Smoothing the Path from Compulsory to Tertiary Education in Europe

A report by the UniCredit Foundation

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Acknowledgements

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Foreword

Andrea Orcel,
Chairman of UniCredit Foundation, and
Chief Executive Officer and Head of Italy of UniCredit Group

Europe should be incredibly proud of the world-class education it provides to its children and young people. Over many decades, European countries have expanded educational opportunities, and today, far more young people enter tertiary education than previous generations.

However, Europe faces a significant challenge in the form of educational inequality. Not all young people in Europe have equal access to quality education. Disparities in educational opportunities remain a critical issue, one that can have a lasting impact on an individual's life chances.

This report examines a major and long-standing inequality in education: young people from poorer backgrounds are less likely to enter and complete tertiary education, a reality that perpetuates broader societal inequalities. The report explores key drivers behind this issue and offers initial suggestions on how policymakers and civil society might address these deep-rooted challenges.

The UniCredit Foundation has commissioned this report as part of its mission to reduce educational inequalities and empower young people across Europe. The Foundation's primary goal is to foster equitable access to education, which we believe is essential for societal growth and development. Through collaboration with non-profit organisations, educational institutions, and UniCredit Group's local branches, the Foundation supports a wide range of initiatives aimed at reducing social disparities by improving education and employability.

Beyond this, the report serves a dual purpose. It explores the challenges in detail with new methods and analysis, and it provides incredibly valuable situational context to inform the Foundation's work. By offering deep insights into the issues discussed, it enables the Foundation to refine its strategic priorities and develop a more targeted approach to carrying out our mission. These findings will also guide the Foundation's collaborations with partner organisations, such as Teach For All and Junior Achievement Europe, ensuring that their collective efforts are even more impactful.

One of the issues highlighted in this report is the costs of attending university, particularly for students from a lower socio-economic background. As we explore potential solutions to this, we have launched a pilot initiative in Italy aimed at fostering educational equity. This initiative has a dual focus: first, to support and prepare 200 high school students - including those from vocational tracks and low socio-economic backgrounds - for successful admission to university, in collaboration with the Universities of Milan and Naples. Second, to provide 70 of these students with a three-year scholarship totalling €5,000 per year. This scholarship will partially cover essential expenses such as housing and living costs, while also offering comprehensive tutoring and mentorship throughout their tertiary education journey. This program exemplifies our commitment to breaking down barriers and empowering the next generation to achieve academic and professional success.

We encourage you to explore this report and consider its themes at both the national and European levels. Many of the issues will be familiar to those who have studied educational inequality. We hope that by presenting new data, analysis, and innovative ideas for breaking the barriers preventing less affluent young people from pursuing tertiary education, this report will inspire new thoughts, new questions, and a renewed commitment to addressing this pressing issue head-on.

Executive Summary

Executive Summary

This report explores the challenges and opportunities related to increasing access to tertiary education for young people across Europe.

The starting point of the research is the fact that compulsory primary and secondary education has been the norm in Europe for some time, but **tertiary education remains a choice, one that is often out of reach for many, particularly those from lower socio-economic backgrounds.** There is wide agreement among policymakers and civil society that this issue needs addressing.

The purpose of this report is to uncover the obstacles holding young people back from higher education and to consider ways we – as society – might try to overcome these barriers.

It consists of four chapters, each covering different themes and issues within the broader question of the transition to tertiary education in Europe. Each chapter draws from an individual piece of cutting-edge academic research commissioned by the UniCredit Foundation. This groundbreaking research has explored the question of the transition to tertiary education in ways that have been under-investigated by academic study.

1. **Understanding the landscape**

The first chapter, **Understanding the Landscape**, examines how the path from secondary to higher education is shaped by multiple factors, including school systems, state governance, higher education policies, and students' family backgrounds. The chapter groups European countries into five clusters—Nordic, Continental, Mediterranean, Anglo-Saxon, and Post-Communist—each displaying distinct educational patterns, highlighted by individual country case studies that demonstrate different paths of education policy reform. It includes a 'deep dive' into the effect of tracking on students' future academic careers and aspirations, drawing on detailed data analysis of the Italian school system. The chapter concludes by recommending reforms such as expanding generalist curricula in vocational schools, creating bridging programs to university education, and providing financial support for disadvantaged students to improve access and completion rates across Europe.

2. **Money Matters**

In the second chapter, **Money Matters**, the analysis focuses on the costs associated with higher education, including tuition fees and living expenses, which can be significant obstacles for students from lower-income families. The chapter evaluates the role of tuition fees in several countries, finding that lower fees do not always lead to higher enrolment. Other financial barriers, such as housing costs and foregone earnings, often deter students from pursuing university education. The chapter concludes by suggesting that innovative financial products, like Child Savings Accounts (CSAs), could provide a solution by encouraging families to save for education from an early age.

Executive Summary (Continued)

3. **Thinking Big: Global Competencies and Nurturing Ambition**

The third chapter, **Thinking Big: Global Competencies and Nurturing Ambition**, explores how PISA's Global Competencies (GCs) relate to students' ambitions to enter tertiary education. The chapter demonstrates that students who score highly on GCs tend to have higher ambitions and are more likely to pursue tertiary education. It also discusses how education systems struggle to effectively teach these competencies, which are more strongly influenced by family background and personal characteristics than by the school environment. The chapter concludes by suggesting the need to explore how GCs could be further integrated into curricula to nurture ambition and prepare students for a globalised future.

4. **The Best Advice?**

The final chapter, **The Best Advice? Information, Stereotypes, and Students' Decision Making**, argues that access to accurate information and the need to overcome stereotypes are critical in encouraging more young people to attend university. It shows how students from wealthier families are more likely to receive helpful guidance and support, while students from lower-income backgrounds often lack access to reliable information about higher education. Gender stereotypes also play a role, with women being less likely to pursue STEM fields despite academic success. The chapter highlights how teachers can unknowingly perpetuate biases, significantly influencing students' educational paths, making it essential to provide unbiased advice and support to all students.

In the conclusion, we discuss how the UniCredit Foundation and UniCredit Group, as a financial services company, intend to initially respond to the issues highlighted in this report. We look ahead by suggesting this report should prompt further action from policymakers, civil society, and the business community.

Introduction: The Power of Education

Providing children and young people with the skills and knowledge they need to navigate the world has been a core mission for governments for more than a century.

In that time, education systems have been designed with a few key objectives in mind. One is to prepare the youngest generation for entering the world of work. Another is to use education to improve equality, using it as a path to give people from lower socio-economic backgrounds a way to improve incomes, and social status.

In the 21st century, no government in the Western world disputes the need for children to go through a formal system of education until they are in their mid-to-late teens. The precise number of years in formal 'primary' and 'secondary' education varies, but from the ages of six to 15, the overwhelming majority of children will be in the formal, regulated national education system.

However, the importance of attending and completing tertiary education – at a university or further education college – remains a subject of public debate.

Tertiary education is not compulsory, unlike primary and secondary. Public opinion is divided on the value of tertiary education and specifically how much public money should be dedicated to it.

Nevertheless, the thrust of public policy in the last few decades has been to encourage and ensure a greater proportion of a country's citizens complete tertiary education. Governments, supranational organisations, civil society organisations, charities and pressure groups have all championed and celebrated the growth of the higher education sector.

This has been a global trend. From 2000 to 2020, the number of students enrolled in higher education institutes has more than doubled, according to UNESCO. In Europe, the number has increased by 24% in that period.

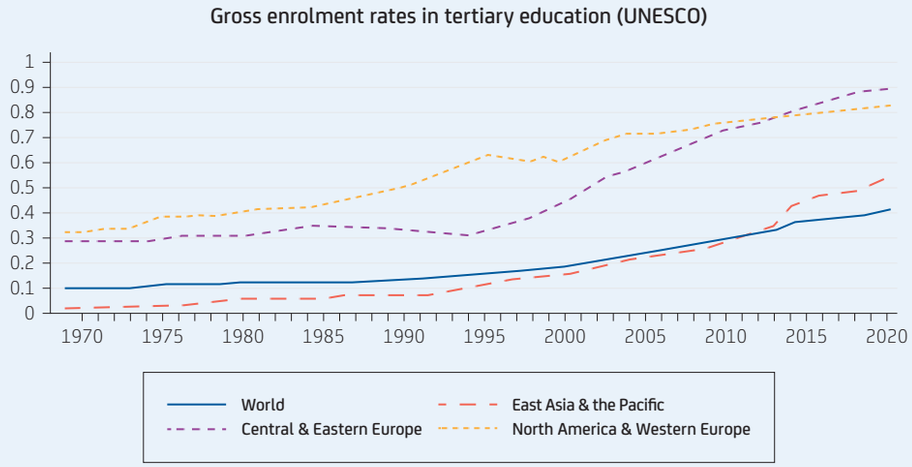


FIGURE 1: Gross enrolment rates in tertiary education

Introduction: The Power of Education (Continued)

There are a few reasons behind this expansion. One relates to the pressures of globalisation. This has driven global competitiveness for skilled labour and a resulting sense of duty on the part of governments to ensure the 'human capital' of their people does not fall behind. Another is pressures from social elites and growing middle classes to provide the best and most comprehensive education for their children as possible. And a third is the view that tertiary education is an important pathway and critical lever towards creating a more inclusive and more equal society.

A desire to increase higher education opportunities for young people is now the political norm.

At the EU-level, the policy agenda is to support further expansion of tertiary education. EU Member States have agreed that by 2030, at least 45% of 25–34-year-olds should have completed higher education.

As with the global trend, this target is driven both by macroeconomic necessity and a desire to reduce social inequality, together with pressure from voters to improve educational opportunities for younger generations.

The EU-wide target is laudable – but targets are just that, they do not guarantee results.

So the question to address is: what barriers exist to getting more young people into higher education, successfully completing their studies, and getting a good quality degree?

For that reason, we need to concentrate on *who* is entering higher education and consider why young people from lower socio-economic backgrounds are deterred from doing so.

The UniCredit Foundation's desire is to level the playing field of educational opportunity. We want to see barriers broken down and create equality of opportunity for all young people in Europe. That means creating better pathways for certain groups to enter tertiary education and to reduce drop-out rates. We are convinced of the social and economic value of tertiary education, and we think it is crucial to support its expansion in a fair and sustainable way.

We hope this report starts a discussion about what *exactly* is going on when it comes to young people's decision-making about university, why the considerations driving their decision-making differ in emphasis across countries, and what sort of policy interventions we can create to improve equality of opportunity for university entry.

Part one:

Understanding the Landscape

The transition to tertiary education

When thinking about the reasons why a young person may or may not attend, and go on to complete university successfully, there are a few factors at play.

First, the transition from secondary to tertiary education comes down to much more than just admissions policies. Such policies do vary across European universities, according to whether secondary school tracking makes it harder for a student to apply to university, or whether universities are allowed to employ their own criteria beyond standardised test scores for accepting students – or both.

The reality is the issue is complicated and multifaceted.

In order to better understand the big picture of transition to tertiary education, **we have put together a framework made up of four major factors:**

1. **School systems** — How much public and/or private money is spent on education, the existence of 'tracking' (the practice of organising students into educational pathways based on their academic ability and personal preferences, so that some students' secondary education has greater academic content, and others more work-oriented content), and how much national educational policy supports vocational education training (VET).[1]
2. **State governance** — How regularly standardised testing is used (as opposed to teacher-marked work), the extent to which the state defines university admission policies, and the extent of school autonomy and decentralised governance.
3. **Higher education system** — Admissions policies, financing and tuition fees, and the prevalence of vocational tertiary education.
4. **Students and family characteristics** — Socio-economic background, household income, whether or not the family has recently migrated to a host country, and the student's gender.

Throughout this report, we will focus mainly on points 1, 3, and 4.

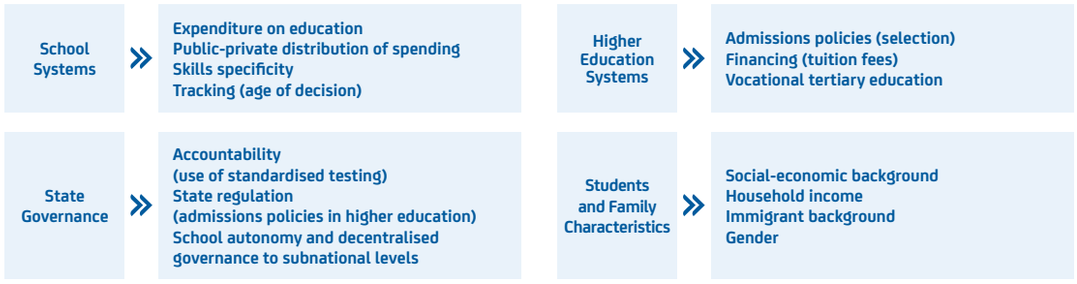


FIGURE 2: A framework of transition to tertiary education consisting of four factors

We regard this as an important framing for how we should talk about and analyse the issue of transition from secondary to tertiary education. All four points need to be taken into account when thinking about what drives young people to go (or not to go) to university, and therefore how we should approach designing and refining policy interventions.

Each of these factors are worthy of very long discussion and analysis in their own right. This report doesn't have the scope to go into rigorous detail for each, but we do touch on each of these factors throughout.

[1] Vocational Education and Training (VET) is a form of education that focuses on equipping individuals with practical skills and knowledge directly applicable to specific jobs or industries. Unlike traditional academic education, VET emphasises hands-on training and is designed to prepare students for careers that require technical expertise in fields such as healthcare, construction, IT, hospitality, and manufacturing.

An EU-wide solution?

Since there is an EU-wide target for increasing tertiary educational attainment with a stated aim of using this lever to reduce inequality, one could be forgiven for assuming there should be an EU-wide policy solution.

There is an immediate difficulty with this approach: national education systems vary enormously from country to country and education reform policy remains highly differentiated between EU nations.

Despite increasing attempts to harmonise education systems in the EU, they remain very much determined by national policy and historical decision making. This is partly a product of education being used as a lever for nation-building in the 19th century, a period where national identities within Europe became more hardened.

The reforms undertaken by various national governments in the last 30 or so years demonstrate how differences between countries on how education systems should be designed and what their purpose should be persist. We discuss this point in detail below by looking at case studies of how different countries' education systems have evolved following a process of continued reform.

There has been a degree of convergence of university programmes. European supranational institutions have promoted the harmonisation of degree structure across universities through the Bologna Process, as well as the mobility of students across universities in Europe through the European Community Action Scheme for the Mobility of University Students (ERASMUS) programs.

But this work has not been replicated at a primary or secondary school level. In other words, an EU-wide education policy does not yet exist in any effective way.

This is a point worth dwelling on. It makes trying to create EU-wide policy responses designed to reach our desired goal of equality of opportunity in university entry and completion across the continent very hard. What might work in Germany may not in Sweden, and what is deliverable in Italy may not be in Poland.

This is not to say the EU's 2030 target is the wrong one. Instead, it is to highlight that the strategy to achieve this goal will have to take into account national differences in education systems.

How education systems differ

We have created a clustering scheme to observe and understand the differences between education systems in Europe.

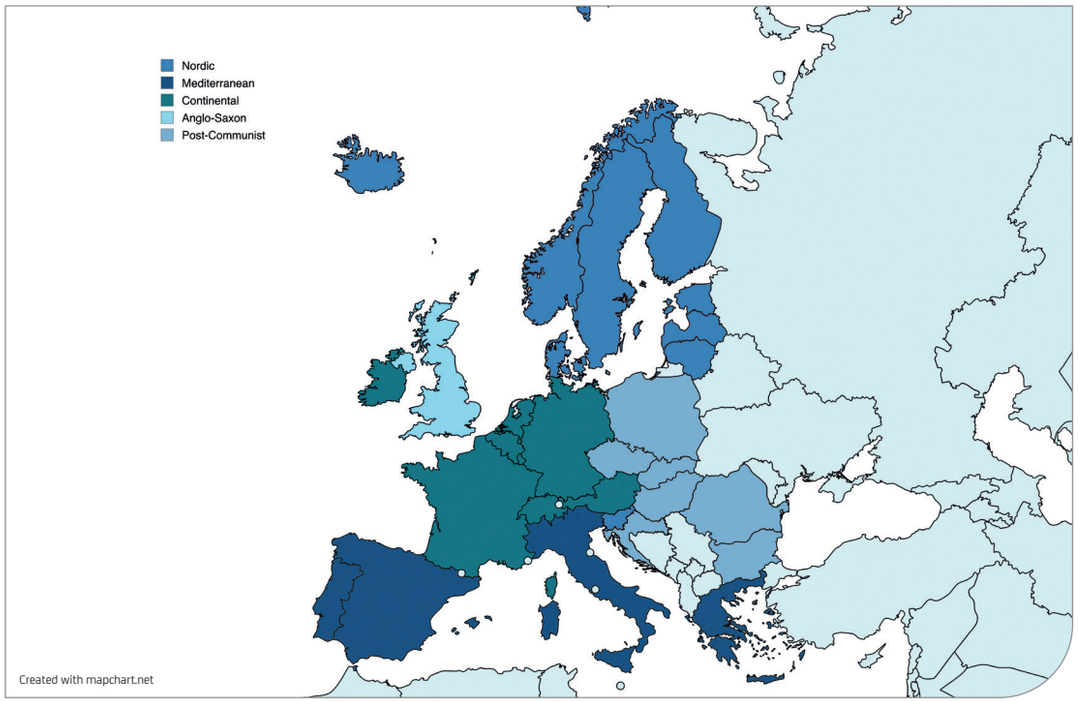
It is possible to group countries together and form different "clusters" so we have a shortcut to seeing the broad differences between countries' education systems, rather than looking at each country one by one.

Looking at these clusters is a useful way of understanding the challenge of hitting the EU's goal of ensuring at least 45% of 25-34 year olds should have completed higher education by 2030.

As shown in figure 2, there are many different factors and features that make up an education system. They include education spending by governments, the length of the school day and the required years of compulsory education, teacher to student ratio, starting age of formal education, the age at which students are academically streamed or tracked, the percentage of students in vocational education, enrolment in tertiary education and beyond.

By looking at a range of the data points that make up the features of an education system, we have constructed five distinct groups of countries.

- **Nordic** (Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Slovenia, Sweden).
- **Continental** (Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland).
- **Mediterranean** (Greece, Italy, Portugal, Spain).
- **Anglo-Saxon** (United Kingdom).
- **Post-Communist** (Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia).



The countries that make up each cluster share many characteristics in their respective education systems, enough to make them clearly similar, though they are not identical.

Importantly, there are clear and significant differences between clusters. For example:

- The legal duration of compulsory education varies by almost two years between the Nordic cluster and the Mediterranean (9.8 to 11.5).
- The student to teacher ratio in tertiary education ranges between 14 (Nordic) and 22.9 (Mediterranean)
- The minimum tracking age is 12 in the Continental cluster, but is 15.5 in the Nordic.
- The repetition rate – where students are forced to repeat a year if they haven't reached adequate attainment – in lower secondary level is almost zero (0.77%) in the Nordic cluster but is over 5% in the Mediterranean.
- Educational attainment rates at tertiary level are lower in the Mediterranean and post-Communist clusters than others.
- The Youth NEET (not in education, employment or training) rate is 12.21% in the Continental cluster but nearly 25% in the Mediterranean.

A description of what education systems look like in the round is another helpful way of seeing points of difference. We have prepared case studies of a country from each cluster to bring this to life.

Sweden (Nordic)

Starting from the age of six, children enter a compulsory preschool class (förskoleklass), leading into nine years of compulsory schooling (grundskola) which goes from age seven to 16. This foundation covers comprehensive education in various subjects.

After compulsory schooling, students move on to three years of upper secondary education, where they choose between 18 national programs split into 12 vocational programs and 6 higher education preparatory programs. This stage is where formal tracking begins, offering paths that are either academically focused or directly work-oriented.

While national tests were significantly reduced in upper secondary in 2018 to alleviate stress, students continue to be assessed in key subjects, ensuring that they meet education standards before graduating.

Swedish schools are predominantly managed by local municipalities, which are responsible for ensuring that schools meet national education standards while allowing for localized adjustments and implementations. The majority of the funding for schools comes from municipal taxes, with minimal private funding involved.

Sweden has undergone several significant reforms aimed at increasing choice of schools, competition, and quality. The 1992 reform introduced the voucher system and allowed for independent schools (friskolor) to operate alongside public schools. This was intended to enhance quality of education through competition.

A notable shift in 2011 reinstated the distinctions between vocational and academic tracks at the upper secondary level. This occurred after a liberal and right-wing coalition took office in 2006, ending a decade of social democrat leadership.

How education systems differ (Continued)

The reform adjusted the curriculum to make vocational tracks less directly aligned with university eligibility, though it maintained pathways to tertiary education through expanded vocational tertiary education options.

The system is designed to be flexible, allowing students to transition between vocational and academic paths, and aims to eliminate “dead ends” that could hinder lifelong learning and career progression.

Germany (Continental)

In Germany, after nine years of compulsory education, students advance to upper secondary education, which is categorized into three school types: Hauptschule, Realschule, and Gymnasium, aligning with vocational and academic tracks. This tracking system starts around age 10, distinguishing students based on ability levels into vocational training or university preparation pathways.

Upper secondary students take a central examination, though recent reforms have reduced the frequency to lessen student and teacher stress.

Education policy is largely managed by individual federal states (Länder), which handle curriculum development, teacher training, and school management. Funding primarily comes from regional and local levels, with minimal federal contribution.

Post-1990, East Germany reintegrated Western educational structures. Throughout the 1990s and 2000s, efforts focused on increasing mobility between school types, though social inequalities persisted.

Early tracking was delayed in some Länder by merging lower-level schools or facilitating track transitions.

Significant reforms in 2004 and 2005 revamped vocational training laws to enhance training quality and flexibility.

In 2007, the National Integration Plan aimed to boost educational participation among disadvantaged groups, evolving into broader qualification initiatives to increase vocational and academic enrolment, making vocational paths more attractive and accessible.

Recent strategies include the Education Chains initiative. This was established in 2010 by the German government to support students finishing school, finding an apprenticeship placement with companies and completing their VET. Another example is advancements in digital education under the DigitalPact Schools programme to prepare students for technological change.

Poland (Post-Communist)

In Poland, compulsory education begins at age 6 and continues until age 15, with students typically completing upper secondary programs by age 19.

The educational pathway splits after primary school when students take a high-stakes exam determining their subsequent educational or vocational track. They may choose between a 4-year general secondary school and a 5-year technical secondary school, as well as a sectoral vocational track. Both the general and vocational tracks culminate in a maturity exam, known as *matura*.

Local governments contribute 95% of total public funding. Private funding accounts for 11% of expenditure.

Reforms over the last two decades include the establishment of the Central Examination Board (CEB) in 1999 to set and administer examinations. Significant curriculum changes in 2008 emphasised broader skills over specific subjects, granting schools greater autonomy to tailor programs.

The 2016 reform, met with substantial opposition, reintroduced a two-tier system focusing on vocational training and extended compulsory education to 10 years.

Changes in 2016 also saw adjustments to the duration and structure of general and vocational schooling to better align with labour market needs and incorporate hands-on learning akin to the German dual education system.

Italy (Mediterranean)

In Italy, the public state education system provides compulsory education from age 6 to 16. The first cycle includes primary and lower secondary education; the second cycle begins at age 14, offering upper secondary education and vocational training organised at regional level. Upper secondary education spans five years and offers streams in general academic, technical, and vocational tracks, all providing a path to higher education.

However, Italy faces challenges in vocational education and training (VET) outcomes, with lower employment rates for VET graduates compared to their peers in general education. Additionally, the country struggles with high dropout rates and marked regional disparities in educational outcomes.

Public funding for education amounts to 4.2% of GDP, below the OECD average, with most primary and secondary schools directly financed by the state. Italy’s education system is centralised, with regions responsible for regional vocational education and training.

Recent reforms include the Good School Reform (Law 107/2015), aiming to increase school autonomy and introduce merit-based teacher salaries. The reform also strengthened work-based education in upper secondary schools and tertiary education. However, challenges remain in implementing evaluation mechanisms and attracting qualified graduates to the teaching profession.

Financial resources have been allocated for teacher development and national priorities such as system skills, 21st-century skills, and inclusive schooling.

United Kingdom (Anglo-Saxon)

In the UK, compulsory education runs from age five to 16. In England, students between 16 and 18 must either continue in full-time education, undertake an apprenticeship or training, or engage in work or volunteering coupled with part-time education or training. While secondary education post-16 is available throughout the UK, it is not mandatory.

Education systems in England, Northern Ireland, Scotland, and Wales follow a similar structure up to the end of lower secondary education. Primary education runs from ages five to 10/11, with automatic progression for students each year regardless of performance, although additional support is provided for those performing below expectations. In England and Wales, pupils take statutory tests during this stage, but these do not impact their progression to secondary education; no formal tracking systems exist.

How education systems differ (Continued)

Secondary education starts at age 11 and lasts for five years. Admission to lower secondary schools is generally unrestricted, except for selective grammar schools in England and Northern Ireland which base entry on student ability. At age 16, students take exams to obtain General Certificate of Secondary Education (GCSE) qualifications or equivalent vocational and entry-level qualifications.

Afterward, students can opt for general or vocational pathways, the admission to which typically depends on GCSE results. General upper secondary education may last one or two years, culminating in AS and A-level examinations, while vocational education also spans two years, leading to technical qualifications.

In Scotland, secondary education begins at age 12 and offers similar general and vocational pathways, with qualifications such as Higher and Advanced Higher enabling university access, while certain vocational qualifications lead to higher technical or professional education but not directly to university.

School funding and governance varies across the UK. In Northern Ireland, Wales, and Scotland, education policies are managed by devolved governments, providing schools with broad autonomy within the frameworks of national curricula. In England, where there is no devolved education governance, schools are either maintained schools funded through local authorities and required to adhere to the National Curriculum, or academies which receive direct government funding and have significant autonomy over their finances and curriculum.

Universities in the UK, although private, depend significantly on government funding and maintain autonomy over their financial management, admissions, and curriculum. Funding for universities in England comes from separate government allocations for teaching and research, while in Scotland and Wales, it is managed by local governments. Additionally, tuition fees increasingly contribute to university funding, particularly in England.

The student journey across clusters

The Nordic cluster shows prolonged academic enrolment in tertiary education, extending up to the age of 30, suggesting it remains an open option for people later into their 20s.

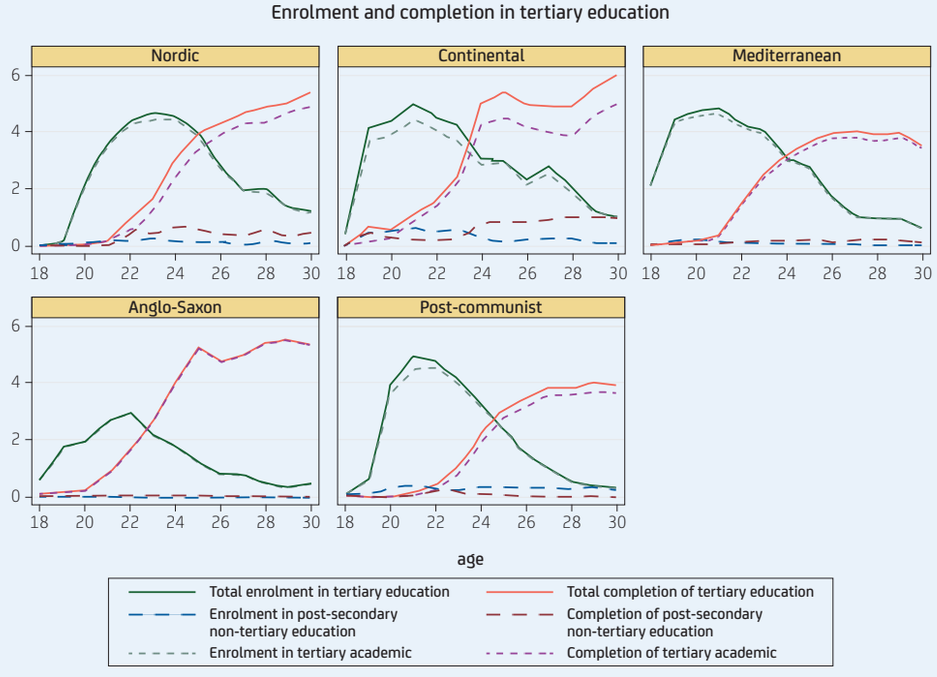
The Continental cluster emphasises vocational education pathways, both at the secondary and tertiary levels, and has the highest rates of tertiary education enrolment.

The Mediterranean cluster exhibits lower transition rates from secondary education and a notable proportion of young people neither engaged in education nor the labour market. This indicates significant challenges in transitioning young people into either tertiary education or employment.

The Anglo-Saxon cluster is characterized by an early and significant shift of students from education to the labour market, marking a quick transition for young adults.

Lastly, the post-Communist cluster faces challenges with lower enrolment in tertiary academic programs. This shortfall is not adequately compensated by the tertiary vocational track, suggesting a gap in meeting the educational and vocational needs of its young people.

Completion rates also need to be explored. After all, high enrolment rates into tertiary education would not be worth celebrating if there were also high dropout rates. The success measure we are interested in is how many people in their mid-20s to mid-30s hold a university degree.



Enrolment and completion rates relative to the age cohort, using sample weights

FIGURE 4: Enrolment and completion rates in tertiary education across the five clusters

The student journey across clusters (Continued)

We see that Anglo-Saxon countries have the highest completion rates, followed by Continental countries. The Mediterranean cluster has high dropout rates, approaching 50%.

Importance of tracking on enrolment

1. School systems

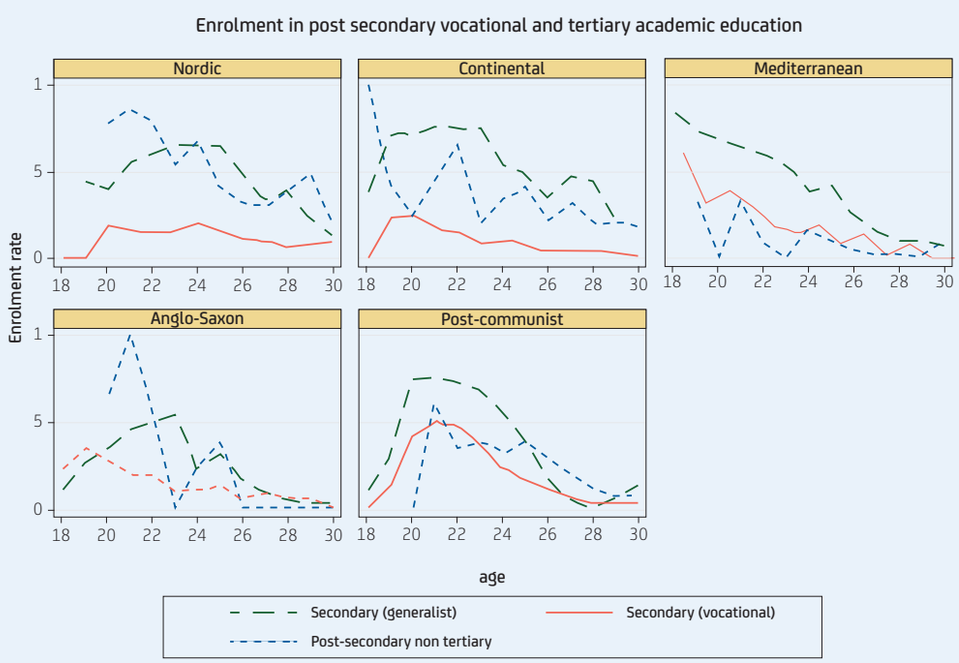
The existence of tracking is a significant part of the **school system**, as described in the four-factor framework detailed above.

We have observed that tracking exists in some countries, in some cases taking place as early as age 12.

If we compare the enrolment rate of post-secondary vocational and tertiary academic to previous secondary educational attainment, we see a clear pattern. Attendance at generalist or comprehensive secondary schools raises the probability of enrolment in tertiary education relative to having attended a secondary vocational school.

We can say with confidence that the tracking systems are a significant part of determining tertiary education enrolment – if you are tracked into secondary vocational, you are less likely to attend university.

This has clear implications for education policy. National governments need to carefully investigate and consider what the impact of 'tracking' might have on the ability of students from certain backgrounds or demographics to obtain university education.



Enrolment rates by previous attainment relative to the age cohort, using sample weights

FIGURE 5: Enrolment rates in post-secondary vocational and tertiary academic education across different age groups (from 18 to 30) and various regions

Deep dive: the influence of tracking in Italy

The issue of how the secondary education tracking system impacts students' academic and career prospects, particularly their transition to higher education, was worthy of a deep dive in our research.

We looked at the tracking system in Italy, examining how different tracks - academic, technical, and vocational - impact students' skill development, aspirations for college, and success in gaining and thriving in tertiary education. To do so, we used a combination of quantitative data analysis from longitudinal and cross-sectional surveys, primarily drawing on INVALSI and PISA data.

We focused on three questions: whether tracking negatively impacts academic prospects, whether tracking reduces students' desire to undertake tertiary education, and whether standardised admission tests can predict the likely success of students going to university from different academic tracks.

"Is vocational tracking detrimental to prospective academic careers?"

To investigate this question, we undertook a series of statistical analyses:

Track allocation analysis: We used a statistical model to estimate how likely students are to be placed in different tracks (academic, technical, or vocational) based on factors like family background, parental education, school performance, and test scores.

Skill development over time: In a longitudinal perspective, we compared students' literacy and numeracy skills from grade 8 (before tracking) to grade 13 (after tracking), to observe how skills development changes for the same individual within each track over time. From here, we created a matrix to track changes in students' skill rankings over five years, showing whether students' skills improve or decline within the skill distribution based on their track.

Admission test analysis: We examined the relationship between admission test scores and student outcomes (e.g. dropout rates, grade averages, and credits earned) for those entering selective university programs, using school type and family background as additional factors. This allowed us to evaluate how well admission tests predict university success across different school tracks.

This analysis shows that Italy's **educational tracking system reinforces academic and social inequalities**. Students are often placed into tracks based on socio-economic background as much as on academic performance, leading to stratification within the education system. Those in academic tracks experience greater skill growth and are more likely to maintain or improve their skill rankings over time, while vocational students often fall behind.

Admission tests for selective universities favour students from academic tracks, as they align better with university requirements, whereas vocational students struggle more with university success, reflected in lower test scores, GPAs, credits earned, and higher dropout rates.

Deep dive: the influence of tracking in Italy (Continued)

Tracking and aspirations for undertaking tertiary education

The second question we investigated is why college aspirations markedly differ among tracks, and whether there is a genuine contribution of the tracks in shaping these aspirations.

Here, we analysed students' and parents' aspirations for higher education based on track and achievement level, examining whether these aspirations align with the likelihood of college application and success. By segmenting students by achievement decile (net of parental background), we were able to observe whether high-ability students in technical or vocational tracks are equally likely to aspire to college as their counterparts in academic tracks.

Our analysis found that **students and parents in academic tracks have significantly higher aspirations** for higher education than those in technical or vocational tracks, *even among high-ability students.*

High-ability students in vocational tracks are less likely to aspire to college compared to similarly skilled students in academic tracks. This suggests that the track placement not only influences skill development *but also affects students' and parents' educational aspirations*, potentially discouraging vocational students from pursuing higher education despite their academic capabilities. As a result, track placement can lower college aspirations for vocational students, limiting their academic and career prospects.

Do standardised admission tests effectively predict university success for students from different secondary school tracks?

We analysed the effectiveness of standardised admission tests in predicting university success across students from different secondary school tracks. We examined three outcomes for students entering selective university programs: dropout rates, credits earned (ECTS), and grade point average (GPA).

We found that although higher admission test scores generally correlate with better university outcomes, this relationship is stronger for students from academic tracks and weaker for those from vocational backgrounds. Vocational students, despite similar test scores, tend to drop out more frequently, earn fewer credits, and have lower GPAs than their peers from academic or technical tracks.

Overall, our analysis suggests that standardised tests are less effective at predicting academic performance for vocational students, indicating a potential mismatch between vocational training and university-level demands.

Conclusions

Italy's secondary education tracking system reinforces social and educational inequalities, particularly disadvantaging students in vocational tracks.

Our findings suggest that vocational track students experience slower skill development, lower aspirations for higher education, and face greater challenges with university admissions and success compared to their academic track peers. Standardised admission tests, commonly used in selective university admissions, further disadvantage vocational students, as these tests are less predictive of their university performance and are better suited to students from academic backgrounds.

Policy recommendations for Italy

Our analysis leads us to suggest five key recommendations for policymakers to explore to address these issues:

1. **De-tracking secondary education:** A comprehensive reform could eliminate tracking, allowing students to choose majors and minors based on interests rather than predetermined tracks, giving them more flexibility.
2. **Delayed track choice:** extending the comprehensive curriculum through grade 10 would delay track choice, giving all students a broader educational foundation before specialization.
3. **Curriculum reform in vocational education:** Revising vocational curricula to include more theoretical content could make vocational students better equipped for higher education and adaptable to changing job markets.
4. **University interventions:** Universities could encourage vocational track applications by highlighting relevant programs and adjusting admission criteria. Options include setting lower admission thresholds for vocational students or providing compensatory scores to account for the disadvantages these students face.
5. **Replacing admission tests:** Replacing selective admission tests with graduation marks or INVALSI scores from grade 13 could reduce barriers to university access by providing universally available indicators, making the application process more transparent and cost-effective.

The student journey across clusters (Continued)

Family background

We noted that student and family characteristics is one of the four main factors driving the transition to tertiary education in our framework, mentioned above.

Academic literature recognises young people from lower socio-economic backgrounds are less likely to enter and complete tertiary education. It is worth looking into the data about family background to understand this issue in more detail.

Using microdata from Eurostat SILC surveys and looking at tertiary education enrolment rates, right across the board it is clear that children with at least one university-educated parent are more likely to enter tertiary education than those with less educated parents, all other things being equal.

Tertiary academic graduation rates by parental education - Population aged 30-45

	Low (primary and lower secondary)	**Medium** (upper secondary and post-secondary)	**High** (tertiary academic)	**Total**	Inequality of opportunity in attainment (tertiary/ secondary)	Inequality of opportunity in enrolment (tertiary/ secondary)
Nordic	0.251	0.382	0.668	0.501	**1.75**	**1.52**
Continental	0.355	0.424	0.676	0.496	**1.59**	**1.82**
Mediterranean	0.233	0.441	0.737	0.374	**1.67**	**1.77**
Anglo-Saxon	0.262	0.445	0.703	0.480	**1.58**	**1.45**
Post-communist	0.105	0.368	0.749	0.377	**2.04**	**2.10**
Total	0.255	0.405	0.698	0.435	**1.72**	**1.80**

FIGURE 6: Tertiary academic graduation rates among 30-45 year olds by parental educational attainment, and resulting inequality of attainment and opportunity in each of the five clusters.

Inequality of Opportunity - Figure 6

It is likely that dropout rates are higher for children from disadvantaged backgrounds (poorly educated parents, lower family incomes) but we do not have sufficient data to obtain a reliable estimation of completion rates by social background. However, we can propose an indirect check of the issue by comparing the Inequality of Opportunity in enrolment and a corresponding measure for attainment in the adult population.

We do not find a clear pattern: the Inequality of Opportunity in attainment is higher than in enrolment in the Nordic cluster (suggesting a socially determined dropout rate), but is lower elsewhere. However the differences between the two odds ratio falls into the confidence interval, making it impossible to reject the hypothesis that the two measures of inequality of opportunity are distinguishable from a statistical point of view. In other words, based only on this evidence it is impossible to claim that tertiary completion rates in tertiary education are socially differentiated.

The difference is greater in post-Communist countries, and lowest in Nordic and Anglo-Saxon countries, implying that family educational background is less of a barrier in these two clusters than in others. This can be expressed as a ratio between the enrolment rate of students with parents educated up to tertiary level, and students with parents educated up to secondary level.

Another lens through which to consider a student's background is their parent or parents' occupation. It is not surprising that having a parent in a top occupation (the first three groups in the ISCO coding[2]: "managers", "professionals" and "technicians and associate professionals") increases the likelihood of university enrolment.

This is most noticeable in the post-Communist countries, and statistically significant within the Continental and Mediterranean countries. It is less relevant in the other two clusters, suggesting in these countries at least, social class as indicated by a parent's or parents' jobs is less of an issue.

Turning to completion rates, it is likely that dropout rates are higher for children from a disadvantaged background, but better data would help to achieve a firm conclusion.

While we can see differences between clusters, it is clearly an EU-wide issue. Family background is a major determinant of whether a young person will seek tertiary education. If governments believe that creating equality of opportunity and supporting a citizen's ability to reach their educational potential is a critical element of education systems, then tackling this inequality must be a priority in public policy.

Other personal characteristics

Our analysis throws up two supplementary points that can determine the likelihood of enrolling into tertiary education, which are, in brief:

- When we control for factors that make up family background, women are more likely to enrol in tertiary education in all clusters. It is especially the case in Mediterranean and post-Communist countries.
- Similarly, students born outside of Europe are less likely to enrol if they live in countries in the Nordic and Mediterranean clusters. However, they are *more likely* to enrol if they live in the other clusters, especially post-Communist and Anglo-Saxon.

While these points warrant further detailed analysis, we can see how these are further examples of personal or family characteristics (one of our four factors in the transition framework) that can have a significant bearing on whether a student will pursue tertiary education.

[2] The International Standard Classification of Occupations (ISCO) is a system developed by the International Labour Organization (ILO) to categorize and compare job titles based on skill levels and skill specialisations.

The student journey across clusters (Continued)

Predicting the path: three key points

The above shows us three factors that play a significant role in whether a student will enrol to tertiary education:

1. **The student's secondary school educational path:** the likelihood of attending university is lower for those on a vocational pathway, so being tracked onto a less academic path effectively reduces their ability to attend university. The existence of such pathways (and formal tracking) is determined by national education policy.

2. **The 'cultural capital' of the student:** having parents who were educated to degree level increases the likelihood of a student enrolling to tertiary education.

3. **Students' aspirations induced by parents' social status:** parents in more prestigious jobs are likely to create a more aspirational environment for their children, both in terms of emphasising the importance of education for its own sake and for their career prospects.

It is worth noting that in certain clusters these issues are more pronounced. For example, Nordic and Continental countries have a long-established tracking system, but they do not raise as significant a barrier to students attending university from a secondary vocational pathway. In Mediterranean countries, the impact of family background (points 2 and 3 above) is more pronounced.

Nevertheless, these are three key points for discussion to inform the design of policy interventions in this area.

A word on public opinion

In democracies, education systems cannot be reformed without public support. Political leaders must take into account public opinion before announcing policies and embarking on reform programmes, especially ones that are considered ambitious or require significant change and public spending.

The first of our opinion data findings is taken from the European Social Survey on "Timing of life, justice and fairness", fielded in 2018 in 26 European countries. This shows opinions on some broad questions about the 'fairness' and 'effectiveness' of education systems are different – in some cases markedly – between the clusters we discussed above.

Education and opportunity

First of all, it is interesting to note differences of opinion on how effective education systems are between country clusters. People in Nordic and Continental countries agree more with the idea that they have a good chance of achieving the level of education they want than people living in Post-Communist and Mediterranean countries.

Wealthier people from all clusters agree more with this idea too. In other words, the richer you are, the more likely you are to think you can reach the peak of your ambitions for education.

People in Nordic countries are more likely to agree with the idea that "everyone in my country has a fair chance of achieving the level of education they seek". People in post-Communist countries also tend to hold this opinion.

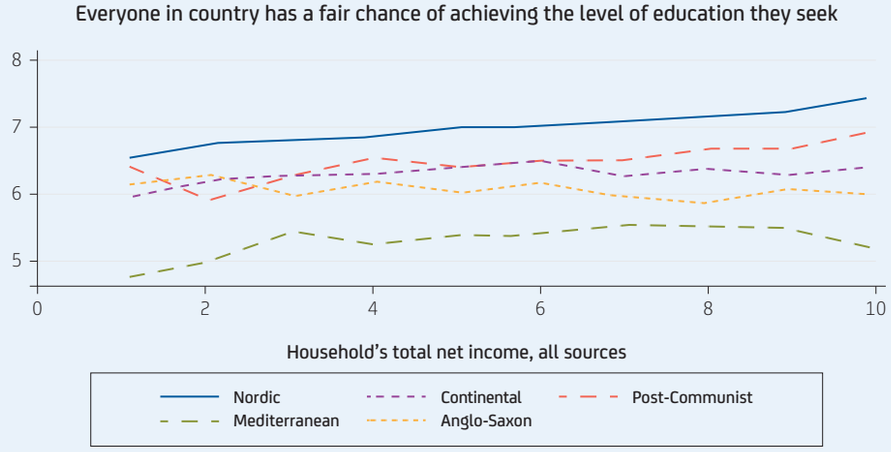


FIGURE 7: Responses by cluster to the statement "Everyone in the country has a fair chance of achieving the level of education they seek" where 0=total disagreement and 10=full agreement. From European Social Survey, 2018.

A word on public opinion (Continued)

Those in the Mediterranean cluster are less likely to think their education system offers equality of opportunity. Household wealth appears to have little bearing on opinions.

The second of our data sources is from another survey conducted in 2019 within the International Social Survey Programme (ISSP) on social inequality. It looks at perspectives on the importance of education and the fairness of education systems.

The importance of education

There is relatively little difference between clusters on the view that having a good education is important for getting ahead in life. This opinion is held most strongly among people from the Mediterranean, Continental and Anglo-Saxon clusters.

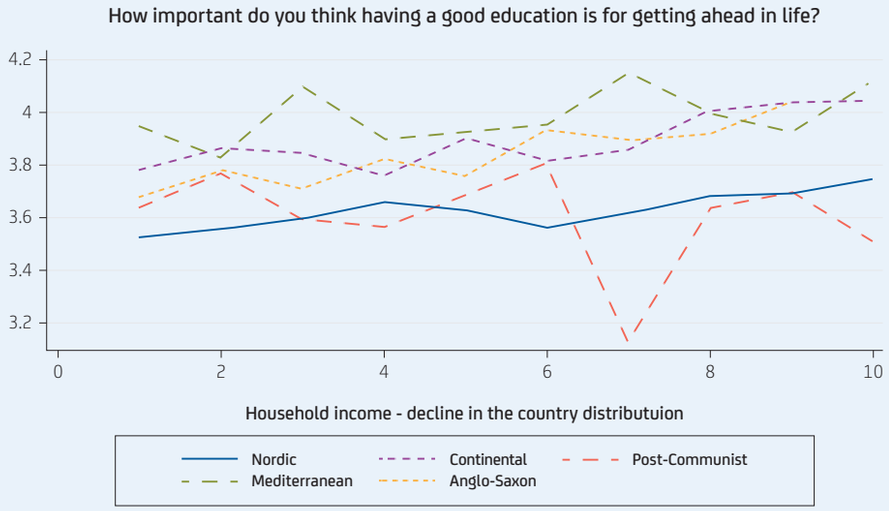


FIGURE 8: Responses by cluster to the question "How important do you think having a good education is for getting ahead in life" where 1=not important at all and 5=essential. From the International Social Survey Platform, 2019.

Education and background

People in the Mediterranean cluster are most likely to agree that having well-educated parents is important for getting ahead in life. The Nordic and Anglo-Saxon clusters put a smaller emphasis on this. It is also worth noting that household income has relatively little bearing on how people respond to this question.

Lastly, we see that people in the Continental, Mediterranean and Nordic clusters are closely aligned in thinking that it is unjust that people with higher incomes can buy better education for their children than people with lower incomes. This view is shared by those from lower household incomes in the Post-Communist cluster, although wealthier households in these countries are less strongly of that opinion.

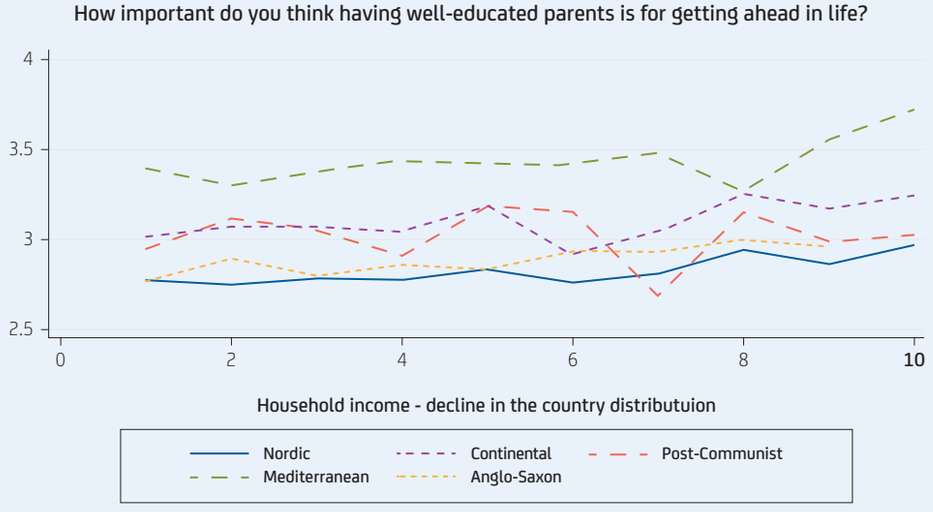


FIGURE 9: Responses by cluster to the question "How important do you think having well-educated parents is for getting ahead in life" where 1=not important at all and 5=essential. From the International Social Survey Platform, 2019.

A word on public opinion (Continued)

People in the Anglo-Saxon cluster are the outliers, less likely to view buying education as "unjust". This may be because of the existence of relatively expensive tuition fees for university creating more of a 'market' for education, where purchasing power counts.

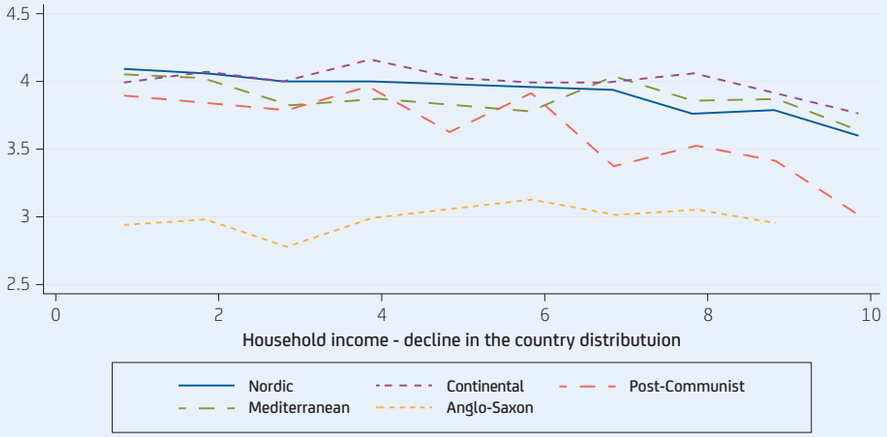
This collection of data provides some useful context for how the public may react to education reform and improving access to universities.

The disparities of opinion between wealthier and poorer families on the question of "equal access" in some clusters tell us that many feel the education system does not work for everyone.

Overall, in countries where your family background is thought to be a major determinant of your life chances, public support for financing public education is lower. On the contrary, where equality of opportunity is seen to be higher, and your family background matters less to what you can achieve, the public are more in favour of financing public education.

We think this is helpful situational context to build on with more comprehensive public polling.

Is it just or unjust that people with higher incomes can buy better education for their children than people with lower incomes?



1. Very just, definitely right - 2. Somewhat just, 3. Neither just nor unjust, mixed feeling - 4. Somewhat unjust, wrong - 5. Very unjust, definitely wrong

FIGURE 10: Responses by cluster to the question "Is it just or unjust that people with higher incomes can buy better education for their children than people with lower incomes?" where 1="Very just, definitely right" and 5="Very unjust, definitely wrong". From the International Social Survey Platform, 2019.

Where next?

This chapter highlights the persistent national differences in tertiary education participation across Europe, influenced by unique national policy history and reform decisions.

Our analysis shows that there are obvious obstacles to widening participation in tertiary education among under-represented groups. We have looked at some detail at the impact of two issues in the four-factor framework discussed above: school systems and family characteristics. Public policy needs to consider these obstacles and propose solutions capable of smoothing the transition from secondary to tertiary education. It also needs to tackle the problem of dropouts. To reiterate, the success measure is the number of people who complete higher education.

Based on our findings, we suggest the following:

1. **Increase the generalist curriculum of vocational training schools**, raising the cultural capital of children enrolled in these tracks (courses should include generalist theory, encouraging students to gain a well-rounded education, engaging in multiple disciplines and learning to think critically, solve problems, and adapt to various contexts, and not just practical subjects).

2. **Expand the available pathways from secondary vocational to post-secondary vocational, and from there to tertiary academic.** This requires integrating secondary and post-secondary education and not treat them as separate or disconnected.

3. **Create bridging programmes from vocational tracks at secondary level to academic tertiary education**, introducing additional terms of study, summer courses, and postponed admission tests.

4. **Create carefully designed bursaries for disadvantaged students** not only based on low-income conditions, but also providing extra tutoring to strengthen cumulated past weaknesses of disadvantaged students. In addition, underrepresented and socially discriminated groups in society, such as ethnic minorities and women from ethnically discriminated groups, should be targeted in these programs.

5. **Support students during their higher education with tutoring, optimal course design, and ECTS[3] recognition**. Higher education institutions should create additional tailored tutoring for disadvantaged students, and they should gain recognition from the central government in terms of extra funding.

6. **Financially support students attending higher education courses**. Encouraging student mobility nationally and internationally requires financial support for students from poorer families; the financial aid could be conditional on targeted enrolment in the best universities based on recognised international ranking outside one's region. This requires co-operation and partnerships by the same universities designing correlated admission policies.

[3] ECTS stands for the European Credit Transfer and Accumulation System. It is a standard used across Europe to facilitate the transfer of academic credits between higher education institutions. The mutual recognition of learning activities under the Erasmus exchange programme has been largely simplified thanks to ECTS.

Part two:

Money Matters

Introduction

As discussed in part one, a student's family wealth is not the only thing that will determine whether they will go to university, but it is clearly a factor.

Our framework in Part One (figure 2) highlighted financing and tuition fees as an element of the higher education system as one of the four factors influencing the transition to higher education. This chapter will explore fees in more detail. It will also highlight the importance of another factor in our framework – family characteristics – from a different angle.

We've established that young people with a parent or parents in a prestigious job (e.g., manager, professional) are much more likely to attend university, and that 'cultural capital' comes into play as a barrier to tertiary education.

Nonetheless, actual capital – wealth and income – are critical too.

One of the recommended policy interventions above relates to giving greater financial support for students from poorer families. This is primarily directed at young people already in the education system and about to leave secondary.

However, financial support could be delivered with less of an emphasis on public money, through building up regular savings and the effect of compound interest from a child's earliest years.

In this section, we look in more detail at the costs of university and explore ways to tackle this barrier to the less economically advantaged attending higher education.

The role of tuition fees

It is first worth saying that, in the EU at least, **tuition fees are not the main source of cost for students attending university.**

Most European countries do not charge tuition fees, and in those that do, the fees are not high – certainly not compared to the UK and the USA.

One clear point to make upfront is that **there is no evidence to suggest having zero tuition fees (or a 'free' tertiary education) improves university enrolment overall.**

That might at first glance seem counter-intuitive, since you might assume that if it is 'free' to go to university, more people would go. However, tuition fees effectively create a business model where universities can expand the places they have on offer and similarly more universities can be established. This means there is a higher capacity for students from all backgrounds to attend.

Another intriguing finding from OECD data[4] is having low tuition fees does not reduce the gap between the number of young people from poorer backgrounds who say they want to go to university compared to the number from richer backgrounds.

Again, this 'aspiration gap' in zero or low tuition fee countries feels counterintuitive – you would assume that if fees are low, young people would be more encouraged to think about attending university. Yet the evidence we have does not show this.

Case studies of different countries with different fee structures provides useful analysis of the impact of tuition fees.

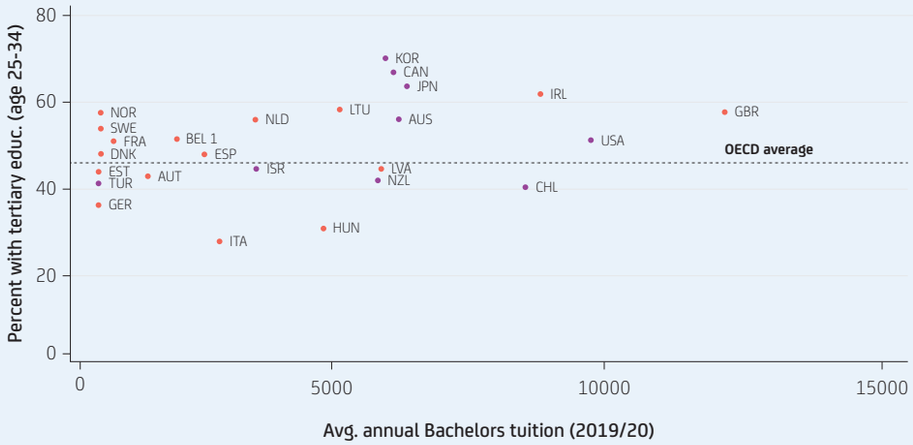


FIGURE 11: Tuition Fees in USD and percentage of OECD country populations with tertiary education

Italy

According to the OECD, students attending Italian public universities paid on average slightly less than $2,000 (PPP)[5] for tuition fees. A strong element of progressiveness is built into the Italian fee system, whereby around a third of students are fully exempt from fees and another 15% pay a reduced amount.

For the sake of comparison, in the USA, the average tuition fee at a public university is $9,200, and $31,800 for private universities.

Given the difference in fees, you would expect access to university to be more equal in Italy – the assumption would be far more students from lower income families would attend universities. However, as figures 12 and 13 show, Italy and the US are almost identical in terms of access for lower income families.

UK

From the 1990s, the UK started out on a journey from a free university system to one with some of the highest tuition fees globally.

Studies have shown that the introduction of tuition fees increased both average expenditure per student by universities and enrolment rates, without significantly impacting the difference in education attainment between high- and low-income students.

We can refer to views within the UK of the 'fairness' of its education system in Part One to highlight how fees might have changed views among British citizens.

It is important to note that because of devolved powers among the UK's nations, Scottish students studying at Scottish universities do not pay tuition fees.

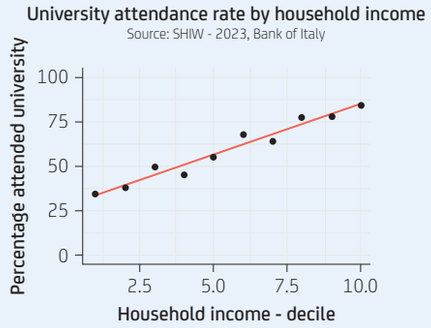


FIGURE 12: University attendance rate by house income in Italy – Bank of Italy data

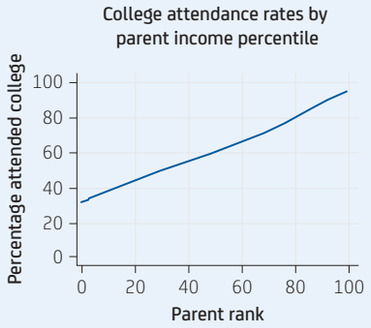


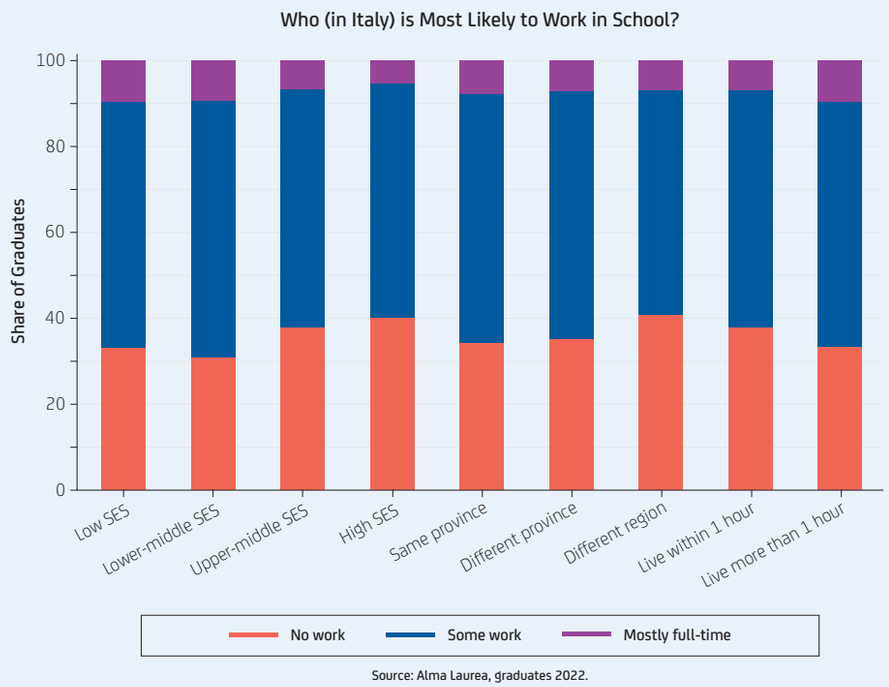
FIGURE 13: University attendance rate by parental income percentile in the USA – from Chetty et al. 2020

[4] OECD, Education at a Glance 2023 Sources, Methodologies and Technical Notes (2023).

[5] Purchasing Power Parity: converting different currencies into a unique currency (typically US dollars) while correcting for differences in the cost of living at national level.

Costs beyond tuition fees

Even if we take tuition fees out of the equation, there are significant costs to be borne from moving away from your home town, and ongoing housing and living costs. This tends to be more of a concern in bigger cities where the better, more prestigious universities tend to be located.



Source: Alma Laurea, graduates 2022.

FIGURE 14: Stacked bar chart of which groups of students are working full time, part time or not at all whilst attending tertiary academic education.

Working while studying - Figure 14

In Figure 14 we parse which graduates were most likely to report working during school.

Variation is relatively small across student characteristics. For example, students from higher SES households are only slightly more likely to report having worked. Similarly, while graduates attending school in a different province from their home are no more likely to report working, those who enrol in a different region from their home, and are almost certainly not living at home, are more likely to report working.

Finally, students living within or further than one hour from university reported relatively similar rates of working.

It is worth mentioning here that this is a survey of graduates, meaning we are only observing work status among students who both attended and graduated from university. This tells us less about the role work, or credit constraints, play in enrolling or graduating.

One further indirect aspect to consider is the cost of not entering the labour market after completion of secondary education. This can be thought of as both foregone earnings – the money that a young person would otherwise have earned by getting a job and not continuing their studies – and the opportunity cost of not building a career from an earlier age.

If we look at Italy as an example – where there are low or no tuition fees below an income threshold – we can look at other reasons why young people from lower-income families are deterred from tertiary education. Here, housing and living costs are a big part of the equation.

In Italy, housing represents more than 50% of all costs to be covered in the most expensive cities, with groceries making up at least another 10%. Costs are driven by a low supply of dedicated student housing and a general increase in private housing costs across Italian cities. Unsustainable living costs have led to student protests in Italy in recent years.[6]

A solution is not likely to be found particularly quickly: increasing the supply of public housing for students feels remote in most European cities, given limited physical space and availability for new developments.

Making money matter less

How, then, can we make attending university more realistic for young people from low-income backgrounds?

One answer could be government backed student loans. But these are inherently problematic. The US experience indicates that repayment rates are often low, and the state is typically fairly lax in enforcing collections. Most countries, such as the UK, now have an income contingent repayment scheme through the payroll tax system where payments begin once an individual enters the labour market. This means that whether a borrower repays, and how much is paid against the initial loan, depends on what he or she is earning.

The problem is that often the terms set are relatively generous, to the extent that governments, such as the UK, do not expect to recoup all of what is lent via student loans. Ultimately, the general taxpayer must make up the difference. An example of this in action – albeit an extreme one – is US President Joe Biden forgiving $132bn in federal student loan debt.

Given the challenge of repayment, government-backed student loans may not be the most promising solution. And if debt – state-backed or private – is generally held to be a bad road to go down, what other financial options are open?

Innovative savings products could provide a useful answer.

[6] Angela Giuffrida, "'Totally unsustainable': Italian students protest over cost of housing". The Guardian, 12 May 2023, https://www.theguardian.com/world/2023/may/12/italy-students-protest-over-cost-housing-high-rents.

Child savings products: a potential answer

Innovative financial products that have a clear social purpose built into them could be a solution. Specifically, we think a new child savings product can help to boost university education among lower-income families.

Child savings accounts exist in various forms across the countries we have been discussing. While they differ in design, the general idea of a child savings account is to encourage parents to put money away to support their child / children's future, with the help of tax benefits.

Conceptually, these are attractive financial products. They encourage saving for the future, drive up financial inclusion, and can have a strong element of progressiveness built in.

However, generally speaking, parents do not save much for their child's future. There are many reasons behind this, including an inability to put any money aside because of the pressures of day-to-day cost of living, the desire to put saveable money to work elsewhere (e.g. for a house deposit), and low financial literacy.

These are difficult problems to overcome. To see a really meaningful uptake in child savings, a product would need to have strong tax incentives, automatic enrolment, and a seed fund either from the government or a private institution.

To bring the issue to light, we have three case studies of child savings accounts that are in operation in three different countries. These cases show how the products can work and where they need to improve to be more effective. We can see how tax incentives can be designed, what sort of seed amounts (from the government or private providers) might be reasonable to offer, when funds can be accessed and how they could be used, and what take up among parents looks like.

US: 529 plans

The US 529 plan provides tax-free investment earnings provided that the resulting funds are used for approved educational purposes. Under the plan, a family invests in actively managed portfolios (a mix of equity and fixed income, typically a mutual fund with low fees). For the proceeds of the fund to be entirely tax free, the fund must be used for tuition, other fees, books, computers, room and board at university, or to pay off student loans. If the money is not ultimately used for educational purposes, it is subject to state and federal income tax, plus an additional 10% penalty. There are also limits to how much can be invested in a 529 plan – these vary across states, but it is typically around $250,000. There are approximately 16 million 529 savings accounts in the US, with average account balances of around $26,000.

Generally, wealthier families who would expect their children to go to university are using 529 plans. They do not have a 'progressive' element baked into the system, so such plans are doing little for equality.

A research programme in Oklahoma showed the effects of government top-up of 529 plans. For a random sample of people, the Oklahoma state government opened a 'state-owned' 529 plan. It deposited $1,000 in the fund from the day a child of the parent(s) in the sample was born. They were also encouraged to open their own 'private-owned' 529 plan, with a $100 starting incentive, and any savings they invested in their 529 plan would be partially matched. The researchers found that 16% of the sample opened their own account, compared to 1% of a control group. This shows the incentives did increase participation, but not overwhelmingly.

UK: Child Trust Fund (CTF) and the Junior Individual Savings Account (JISA)

In 2005, the British government established the CTF for all children born after September 2002 whose families received a child benefit. Each CTF received an initial seed amount of either £250 or £500 depending on their family's wealth. Annual limits of £1,200 were imposed. The CTFs were run by traditional banks. Unlike the US 529 plan, funds in CTFs could be used for anything by the child once he/she turned 18.

Statistics showed that opening rates of accounts were much higher among wealthier families. Focus group research found that one of the main reasons why people didn't open a CTF was confusion over how they worked and not being provided clear enough information by financial institutions offering the accounts. Subsequent research found that while 85% of eligible families had opened an account, wealthier families were putting more in them.

CTFs were axed in 2010 as part of government cuts. In 2011, JISAs were introduced. These work as savings accounts or an investment portfolio, where any gain (interest, capital growth, dividends) is untaxed. Parents open these accounts and they are serviced by financial institutions. Annual contributions are limited to £9,000 annually, and children cannot withdraw funds until they are 18. As with CTFs, use of the funds is unrestricted.

Italy: Turin – Affording College with the Help of Asset Building (ACHAB)

An experimental programme was run in Turin to help families affected by the financial crisis pay for their children's university education. It was made available to high-school students in low-income families (below €25,000). Ultimately, around 300 students took part. Another 'control group' of low-income students was created to allow comparisons.

The participants were directed to open a dedicated bank account and deposit between €5 and €50 per month for a maximum of six years. They were not allowed to skip more than two consecutive months and were required to attend three modules of financial literacy training. The maximum deposit was €2,000 and the deposit would be matched with four times the amount deposited if used for school expenses, including tuition. Therefore, the maximum amount that could be gained at the end of the six years was €10,000. The design was focused on building regular savings habits, encouraging long-term savings goals for a specific use (tuition fees), and providing financial education.

Child savings products: a potential answer (Continued)

100% of those in the programme opened an account, the average amount deposited was €1,080. They were 8.7% more likely to attend college.

The programme designers conducted a cost-benefit analysis which calculated that to induce one additional student from a low-income background to attend university would cost around €42,000. This is not cheap, but they argue it was more effective and better targeted than many financial aid programmes.

We can see from these three case studies that it is perfectly possible for governments to attach tax incentives into these kinds of products. We can also observe that the existence – and awareness – of such products can encourage long-term savings habits and make an impact on people's financial wellbeing. These examples show the promise of CSAs in making a positive difference.

The case studies do also highlight issues with CSAs which need to be managed or otherwise taken into account. One is the need to be progressive, otherwise the CSA risks becoming a product for the wealthy above all, and this will do little to increase equality of access to university. The other is the question of what the funds in the CSA ought to be used for. In some cases, a mechanism to only provide the tax benefit if the funds are ultimately used for educational purposes provides the answer.

We have taken these learnings forward as we try to create a more impactful CSA.

Designing a new CSA for Italy

We have focused a good deal on how governments can use tax incentives, 'nudging' and progressive policy design to help build up savings to pay for university. Of course, the private sector – in this case banks and other financial institutions – have a role to play.

Financial services have a long history of creating smart, innovative financial products. If we add the expressed desire of banks to have a social purpose or social impact, and improve customers' financial lives, we can clearly see the opportunity to design a new form of child savings account. It would still need to work in concert with the government, particularly on tax incentives.

A new CSA product would be designed so that when the child turns 18, the account would need to have sufficient funds to pay for the costs of attending university. A rough upper estimate for the total expense of five years of university attendance – three years of undergraduate study and two years for a master's degree – accounting for tuition fees, housing costs, study materials, etc., is €40,000. (Note costs will vary according to where in Italy the student studies given wide ranges in housing costs).

The CSA product therefore needs to be designed to help achieve a value of around €40,000 by the time a child reaches the age of 18.

We model a few estimates for how much would need to be saved each month, with assumptions on savings growth rates.

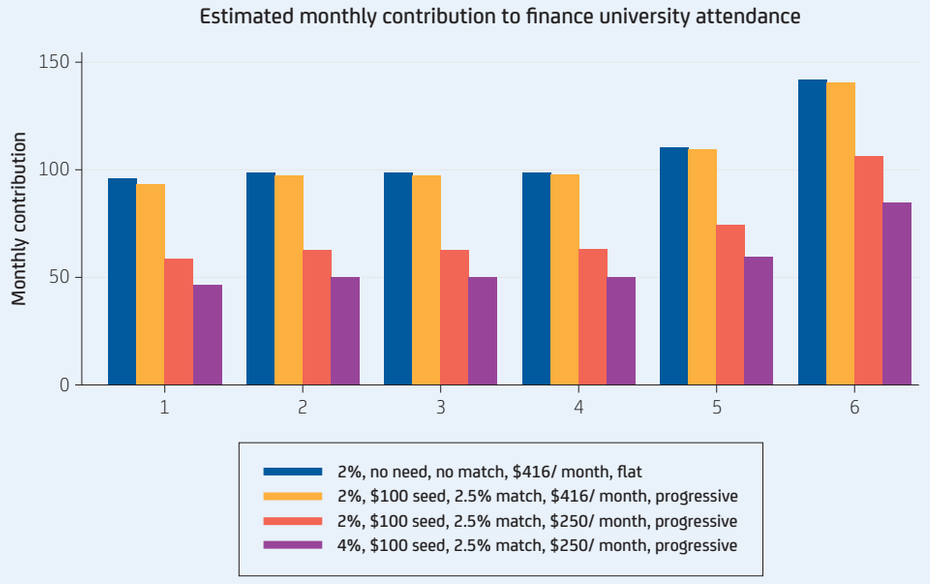


FIGURE 15: Estimated monthly contribution to a savings account required to finance university attendance, based on six different product models

Designing a new CSA for Italy (Continued)

To help reach the savings target, our proposed product would allow parents to divert a percentage of the Universal Child Allowance - *Assegno Unico* - (UCA) they receive each month for each child until the age of 18 (21 if enrolled into college) into this education-focused CSA.

Creating a new model with these parameters, based on the most conservative assumptions, the least well-off families would have to divert 50% of their UCA to a CSA to reach the target. The most optimistic 6% growth would drop the monthly diverted amount to 32%.

And to create a 'nudge' effect, the product could be designed to give parents the option of automatically depositing a percentage of their UCA into the designated CSA. This would require the government to allow this option on the social security online portal – parents must register and insert bank account details to receive the UCA already. We don't think this would be a complex change to implement.

There is an immediate and obvious concern: asking the most disadvantaged families to forego in the region of 40% of the UCA each month is extremely difficult. Some simply have to spend that money to make ends meet; saving is not a realistic option.

Lastly, a strong degree of progressiveness needs to be introduced to help the least well-off. Government policy can help here. For example, if a matching system could be put in place whereby the government tops up every deposit into the CSA by x%. (An example of this exists in the UK, for a pension savings vehicle called the Lifetime ISA, where the government adds a 25% top up to all deposits up to £1,000 per year). Disadvantaged families could also be exempted from the taxation on the interest gained by the CSA.

Based on our model's estimates, on the conservative end (2% growth rate), a 25% government matching rate would be able to reduce the monthly contribution from 50% to 40% of the UCA. A more generous scheme that included a EUR1000 seed deposit, a higher growth rate (4%), tax-free capital growth, and a 25% matching rate would lower the monthly UCA contribution to 30%.

Banks' role in a new CSA

We see an important role for the private sector – i.e. banks and financial institutions – to play in terms of creating progressiveness. Banks could opt to take a purposeful role in making a CSA more attractive for families and ultimately more effective in reducing financial barriers to university entry for the poorest.

There are two obvious ways a bank could take a progressive role with CSAs: seed deposits, and match funding.

Banks compete with many different incentives to attract new customers, for example, depositing funds into a newly opened account. Similar logic can be applied to encouraging people to open a CSA. A small seed of a few hundred Euros would not make a significant dent in the required monthly savings to reach the desired target, though it could act as a 'nudge' to encourage families to open an account in the first place.

Under our conservative growth rate model, to reduce the monthly UCA contribution from 50% to 40%, a seed amount would need to be in the order of €3,500. A bank could provide such a seed to a small number of the very poorest, perhaps a few hundred families a year.

As for a match fund scheme, as discussed above, it would not only reduce the necessary monthly deposit, but also incentivise higher contributions. A match funding scheme could be paid for by diverting 1% of the returns of the overall mutual fund to finance the matching amounts.

Ultimately, the real-life impact of seed funding and matched contributions would need to be tested in the market to understand how big an impact they make in encouraging CSA openings and regular deposits.

Obviously, testing would have the drawback of not being able to measure how many babies and young children ultimately end up attending university because of the length of the trial. An impact on aspirations to attend university – thanks to the knowledge of the financial burden being reduced – could be measured in a shorter time frame.

Two other points on CSAs should be considered. First, the question of whether UCA money or any other saved cash could be better spent on a child's development at a younger age. It can certainly be argued that it could be more impactful for a child's educational attainment to spend UCA funds on bolstering their early years' schooling.

Second, the question of how CSA funds should be used if the young person does not ultimately attend university. If a young person knew about the funds available to them in their CSA, they might be incentivised to use it for another reason – one which might not be regarded as financially sensible. CSA terms would need to be designed carefully to avoid these less desirable outcomes.

Banks' role in a new CSA (Continued)

Concluding

It is clear to see how financing and fees are a driver in rates of tertiary education enrolment. Our analysis suggests fees are not as big an issue as other associated costs – but in any case, money is a factor. Again, the importance of family characteristics and student background – factor four in our framework – comes to the fore.

We think it would be desirable and achievable to create a new CSA that takes into account tax incentives, seed funding, a strong element of progressiveness, and is designed for the purpose of meeting the costs of education.

The creation of such a product would represent a significant example of a public-private partnership, where business and government can combine to tackle a significant policy challenge.

The product would not be difficult to create from a technical point of view, but the challenge would be to make the policy case to government for the tax incentive and benefit design discussed above.

A bank that took this approach would undoubtedly demonstrate a strong social purpose and it is likely to receive a boost in consumer interest, customer satisfaction, and the way in which it is regarded by numerous stakeholders.

Part three:

Thinking Big - Global Competencies and Nurturing Ambition

Introduction

In this chapter, we look at how Global Competencies (GCs) relate to students' ambitions to pursue higher education.

GCs are increasingly relevant in today's world due to ongoing globalisation, richness of cultural diversity, and the acceleration of information flows. It is seen as desirable to nurture a 'global mindset' among young people.

As discussed above, these competencies tally neatly with the reasoning behind the EU's desire to increase the numbers of people with tertiary education: the skills and knowledge of today's young people need to adapt to a rapidly changing world which is increasingly globalised.

Educational institutions, which themselves are agents of globalisation, have a critical role to play in developing this 'global mindset'. This reflects the importance of school systems and how they operate, one of the elements of our four-factor framework detailed in Part One (figure 2).

Our data analysis on GCs, which we will discuss in this chapter, shows that **students who score highly on GCs are more likely to have a high ambition to study at university, and have a higher expectation of ending up in a more prestigious or higher paid job**.

We will explore what this could mean in practice for how the 'global mindset' could be developed among young people as a lever to broaden their horizons, raise their ambitions, and encourage them to attend higher education.

What are Global Competencies?

Global Competencies, as defined by the 2018 PISA[7] framework, are socio-cognitive skills comprising the ability to examine issues from various perspectives, interact respectfully with others, and take action toward sustainability and collective well-being.

The framework defines GCs through several dimensions:

- Knowledge of Global Issues: Understanding key global issues such as climate change, global health, international conflicts, and inequalities. This includes knowledge about the world's major cultural groups, their interactions, and how such interactions affect global dynamics.
- Skills for Critical and Creative Thinking: The ability to think critically about global issues, including questioning assumptions and viewpoints; analysing, evaluating, and interpreting global issues and information from multiple perspectives; and being able to use information from international sources effectively.
- Attitudes and Values: Development of attitudes that reflect an openness towards people from other cultures, respect for cultural otherness, global-mindedness, and responsibility towards contributing to a better world.
- Ability to Communicate Across Cultures: Competence in engaging in open, appropriate, and effective interactions across cultures, including expressing thoughts clearly and respecting different cultural contexts and expressions.
- Taking Action: The readiness and ability to respond to local, global, and intercultural issues, to take action for collective well-being and sustainable development both locally and globally.

The assessment includes a test component and a questionnaire. The test evaluates cognitive skills related to GCs, while the questionnaire collects data on students' exposure to global issues, thoughts, and attitudes toward other cultures, and experiences with diversity.

[7] Programme for International Student Assessment: a worldwide study initiated by the Organisation for Economic Co-operation and Development (OECD) aimed at evaluating educational systems by measuring 15-year-old students' abilities in fundamental skills such as reading, mathematics, and science.

Measuring Global Competencies

PISA records nine indexes in its questionnaire dataset. Each index summarises survey responses from students to a series of questions related to each GC[8].

Scores on each index vary significantly from country to country. For example:

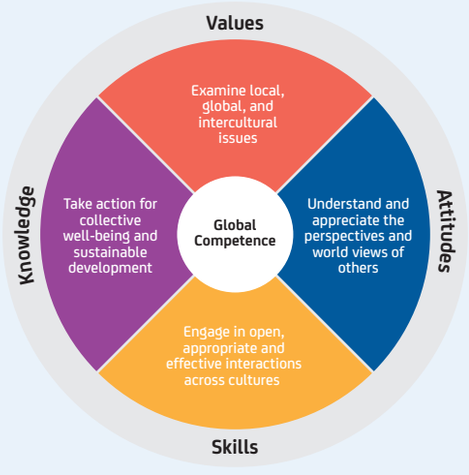
- Italian students score relatively highly for "global mindedness" and "awareness of intercultural communication", but score relatively poorly for "interest in learning about other cultures" and "perspective taking".
- German students score highly for "respect for people from other cultural backgrounds" and "attitudes towards migrants" but are low when measuring "global mindedness".

The data also shows us that:

- The index of students' "awareness of global issues" closely mirrors the other GC indicators. In other words, if students are, on average, more familiar with global issues, they score higher on other GC indexes.
- There is some evidence to suggest that in wealthier countries (measured by GDP per capita) students may have higher GC scores.
- There is a positive association – albeit not an especially strong one – between the percentage of immigrants living in a country and higher GC scores.

Interestingly, the overall country rankings for GCs do not align well with the clusters identified in Part One. Scores for GCs differ even among countries with similar education systems.

The four dimensions of global competence



Source: OECD (2019)

FIGURE 16: The four dimensions of global competence, OECD 2019

[8] The indexes are: awareness of global issues, self-efficacy regarding global issues, perspective-taking, respect for people from other cultures, interest in learning about other cultures, awareness of intercultural communication, global-mindedness, cognitive flexibility, and attitudes towards immigrants.

Other factors shaping Global Competencies

GCs are shaped by a combination of interconnected factors that influence an individual's ability to understand and navigate the globalised world. Family, education and personal characteristics all come into play.

The data shows:

- Girls score significantly higher than boys on GCs.
- Immigrants (first and second generation) score significantly higher than natives on GCs.
- Students with higher test scores across the whole of their studies score higher on GCs.
- Higher parental education – particularly the students' father – is positively correlated to higher GC scores.
- Family income is associated with higher GC scores, but not across the board.
- Educational environment plays a small role, although GC scores tend to be higher in public schools.

Overall, this underlines the challenge education systems face in effectively integrating GCs into curricula and to train the kinds of skills which lead to higher GC scores.

Other factors shaping Global Competencies (Continued)

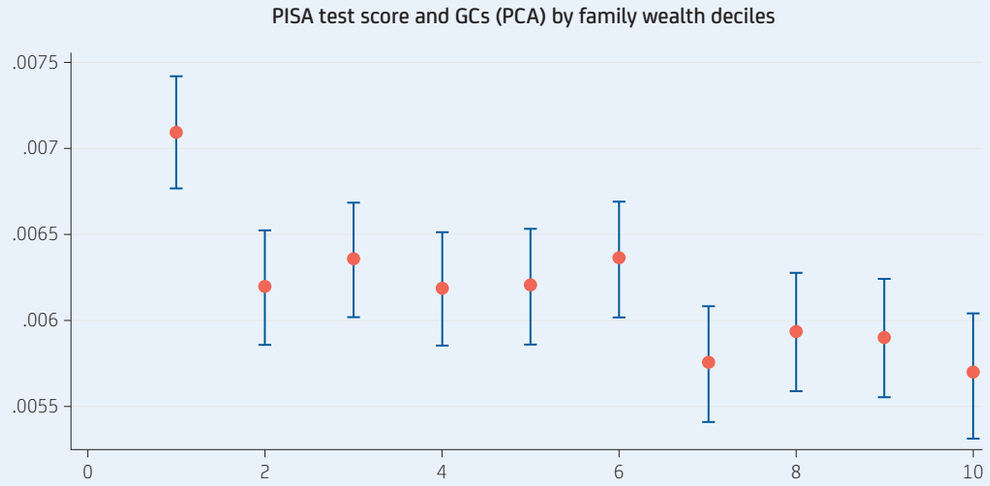


FIGURE 17: Relationship between PISA test scores and family wealth deciles. Displays the estimated effect of family wealth on PISA test scores, shown as coefficients. Higher values suggest a stronger positive association between wealth and test scores.

The Relationship between Test Scores and GCs - Figure 17

We investigated whether the strong relationships that we observed between test scores and global competencies, as well as between gender and global competencies, vary according to household wealth, which is one of our core variables that capture the family background.

Figure 17 plots the point estimates of the test score coefficient, together with its 95% confidence intervals, from a set of regressions where we estimate different coefficients for each decile of the family wealth distribution. The deciles are defined within each country, to ensure that we do not simply pick up variation across countries with different levels of wealth.

It shows that the relationship between test scores and global competencies is decreasing as wealth increases, but the coefficients are statistically similar - with the exception of the poorest group.

Global Competencies and the transition to Tertiary Education

We looked at data relating to students' ambitions and expectations for the future and how this interacts with GCs.

Even controlling for variables relating to family background, school environment, and individual characteristics, we can still see a significant correlation. We can be confident that higher GCs equate to higher ambitions.

This analysis suggests that, all things being equal, GCs are associated with what we consider the more 'desirable' outcomes of students being more ambitious about their own futures.

This begs the question: would a focus on driving up GCs in school education result in creating more ambitious students and a higher proportion wanting to attend university?

Developing and deepening Global Competencies

An immediate stumbling block is the scant evidence of effective ways to improve GCs in education.

The fact that educational environment appears to play little role in a students' GC scores (compared to family background and individual characteristics) points to education systems being unable, as yet, to 'teach' GCs.

We would argue that given the increasing relevance that Global Competencies are going to play in our societies in the coming years, education systems need to significantly strengthen their ability to train these skills, so that students can develop them irrespective of their personal circumstances such as family socio-economic status, immigration background or gender.

This appears even more important given the systematic evidence that GCs are strongly associated with students' desire to continue studying and attend a university, and their ambitions for their future employment.

There is also a public policy point to consider within this question, particularly given the current context of European politics. GCs might be viewed with a degree of scepticism or even open hostility from European populist parties of the right, since the notion of instilling young people with a more 'globalist' mentality would clash with these parties' tendency to promote nationalism.

Nonetheless, if governing political parties were minded to support furthering the 'teaching' of the socio-cognitive skills related to global issues, it is clear that educational systems can play a part in strengthening students' aspirations, motivation, and effort, with very important consequences for their long-term life outcomes.

Plainly, more evidence is needed. We need to continue exploring the nature of GCs and their impact on individuals and communities.

Global Competencies and the transition to Tertiary Education (Continued)

Future research and policies should explore effective strategies for nurturing these competencies. The development of innovative educational approaches in developing global competencies should be accompanied by rigorous evidence to understand those who succeed and those that fall short.

As this body of evidence grows, we will gain insights into the mechanisms through which we can better prepare future generations to navigate and contribute to an ever-more interconnected world. This will require the collaboration of researchers, educators, policymakers, and stakeholders worldwide.

We believe that by understanding and cultivating these competencies, we can empower individuals to embrace diversity, tackle complex challenges, and contribute to a more inclusive and sustainable global community.

Through collective efforts, we can ensure that education remains a catalyst for fostering global citizenship and empowering individuals to thrive in an ever-changing global landscape.

Part four:

The Best Advice? Information, Stereotypes, and Students' Decision Making

Introduction

Earlier in this report we discussed the importance of the value of tertiary education to economies and societies. This received wisdom is the cornerstone of why the EU has set a goal of increasing the share of the population who have been educated at university (or equivalent) level.

Plainly, governments cannot 'compel' people to enter tertiary education. It is not compulsory, nor is it likely to be in the coming decades, given the significant impact such a move would have on government budgets, the labour market, and the economy overall.

This means young people need to be, in effect, convinced of the value of tertiary education.

When making the decision about whether to attend university or enter the working world, a young person could consider many things: what their parents, peers and teachers think, the cost and time implications, whether they would enjoy studying or not, and so on.

This is an issue which sits in under the fourth factor in our four-factor framework for the transition to tertiary education (figure 2). Advice and information about tertiary information is typically provided by parents, and to a lesser extent by peers.

Until we reach a point where at least 45% of young people in each cohort see sufficient value in attending and completing higher education, the policy target will not succeed. Enough young people must think that tertiary education will improve their individual circumstances and life outcomes.

It is not difficult for us to see that this view is not held with equal conviction among different demographics. There are two important facts to highlight this which we are going to focus on in this part of the report:

1. **Students with higher socioeconomic family background enrol more often in higher education than their less advantaged peers with the same school performance.**

Young people from wealthier families benefit from their parents' knowledge, especially if they themselves attended university, and their ability to tap into additional resources and more informed social networks.

Meanwhile, young people from lower income backgrounds not only lack this layer of information, but they may also be receiving actively unhelpful or inaccurate information that deters them from enrolling.

Studies by Nobel laureate Jim Heckman have shown that the influence of family background on educational trajectories begins even before university choices are made, as the level of parental education significantly impacts the types of school students enrol in during their secondary education. For instance, in Italy, students with parents holding degrees show a higher propensity to enrol in more academically oriented secondary schools.

2. **Girls disproportionately choose less occupationally rewarding fields of study, such as STEM subjects. This is despite campaigns to increase female representation in STEM and related industries.**

There is compelling evidence of a notable gender gap favouring females in the grades assigned by teachers in all subjects. It seems counter-intuitive that despite this 'help' the probability of female high school students opting to enrol in STEM (or other fields of study more likely to lead to a higher wage) is low. This might be explained by the fact that women perceive such fields of study as more competitive and – since studies have shown that, all things being equal, women are less confident in achieving success – they opt not to pursue these more competitive subjects.

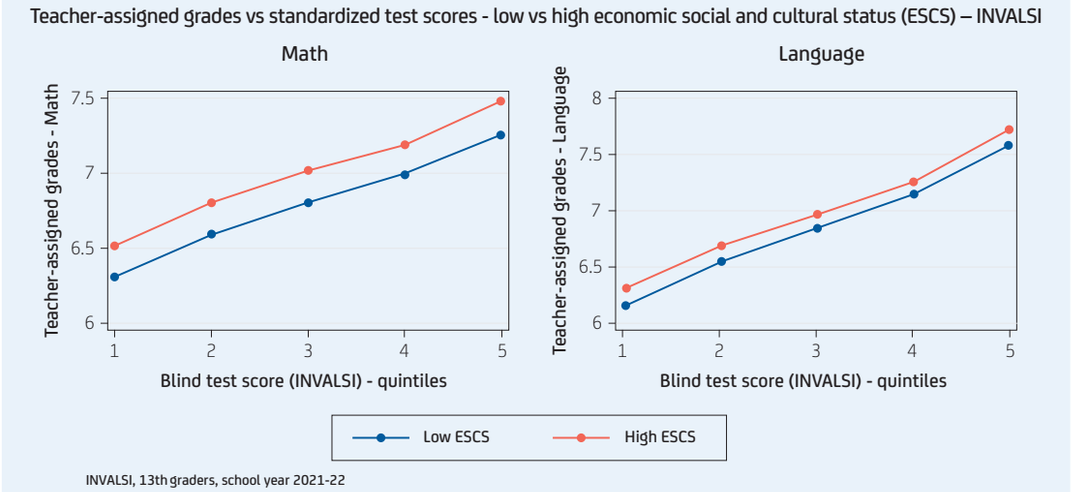


FIGURE 18: Relationship between teacher-assigned grades and standardized test scores (blind test scores from INVALSI) for 13th-grade students in the 2021-22 school year in mathematics (left) and language (right) comparison between low ESCS and high ESCS background.

Socio-Economic Disparities in Teacher Grading Across Subjects – Figures 17 & 18

Figures 17 and 18 display the average grades assigned by mathematics and language teachers to students characterized by low and high socio-economic backgrounds (ESCS above/equal and below the mean) across quintiles of standardized test scores in math and language. A remarkable gap exists in the grades received by these two groups in both math and language subjects. The disparity is more pronounced in mathematics compared to language, and this trend remains consistent among students positioned within various quintiles of standardized test scores.

Introduction (Continued)

Gender stereotyping continues to be a big issue. Here, we can see how parents or other people influencing young women's lives may consciously or unconsciously hold stereotypical views about the relative abilities of men and women in STEM subjects. This in turn might dampen the support and encouragement they would give a girl towards studying STEM.

To combat these challenges and to improve equality of opportunity, we need a set of policies which aim to provide tailored and reliable information to improve equality of opportunity.

But first, we need to understand in some detail what is behind these two phenomena.

What is going on here?

It could be that limited financial resources, joined with market imperfections, pose a significant barrier to less affluent families. It is possible to imagine how limited access to information about the higher education system, combined with a lack of guidance and mentorship in navigating the application process, and a lack of understanding of educational opportunities overall could hinder certain groups' ability to make informed decisions.

It might also be misperceptions of potential outcomes from higher education, leading young people to choose employment over a degree, or opting for subjects other than STEM.

Then there is the potential role of social norms and stereotypes regarding the ability of women in certain fields which can significantly contribute to the persistent gender gap in STEM.

A good deal of time, money and effort has been spent on tackling financial constraints but relatively little on what information is available to young people on university and how it impacts their decision-making.

The fact is, the amount of information on university study isn't easy to collect, collate and process. There are so many variables and factors to consider – earning potential, the possibility of dropping out, living costs and other expenses, and foregone earnings – all of which are hard to calculate. In addition, you have the views and opinions of teachers, parents and friends, some of which might be helpful and accurate, but some of which might not be.

It is effortful to go through it all and reach an 'informed' decision. As with so much decision-making we all make day-to-day, we tend to rely on fast and frugal heuristics, biases and stereotypes. Doing so can lead to all kinds of sub-optimal outcomes – so it should not be surprising people are struggling to make the 'right' choice.

Why might students make sub-optimal decisions about university?

We think there are three major drivers for how a student would reach a 'sub-optimal' decision, i.e.:

- Opting against attending university despite, on paper, being more than able to win a place.
- Enrolling at a university but eventually dropping out.
- Choosing a subject that ultimately leads to a less financially rewarding career than preferred and reduces overall life outcomes.

These three drivers are:

1. **Wrong assumptions on the costs versus benefits of higher education.** It is very hard to accurately calculate your salary and earning potential after completing degree study, not least because of the ranges and a fast-moving job market. You might conclude it is better to take the "sure thing" of employment now, knowing salaries available to you at that precise moment. Or you might choose a field of study or degree subject without appreciating it has a relatively low earning potential associated with it.

2. **Views on the prestige of earning a degree.** This is driven by family expectations and social norms, where, as we have observed above, more affluent families tend to see a degree as an important life achievement.

3. **An inability to work out the likelihood of successfully completing a degree.** A lack of familiarity with the degree-earning process or not being sure that you will gain sufficient enjoyment and maintain interest in studying for three years.

Data: factors that colour students' views on tertiary education

So far, we have covered a few possibilities that might explain the ongoing sub-optimal decision making of young students related to university study. These are theoretical, so we need hard data to investigate the issue in detail.

We have collected new data on some determining factors that are likely to impact the decisions of young people. The dataset comes from a questionnaire filled out by 9,000 Italian students, which covered questions about their family background, schooling, and their views and expected plans concerning higher education. These data were collected in four different provinces and 48 schools, in order to be representative of the Italian population in schools at the age of 18. They were interviewed four times over three years, in order to assess aspirations before being assigned (or not assigned) to treatment (informative sessions held in some randomly selected classes), intentions to enrol after the treatment, actual applications and actual enrolment.

Socio-economic background

The data we have compiled shows that when asked "it is important to my parents that I enrol in tertiary education", students from more educated families are significantly more likely to agree.

Our data also shows students from a higher socio-economic background are 25% more likely to proceed to higher education. Similarly, a lower proportion intend to search for a job compared to those with less educated parents.

Overall, the data suggests parental views are a major factor in explaining the difference between the intention to go to university among low-income and high-income students.

The point about the prestige of earning a degree is highlighted here. Parents from more affluent backgrounds have openly or subliminally impressed upon their children the importance of attending university. This is plainly a powerful signal to teenagers, which they tend to take seriously.

The question for us is how we reach poorer students to deliver a similar message which they may not be getting from their parents. A role model in their lives – which could be a teacher – is needed to press home the point.

Girls and STEM

Returning to the answer to the question "it is important to my parents that I enrol in tertiary education", young women report a significantly stronger intention to enrol compared to men.

However, when we look at a comparison between genders in choice of fields of study, there is a clear disparity. Women are much more likely than men to choose humanities (37% vs 17.9%) over STEM (8.5% vs 33.6%).

There is also a remarkable gender gap in expected wages. Young men expect to earn more – as much as 25% more – than women as a result of having a degree. This is particularly the case with STEM subjects, where the gap between the expected wage of men and women is 29%.

This gap in expectation may have implications in the labour market – for example, impacting what women believe they should be paid, views on promotions and ultimate monetary outcomes in life.

Our data also shows individuals who have a preference for humanities at high school are much less likely (around 36% less likely) to enrol in a 'strong' field of study, like STEM. This goes some way to explain why the 'gender gap' exists.

This in turn poses an interesting question about how to try to close this gender gap.

On the one hand, we know there is a genuine 'consumption value' in higher education – some students enrol in subjects first and foremost because they are interested in learning more about them, rather than because of the wage or job prospects they expect to receive at the end of degree study. It would seem wrong to counter gender differences in preferred subjects with paternalistic style policies. People still need a freedom to choose, even if it might not be, on paper, the most 'economically rational' decision.

On the other hand, the preferences in fields of study may subconsciously reflect social norms and stereotypes about what subjects young men and young women 'should' decide to pursue.

How do teachers influence students' choices?

From our own experiences of schooling, we will all be familiar with the pivotal role teachers play in shaping the educational and career trajectories of their students.

This might be in a good way, through encouragement, positive engagement, helpful feedback, and thoughtful advice. Or it might be in a negative way, with discouragement, rare or unhelpful feedback, and lack of interest in students' futures after school.

One particularly significant source of influence is grading. Grades serve as important feedback for students, shaping their self-confidence and academic preferences. Positive grades boost students' confidence in their abilities in the subject areas in which they excel, and may ultimately inspire them to delve deeper into those subjects at university. Conversely, negative grades may lead students to believe they are "no good" at certain subjects, discouraging them from further study entirely.

In many university systems, grades are a very significant determinant for university admissions, so teacher assessments have a direct and material impact on whether or not a student is accepted on a given course or at a given institution.

Another dimension is teachers' views and advice to students. Their opinions can significantly impact students' choices.

But teachers are not immune to unconscious biases and stereotypes. Like all of us, they too can end up treating someone differently because of their ethnicity, family background, or other characteristics.

Again, we need data to help us understand what is going on.

Our data for this is sourced from comparing grades assigned by teachers to the results achieved by their students in exams run by independent bodies (i.e. free of teacher influence). In addition to individual test scores, the INVALSI[9] dataset includes scores measuring students "economic and social cultural status" allowing us to analyse family background.

Socio-economic background

These data show that students coming from economically disadvantaged backgrounds tend to receive lower grades from teachers and exhibit poorer results in standardised tests for both maths and languages when compared to more privileged peers.

As discussed above, it may be that part of the reason students from poorer backgrounds are less likely to enrol in higher education is because their academic performance tends to be weaker.

But a cause of this could be the result of teacher stereotypes, an unconscious adjustment of grading and advice about higher education based on the students' economic and social background. A negative stereotype would be that a poorer student is less able and less likely to flourish academically. If teachers' behaviour reflects that, it creates a sort of self-fulfilling prophecy.

Indeed, our data shows that, all things being equal, students from lower social-economic backgrounds receive lower teacher evaluations relative to their test scores, especially in maths.

Existing research also shows that immigrant students, who typically come from poorer families, receive lower grades than native students, even after controlling their performance on standardised tests.

[9] Istituto Nazionale per la Valutazione del Sistema dell'Istruzione (National Institute for the Evaluation of the Education System).

So, we can see how unconscious biases may come into play with teachers' grading. But it is important to note that other factors come into this – including language ability and the well-being of students, which might impact their engagement and behaviour in class.

Ultimately, this question needs to be explored further to find more concrete answers. But our data does suggest that teachers' biases may be creating a blocker to more students from lower-income backgrounds going to university.

Girls and STEM

In recent years, a clear trend has emerged of girls performing better than boys across various stages of education. Girls and young women achieve stronger academic results, and have higher enrolment and completion rates in tertiary education.

However, as discussed above, despite this higher performance, women remain underrepresented in STEM subjects, which are often higher paying.

Interestingly, **our data analysis suggests girls receive higher teacher-assigned grades than boys who achieve similar standardised tests scores**. This is true in both maths and language subjects. In other words, if a teacher has a girl and a boy in their class of similar ability (according to test scores), the teacher is more likely to give a higher grade to the girl than the boy.

Why might this be? It may be simple gender bias, given the knowledge that girls tend to be more academically strong than boys. It could also be based on students' behaviour in class – boys tend to be more disruptive. It might even come from a desire to discriminate positively in favour of girls.

Regardless of the precise reasons, it is clear a lower grade from teacher assessment can account for the fact young men are less likely to attend university. This is particularly the case for men from poorer backgrounds, who face a 'double dose' of the biases discussed.

This throws up an interesting question regarding gender differences in STEM enrolment. If girls are receiving higher teacher-assessed grades in maths, you would think more would be encouraged to pursue STEM subjects. We can be led to assume that teacher grading is not the primary factor at play.

Recent studies suggest a bigger factor is the persistence of teachers' biases and stereotyping. A consequence of teacher bias is that girls tend to opt for less challenging academic tracks in high school because of their teacher's recommendations. This points to teacher bias impacting long-term educational trajectories – it activates negative self-stereotypes, leading girls to believe they are worse at subjects such as maths than their actual achievements indicate.

These data and studies show that teacher bias does exist and is having an observable impact on two groups of students: those from a poorer background, and boys. These biases can display themselves in both teacher-assigned grades and through more informal routes, such as advice and recommendations.

A greater awareness among teachers of what potential biases may be coming into play, and the lasting impact on students they might have would be a key step to countering or overcome these biases and stereotypes.

Challenges of providing reliable bias-free information

Given that biases and stereotyping persist, **we need to look to how to provide students with ready to use, easily accessible, reliable, evidence-based information on the costs, benefits and chances of success on a range of educational options**. This could be a valuable intervention to help correcting these biases.

The evidence we have available from a variety of different studies show the difficulty of making this kind of approach effective.

Taking various studies on information provision to young students together, we cannot come to a firm conclusion about the value of simply hitting people with information on higher education. At best we can say it might increase students' *intention* to enrol but not *actual enrolment*. And that does not take into account students' higher education success and completion rate, which, ultimately is the only measure that matters.

A recent Italian study shows the effect of information campaigns with two interesting findings.

The first is that it resulted in a *decrease* in university enrolment among poorer male students. This might seem counter-intuitive, but the authors suggest that it is a function of the Italian labour market, which does not provide a big enough chance of providing a return on investment for attending university. An information campaign showing the true costs and benefits of university may end up deterring students from enrolling, and opting to start work straight after high school.

The second is a shift towards fields of study that are more financially rewarding. When students are given detailed and credible information on future financial returns on university degrees, some students moved from wanting to study humanities and social sciences to opting to pursue a degree in law or economics, which tend to result in higher paid professional opportunities. The impact was more observable on girls coming from more educated families than on other groups.

We can see some impact of information provision on students' behaviour, but it is mainly related to influencing the degree subject they want to pursue with future careers in mind, as opposed to convincing students to go to university.

Towards better advice

To summarise our findings from the data connected to our two facts about education enrolment:

1. *Students with higher socioeconomic family background enrol more often in higher education than their less advantaged peers with the same school performance.*

    - Students from high socioeconomic backgrounds are influenced most by what their parents think and the advice they give about university education. This group of students also report a significantly higher value on tertiary education as a result of their parents' views.

    - Students from poorer backgrounds suffer from negative stereotypes as a result of receiving grades from their teachers which are lower than their true ability.

2. *Girls disproportionately choose less occupationally rewarding fields of study, such as STEM subjects. This is despite campaigns to increase female representation in STEM and related industries.*

Despite the fact girls have a better situation in terms of higher teacher-assigned grading, they are less likely to pursue subjects with better financial or professional returns.

We suggest the reasons are:

- A gender gap in expected wages for fields of study – boys believe the likely salary they would receive from having a STEM degree is much higher than girls. If girls assume financial rewards from these fields of study are not high, they are less likely to purse them.

- Students who have a preference in high school for the humanities are much less likely to choose 'stronger' subjects such as STEM for university study. This phenomenon is much more pronounced for girls.

To tackle these issues, we need to create forms of behavioural change information campaigns.

This will not be easy. The information campaigns of this nature that have been tested have not yielded much impact in terms of increasing enrolment among students from lower socio-economic backgrounds.

Nonetheless, there is evidence that information campaigns can push students from pursuing 'weaker' fields (such as humanities) to 'stronger' fields (such as STEM) with a view to ultimately receive greater financial rewards and/or better career opportunities. This effect is most noticeable among girls.

Much of the delivery of these campaigns will involve schools and teachers. If, as our evidence suggests, lower income parents are not 'pushing' their children towards university, the necessary encouragement needs to come from school.

We recognise schools are often stretched, and teachers have plenty of responsibilities now.

Towards better advice (Continued)

We therefore strongly support strategies to introduce incentives to secondary schools to ease the transition to higher education by means of information provision, guidance, or preparatory courses.

This should be accompanied by delegating greater autonomy to schools to develop extra tutoring for disadvantaged students, because contexts vary greatly (urban/rural, demographics of cities, etc). And studies show this kind of highly personal 'coaching' can have a very high impact on students' decision making.

With the right long-term strategy and collaboration among EU member states, we think there is ample opportunity to reverse the negative impacts of stereotyping on secondary school students, and to provide the right kinds of information to maximise university enrolment and completion.

Conclusion

Conclusion

Education remains one of the most effective routes to overcoming long-running social inequalities. Providing a young person with the opportunity to access a quality education and instilling in them an ambition to pursue education beyond secondary school will give them the best chance of improving their social status.

And as our world becomes ever more globalised, and as the EU finds itself in an ever greater global competition, European nations must find a way to grow the number of highly skilled people in the workforce. This means identifying routes to getting more of today's and tomorrow's secondary school students into tertiary education.

We have explored elements of how the four major aspects of education systems come into play in patterns of tertiary education enrolment and completion. Understanding what factors are impacting which groups of students, and how, is critical to informing any strategy to address the inequalities we can observe.

We clearly see how social background and gender can affect young people's choices, spanning whether to enter tertiary education at all, and what subjects or fields to study or pursue if they do enrol. It confirms there are deep-seated educational inequalities which need tackling.

A student's social background is only one piece of the puzzle. As we have identified, how national education systems themselves function and what happens in the classroom can help overcome, or in some cases reinforce, the cycle of educational inequality. Tracking and teacher bias can come into play here.

As the philanthropic arm of a financial services company, we are committed to exploring how we can play our role in addressing the issues raised in this report. As highlighted in Part Two, the financial burdens of studying remain a significant barrier to less affluent students pursuing and completing tertiary education.

This is why we have launched our pilot initiative in Italy to support highly motivated but less affluent students in Italy who are struggling with the cost of living. This €1.5 million program has the potential to expand to other countries. We are excited to see the impact of our pilot and how it might inform the support we provide to students in the future.

Costs of studying are just one part of a complex picture. We hope this report will prompt policymakers, civil society, businesses and citizens to continue to focus on how we can best put our education systems to work in tackling ongoing inequality in educational opportunities.

It is a challenging question which will require long-term strategies, but we believe it is one of the most important questions facing European society and European businesses today.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