser extent, the Organisation for Economic Cooperation and Development (OECD). An important place is reserved for the work of the European network Eurydice, which is part of the 'Erasmus +' programme as part of its activities in support of policy reform and which is represented in France by the DEPP: its thematic reports and its online database on the various aspects of European education systems are used here. The United Kingdom, which left the European Union on 31 January 2020 and more recently the "Erasmus+" programme, is taken into account since it was a member State during the reference periods selected (from 2017 to 2019 for most of the data).

THE ORGANISATION OF SCHOOLING AND EDUCATIONAL SUCCESS IN THE EUROPEAN UNION

Continuum and discontinuity as organisational principles of compulsory education in Europe

The organisation of early childhood education and care (ECEC) within the European Union in formal settings (in centres) reveals geographical areas with common traditions. In particular, Northern and Eastern Europe – the Baltic countries belong to both groups because of their geographical and cultural proximity to Scandinavia and their common past with the "Eastern bloc" - form a coherent whole, where there is an integration of childcare and education facilities for very young children with those intended for older children ↘ **Figure 1** p. 18.

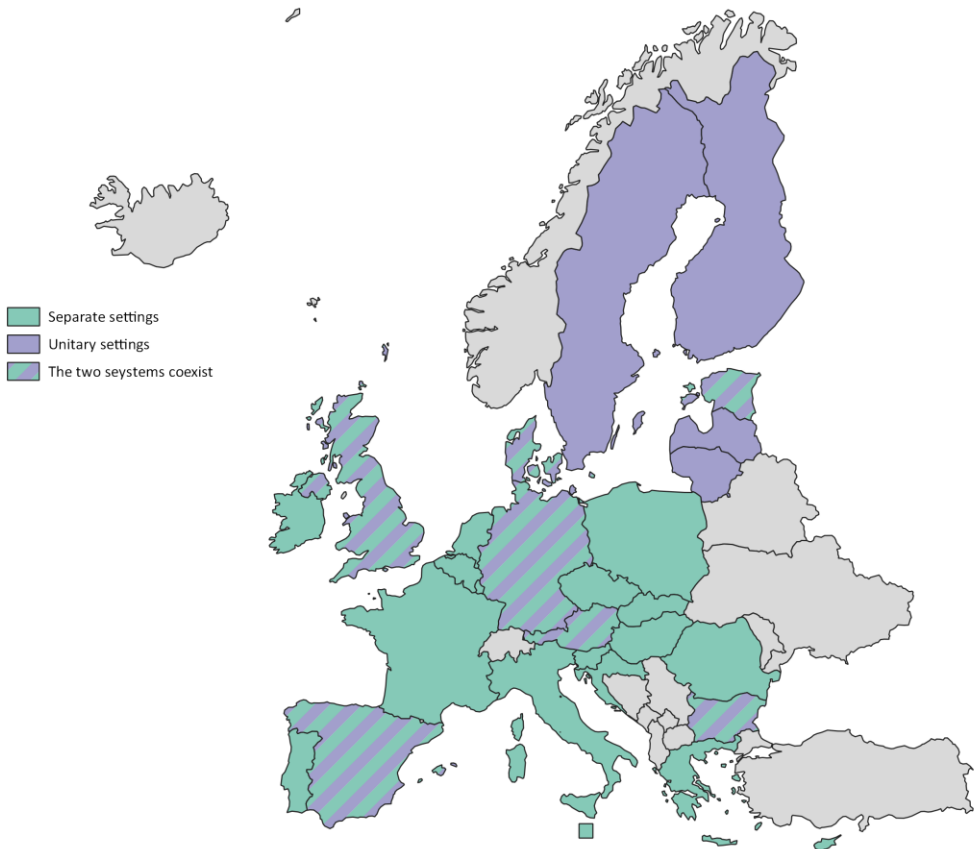
These unitary (integrated) arrangements for young children up to the time they enter primary school are so from an institutional point of view, insofar as care and education take place in the same entities. They are also so from the regulatory point of view, insofar as they are subject to a single supervisory authority, generally that of the ministries in charge of education. In the rest of the Union, there is a juxtaposition of structures – some, generally under the authority of Social Affairs (most often responsible for children aged 0-3), others responsible for children aged 3-6, under the authority of Education.

The logic of integration of structures and continuity in the North and East continues in compulsory education \ Figure 2 p. 19.

First adopted in Scandinavian countries in the 1960s, this model integrates primary and lower secondary education into an educational and institutional continuum generally referred to as 'basic education' (*grundskola* in Swedish or *perusopetus* in Finnish). Children receive the same education in the same place from a single teaching staff throughout compulsory schooling, with the aim of promoting greater equality of opportunity (Vaniscotte, 1999). This 'single school' thus coincides with the period of compulsory education (which begins at age 5 or 6, or even 7 in Estonia, and extends to age 15 or 16), except that compulsory education begins, in some cases (Finland, Sweden, Latvia, Lithuania, Croatia) or ends before the end of lower secondary education (Lithuania, Denmark, Finland), the practice of an additional year being optional in the latter two countries (Eurydice, 2020a).

The so-called "common-core" structures are also characterised by a general education programme followed by all pupils, but, unlike the single structure, this is provided in two separate schools, one for primary and the other for lower secondary education. This modality, which is the most common in the Union, is mainly observed in the countries of Western and Southern Europe, in other words the so-called Latin and Mediterranean countries, in addition to the British Isles. These countries, with a long-standing schooling tradition and considerable historical heritage, have shown themselves to be attentive to the acquisition of knowledge (hence the continuity of the curriculum) but have not, for all that, set up a single Scandinavian-style school; the result is the choice of a 'middle path' as a response to the principles of quality and equity (Vaniscotte, 1999).

↳ **Figure 1** Early childhood care and education systems (centre-based settings) in the European Union in 2018-2019



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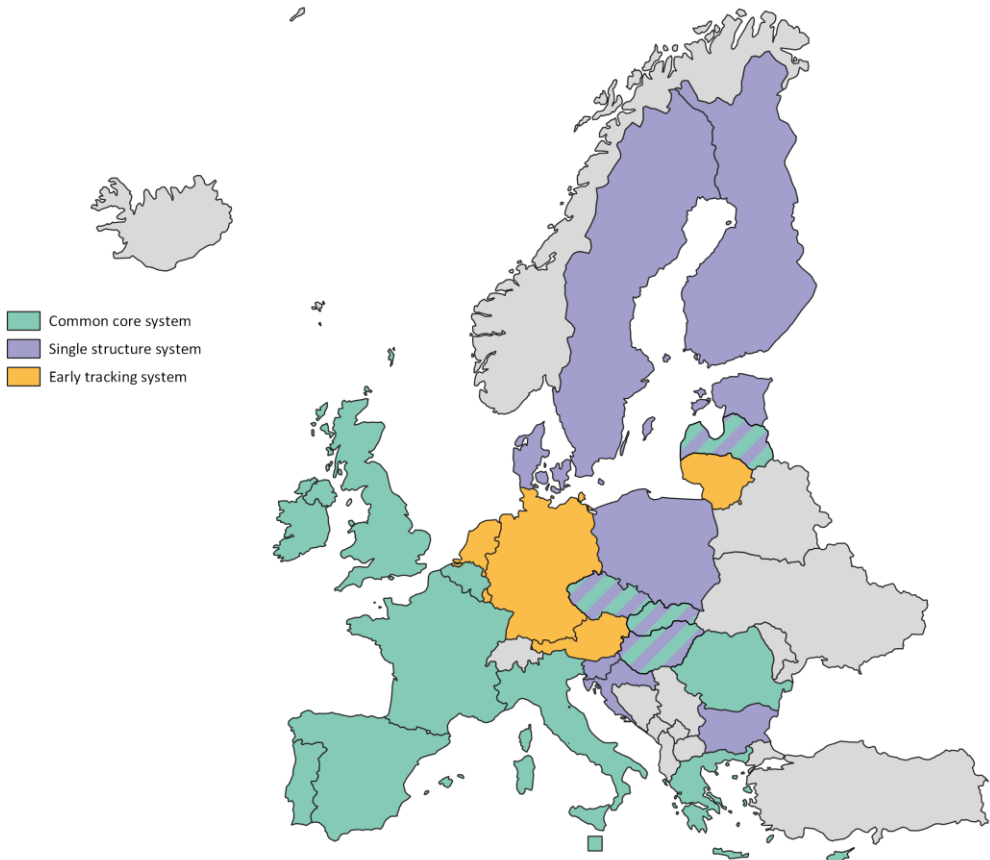
Scope: educational (educational development or pre-school education) and non-educational, centre-based settings.

Source: DEPP-MENJS, 2020; Eurydice, 2019a.

A third model, clearly different from the first two and less clearly spatially anchored, is called 'early tracking'. It deploys a logic of discontinuity within compulsory education. Typical of Germany, Austria, Luxembourg and the Netherlands, but also of Lithuania, it requires pupils to be directed from the end of primary education towards general or vocational education programmes of varying content and duration. With considerable operational differences, this 'stream school' seems to be primarily concerned with the social and professional integration of school leavers.

These models are by no means immutable and have recently undergone significant changes. In systems with a stream school, there is a tendency to delay tracking and to introduce bridges: a reform called *Neue Mittelschule* introduced in 2007-2008 in Austria under the auspices of the Ministry of Education and Science has led to a change in the way schools are organised.

↘ **Figure 2** Main models of primary and lower secondary education in Europe in 2019-2020



Source: DEPP-MENJS, 2020; Eurydice, 2020a.

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It aims to reduce the effect of early tracking on student outcomes and to provide all students with a comprehensive basic education (OECD, 2017). Conversely, in some 'common core' systems, there is a trend towards introducing vocational education from lower secondary level, particularly in the form of options designed to avoid school dropout, as with the establishment of 'alternative *curricular pathways*' since 2006 in Portugal (Alvares, 2018). There is therefore a certain isomorphism to be observed in the current evolution of European education systems – an evolution whose precise description would exceed the ambitions of this article –, a trend to converge towards greater homogeneity in organisation.

Furthermore, it must be noted that some systems in the Central and Eastern European Countries ("CEECs")¹, in particular that of the Czech and Slovak Republics, of Hungary and of Latvia, 'single' and 'common-core' structures coexist. Here, the mainstream pathway for pupils is organised in a

¹ The Central and Eastern European countries (the "CEECs") belonging to the European Union have come together through the various waves of rapprochement between the two blocs (the "West" and the "East") leading to the enlargement of the European Union: in 2004, to Estonia, Hungary, Latvia, Lithuania, Poland, the Czech Republic, Slovakia and Slovenia; in 2007, to Bulgaria and Romania; in 2011 to Croatia. See for example Festoc-Louis & Roudaut (2011).

single structure, but pupils may decide to move to parallel structures that cover the whole of secondary education. For example, in the Czech Republic, pupils may decide at age 11 to take an examination to enter technical institutions rather than remain in the traditional single-structure pattern until age 15.

Early leaving from education and training more common in Southern Europe

To this brief overview of European educational systems should be added some considerations on the weight of the different tracks and on the capacity of the systems to retain young people in education up to a certain age and to prevent them from leaving compulsory education without qualifications. It is also worth considering whether geographical groupings emerge in this area and how they resonate with the general organisation of the systems described above.

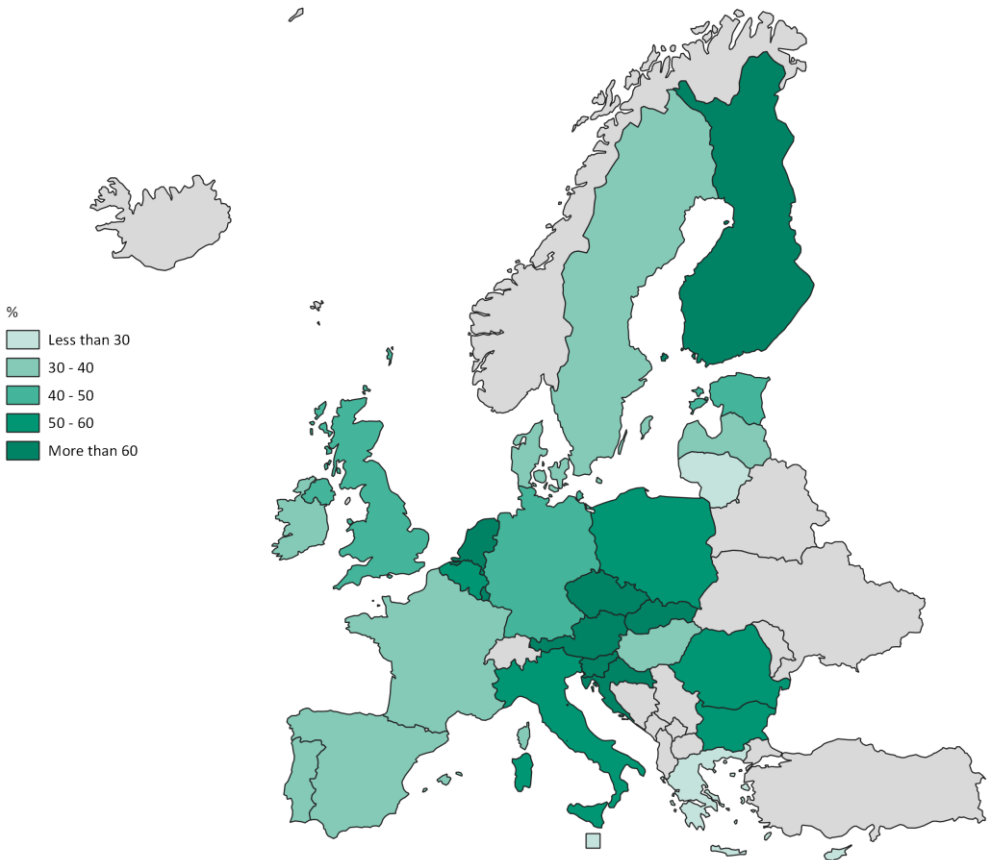
However, to compare countries properly in this way, it is useful to use the International Standard Classification of Education (ISCED). Part of the United Nations family of international economic and social classifications, ISCED version 2011 codes educational programmes and qualifications by a series of three digits, the first two of which refer to level and orientation. The level coding operates as follows: 0 for early childhood education (and more specifically 02, for pre-primary education), 1 for primary education, 2 and 3 for lower and upper secondary, 4 for post-secondary non-tertiary, and 5 to 8 for the various levels of higher education ranging from short programmes to doctorates. The second digit, relating to orientation, is defined as follows: 4 for a general programme and 5 for a vocational programme. Thus, in France, the *baccalauréat général* and the *certificat d'aptitude professionnelle* (CAP) are classified as ISCED 34 and ISCED 35 respectively, as they are upper secondary programmes (first digit: 3) but with a different orientation: general for the *baccalauréat général* (second digit: 4) and vocational for the CAP (second digit: 5).

On this basis, the following questions can be addressed: does the existence of a “stream-school” model implies a high participation of upper secondary pupils in vocational streams? In Austria, the Netherlands and Luxembourg, a majority of upper secondary pupils are indeed enrolled in the vocational stream: 68% in the former groups and 62% in the latter ↘ **Figure 3.**

Germany is an emblematic country for early tracking and has a lower proportion of upper secondary students enrolled in vocational education (47%). However, the country has a significantly higher number of students in vocational post-secondary non-tertiary education (i.e. ISCED level 45) in 2018 than any other European country: 719,000 students in Germany, compared with 235,000 in Poland, 57,000 in Belgium and 16,000 in France. The ISCED 45 student population in Germany alone accounts for almost half (47%) of the ISCED 4 enrolment (regardless of orientation) in the 28-member European Union as a whole. In a few other countries this stream is also significant in relation to the size of the general student population, in particular in Greece, Hungary and Lithuania (see Eurostat [educ_uae_enra16]).

However, it would be imprudent to deduce the weight of the programmes from their general organization alone: these two criteria lead to intra-European groupings of countries that do not coincide perfectly with each other.

↘ **Figure 3** Proportion of students enrolled in the vocational stream (i.e. ISCED 35) among all upper secondary students, in 2017-2018



Source: Eurostat [educ_uoe_enra16].

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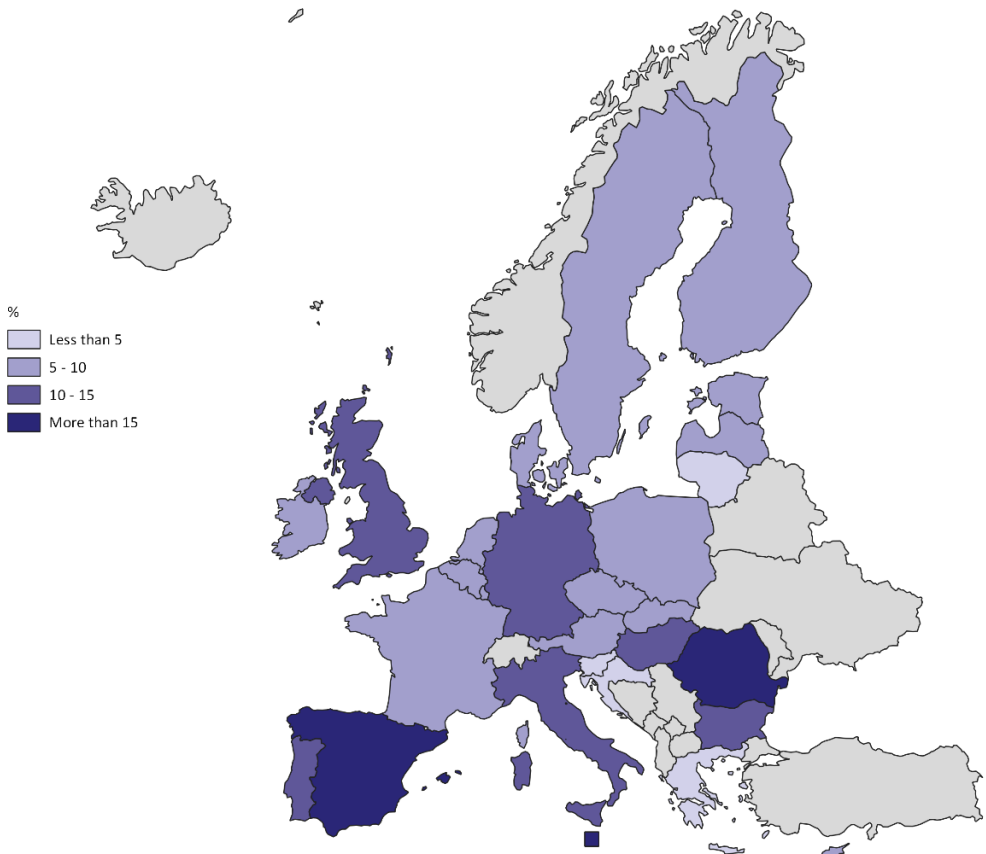
For example, the Slovak Republic and the Czech Republic, as well as Slovenia and Croatia, and Poland, which are countries with an educational continuum, also have extensive secondary vocational education.

Regardless of the type of organisation, early tracking or not, countries with significant secondary vocational education are generally those where fewer students leave training without qualifications. The Netherlands, Belgium and Luxembourg in Western Europe, as well as some countries in the CEEC area (Czech and Slovak Republics, Poland, Croatia) and Austria illustrate this fact well ↘ **Figure 4** p. 22.

Here, the proportions of 18-24 year olds who have left school without a qualification and who have not recently attended training are low, ranging from 3% in Croatia to 8.4% in Belgium. Thus, these countries have achieved one of the two key objectives of the Europe 2020 strategy for education and training, aiming at less than 10% early school leavers².

² At the time of writing, the European education and training targets for the period after 2020 were being negotiated.

↳ **Figure 4** Early leaving rates among 18-24 year olds in the European Union in 2019



Source: Eurostat [edat_lfse_14].

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Nevertheless, this indicator does not allow us to judge the external efficiency of these vocational streams (as it does not provide information on the integration of graduates into the labour market or on their skill levels), nor does it allow us to accurately assess their internal efficiency, insofar as it does not say which stream (between general and vocational) is more likely to produce early leavers. Moreover, while some studies indicate that vocational education and training can help to keep learners in the system and train them who would otherwise drop out (Cedefop, 2016), the countries of southern Europe clearly show the difficulties of the diagnosis. Spain has relatively few upper secondary students enrolled in the vocational track (36%) and many early leavers (over 17%), while Italy fails to avoid a high early leaver rate (over 13%) despite a relatively massive vocational track (54% enrolled in upper secondary).

Finally, Germany has more upper secondary students in vocational education (47%) than France (39%), but it also has more early school leavers (over 10%, compared with 8% in France).

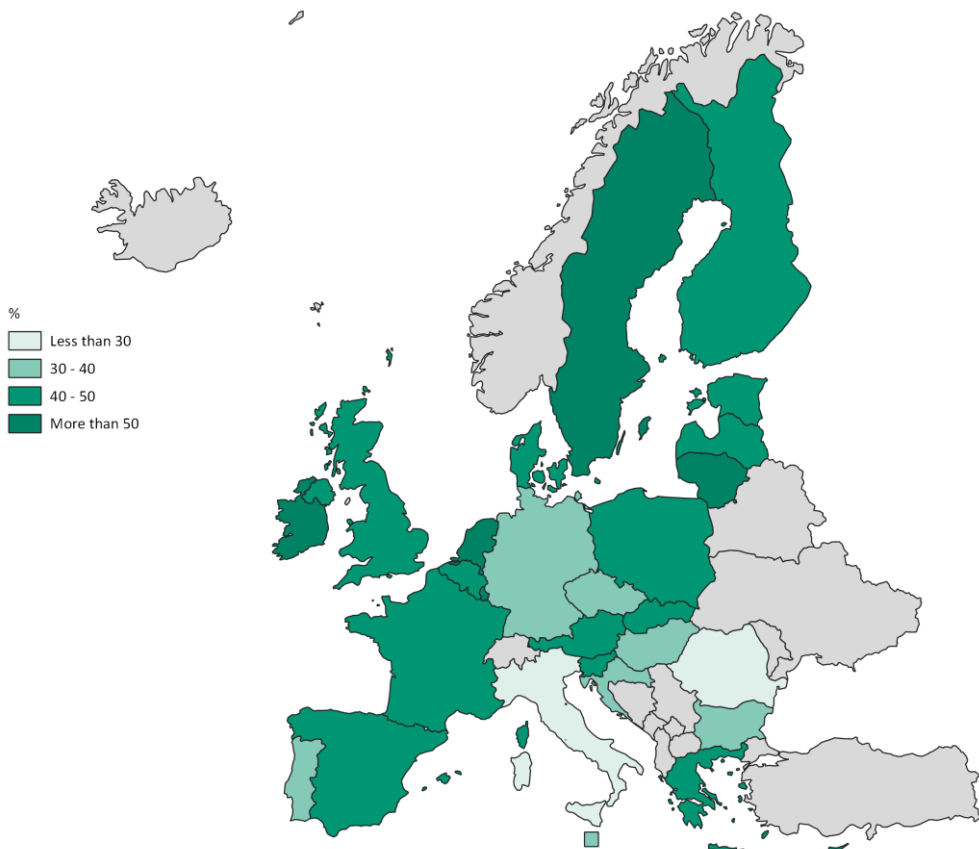
A higher concentration of higher education degrees in Northern Europe

In part of the CEEC area (Bulgaria, Croatia, Romania) or in Italy, secondary vocational education is important - with more than 50% of upper secondary students enrolled in vocational education - and few young people have a higher education degree - less than 35% among those aged between 30 and 34 in 2019. However, in the North, Finland and the Netherlands do not have the same situation: they combine a large proportion of students in vocational tracks (72% and 68% respectively) with large proportions of young people with higher education degrees, 47% and 51% respectively

↘ **Figure 5.**

Countries with few students in the vocational stream at secondary level have, more expectedly, high proportions of higher education graduates. This is the case in Western Europe, notably France and Spain, but especially in the North, with Ireland, Lithuania and Sweden, and to a lesser extent Denmark. In this region, in 2019, the proportions of 30-34 year olds with tertiary education range from 49% in Denmark to 58% in Lithuania, while the share of those with tertiary education in the total population ranges from 11% in Ireland to 11% in Sweden.

↘ **Figure 5 Proportions of tertiary graduates among individuals aged 30-34, in 2019**



Source: Eurostat [edat_lfse_14].

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The proportion of students in vocational secondary education ranges from 27% in Lithuania to 38% in

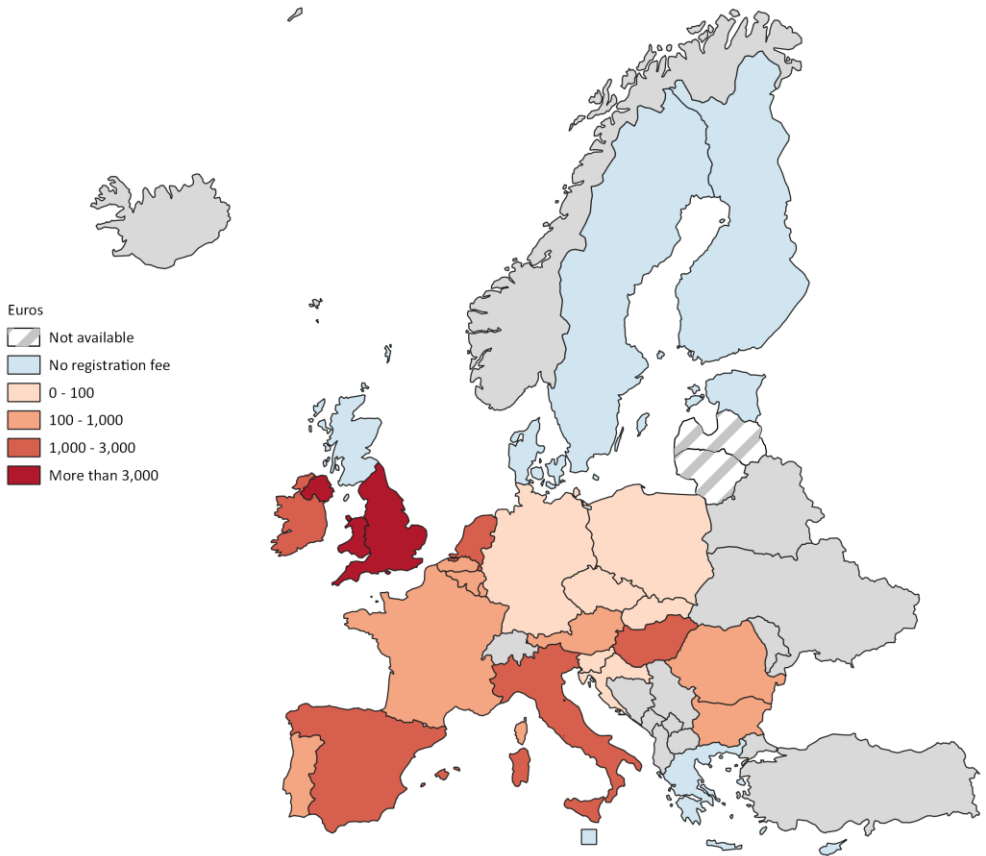
Denmark. However, it is worth noting the importance of short vocational tertiary education in some of these countries. Indeed, among students in tertiary education as a whole (ISCED 5 to 8), a significant proportion are enrolled at ISCED 55 level, which in France corresponds to programmes leading to qualifications such as BTS, DUT, DMA or even professional paramedical and social diplomas. In 2018, this was the case for 20% of students enrolled in higher education in Spain, 19% in France and 11% in Denmark (see Eurostat [educ_uoe_enrt01]).

In many northern countries - in Denmark, Finland, Sweden or Scotland - the high proportions of higher education graduates reflect a policy choice to promote higher education by making enrolment free ↘ **Figure 6.**

This is also the case with Estonia, although higher education institutions there are allowed to charge fees to students who have not completed all their ECTS credits, which is an incentive to complete their course. The Institutions may also ask for a contribution from students enrolled on a part-time basis or from those taking courses in a language other than Estonian.

However, the cost of education does not necessarily seem to be a barrier to participation in higher education. In the Netherlands, with 51% of graduates among 30-34 year olds, and in Ireland with 55% of graduates, tuition fees are high, ranging from a few thousand to tens of thousands of euros per year depending on the university, with the institutions setting the fees themselves. Southern Europe as a whole is marked by higher tuition fees, especially Spain and Italy, with unequal proportions of graduates (45% in the former but barely 28% in the latter). In Greece and Cyprus, however, access to higher education is free of charge and the proportions of graduates are similar to those in the Nordic countries, especially in Cyprus (59%).

↳ **Figure 6** Most common tuition fees in higher education



Source: Eurydice, 2020 b.

INVESTMENT IN EDUCATION IN EUROPE

A strong link between GDP and education spending, but a real effort that varies between countries

In the European Union, the differences in annual public spending per pupil are, unsurprisingly, largely correlated to those in gross domestic product (GDP) per capita ↘ **Figures 7 and 8** p. 26 and 27.

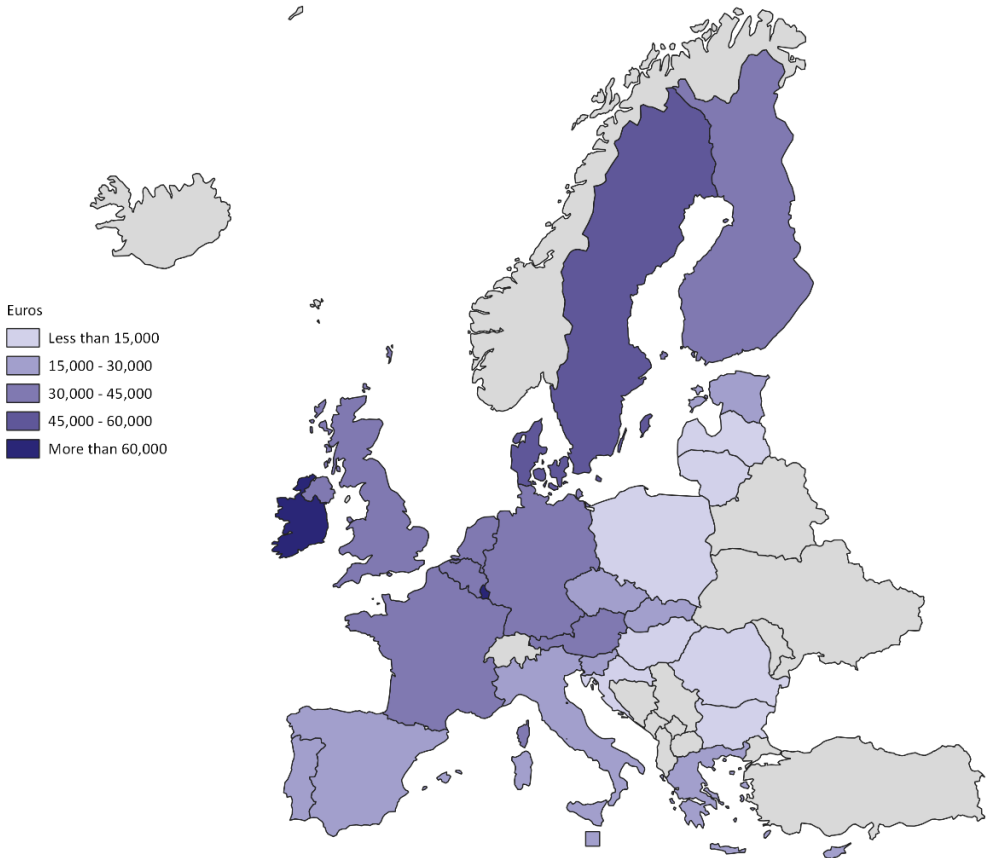
Indeed, in 2017, Eastern and Southern countries spend less than Northern and Western countries for all levels of education (from pre-school to higher education) on average. The richer Northern and Western countries have a higher annual public expenditure per pupil and student on education than the EU-28 member countries on average: this is the case in France (€8 120), Germany (€9 191) or Sweden (€13 842), the maximum being observed in Luxembourg, with €18 304. In the Eastern and Southern countries, wealth per capita and annual public expenditure per pupil are lower than those of the EU-28 countries on average: €3 508 in the Czech Republic and 2,895 in Poland, with the minimum in Romania at €1,426 per year.

If expenditure per pupil is broken down by level of education, it can be seen that volumes increase overall from the lowest to the highest levels ↘ **Table 1** p. 28.

A primary school pupil thus costs less than a secondary school pupil and even less than a student. However, the growth of expenditure across levels is not perfectly linear. Many countries spend more on pre-primary education than on primary education (Bulgaria, Romania, Hungary, Czech Republic, Malta, France, Finland, Sweden, Denmark), mainly due to a tighter supervision and therefore a lower number of pupils per teacher in the first case. France and Germany stand out from the other European countries by a significantly higher expenditure per pupil in upper secondary education than in the preceding cycles. Finland spends considerably more on lower secondary than on upper secondary or even primary education.

The particularly high cost of higher education in some northern countries, such as Sweden and Denmark, reflects both the strong development of this level of education and the free access noted earlier (**figures 5 and 6** p. 23 and 24). The expenditure per student in higher education in France is close to the European average but it is only slightly higher than the expenditure per pupil in upper secondary education in the same country.

↘ **Figure 7** Gross domestic product per capita in 2017, in euros

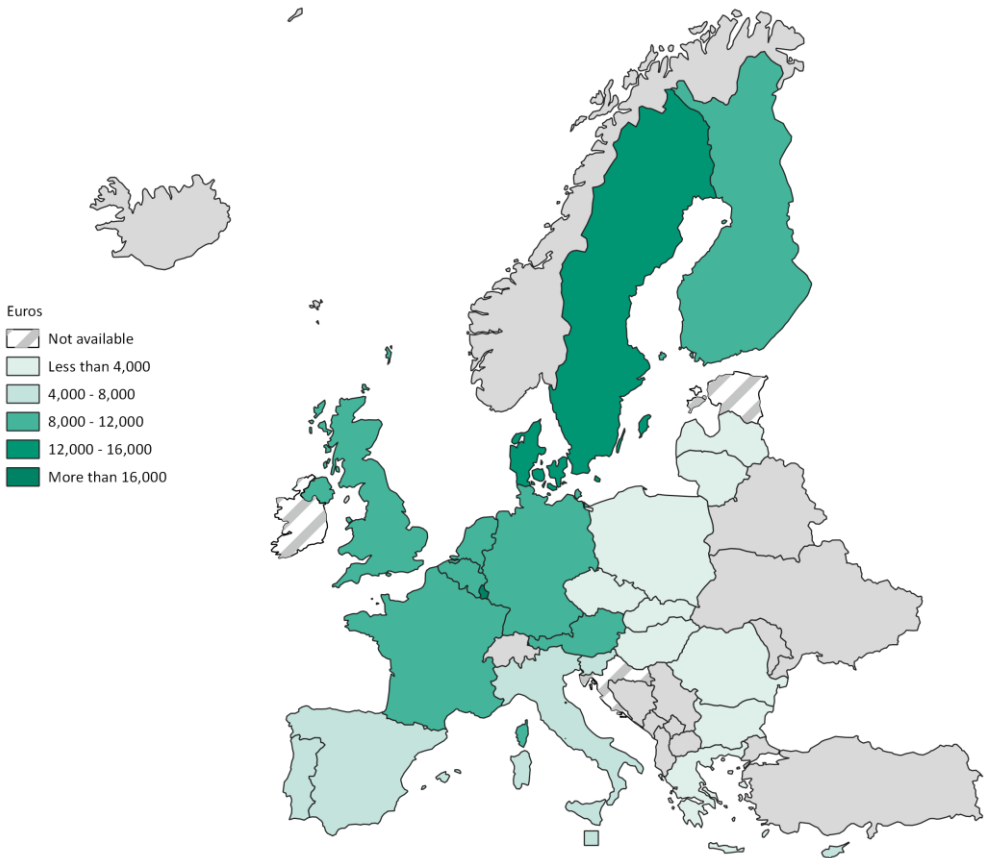


Source: Eurostat [nama_10_pc].

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Finally, in order to compare expenditures while controlling for differences in national wealth, it is useful to relate public expenditure per student to GDP per capita for each country ↘ **Figure 9** p. 29. A less predictable geography then emerges, with southern and eastern Europe forming a less homogeneous whole than according to the previous analysis. The latter appears to be marked by significant variations in terms of expenditure effort, taking into account the financial capacities of each country. Thus, while the average expenditure per pupil corresponds to 15% of GDP per capita in Romania and 18% in Lithuania, it amounts to 25% of GDP per capita in Bulgaria, even though the latter country has the lowest GDP per capita in the European Union. The same reasoning obliges us to put the comparative advantage of the northern and western countries into perspective: while Denmark has one of the highest average expenditures per pupil and student in Europe and this expenditure corresponds to a proportion of GDP per capita that is also among the highest (29%), Cyprus spends significantly less per pupil/student at each level of education in absolute terms but, at the same time, spends a similar proportion of its GDP per capita as Denmark (28%).

↘ **Figure 8** Annual public expenditure per pupil/student (in FTE) on education (from pre-primary to higher education) in 2017, in euros



Note: Data missing for Estonia, Ireland and Croatia.

Source: Eurostat [educ_uoe_fine09].

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Trade-offs on expenditure factors partially blurring the typology of territorial groupings

The idea that education is less costly in Eastern and Southern Europe than in Northern and Western Europe also needs to be qualified by taking into account each of the main factors of public expenditure. Wage costs are by far the main component of education expenditure in all EU countries (COM, 2020a, fig. 62) and are in turn essentially determined by four factors which are arbitrated differently by the countries: the level of remuneration of staff, in particular teachers; their teaching time; the instruction time received by pupils; and finally, the pupil/teacher ratio.

↘ **Table 1** Annual public expenditure per pupil/student (in full-time equivalents, FTE) for education, by level of education, in euros, in 2017

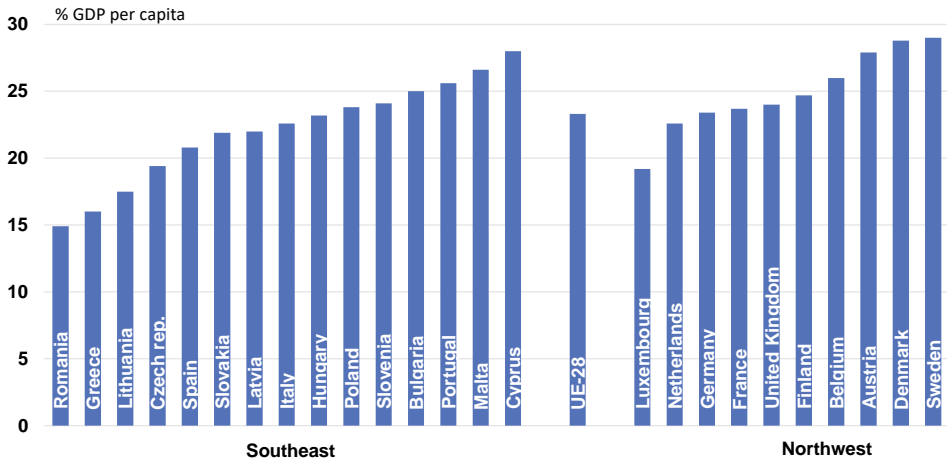
		From pre-primary to higher education	Pre-primary	Primary	Lower secondary education	Upper secondary education	Higher education
Southeast	Romania	1,426	1,132	766	1,540	1,633	2,623
	Bulgaria	1,848	2,212	1,604	1,975	1,489	2,081
	Lithuania	2,610	2,530	2,717	2,568	2,551	2,711
	Greece	2,689	2,984	3,300	3,805	3,613	1,481
	Poland	2,895	2,367	2,937	2,775	2,781	3,726
	Hungary	2,974	2,860	2,204	2,135	3,490	4,124
	Latvia	3,042	2,895	2,967	3,026	3,773	2,659
	Slovak Republic	3,410	2,724	3,289	3,005	3,678	4,818
	Czech Republic	3,508	2,771	2,692	4,550	3,996	4,021
	Estonia	-	-	3,797	3,916	3,808	5,938
	Portugal	4,870	3,126	4,612	6,025	5,520	4,630
	Slovenia	5,009	3,710	4,679	5,853	4,713	6,636
	Spain	5,181	3,932	4,391	5,421	6,266	6,325
	Malta	6,429	4,268	4,121	7,076	7,043	11,291
	Italy	6,491	5,400	6,023	6,657	7,086	7,026
Cyprus	6,517	2,607	6,697	8 330	9,084	5,623	
EU-28	7,214	5,201	-	7,131	7,573	10,305	
Northwest	France	8,120	6,373	6,122	8,142	10,409	10,963
	Ireland	-	-	6,429	6,767	7,796	14,062
	United Kingdom	8,476	3,354	8,106	7,668	7,349	16,060
	Germany	9,191	6,888	6,910	8,624	10,203	14,012
	Netherlands	9,734	6,674	7,190	10,067	9,443	14,978
	Finland	10,109	8,678	8,277	13,230	7,480	16,181
	Belgium	10,205	6,721	8,375	10,970	11,454	14,578
	Austria	11,762	7,565	9,710	12,746	12,879	14,693
	Sweden	13,842	12,555	11,031	11,862	12,876	26,523
	Denmark	14,606	13,577	12,000	12,443	11,190	24,567
	Luxembourg	18,304	15,597	15,696	18,809	18,292	41,533

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Note: Data missing for Croatia. Missing data for pre-primary education and for the pre-primary-higher education average in Estonia and Ireland. Missing data for the EU-28 average in primary school.

Source: Eurostat [educ_uoe_fine09].

↘ **Figure 9** Government expenditure on education (pre-primary to tertiary) per student (in FTEs), as a percentage of GDP per capita, in 2017



Note: Data missing for Estonia, Ireland and Croatia.

Source: Eurostat [educ_uoe_fine09].

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This can be approximated at least in primary and lower secondary schools by average class size. Teacher salary and instructional time cause per-student expenditure to vary in the same direction (the more time, the higher the expenditure, assuming all other factors remain constant), while instructional time and class size cause it to vary in the opposite direction.

Does the analysis of these different wage cost factors show territorial groupings within the Union? Because of its importance but also for better data availability and comparability, this analysis focuses on primary education alone ↘ **Figure 10** p. 30.

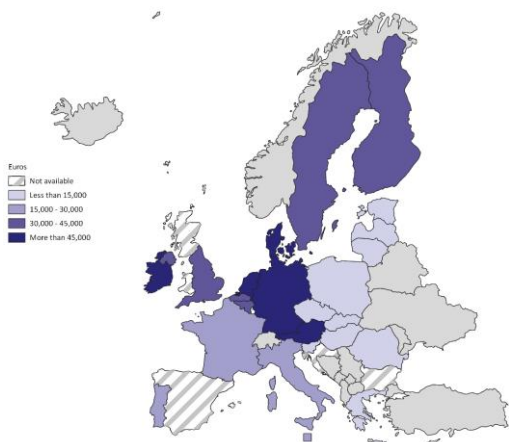
Regarding effective teacher salaries in primary education (DEPP-MENJ, 2019), values are high in the North and West of Europe ↘ **Figure 10a** p. 30. This is an expected result, as these are the regions with the highest cost of living. But within this group there are gaps and stand out the countries that pay their teachers the best in 2018-2019 such as Ireland (€56,478), Germany (€58,847) and Denmark (€62,132). Data are missing for Luxembourg in 2018-2019, but it is the country where salaries are traditionally the highest and put a considerable strain on public expenditure per pupil (**Figure 9**): this is even true for higher education, although it is the European country with the smallest proportion of students among individuals aged 20-24 in 2018, at 8% in Luxembourg compared to 32% on average in the EU-28 and 35% in France ³.

In the West, a high level of statutory instructional time in primary education - 940 hours in the Netherlands and 905 hours in Ireland, for example - adds to the pressure on the expenditure exerted by already high wages ↘ **Figure 10b**. Lower time plays a different role in the North and East. From Finland (651 hours on average) and Sweden (733 hours), to Greece (748 hours), Poland (603 hours) and the Czech Republic (687 hours), no more than 750 hours of instruction per year are provided on average; this is also the case in Germany, with 724 hours annually in primary school. But in the northern countries, this low instructional time serves as a counterbalance to relatively high remuneration, whereas it contributes, with lower remuneration, to reducing the expenditure per pupil in the East.

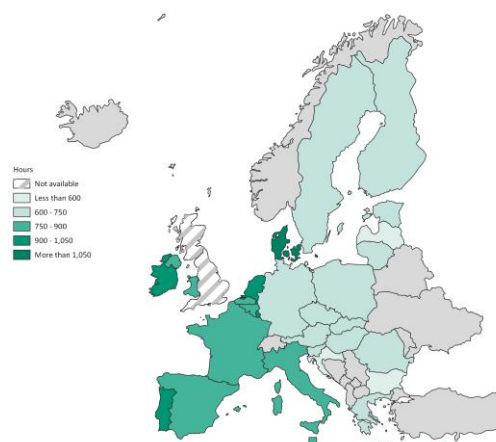
3. See Eurostat [educ_uoe_enrt08].

↘ **Figure 10** Factors influencing the salary cost of teachers in ISCED 1

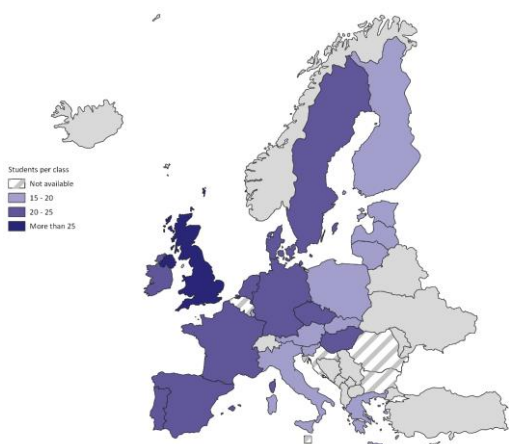
a. Average effective salaries of teachers aged 25 to 64, 2018-2019, in euros



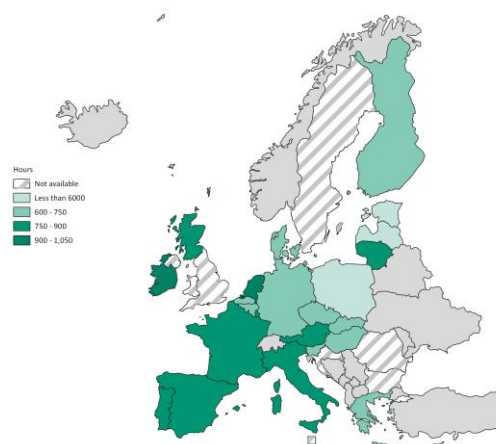
b. Annual statutory instructional time, 2018-2019, in hours



c. Average class size, public sector, 2017-2018, by number of students



d. Annual statutory teaching time, 2018-2019, in hours



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Source: 10.a: Eurydice, 2020c. 10.b: OECD, 2020, table D4.1. 10.c: OECD, 2020, table D2.3. 10.d: Eurydice, 2019b.

A higher average class size is an additional element that has the effect of weighting the expenditure per pupil in the Western countries, but this also concerns the North-West (Sweden) and the South-West (the Iberian Peninsula). The United Kingdom (27 pupils per primary class), Ireland (25 pupils), France (23), Germany (21), Spain (21) and Sweden (20), are representative examples ↘ **Figure 10c**. The comparison is more difficult to make from the point of view of statutory teaching time - the number of teaching hours a full-time teacher gives to a group or class of students according to official documents - due to a lack of data for part of the countries. However, some countries show a

particularly high teaching time in primary education, which, like class size, weights the level of expenditure: this is the case with France (900 hours), Ireland (905 hours) or even the Netherlands (930 hours) \ Figure 10d. In the East, on the other hand, class sizes are smaller overall (at least 17 pupils in Latvia and Lithuania, but also in Greece) and teaching time more modest (554 hours in Poland, 572 hours in Latvia and 588 hours in Estonia), which, all other things being equal, increases expenditure.

A more detailed analysis, assuming data availability that takes into account sub-national variations in public expenditure on education, would further blur the country profiles within Europe. In highly decentralised systems, such as Sweden's for example, different territorial units could belong to different public expenditure profiles ⁴.

THE ECONOMIC AND SOCIAL BENEFITS OF EDUCATION

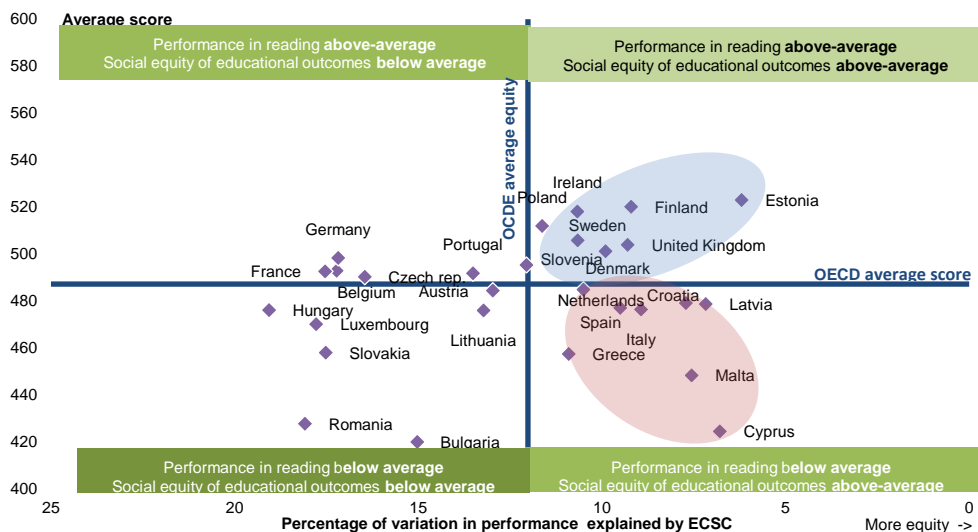
A more competent North of Europe overall, but an equally fair South

The previous analyses established territorial groupings based, firstly, on a typology of European education systems and on some of the results of these systems (retention of learners in training, obtaining diplomas), then, secondly, on the main characteristics of public spending on education in the countries. Finally, it is legitimate to analyse the possible intra-European convergences, taking into account the effects that schooling and the levels of education acquired can have on individuals outside the education systems: for example, on their pay, their civic behaviour or their health. Young people's skills can also be considered as an external result of education as they correspond to achievements directly linked to participation in social and economic life.

This is the case with the international PISA assessment, which evaluates the skills of 15-year-old students in reading literacy, mathematics and science. The test asks how well students can "extrapolate from what they have learned and apply their knowledge in unfamiliar contexts, both in and out of school" (OECD, 2019). The following graph first shows average scores of European countries in 2018 on the reading literacy test ↘ **Figure 11** p. 32.

The countries where students achieve the highest average number of points are in the North of the European Union (e.g. Estonia, Finland and Ireland), while several countries in the South and East have competences below the international average of 487 points (especially Bulgaria, Cyprus and Romania).

↘ **Figure 11** Student achievement in reading comprehension and equity in 2018.



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Source: OECD, PISA 2018, table II.B1.2.3. Data for Spain are from *Ministerio de Educación y Formación Profesional, PISA 2018: resultados de lectura en España, 2020*.

A group of countries, more heterogeneous geographically but also in terms of the organisation of their education systems, fluctuate around the average: Austria, the Netherlands, the Czech Republic, Portugal, France, Belgium and Germany.

The graph also shows the extent to which the social, economic and cultural environment to which the pupils belong weighs in the distribution of skills across each country. This weight of the environment is expressed by the share of the variation in results explained by a dedicated index (horizontal axis): the lower this share is, the less the results vary according to the environment and the more the education system can *ultimately* be qualified as fair.

With 18% of the variation in results explained by the environment, France is among the relatively inequitable countries and in this respect resembles Germany (17%) or Belgium (17%). It is still the countries of the North that are most often among the most equitable, in addition to having pupils who are on average more competent than the others: Estonia stands out with an average score equal to 523 points and only 6% of the variation explained by environment. But some countries in the South, despite lower average scores, do just as well in terms of equity: in Cyprus, Malta, Croatia and Italy, the share of variation in performance explained by the pupil's background ranges only from 7% to 9%.

Of course, this indicator of equity can only reflect an external result of the systems insofar as the part of the variation explained by the environment is observed in its temporal evolution. For the equity or inequity of a system partly reproduces those of the environment.

In this sense, a system can only be said to be effective if it proves capable of reducing the weight of environment in students' skills and thus contributing to greater social justice. Between the reading literacy assessment in PISA 2009 and PISA 2018 (cycles in which this skill was the major area of assessment), the share of the variation in results due to environment fell by 3 percentage points or more, particularly in some Central and Eastern European countries (Hungary, Bulgaria, Croatia, Poland, Latvia), but also in the South (Spain, Italy, Portugal) or in Denmark, the United Kingdom and Austria. In contrast, the distribution of results has become less equitable (3 percentage points or more) in the Czech and Slovak Republics, and in Romania.

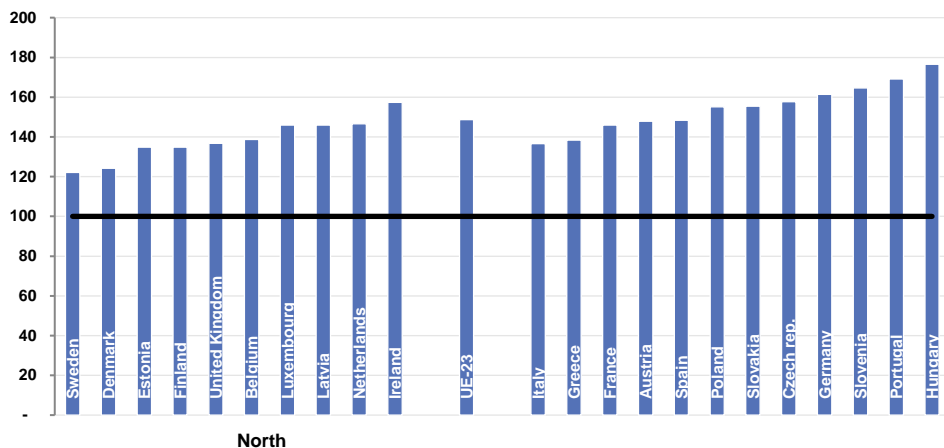
In Northern countries, a lower return of higher education degrees on labour income

Within the European Union, the impact of education levels and diplomas on employment or income is the subject of numerous analyses (see for example DEPP-MENJS, 2020). The findings are often difficult to establish. Thus, to measure precisely the wage advantage of higher education over secondary education would require taking into account a large number of variables, including the control of the effects of the socio-economic environment, which is beyond the scope of this article.

With this methodological reservation, it can be seen that a higher education degree brings in all countries an overall benefit in terms of earnings ↘ **Figure 12.**

However, this benefit is lower in northern countries: in Sweden, Denmark, Estonia, Finland and the United Kingdom, the average income of a higher education graduate is at best 40% higher than that of a upper secondary education graduate.

↘ **Figure 12** Labor income of people with tertiary education compared to upper secondary school graduates in 2018



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Note: 2016 reference year for France and Italy. Reference year 2017 for Belgium, Spain and Finland.

Source: OECD, 2020, Table A4.1.

In contrast, in the South and East, a tertiary qualification provides on average a more significant earnings premium, ranging from 48% in Spain, 55% in Poland and the Slovak Republic, to 77% in Hungary (it ranges from 46% in France to 61% in Germany, but is 37% in Italy).

The regions with less profitable qualifications are therefore generally those where a large proportion (45% or more) of 30-34 year olds are tertiary graduates (Figure 5 p. 23) and where tertiary education is free of charge (Figure 6 p. 24), except for the United Kingdom, where tuition fees are the highest in Europe and the profitability of the degree is very limited, at 37% more than a secondary school graduate in 2017. In contrast, the lower proportions of highly qualified individuals in the East and to some extent in the South (below 40% in Hungary, the Czech Republic and Portugal), where access to tertiary education is generally more expensive, seem to benefit from a higher wage return from the degree.

Some countries deviate from the dominant profile of their region. The Netherlands and Ireland in the North, countries that charge high tuition fees but have very high proportions of tertiary graduates (over 50% for both countries), have relatively high returns to tertiary education (almost 60% more than a secondary school graduate in Ireland). Italy in the South has both the lowest share of tertiary graduates in the panel (28% in 2019) and a relatively low return on earnings (37% more for a tertiary degree than for a secondary degree).

Across Europe, fewer obesity problems among higher education graduates

In addition to income, the health of individuals is also related to their education level. In the European Union, except for Latvia, the proportions of adults with obesity are systematically lower among higher education graduates than among individuals with low education ↘ Figure 13.

Moreover, as we can see, the share of people with tertiary education who are obese in 2017 is 11% in European countries on average, and remains close to this average in the majority of countries. This is not the case with individuals with low educational qualifications, where the proportion of those suffering from obesity is not only higher in countries on average (18%), but also more dispersed around this average in individual countries.

The most important result of this analysis is that the link between qualification level and obesity is maintained across the European Union. Apart from Latvia, where no gap is observable by level, Bulgaria and Romania have a relatively small gap, but this must be put into perspective because of

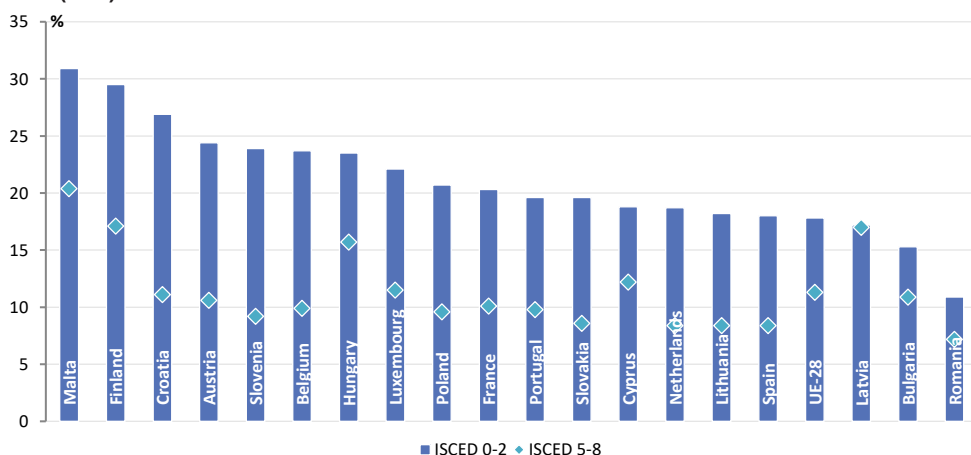
a lower proportion of individuals suffering from obesity among those with low qualifications than elsewhere.

However, here again, other relationships, omitted in this analysis, come into play, such as the effect of socio-economic background and income, or the place of residence and access to care of individuals.

A greater concern for environmental issues among young people in Southern and Eastern Europe

Lastly, although more difficult to estimate on the basis of existing international indicators, a link can nevertheless be observed between the education received and the behaviours associated with life in society.

▼ **Figure 13** Proportion of individuals aged 25-64 years who are obese by level ISCED achieved in 2017 (in %)



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Note: Data for Estonia, the Czech Republic, Ireland and the United Kingdom are considered unreliable by Eurostat and have therefore been removed from the graph.

Source: Eurostat [ilc_hch10].

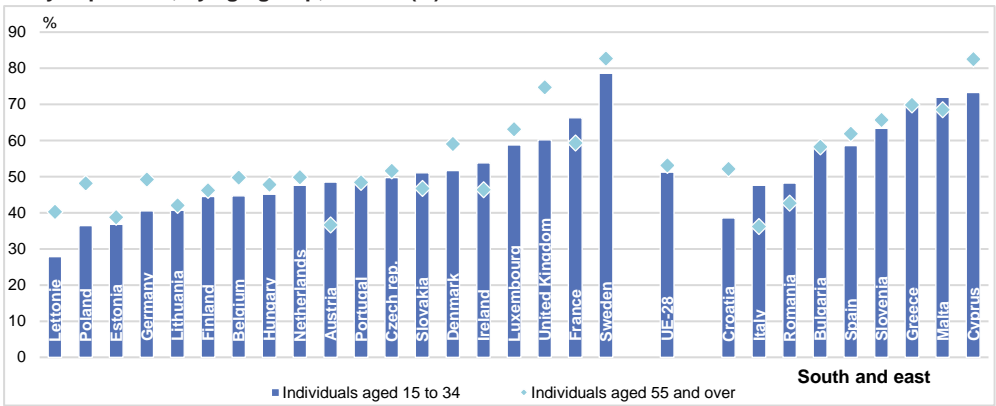
In 2019, the European Commission conducted a survey as part of its "Special Eurobarometer No. 501 on the general attitudes of Europeans towards the environment (COM, 2020b). The results are not broken down by level or type of education received, but are broken down by age group. It can therefore be assumed that they reflect, albeit indirectly, *curricular* changes.

According to the survey, a small majority of individuals in the EU countries on average consider environmental protection as a "very important" cause, whether we observe 15-39 year olds (51%) or 55+ year olds (53%) ▼ **Figure 14** p. 36.

However, there is a concentration of people for whom environmental protection is a major concern in the South and East of Europe, particularly among young people. The two Mediterranean islands in particular are the countries with the highest proportions: 72% in Malta, 73% in Cyprus. Among older people in this part of Europe, the proportions are relatively close to those of young people, with the notable exception of Croatia (52%, 13 percentage points higher than for young people).

In the countries of the rest of Europe, the proportions of young people who are very concerned about environmental protection in 2019 are lower. Especially in the North, the Netherlands, Belgium, Finland and the Baltic countries (Lithuania 41%; Estonia 37%; Latvia 28%) have very low proportions. Only the United Kingdom, France and Sweden reach or exceed 60%, the latter even having the highest proportion of young people of all European countries who consider the subject very important (79%).

Figure 14 Proportion of individuals reporting that protecting the environment is "very important", by age group, in 2019 (%)



Source: COM, 2020b. extracted from Volume C, question QA1.

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CONCLUSION

The analysis carried out in this article has first of all made it possible to observe, within the European Union, large groupings of countries determined by the way in which education is structured up to upper secondary level. A logic of continuity was observed in the North and East, materialized above all by the presence of an integral cycle called 'basic education', as well as the principle of a 'common core' of education in the West and South, and a 'school with streams' in Germany, Austria and some other countries. However, in some systems, notably in Central and Eastern Europe, there has been a coexistence of structures. More broadly, the trend seems to be towards a recomposition of organisational models: bridges between streams are multiplying in early orientation systems, while elsewhere a diversification of pathways is taking place at an increasingly early stage, in particular through the introduction of vocational subjects. While the principle of the continuum seems to lead to higher levels of education in the North, it is in the South, a more heterogeneous area from an organisational point of view, that young people's early exit from education and training is more frequent.

It is also in the South of the European Union, but also in the East, that public spending on education is lower overall. However, it is less so when compared to the production of wealth per capita. Moreover, in some of these countries, pupils have smaller class sizes than in several northern or western countries, and teachers, although generally less well paid than elsewhere, are required to spend less time teaching. The South offers, but is not exclusive to, examples of countries where student achievement is less and less dependent on social background.

With a higher proportion of individuals with tertiary qualifications among young people and low-cost tertiary education for students, the North of the Union is also an area where the average wage surplus provided by tertiary qualifications is lower than in the South and East. The non-economic returns on investment in education are certainly more difficult to establish from the data available at this stage, but there are indications, for example, of a greater environmental awareness among young people in the South than in other parts of the European Union. On the other hand, the health of young people seems to be strongly correlated with the level of education in all regions.

While the analyses carried out here call for caution when grouping countries according to the mode of organisation or the resources allocated to education, they merely open up avenues for more in-depth analyses. In particular, more complete European statistics could lead to more precise findings concerning the social impact of education according to the typology, including territorial, of the countries, or in terms of digital skills, the importance of which has been highlighted by the current crisis and the prolonged periods of distance learning. Other data could lead to a better estimate of the link between structures and results of the systems. Analyses with a historiographical dimension could make it possible to better trace the tendencies towards the unification of modes of organisation and thus deepen the idea of the blurring of spatial logics. Last but not least, a comparison of distant territories within the different countries, based on richer sub-national and international data, could provide a more complete vision of the Europe of education.

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