



European
Commission

Eurydice *Brief*

Equity in school education in Europe:
Structures, policies and student performance





Eurydice Brief

Equity in school education in Europe: Structures, policies and student performance

This Eurydice brief highlights some of the main findings of the Eurydice report on '[Equity in school education in Europe: Structures, policies and student performance](#)'. It describes a number of education structures and policies that influence equity in school and connects them to student performance in international assessment surveys.

The key findings point to several policies that are associated with higher levels of equity. These policies include increased public spending, especially in primary education, assigning students to different educational programmes or tracks at a later stage, limiting differentiation in school choice and admissions policies as well as reducing grade repetition.

The brief shows large differences between countries as to how these and other policies are implemented, and how well they work in reducing inequality in education.

Authors EACEA

Teodora Parveva (coordinator),
Anna Horváth, Anita Krémó and Emmanuel Sigalas

Layout and graphics

Patrice Brel

Contact

Aikaterini Xethali
Communication and Publications
EACEA-EURYDICE@ec.europa.eu

Printed version	EC-02-20-980-EN-C	ISBN 978-92-9484-376-0	doi:10.2797/163180
PDF	EC-02-20-980-EN-N	ISBN 978-92-9484-374-6	doi:10.2797/658266

WHY IS EQUITY IN EDUCATION IMPORTANT?

Socio-economic background continues to be a strong determinant of student attainment.

Education can play an important role in making European societies fairer and more inclusive. To accomplish this, education systems must ensure that all young people are able to develop their talents and achieve their full potential regardless of their background. However, socio-economic background continues to be a strong determinant of student attainment: underperformance, leaving education or training early, and social exclusion are still very real dangers for some students. The on-going COVID-19 crisis reinforces the case for improving equity in education as the shift to distance learning and the loss of teaching time bring increased challenges for disadvantaged students and are likely to compound existing inequalities.

Definitions of equity	
Inclusion when all students receive at least a minimum amount of good quality education	Fairness when student performance is largely independent of socio-economic background

In support of evidence-based policy-making, Eurydice has published the report [Equity in school education in Europe: Structures, policies and student performance](#). This report examines a range of key education policies and structures and assesses how they affect the levels of equity in education systems. Equity is examined along two dimensions: inclusion and fairness (Field, Kuczera and Pont, 2007; Ballarino et al., 2014). The report draws on three types of data: original policy information collected from the Eurydice national units, international survey data on student performance and characteristics (PISA, PIRLS and TIMSS ⁽¹⁾), and statistical data collected by Eurostat. Using bivariate and multivariate statistical analysis methods, the report evaluates the impact of these system-level features on educational equity, individually and in combination. It covers 42 education systems across 37 European countries.

This Eurydice brief provides an overview of the main findings that emerge from the report. First, the brief reviews levels of equity in primary and secondary education using data from international student surveys. It then describes a number of system level features that could potentially influence equity in education. Finally, the brief discusses three multivariate models that identify the policies and structures associated with higher levels of equity.

⁽¹⁾ PISA is the OECD's Programme for International Student Assessment. The Progress in International Reading Literacy Study (PIRLS) and the Trends in International Mathematics and Science Study (TIMSS) are administered by the International Association for the Evaluation of Educational Achievement's (IEA). For more details, see <https://www.oecd.org/pisa/> and <https://www.iea.nl/>.

ARE SOME EDUCATION SYSTEMS MORE EQUITABLE THAN OTHERS?

Top-level authorities in nearly all European education systems define or refer to a range of concepts relating to equity in education in their official documents. Apart from equity, the terms used include fairness, equal opportunities, equality/inequality, disadvantage, non-discrimination, vulnerable groups, at risk groups and early school leaving.

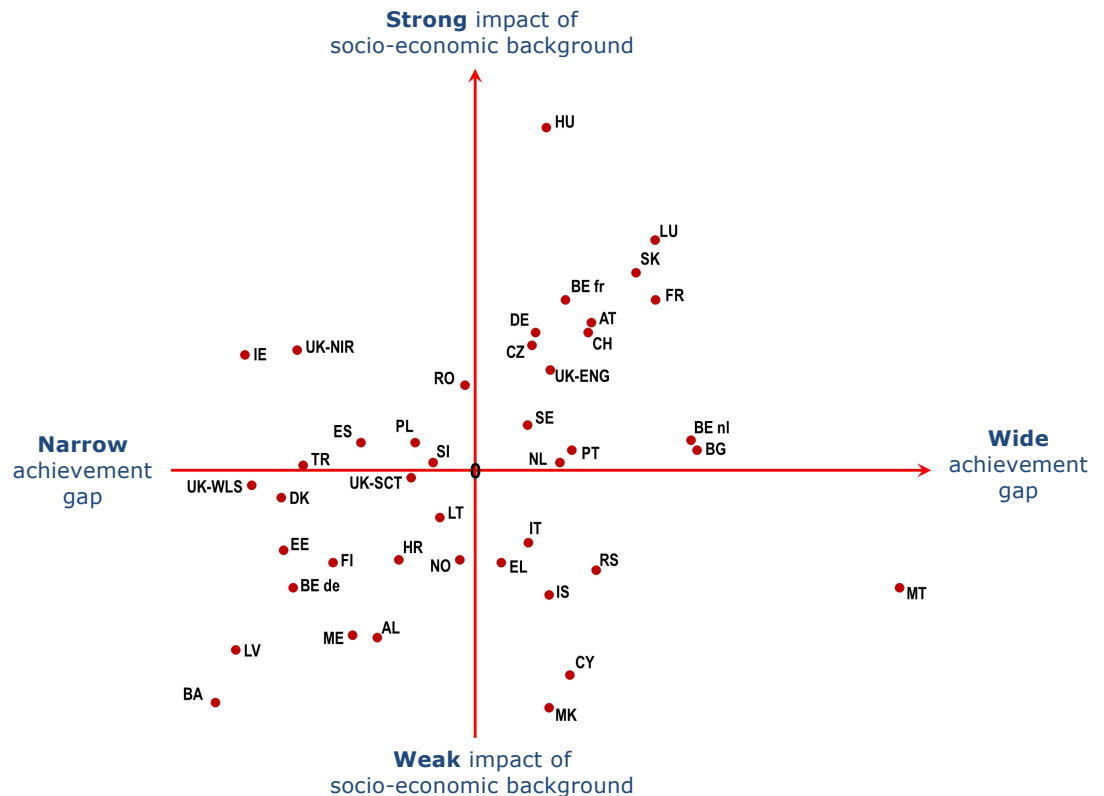
Whatever terms are used in top-level policy documents, the great majority of European systems have at least one major policy initiative in place to promote equity in education or to support disadvantaged students. Yet, equity levels differ widely across Europe, especially in secondary education. The levels of equity are measured here through three indicators: the achievement gap between high- and low-achieving students in primary and secondary education separately (inclusion dimension), and the impact of socio-economic background on student achievement, primary and secondary education combined (fairness dimension).

While equity is addressed in most education systems, the levels of equity vary widely.

Indicators of equity	
Inclusion in primary education	achievement gap between low (P10) and high (P90) achievers in grade 4
Inclusion in secondary education	achievement gap between low (P10) and high (P90) achievers among 15-year-olds
Fairness	correlation between the number of books at home and student performance, primary and secondary education combined

Figure 1 depicts relative levels of inclusion and fairness. The point zero (0,0), where the two axes meet, represents the average level of fairness/inclusion of all participating education systems. The further an education system is from this average in any direction, the more it differs from it, having a relatively wide or narrow achievement gap (low or high level of inclusion) or a relatively strong or weak association between socio-economic background and achievement (low or high level of fairness). As Figure 1 illustrates, while relative country positions may vary depending on the equity indicator chosen, in the majority of education systems, a lower (or higher) inclusion level tends to go together with a lower (or higher) level of fairness. This means that a wider achievement gap is most often, but not always, combined with a stronger association between students' socio-economic background and achievement.

Figure 1: Levels of equity: inclusion and fairness



Source: Eurydice.

Explanatory notes

The coordinates show equity indices based on standardised confirmatory factor analysis scores with a mean of 0 and a standard deviation of 1, computed based on the last two rounds of PIRLS, TIMSS and PISA surveys. The indicator on inclusion includes only secondary education, while the fairness indicator combines primary and secondary education levels. For more information, see the full report (European Commission/EACEA/Eurydice, 2020).

Among all participating education systems, only about one third can be considered to be relatively equitable in both dimensions. These are the education systems in the bottom left quadrant of Figure 1. They have lower than average scores in both dimensions of equity (thereby having a smaller than average achievement gap and a weaker than average association between socio-economic background and achievement). These education systems are the German-speaking Community of Belgium, Denmark, Estonia, Croatia, Latvia, Lithuania, Finland, the United Kingdom (Wales and Scotland), Albania, Bosnia and Herzegovina, Montenegro and Norway. Nevertheless, these education systems can be considered equitable only in relation to others, not according to a specific benchmark or any absolute equity measure.

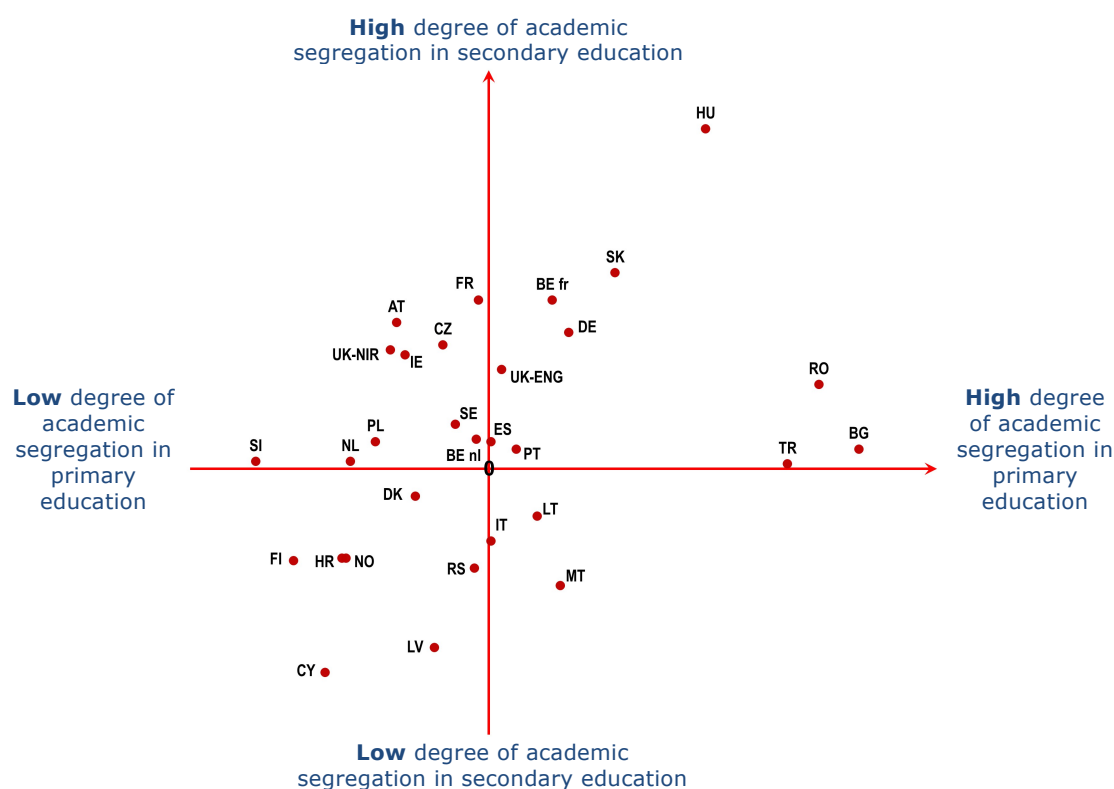
At the same time, some of these relatively well-performing systems have other weaknesses: the overall percentage of low achievers according to international standards is among the highest in Albania, Bosnia and Herzegovina and Montenegro (European Commission/EACEA/Eurydice, 2020, p. 39).

When discussing levels of equity, it is also important to examine how differences in student performance are distributed across schools within an education system: whether they primarily appear within or between schools. The latter means that schools differ more or less substantially in terms of their students' average performance. Such

differences between schools are referred to here as the degree of academic segregation in an education system. Where school differences account for a greater percentage of the variation between pupils' achievement scores, the system is more segregated. The level of segregation influences the learning opportunities schools are able to offer and in turn, the levels of equity in the education system (OECD, 2019a).

Figure 2 depicts relative levels of academic segregation in primary and secondary education. Similarly to Figure 1, the point zero (0,0), where the two axes meet, represents the average level of academic segregation of all participating education systems in primary/secondary education. Average academic segregation is higher in secondary education, which means that an education system with the same degree of academic segregation in primary and secondary education might be above the average in primary, but below in secondary education.

Figure 2: Degrees of academic segregation in primary and secondary education



Source: Eurydice.

Explanatory notes

The coordinates show indices of academic segregation based on standardised confirmatory factor analysis scores with a mean of 0 and a standard deviation of 1, computed based on the last two rounds of PIRLS, TIMSS and PISA surveys. The index of academic segregation is calculated as $100 \cdot \rho$, where ρ stands for the intraclass correlation of performance. The intraclass correlation, in turn, is the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools (see OECD, 2019a, p. 346). For more information, see the full report (European Commission/EACEA/Eurydice, 2020).

Academic segregation goes together with lower levels of inclusion and fairness.

Education systems in the lower left corner are the ones where academic segregation levels are below the average in both primary and secondary education, while academic segregation is relatively high at both levels in education systems in the top right quadrant. Nevertheless, even within this latter group, interesting differences are visible. For example, among the countries with the highest degrees of academic segregation at primary level, Hungary has one of the highest levels of academic segregation at secondary level as well, while Bulgaria, Romania and Turkey are closer to the average academic segregation level at this later educational stage.

As it is also visible on the basis of Figures 1 and 2, higher degrees of academic segregation tend to go together with lower levels of inclusion and fairness.

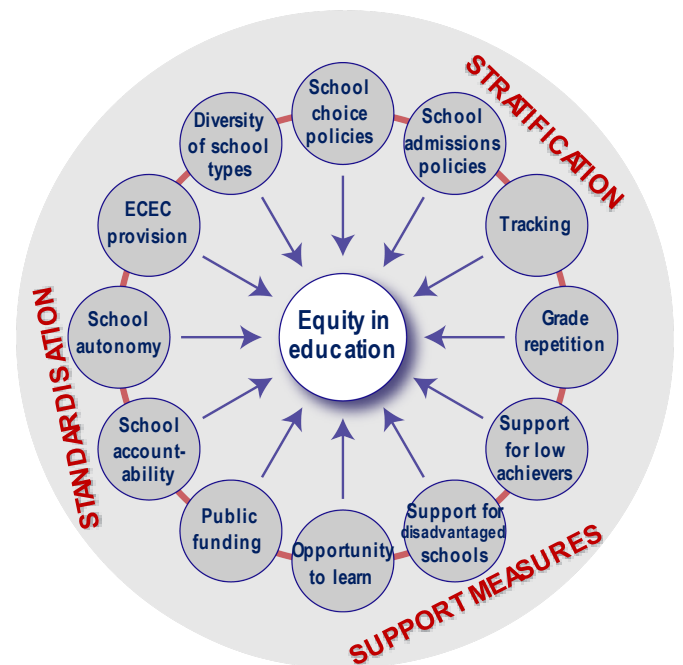
WHICH SYSTEM FEATURES MAY INFLUENCE EQUITY IN SCHOOL?

The framework of analysis includes stratification, standardisation and support measures.

Previous research has shown that system-level features can affect equity in school education in different ways and to a different extent. These policies and structures are closely linked and often influence each other. They can be analysed as parts of a broad framework that comprises stratification, standardisation and support elements, as shown in Figure 3 (see also Allmendinger, 1989).

The subsequent paragraphs present each system-level feature on Figure 3 following this categorisation. To set the scene, participation in early childhood education and care (ECEC) and levels of public funding are examined first.

Figure 3: Education policies and structures that may influence equity in education



Source: Eurydice.

For most children, participation in education starts before the primary level. Research shows that there are clear benefits for children who participate in ECEC in terms of their overall development and academic performance. This finding is especially valid for disadvantaged students (OECD, 2017; Vandenbroeck, Beblavý, and Lenaerts, 2018). Nevertheless, survey data reveal that in the majority of European countries – with the exception of Belgium, Malta, Hungary, the Netherlands, the United Kingdom (Northern Ireland and Scotland), Albania and Switzerland – children from disadvantaged families participate less in ECEC on average.

Barriers to participation in high quality ECEC remain.

Policies for improving equity in ECEC include extending access (both universal and targeted) as well as improving the quality of provision by, for instance, employing well-qualified staff. Other important measures address the challenges faced by disadvantaged families such as cost, cultural and linguistic barriers and lack of information (see also European Commission/EACEA/Eurydice, 2019).

School education in Europe is predominantly funded by public money. Public funding is often expected to 'level the playing field' (Merry, 2020, p. 22), reducing the importance of socio-economic background and differences in student achievement.

Significant differences in the level of public funding per pupil prevail.

At the same time, there are significant differences across Europe in the level of public funding per pupil, ranging between 1 359 PPS (Romania) and 12 322 (Luxembourg) ⁽²⁾. More concretely, twelve education systems ⁽³⁾ spend less than 5 000 PPS per primary education student, sixteen between 5 000 and 10 000 PPS ⁽⁴⁾, while only two (Switzerland and Luxembourg) spend more than 10 000 PPS (see also Annex, Table A21 in European Commission/EACEA/Eurydice, 2020).

Stratification

Stratification is the result of educational differentiation, and thereby refers to the extent to which students are enrolled into different classes, schools or school programmes based on their ability, interest, or other characteristics. Stratification is most often referred to in relation to tracking (assigning students to differentiated tracks or pathways), but can also be the result of grade repetition, the high number of school types, school choice policies or selective schooling.

An important result of stratification is that students of similar ability levels become concentrated within the same schools or within the same classes, thereby increasing academic segregation (Parker et al., 2016, p. 12). At the same time, the impact of socio-economic background on achievement tends to be greater in highly stratified systems, with larger gaps between students from higher and lower socio-economic backgrounds (Strietholt et al., 2019).

Most European education systems offer different types of school, thus a certain degree of differentiation. While a greater variety of school types can cater for the diverse needs of students, it can also increase educational inequalities (Ammermüller, 2005; Strietholt et

⁽²⁾ PPS stands for purchasing power standards. They are obtained by dividing the original value in national currency units by the respective Purchasing Power Parity (PPP). The PPP is a currency conversion rate that converts economic indicators expressed in a national currency into an artificial common currency that equalises the purchasing power of different national currencies. PPS thus buys the same given volume of goods and services in all countries.

⁽³⁾ In ascending order: Romania, Turkey, Bulgaria, Czechia, Hungary, Greece, Lithuania, Estonia, Latvia, Poland, Slovakia and Spain.

⁽⁴⁾ In ascending order: Malta, Portugal, France, Italy, Slovenia, Ireland, the Netherlands, Germany, Finland, the United Kingdom, Belgium, Cyprus, Sweden, Iceland, Austria and Norway.

al., 2019). Therefore, it is important to strike the right balance between meeting different needs and ensuring educational equity.

Various types of school differentiation are interlinked.

Differentiation between types of school may occur due to differences in governance and funding (public or private sector). It may also arise due to differences in the curriculum (e.g. schools offering different specialisations or educational programmes), or through structural features (different school types catering for different age groups or levels of education in parallel). While these system-level features may on the surface appear separate from each other, in reality they are often interlinked. For example, as private schools often have greater autonomy than public ones, this can lead to greater differentiation in other areas such as the curriculum. Generally, if differentiation commences at primary level it then continues through all school levels.

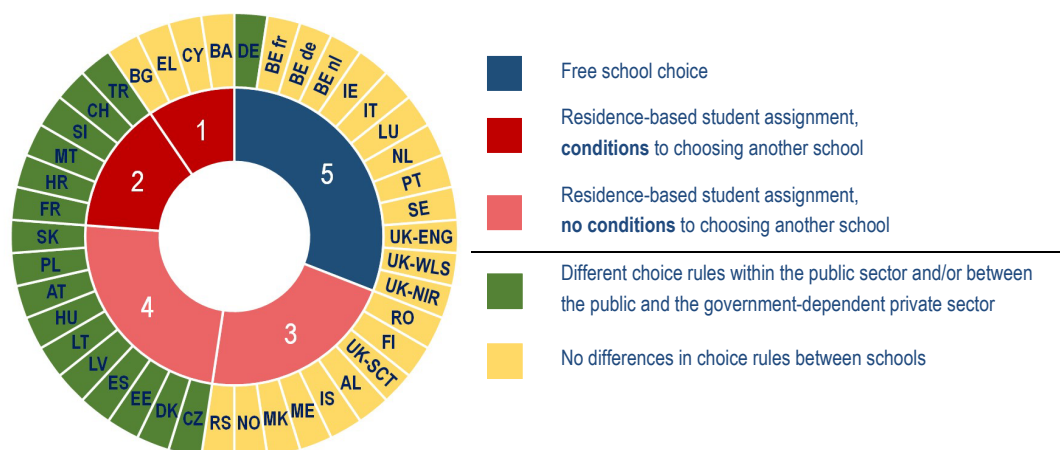
School choice and school admissions policies may also contribute to the stratification of education systems. By influencing school composition, free school choice may lead to more socio-economic and ability stratification in schools (Musset, 2012; Söderström and Uusitalo, 2010; Wilson and Bridge, 2019), with consequences on educational equity and efficiency (Gibbons, Machin and Silva, 2006; OECD, 2019b).

Freedom to choose a school, in combination with differentiation, reduce equity.

Top-level authorities in Europe provide different levels of freedom for families to choose a school, in particular at primary and lower secondary education levels. Figure 4 shows that in 13 education systems, all parents are free to choose their child's school. In the remaining 29 systems, students tend to be assigned, at least on a preliminary basis, to public schools based on their home address. However, in 19 of the 29 systems, families are allowed to choose another public school without any restrictions; thus allowing free choice for active and informed parents. In the majority of education systems, therefore, parents can either freely choose among schools or they can opt-out from school assignment rules. In systems where parents have more freedom to choose a school, the impact of socio-economic background on student achievement tends to be somewhat greater than in systems with student assignment based on residence (European Commission/EACEA/Eurydice, 2020, p. 228).

However, mainstream (i.e. applicable to most schools) policies do not always show the whole picture of school choice policies in an education system. Diversity in the types of school goes hand in hand with different school choice rules for different school types in 16 of the 29 education systems where students are assigned to a public school based on their home address and in Germany. Here government-dependent private schools and/or particular types of public school (based on curricular or structural differentiation) are exempt from the mainstream student assignment, and parents are free to choose these school types, regardless of their home address. More freedom for families to choose a school in combination with regulatory differentiation in this regard can also have a significant negative impact on equity (European Commission/EACEA/Eurydice, 2020, p. 229).

Figure 4: School choice policies – overview, ISCED 1-2, 2018/19



Source: Eurydice.

Explanatory and country-specific notes: see the full report (European Commission/EACEA/Eurydice, 2020, p. 96).

Five types of school choice systems (see Figure 4) have been identified across Europe:

- 1) Systems where students are assigned to a school based on their home address and there is possibility to choose another school only under certain conditions (Bulgaria, Greece, Cyprus and Bosnia and Herzegovina).
- 2) Systems where students are assigned to a school based on their home address and there is possibility to choose another public school only under certain conditions, but the conditions do not apply to government-dependent private schools and/or certain types of public school (France, Croatia, Malta, Slovenia, Switzerland and Turkey).
- 3) Systems where students are assigned to a school based on their residence, but there are no conditions to choosing another school. The same rules apply to all public and government-dependent private schools (Romania, Finland, the United Kingdom – Scotland, Albania, Iceland, Montenegro, North Macedonia, Norway and Serbia).
- 4) Systems where students are assigned to a school based on their residence, but there are no conditions to choosing another school. Government-dependent private schools and/or some types of public school do not need to apply residence-based assignment or they have different residence rules (Czechia, Denmark, Estonia, Spain, Latvia, Lithuania, Hungary, Poland, Austria and Slovakia).
- 5) Systems where there is universal freedom choose a school (Belgium – French, Flemish and German-speaking Communities, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden, the United Kingdom – England, Wales, and Northern Ireland).

The more freedom parents and students have in choosing a school (whether due to the range or number of schools on offer or to the policies regarding school choice), the more marked is the role of admissions criteria and procedures in how students are distributed across schools.

Academic admissions criteria in lower secondary education have negative consequences on equity.

In the majority of education systems, top-level authorities establish the main principles for school admissions – i.e. whether schools can select students, and if they can, under what circumstances. They usually also determine which specific admissions/selection criteria are permitted. However, in more than a third of the systems, top-level authorities leave schools considerable freedom to add further selection criteria to those already set. In many systems, more autonomy tends to be given to government-dependent private schools and/or to particular types of public school. In addition, in half of all systems, top-level authorities set different admissions criteria for certain types of public school. The scale of this regulatory differentiation in school admissions rules varies across education systems depending on the types of school concerned and the educational levels involved. It may start in primary education and concern a variety of school types – including government-dependent private schools and some public school types. Only a third of systems ⁽⁵⁾ have not put in place such differentiation in admissions rules.

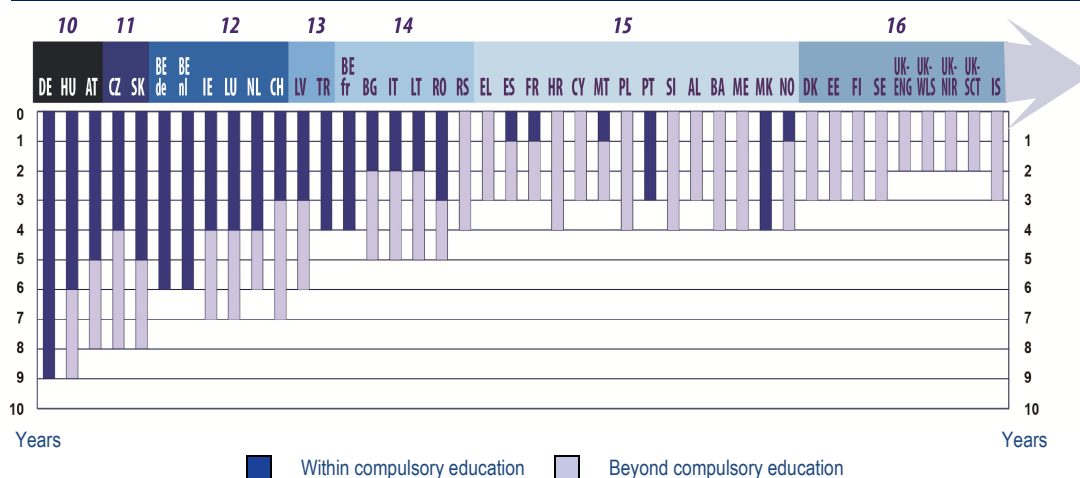
Admissions/selection based on academic achievement may increase ability and social stratification, especially if academic selection takes place at an early age (Field, Kuczera and Pont, 2007; Merry and Arum, 2018). At primary level, admissions criteria defined by top-level authorities are typically not related to academic achievement. Academic admissions criteria are more common in secondary education when students are assigned to different educational programmes or tracks. A third of the education systems ⁽⁶⁾ start this academic selection process as early as lower secondary education. The use of academic admissions criteria at this level strongly correlates with both academic segregation and the strength of the socio-economic background on achievement (European Commission/EACEA/Eurydice, 2020, p. 230-31). At secondary level, few systems make use of non-academic criteria, in particular socio-economic criteria, in school admissions.

Tracking, or the assigning of students to different educational programmes, is indeed one of the major factors shaping the stratification of education systems. It has been found to influence equity in education to a considerable extent (Hanushek and Wößmann, 2006; OECD, 2012). However, the effects of tracking can vary depending on how it is organised, particularly with respect to the age at which students are first assigned to a track or pathway (see Figure 5). The number of tracks, the degree of differentiation, and the relative proportion of upper secondary students in vocationally oriented programmes are also important.

⁽⁵⁾ Belgium (French Community), Estonia, Spain, Italy, Lithuania, Luxembourg, Portugal, Romania, Finland, Sweden, the United Kingdom (Scotland), Iceland, Norway and Serbia.

⁽⁶⁾ Belgium (Flemish and German-speaking Communities), Czechia, Greece, France, Latvia, Luxembourg, Hungary, the Netherlands, Austria, Slovakia, the United Kingdom (England and Northern Ireland) and Switzerland.

Figure 5: De facto starting ages of tracking and total years of schooling covered in a differentiated setting, 2018/19



Source: Eurydice.

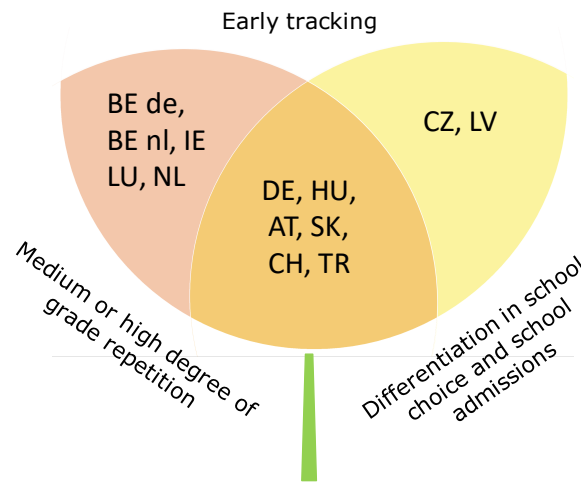
Country-specific notes: see the full report (European Commission/EACEA/Eurydice, 2020, p. 127).

Five types of tracking system have been identified across Europe:

- 1) Systems where tracking starts early (between ages 10 and 13), often with hierarchically ordered general tracks (the German-speaking and Flemish Communities of Belgium, Czechia, Germany, Latvia, Luxembourg, Hungary, the Netherlands, Austria, Slovakia, Switzerland and Turkey).
- 2) Systems where tracking starts at around age 14/15 with a high degree of differentiation predominantly among vocational tracks (Bulgaria, Croatia, Italy, Poland, Portugal, Romania, Slovenia, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia).
- 3) Systems where tracking starts between ages 14 and 16 with a high degree of differentiation predominantly among general pathways (French Community of Belgium, Denmark, France, Lithuania and Norway).
- 4) Systems where tracking starts late (age 15/16) with few tracks, limited academic selection and relatively high permeability (Estonia, Greece, Spain, Cyprus, Finland, Sweden, Albania and Iceland); and
- 5) Systems where tracking is mainly carried out on a course-by-course basis (Ireland, Malta and the United Kingdom).

Early tracking is always combined with other factors strengthening stratification.

Figure 6: The combination of early tracking and other stratification policies



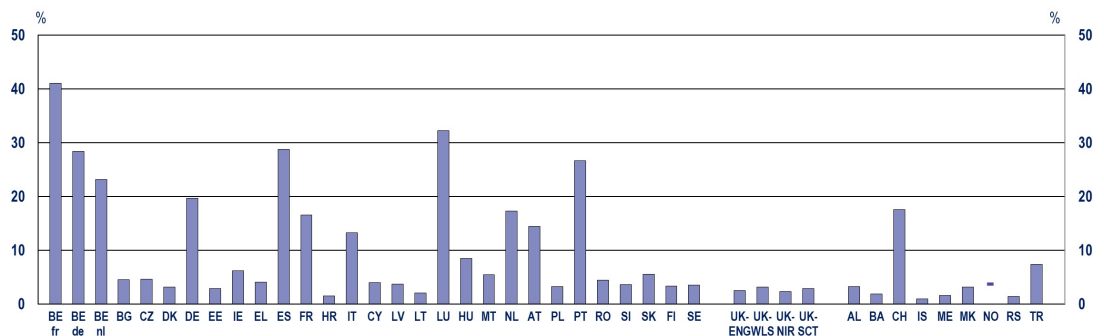
Source: Eurydice.

Early tracking in combination with other elements can have a greater impact on equity. Early tracking tends to go hand in hand with other policies strengthening the stratification of education systems, such as differentiation in school choice and school admissions policies or higher degrees of grade repetition (7) (Figure 6). These education system features together can contribute to lower levels of equity.

Grade repetition remains widespread.

Grade repetition leads to the grouping of students into two categories: those who make it to the next level and those who do not. Although intended as a means of covering learning gaps, it may have the opposite effect. In addition, grade repetition may undermine students' self-esteem and their feeling of belonging (OECD, 2018). The latest PISA data show that grade repetition remains a widespread practice in Europe. On average, 4 % of European students repeat a school grade at least once, but in individual education systems the grade repetition rate can exceed 30 % (Figure 7).

Figure 7: Percentage of 15-year-old students having repeated a grade at least once, ISCED 1-3, 2018



Source: OECD, PISA 2018 database.

Compared to 2009/10, fewer European education systems allow now grade repetition. The number of education systems where grade progression is automatic has increased from four to six in primary education (Bulgaria, Malta, the United Kingdom – Scotland, Iceland, North Macedonia and Norway) and from two to four in lower secondary (Malta, the United Kingdom – Scotland, Iceland and Norway). To help students avoid grade repetition, most education systems have mechanisms in place to give students a second chance. This often takes the form of an exam before the new school year starts.

(7) A medium degree of grade repetition refers to grade repetition rates between 5 % and 20 %, and a high degree of grade repetition stands for grade repetition rates over 20 %.

Furthermore, in about a quarter of education systems (German-speaking Community of Belgium, Germany, Spain, Croatia, Latvia, Luxembourg, Austria, Portugal, Finland and Switzerland), students are allowed to progress to the next grade subject to meeting certain conditions in the following school year ⁽⁸⁾.

Standardisation

Standardisation indicates the extent to which education meets the same quality standards within an education system. Standardisation has two dimensions: 'input' and 'output'. The standardisation of input is most often described through degrees of school autonomy (in setting curricula or allocating resources), while the standardisation of output (or educational outcomes) refers to the use of accountability tools, such as standardised tests or school evaluations (Allmendinger, 1989; Horn 2009).

School autonomy or the degree of freedom individual schools have to make decisions in combination with accountability is often seen as a way of improving student achievement (OECD, 2016b; Schleicher, 2014). At the same time, evidence suggests that a very high degree of school autonomy may lead to differences in the quality of provision and possibly create a hierarchy among schools, which can have a negative effect on equity (Altrichter et al., 2014).

Limited school autonomy, where schools share decision-making with top- and/or local level authorities, is the most common model in Europe. There are, however, areas where schools on average tend to have more autonomy. Notably, full school autonomy is most common in decisions relating to teaching methods, choice of textbooks and internal assessment criteria, as well as the management of human resources. In other areas, such as the content of the compulsory curriculum and the allocation of resources, the responsibility often remains with the top-level authorities. However, government-dependents private schools often tend to be more autonomous than the public ones, especially with respect to their employment and remuneration policy, as well as funding mechanisms.

Limited school autonomy is the most common model.

When considering all 13 areas of school autonomy that were analysed, it appears that the education systems in which schools have the greatest freedom to make decisions independently from top- and local level authorities are (in descending order) Iceland, the Netherlands, Bulgaria, Estonia and the United Kingdom. In contrast, the systems where the least school autonomy is granted are Turkey, Cyprus, North Macedonia, Greece, France, Germany, Malta and Austria.

Accountability in education is a complex area and often it is difficult to draw firm conclusions about the impact it has on student performance and equity (Skrla and Scheurich, 2004; Loeb and Figlio, 2011; Brill et al., 2018). European education systems differ in the extent to which they use the two main school accountability measures: student performance data (results of national examinations for certified qualifications or other national standardised tests), and school performance data (the results of external school evaluations). Practices also vary in the approaches taken to the public reporting of these results.

⁽⁸⁾ In Germany, Latvia, Portugal, Finland and Switzerland, this applies to both primary and lower secondary education. In the other education systems, it either applies to primary but not to lower secondary education (Croatia and Luxembourg), or the other way around (Belgium – German-speaking Community, Spain and Austria).

Test results of individual schools are published only in half of the education systems.

Three distinct types of school accountability system have been identified across Europe:

- 1) Sixteen systems ⁽⁹⁾ have established a relatively elaborate system of school accountability. In most cases, it includes the administration of four to six national examinations and other national tests between ISCED levels 1 and 3. The results of individual schools in (at least some of) these examinations and/or tests are published and used in the external school evaluation process. In turn, the reports emanating from the school evaluation process are also published.
- 2) Eighteen systems ⁽¹⁰⁾ have adopted a lighter version of the first type of accountability system. In addition to holding four or less national examinations and/or other national tests (except the French Community of Belgium which has five), they also implement one or two of the other accountability policies mentioned above. Most of the systems in this group, however, do not publish the test results of individual schools (Poland, Slovakia and Norway being the exceptions, as well as Italy and Slovenia, where these results are published at the school's discretion).
- 3) Eight systems ⁽¹¹⁾ have a less well-developed accountability system. Fewer national examinations and/or other national tests are held, or in two cases, none at all (German-speaking Community of Belgium and Switzerland). These education systems rarely have top-level policies for the publication of national examination or test results. Four of them – Greece, Croatia, Finland and Bosnia and Herzegovina – do not carry out any external school evaluation. Where external school evaluation does take place, examination/test results are not taken into account and evaluation reports are not made public.

Support measures

Support measures to schools and students aim to promote equity and mitigate disadvantage. Schools enrolling high proportions of students from low socio-economic backgrounds exist in many education systems, and they often experience problems in terms of academic performance and school climate (OECD, 2016a). To address challenges faced by disadvantaged schools, top-level authorities can use several policy options: redressing the imbalance in the socio-economic composition of schools, providing targeted support to disadvantaged schools and encouraging good teachers to work in these schools.

⁽⁹⁾ Bulgaria, Denmark, Estonia, France, Latvia, Lithuania, Hungary, the Netherlands, Portugal, Romania, Sweden, the United Kingdom and Iceland.

⁽¹⁰⁾ Belgium (French and Flemish Communities), Czechia, Germany, Ireland, Italy, Spain, Luxembourg, Malta, Austria, Poland, Slovenia, Slovakia, Albania, Montenegro, North Macedonia, Norway and Serbia.

⁽¹¹⁾ Belgium (German-speaking Community), Greece, Croatia, Cyprus, Finland, Bosnia and Herzegovina, Switzerland and Turkey.

While more than half of all systems allocate additional financial or non-financial support to disadvantaged schools, measures to improve the socio-economic composition of schools and incentives to attract teachers to disadvantaged schools are less common.

Incentives to attract teachers to disadvantaged schools are not common.

In terms of the policy measures implemented, three groups of education systems have been identified:

- 1) Eleven systems ⁽¹²⁾ have put in place all three types of measures;
- 2) Twenty-six systems ⁽¹³⁾ implement at least one policy measure (usually the provision of additional support to disadvantaged schools); and
- 3) Five systems ⁽¹⁴⁾ do not have any of these policies in place.

Measures supporting low-achieving students directly are more widespread. The great majority of European education systems have some student support measures in place. Support from psychologists or other professional specialists is the most common type of support, available at all education levels.

Teachers who specialise in dealing with low-achieving students are rarely available, but such teachers may help reducing student achievement differences between schools, especially at the secondary level. Our quantitative analysis revealed a moderately strong association between the availability of teachers specialising on low achievement and academic segregation, which merits further research, to confirm the direction and robustness of the relationship. In primary education, teachers specialising on low-achieving students are available in all schools in only twelve education systems ⁽¹⁵⁾. This decreases to ten ⁽¹⁶⁾ in lower secondary and seven ⁽¹⁷⁾ in upper secondary education.

Teachers specialising in low achievement may be of help.

Besides targeted support, the opportunity to learn is essential if students are to achieve their potential. Previous research signals that the amount of quality learning time provided is a key element and has been shown to correlate well with student outcomes (Gettinger, 1985; Lavy, 2015; Schmidt, Burroughs and Richard, 2015). There are, however, significant variations in the length of compulsory education (between eight and twelve years) and the amount of instruction time for the compulsory curriculum (between 4 541 and 11 340 hours) across Europe. Similarly, there are large differences across education systems both in the total and the annual average instruction time in primary education, when all students typically follow the same curriculum and receive the same amount of instruction in public and government-dependent private education.

⁽¹²⁾ Belgium (French and Flemish Communities), Spain, France, Hungary, Poland, Portugal, Slovakia, Slovenia, Sweden and the United Kingdom (England).

⁽¹³⁾ Belgium (German-speaking Community), Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Italy, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Austria, Romania, Finland, the United Kingdom (Wales, Northern Ireland and Scotland), Switzerland, Iceland, Montenegro, North Macedonia, Norway and Serbia.

⁽¹⁴⁾ Croatia, Malta, Albania, Bosnia and Herzegovina and Turkey.

⁽¹⁵⁾ Denmark, Germany, Spain, Luxembourg, Malta, Poland, Portugal, Finland, the United Kingdom (Scotland), Switzerland, Iceland and Montenegro.

⁽¹⁶⁾ Denmark, Germany, Spain, Malta, Portugal, Finland, the United Kingdom (Scotland), Switzerland, Iceland and Montenegro.

⁽¹⁷⁾ Germany, Spain, Malta, Portugal, Finland, the United Kingdom (Scotland), Montenegro.

Additional activities are recommended in half of the education systems.

Top-level authorities in only about half of the education systems recommend free or subsidised additional activities in schools outside the normal school day. Even fewer education systems call for educational activities to be provided in schools during the summer holidays; where this does occur, it is usually for remedial classes for students who risk repeating a grade.

MODELLING THE RELATIONSHIP BETWEEN EDUCATION SYSTEM FEATURES AND EQUITY

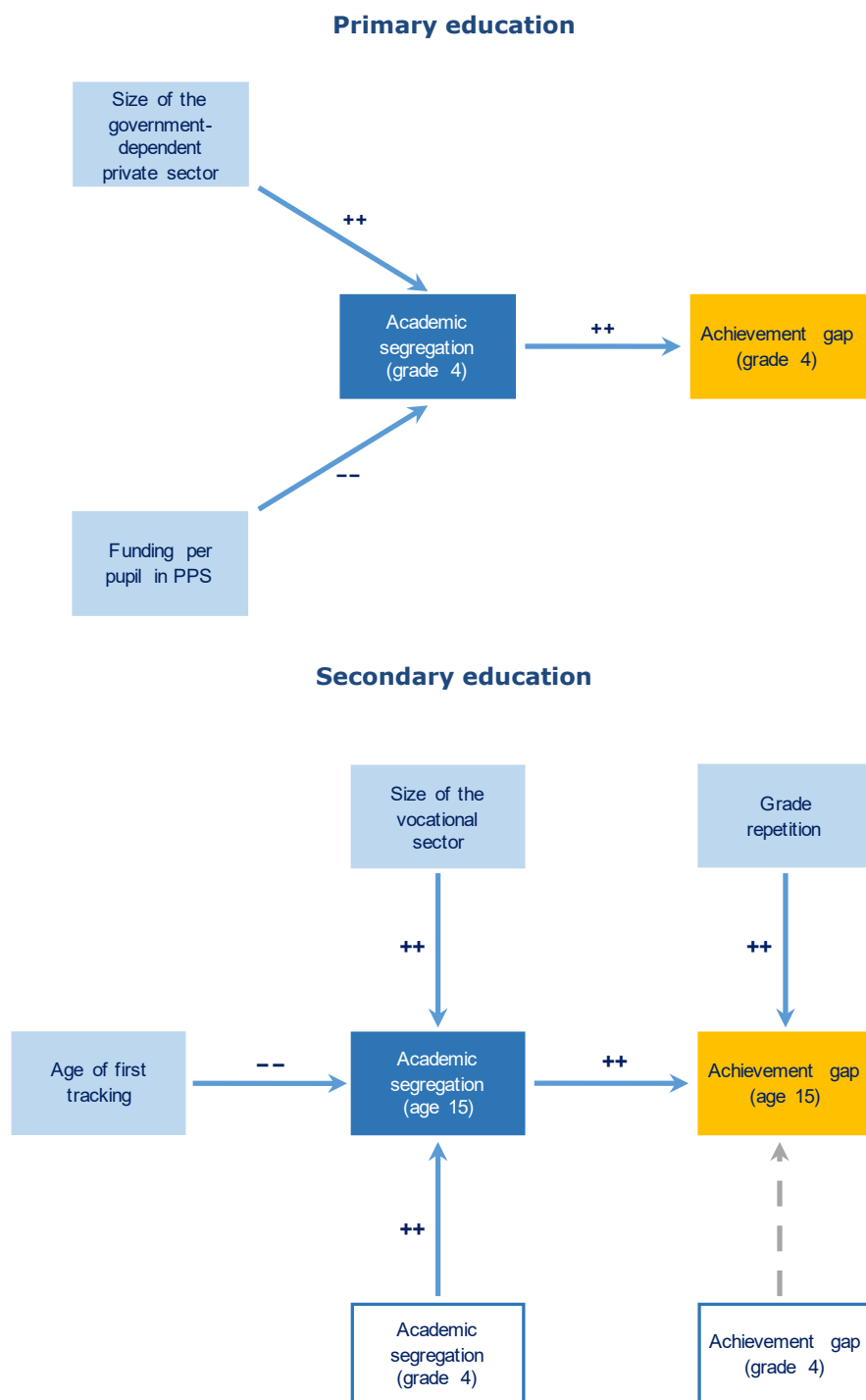
How does the complex interplay of these education system features actually influence equity in education? One way to try to answer this question is to draw upon three multivariate models, one for each indicator of equity: the two inclusion indicators (one for primary and one for secondary education), as well as the fairness indicator.

Academic segregation is assumed to act as an intervening factor between systemic features and indicators of equity, in both primary and secondary education. In primary education, this is indeed the case. At this level, academic segregation is the only factor with a significant direct influence on performance differences between high- and low-achieving students (see Figure 8). The level of academic segregation, in turn, is mostly dependent on the level of public expenditure per pupil in primary education and, to a lesser extent, on the size of the government-dependent private sector.

Public funding for primary schools is essential.

Thus, according to the first model depicted in Figure 8, higher public expenditure per pupil for primary education can reduce achievement differences between schools, which, in turn, reduces the achievement gap between low- and high-achieving pupils. In addition, when the level of public spending per pupil is controlled for, academic segregation in primary education is lower in education systems with a government-dependent private sector where less than 5 % of pupils are enrolled. Public/private differentiation and the presence of a sizeable government-dependent private sector are therefore key factors influencing equity – be it through regulatory differentiation or simply increased competition.

Figure 8: Systemic factors influencing inclusion



Source: European Commission/EACEA/Eurydice, 2020.

Explanatory notes

The plus or minus signs represent the positive or negative direction of the modelled relationships.

Single signs (+ or -) stand for parameter estimates that are statistically significant at the 10 % level, whereas double signs (++ or --) stand for estimates statistically significant at the 5 % level.

Academic segregation and grade repetition corrode inclusion.

Academic segregation remains an important predictor of the achievement gap at secondary level (see second model in Figure 8). At this level of education, however, academic segregation is not the only factor with a direct impact on the inclusion dimension of equity: the degree of grade repetition also has a significant relationship with performance differences between high- and low-achievers. The higher the degree of grade repetition, the larger this achievement gap.

The three main factors influencing the degree of academic segregation at secondary level are 1) the age of first tracking; 2) the size of the vocational sector; and 3) the degree of academic segregation at primary level. The earlier tracking starts and the more students are assigned to vocational tracks, the higher the degree of academic segregation in secondary education, even when previous levels of academic segregation are controlled for. The age of first tracking in fact influences academic segregation at secondary education to a larger extent than primary-level academic segregation.

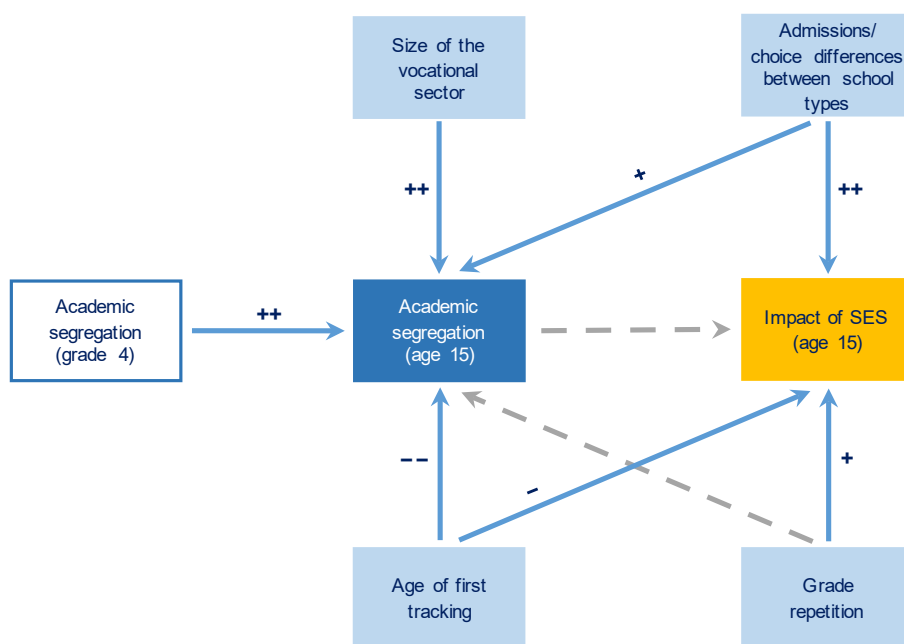
At the same time, the relationship between the achievement gaps at primary and secondary level is not statistically significant in this model. This means that there are different factors at play in this dimension of equity in primary and secondary education, and the achievement differences observed at primary level do not necessarily predict the performance gaps detected at secondary level.

Socio-economic background matters more when there is early tracking, grade repetition and differentiation between schools.

The third model depicting the relationship between systemic factors and fairness confirms the role of the age of first tracking, the size of the vocational sector and the level of academic segregation in primary education in determining the degree of academic segregation at secondary level (see Figure 9). In addition, in this model, another systemic factor also has a significant, though less pronounced impact on academic segregation: the differentiation between school types in school choice and school admissions policies. This is a composite score combining all forms of differentiation linked to school choice and school admissions across different school types, including those within the public sector and between the public and government-dependent private sectors. In this third model, greater academic segregation is associated with more extensive differentiation. This also signals that school choice and admissions policies applicable to most schools should be analysed together with regulatory differentiation in this policy area.

However, when significant institutional features are controlled for, the impact of socio-economic background on achievement is largely independent from the degree of academic segregation. As illustrated by Figure 9, the system-level features controlled for are the age at which students are first assigned to a track or pathway, the degree of grade repetition, and the extent of differentiation between school types in relation to school choice and school admissions policies. The impact of socio-economic background on student performance is thus greater in systems with early tracking, a high degree of grade repetition, and extensive differentiation between different school types in terms of school choice and school admissions policies.

Figure 9: Systemic factors influencing fairness



Source: European Commission/EACEA/Eurydice, 2020.

Explanatory notes

The plus or minus signs represent the positive or negative direction of the modelled relationships.

Single signs (+ or -) stand for parameter estimates that are statistically significant at the 10 % level, whereas double signs (++ or --) stand for estimates statistically significant at the 5 % level.

CONCLUSION

It is well established that various education system-level factors can influence equity in school. This brief, based on the recently published Eurydice report *Equity in school education in Europe* (European Commission/EACEA/Eurydice, 2020), provides an overview of the current situation in Europe in this respect. Drawing on the latest international student assessment data, it shows that equity in school, in terms of both inclusion and fairness, varies widely in Europe. Similarly, academic segregation, which acts as an intervening variable between system-level factors and equity, also varies considerably. Taking into account that the analysis draws on the different structures and policies of 42 education systems across 37 countries, the resulting diversity is perhaps not so surprising.

The brief tried to capture some of the variety of the European education system features and link them to academic segregation and equity levels. Having summarised the system-level data relating to stratification (diversity of school types, school choice and school admissions policies, tracking, and grade repetition), standardisation (school autonomy and accountability) and support measures (for disadvantaged schools and low-achieving students, and opportunity to learn), in addition to public funding and ECEC, the brief turned to their relationship to academic segregation and equity.

The general conclusion of the multivariate path analysis is that highly stratified systems tend to have lower levels of equity, especially in secondary education. At the same time, none of the policies aiming to counterbalance systemic stratification were found to have a statistically significant impact on equity. This means that standardisation and support policies cannot on their own offset the impact of the stratification policies. Yet, given the important role of academic segregation in explaining levels of equity in both primary and secondary education, early public investment reducing such academic segregation has the potential to have a lasting impact.

Finally, the analysis identified several areas where education authorities can intervene, in order to improve equity levels in school, namely:

- increasing public spending for primary education,
- delaying tracking as much as possible,
- minimising differences in school choice and school admissions policies,
- lowering grade repetition rates.

At a time when the implications of the COVID-19 pandemic may have exacerbated the equity problems in school education, it is important that appropriate measures are taken. The present brief and, in particular, [the full report](#) can hopefully be of some guidance.

REFERENCES

- Allmendinger, J., 1989. Educational systems and labor market outcomes. *European Sociological Review*, 5(3), pp. 231-250.
- Altrichter, H., Heinrich M. and Soukup-Altrichter, K., 2014. School decentralization as a process of differentiation, hierarchization and selection. *Journal of Education Policy*, 29(5), pp. 675-699, DOI: [10.1080/02680939.2013.873954](https://doi.org/10.1080/02680939.2013.873954)
- Ammermüller, A., 2005. *Educational Opportunities and the Role of Institutions*. ZEW Discussion Paper No. 05-44. [pdf] Available at: <ftp://ftp.zew.de/pub/zew-docs/dp/dp0544.pdf> [Accessed 3 August 2018].
- Ballarino, G., Bratti, M., Filippin, A., Fiorio, C., Leonardi, M. and Scervini, F., 2014. Increasing Educational Inequalities? In: Salverda, W., Nolan, B., Checchi, D., Marx, I., McKnight, A., Tóth, I.Gy. and van de Werfhorst, H., eds. *Changing Inequalities in Rich Countries*. Oxford: Oxford University Press, pp. 121-145.
- Brill, F., Grayson, H., Kuhn, L. and O'Donnell, S., 2018. *What Impact Does Accountability Have On Curriculum, Standards and Engagement In Education? A Literature Review*. Slough: NFER.
- European Commission/EACEA/Eurydice, 2019. *Key Data on Early Childhood Education and Care in Europe – 2019 Edition*. Eurydice Report. Luxembourg: Publications Office of the European Union.
- European Commission/EACEA/Eurydice, 2020. *Equity in school education in Europe: Structures, policies and student performance*. Eurydice Report. Luxembourg: Publications Office of the European Union.
- Field, S., Kuczera, M. and Pont, B., 2007. *No More Failures: Ten Steps to Equity in Education*. Paris: OECD.
- Figlio, D., and Loeb, S., 2011. School accountability. In: Hanushek, E. A., Machin, S. and Wößmann, L., eds. *Handbook of the Economics of Education*, Vol. 3. San Diego, CA: North Holland, pp. 383-423.
- Gettinger, M., 1985. Time allocated and time spent relative to time needed for learning as determinants of achievement. *Journal of Educational Psychology*, 77, pp. 3-11.
- Gibbons, S, Machin, S and Silva, O., 2006. The educational impact of parental choice and school competition. *CentrePiece*, Winter 2006/07. [pdf] Available at: <http://cep.lse.ac.uk/pubs/download/CP216.pdf> [Accessed 12 November 2019].
- Hanushek, E. A. and Wößmann, L., 2006. Does educational tracking affect performance and inequality? Differences-in-differences evidence across countries. *The Economic Journal*, 116(March), pp. C63-C76.
- Horn, D., 2009. Age of selection counts: a cross-country analysis of educational institutions. *Educational Research and Evaluation*, 15(4), pp. 343-366.

- Lavy, V., 2015. Do differences in schools' instruction time explain international achievement gaps? Evidence from developed and developing countries. *The Economic Journal*, 125(588), pp. 397-424. <https://doi.org/10.1111/ecoj.12233>
- Merry, M., 2020. *Educational Justice*. Cham: Palgrave Macmillan.
- Merry, S. and Arum, R., 2018. Can schools fairly select their students? *Theory and Research in Education*, 16(3), pp. 330-350. <https://doi.org/10.1177/1477878518801752>
- Musset, P., 2012. *School Choice and Equity: Current Policies in OECD Countries and a Literature Review*. EDU/WKP(2012)3. [pdf] Available at: <https://doi.org/10.1787/5k9fq23507vc-en> [Accessed 12 November 2019].
- OECD, 2012. *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*. Paris: OECD Publishing. <http://dx.doi.org/10.1787/9789264130852-en>
- OECD, 2016a. *PISA 2015 Results (Volume I): Excellence and Equity in Education*. Paris: OECD Publishing. <https://doi.org/10.1787/9789264266490-en>
- OECD, 2016b. *PISA 2015 Results (Volume II.): Policies and Practices for Successful Schools*. Paris: OECD Publishing. <https://doi.org/10.1787/9789264267510-en>
- OECD, 2017. *Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education*. Paris: OECD Publishing. <http://dx.doi.org/10.1787/9789264276253-en>
- OECD, 2018. *Equity in Education: Breaking down barriers to social mobility*. Paris: OECD Publishing. <https://doi.org/10.1787/9789264073234-en>
- OECD, 2019a. *PISA 2018 Results (Volume II): Where All Students Can Succeed*. Paris: OECD Publishing. <https://doi.org/10.1787/b5fd1b8f-en>
- OECD, 2019b. *Balancing School Choice and Equity. An International Perspective Based on PISA*. PISA, Paris: OECD Publishing. <https://doi.org/10.1787/2592c974-en>
- Parker, P.D., Jerrim, J., Schoon, I. and Marsh, H.W., 2016. A Multination Study of Socioeconomic Inequality in Expectations for Progression to Higher Education: The Role of Between-School Tracking and Ability Stratification. *American Educational Research Journal*, 53(1), pp. 6-32.
- Schleicher, A., 2014. *Equity, Excellence and Inclusiveness in Education: Policy Lessons from Around the World*, International Summit on the Teaching Profession, OECD Publishing. <http://dx.doi.org/10.1787/9789264214033-en>
- Schmidt W. H., Burroughs P. Z. and Richard T. H., 2015. The role of schooling in perpetuating educational inequality: an international perspective. *Educational Researcher*, 44(7), pp. 371-386. <https://doi.org/10.3102/0013189X15603982>
- Skrla, L. and Scheurich, J.J. eds., 2004. *Educational Equity and Accountability: Paradigms, Policies and Politics*. New York: Routledge.
- Söderström, M. and UUstalo, R., 2010. School Choice and Segregation: Evidence from an Admission Reform. *The Scandinavian Journal of Economics*. 112(1), pp. 55-76. <https://doi.org/10.1111/j.1467-9442.2009.01594.x>

Strietholt, R., Gustafsson, J-E., Hoglebe, N., Rolfe, V., Rosén, M., Steinmann, I. and Yang Hansen, K., 2019. The Impact of Education Policies on Socioeconomic Inequality in Student Achievement: A Review of Comparative Studies. In: Volante, L., Schnepf, S.V., Jerrim, J. and Klinger, D.A., eds. *Socioeconomic Inequality and Student Outcomes: Cross-National Trends, Policies, and Practices*. Singapore: Springer, pp. 17-38.

Vandenbroeck, M., Beblavý, M., and Lenaerts, K., 2018. *Benefits of early childhood education and care and the conditions for obtaining them*, EENEE report, Luxembourg: Publications Office of the European Union. DOI: 10.2766/007676

Wilson, D. and Bridge, G., 2019. *School choice and equality of opportunity: an international systematic overview*. Report for Nuffield Foundation. [pdf] Available at: <https://www.nuffieldfoundation.org/sites/default/files/files/Wilson%20and%20Bridge%20report%20April%202019.pdf> [Accessed 17 October 2019].

The Eurydice network's task is to understand and explain how Europe's different education systems are organised and how they work. The network provides descriptions of national education systems, comparative studies devoted to specific topics, indicators and statistics. All Eurydice publications are available free of charge on the Eurydice website or in print upon request. Through its work, Eurydice aims to promote understanding, cooperation, trust and mobility at European and international levels. The network consists of national units located in European countries and is coordinated by the EU Education, Audiovisual and Culture Executive Agency. For more information about Eurydice, see <http://ec.europa.eu/eurydice>.

