



How school systems prepare students for their future

This chapter analyses the extent to which the education and career expectations of 15-year-old students are shaped by their socio-economic status, and whether these expectations are aligned with students' academic performance. The chapter also reviews the kinds of career guidance provided to 15-year-old students in schools, and what teenagers do to find out more about their possible future studies and careers.

Adolescence is a period when young people start to prepare for adult life. Teenagers have to make important decisions relevant to their working lives later on, such as what field of study or type of education they will pursue. But young people often lack sufficient knowledge about the breadth of job opportunities and careers open to them; their career and education aspirations are often shaped more by their personal background. Previous analyses find that socio-economic background is a strong and reliable predictor of students' aspirations for further education (Guyon et al., 2016^[11]; Wicht and Ludwig-Mayerhofer, 2014^[12]; Brown, Ortiz-Nuñez and Taylor, 2011^[3]; Buchmann and Park, 2009^[4]; Dupriez et al., 2012^[5]) – which means that, if the link between socio-economic status and students' aspirations for their future is not broken, inequalities may be perpetuated, or even widened in the labour force and in society in general.

Digitalisation and globalisation have already profoundly changed the demand for skills in the labour market. Given the pace of technological change, today's students may have to meet very different demands in just five or ten years. A lack of accurate information about the prospects of employment in different jobs, and the type qualifications that may be required for accessing those jobs, may result in students developing education and career expectations that are misaligned with their academic performance, with potential negative consequences for their future insertion into the labour market (Yates et al., 2010^[6]; Khattab, 2015^[7]). Students who have a good, and reasonable, idea of the kind of work they would like to do as adults are more likely to invest greater effort in school than students who do not clearly see the purpose of what they learn in school (Beal and Crockett, 2010^[8]; Khattab, 2015^[9]). Without the appropriate skills, young people may find the transition from school to work particularly difficult (OECD, 2015^[10]).

The employment prospects of young people without a tertiary degree have worsened in most countries in recent years (OECD, 2019^[11]). Concerned about the growing mismatch between labour market needs and prospective employees' skill sets, countries are working to adapt the supply of skills in order to fuel economic prosperity and ensure that no one is left behind. Education systems can play a crucial role in channelling skills and talent into the labour market, and helping young people develop a fair assessment of their future opportunities. In doing so, they can ensure that students' skills, interests and aptitudes find a suitable match in the economy (Musset and Kurekova, 2018^[12]).

What the data tell us

- Many students, especially disadvantaged students, hold lower ambitions than would be expected given their academic achievement. On average across OECD countries, only seven in ten high-achieving disadvantaged students reported that they expect to complete tertiary education, while nine in ten high-achieving advantaged students reported so.
- A large proportion of students, particularly disadvantaged students, held expectations of a future career that were not aligned with their expectations of further education. At least one in three disadvantaged students who saw themselves working as professionals or managers at the age of 30 did not expect to attain a tertiary degree.
- In all but nine countries that participated in PISA 2018, more than eight in ten students were enrolled in a school where some type of career guidance was offered, according to principals.
- Schools that enrol more disadvantaged students, on average, are less likely than schools that enrol advantaged students to provide opportunities for students to discuss their career plans with a dedicated career guidance counsellor.
- On average across OECD countries, more than two in five disadvantaged students reported that they do not know how to find information about student financing (e.g. student loans or grants).

STUDENTS' CAREER EXPECTATIONS

PISA 2018 asked students which education level they expect to complete and what occupation they expect to be working in when they are 30 years old. For the latter question, students could enter any job title or description in an open-entry field; their answers were classified according to the International Standard Classification of Occupations (ISCO-08). In addition, a subset of 32 countries and economies distributed an optional Educational Career questionnaire that asked students about their motivation and preparation for their future career.

On average across OECD countries, almost one in four students who answered the question about career expectations gave vague answers (such as "a good job", "in a hospital") or explicitly indicated that they were undecided ("I do not know"). In Belgium (Fr.), Bulgaria, Denmark, the Dominican Republic, Germany, Israel, Lebanon and Panama, more than one in three 15-year-old students had no clear idea of the type of occupation they want for their future (Table II.B1.6.1); in Belgium (Fr.), 66% of students had no clear idea of their future occupation. By contrast, in Albania, Indonesia, Turkey and Viet Nam, fewer than one in ten students had no clear idea of the kind of career they wanted. In almost all countries and economies, disadvantaged students were less likely than advantaged students to provide an answer to the question about what they want to do in the future. In the Dominican Republic, Lebanon, Mexico, Panama and Peru, the gap between the two groups of students was wider than 15 percentage points.

Surprisingly, on average across OECD countries, the proportions of teenagers without a clear idea of what they want to do in the future did not differ between students enrolled in vocational education and those enrolled in general or modular education.

The fact that such a sizeable proportion of 15-year-old students was still undecided about the type of career they want is not unexpected. At that age, many teenagers may be just beginning to think about what they want to do later on. They may be weighing two or more options, or they may feel that they have insufficient knowledge about careers to answer the question in anything but the most general terms.

When they did have a clear idea about their future career, students cited jobs in a narrow set of occupations. On average across OECD countries, 36% of students who had a clear idea of what career they expected to have at the age of 30 cited one of only 10 of the most popular occupations in their country/economy (Figure II.6.1) The concentration of career expectations was especially marked in Brunei Darussalam, the Dominican Republic, Indonesia, Jordan, Morocco, the Philippines, Qatar, Saudi Arabia and the United Arab Emirates, where at least 60% of students cited one of only ten occupations. The smallest proportions of students (between 25% and 30%) who cited one of only ten occupations were observed in the Austria, Czech Republic, France, Hungary, the Netherlands, Slovenia, Switzerland and Chinese Taipei.

Students' career expectations also tended to reflect gender stereotyping. For instance, amongst the top ten occupations that girls reported to expect for themselves when they are around 30 (see Table II.6.1), seven were health-related occupations; the remaining three were "teaching professionals", "lawyers" and "policy and planning managers". Boys reported a wider range of occupations, including athletes, engineering professionals, motor-vehicle mechanics and police officers. In general, even when boys and girls showed similar performance, a smaller proportion of girls than boys reported that they want to pursue a STEM (science, technology, engineering, mathematics) career (see Figure II.8.6 in Chapter 8).

Table II.6.1 **Top 10 career expectations of 15-year-old students, by gender**

	Boys	Girls
1st	Police officers	Specialist medical practitioners
2nd	Athletes and sports players	Generalist medical practitioners
3rd	Engineering professionals	Lawyers
4th	Generalist medical practitioners	Teaching professionals
5th	Business services and administration managers	Nursing professionals
6th	Motor vehicle mechanics and repairers	Medical doctors
7th	Armed forces occupations, other ranks	Psychologists
8th	Policy and planning managers	Police officers
9th	Lawyers	Veterinarians
10th	Teaching professionals	Policy and planning managers

Source: OECD, PISA 2018 Database.

Young people's aspirations are mostly shaped by what they see within their close social network. Research suggests that adolescents' expectations for further education and careers are strongly related to socio-economic status, which may be mediated through their family's aspirations for them and the composition of the school they attend (Howard et al., 2015_[13]; van Tuijl and van der Molen, 2015_[14]; Schoon and Parsons, 2002_[15]; Dupriez et al., 2012_[5]). In addition to perpetuating existing inequalities in the labour market, this may lead to expectations that are not aligned with the needs of the job market these students will soon enter, particularly in the context of rapid technological advances. A recent study of the aspirations of young British students finds that teenagers' career expectations have little in common with the expected patterns of demands within the labour market (Mann et al., 2013_[16]).

In addition, teenagers may not have a clear notion of what they need to do to achieve their goal. On average across OECD countries, 76% of students held high expectations for their career, envisioning themselves as managers or professionals (ISCO groups 1 to 3; see Table II.B1.6.2). However, in many cases, students expected to attain a much lower level of education than the one that is usually required for these kinds of occupations. On average across OECD countries, 20% of students who saw themselves as professionals or managers at the age of 30 did not expect to attain a tertiary degree, defined as a short-cycle tertiary diploma, a bachelor's degree or equivalent, a master's degree or equivalent, or a doctoral degree or equivalent (see Table II.B1.6.3).

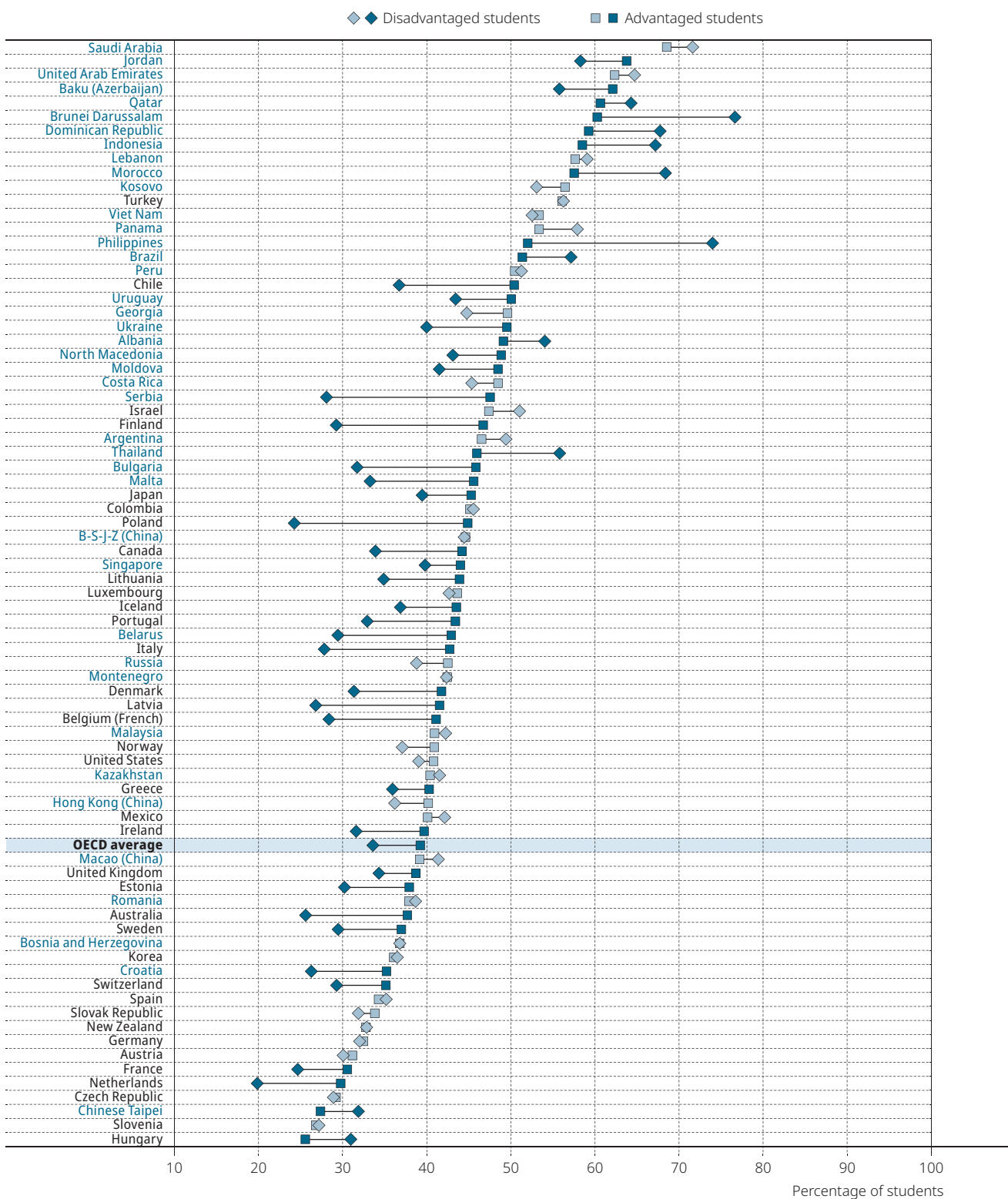
This kind of misalignment between education and career expectations was observed in PISA 2018 more frequently amongst socio-economically disadvantaged students than advantaged students. In 44 out of 79 countries/economies, fewer than one in ten advantaged students who reported that they expect to work in a high-skilled occupation also reported that they do not expect to complete a tertiary degree (Figure II.6.2). By contrast, disadvantaged students who held the same high career expectations often reported that they did not expect to complete a tertiary degree, which would make access to these occupations more difficult. On average across OECD countries in 2018, at least one in three disadvantaged students who expected to work in a high-skilled career held expectations of future education that were not on par with their career goals.



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Figure II.6.1 Students who expect to work in one of the ten most-cited occupations

Ten occupations most frequently cited in the relevant country/economy



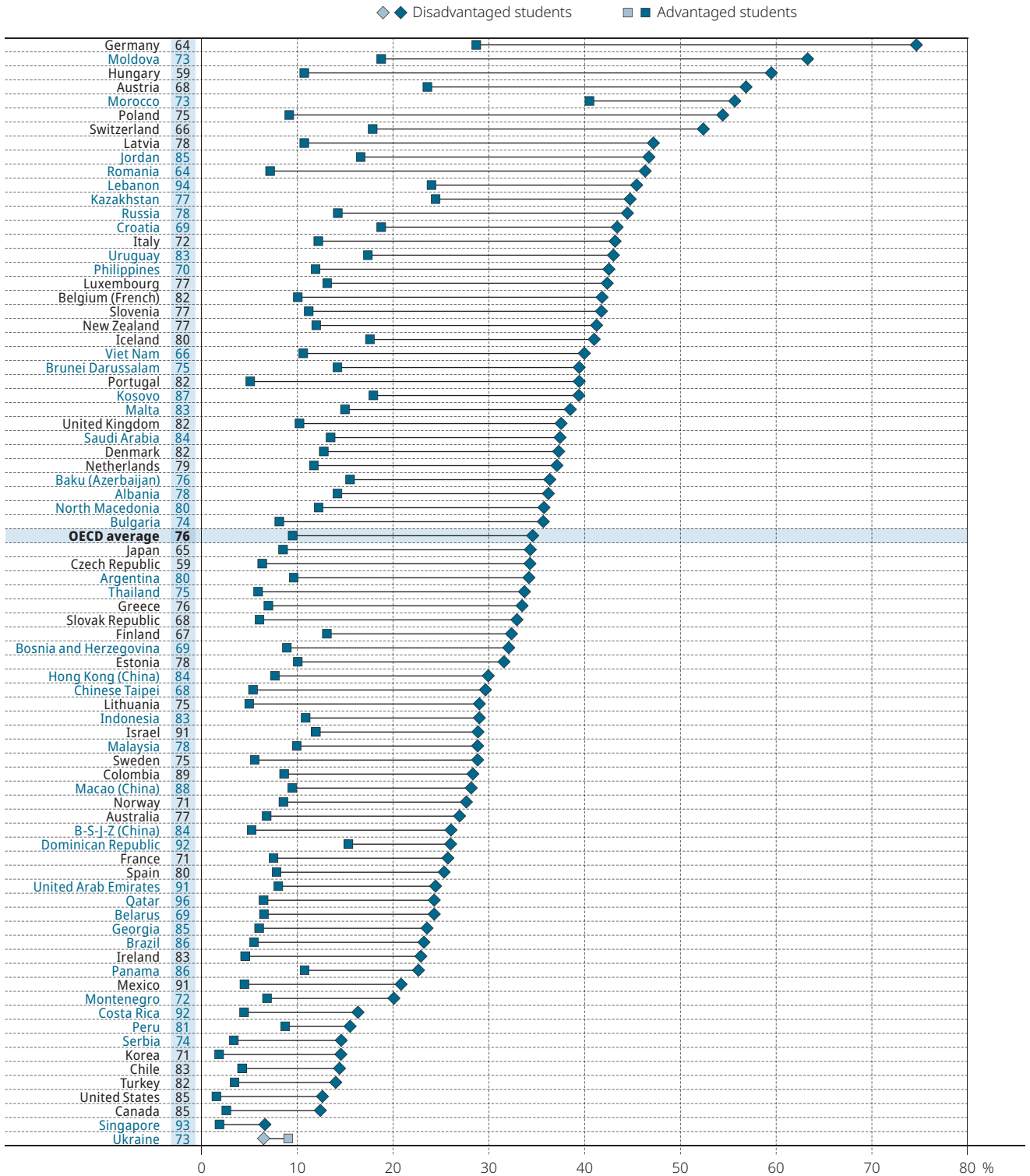
Notes: Statistically significant differences are marked in a darker tone (see Annex A3). Vague and invalid answers (smileys for instance) are excluded. Countries and economies are ranked in descending order of the percentage of advantaged students.

Source: OECD, PISA 2018 Database, Table II.B1.6.1.

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Figure II.6.2 **Students whose education and career expectations are not aligned, by socio-economic status**

Percentage of students who do not aspire to complete a tertiary degree amongst those who expect to work in a high-skilled occupation



Notes: The percentage of students who expect to work in a high-skilled occupation is shown next to the country/economy name.

Statistically significant differences are marked in a darker tone (see Annex A3).

Tertiary education corresponds to ISCED levels 5A, 5B or 6 according to the International Standard Classification of Education (ISCED-1997).

Countries and economies are ranked in descending order of the percentage of disadvantaged students.

Source: OECD, PISA 2018 Database, Table II.B1.6.3.

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Such misalignment may be due to anticipated difficulty in financing a long and costly education or a lack of information about the common pathway towards the career they aspire to, or both (see Box II.6.1). This misalignment can be detrimental to future economies and societies. Longitudinal studies based on data from the United Kingdom suggest that individuals who, at age 16, underestimated the level of education required for their desired profession are more likely to end up being neither in employment nor in education or training (NEET) before the age of 20 (Musset and Kurekova, 2018^[12]; Yates et al., 2010^[6]). In several countries, the proportion of young people who are NEET has become a major policy concern. These were the young adults who were hit hardest during the global economic turmoil over the past two decades (OECD, 2015^[10]).

Box II.6.1. **How to improve disadvantaged students' understanding of the costs of – and returns to – tertiary education**

Despite the expansion of higher education in recent decades, socio-economically disadvantaged students are under-represented in tertiary educational institutions. This is often the result of a lack of information about the actual costs of tertiary education, the financial aid available to prospective students, and the future returns to tertiary education. A randomised experiment conducted in the Dominican Republic (Jensen, 2010^[17]) suggests that eighth-grade boys from poor backgrounds largely underestimate the returns to higher education, and that providing them with accurate information has a positive impact on their schooling. These findings are supported by the results of the Mexican antipoverty programme, PROGRESA, which shows that simply being exposed to highly educated professionals, such as doctors and nurses, raises the aspirations of poor families for their children's education, and has a positive impact on students' achievement at school (Chiapa, Garrido and Prina, 2012^[18]).

Even in countries with large enrolments in tertiary education, disadvantaged students may lack adequate and accurate information about higher education; but evidence suggests that it would not be costly to change this. A randomised experiment in disadvantaged high schools in Toronto, Canada, finds that watching a video about the benefits of post-secondary education and being invited to try out a financial-aid calculator significantly assuaged the concerns of disadvantaged high school students about the costs of higher education, and raised their expectations to complete higher education. Results from a randomised, controlled trial conducted in German high schools suggest that similar low-cost interventions may eventually lead to greater tertiary enrolment amongst students whose parents did not attain tertiary education. Students in selected schools who had benefitted from a simple in-class presentation on the benefits and costs of higher education, and on possible funding options, more often applied to university and were more often enrolled than students who had not been exposed to these interventions (Peter, Spiess and Zambre, 2018^[19]).

Students from low-income families are also less likely to graduate from the most prestigious institutions. A study in the United States finds that high-achieving disadvantaged students are much less likely to apply to selective tertiary educational institutions, even though these selective institutions may cost them less than the non-selective, four-year institutions to which they actually apply (Hoxby and Avery, 2012^[20]). According to Hoxby and Avery, information based on college campus visits, or college-access programmes, which are often based in local high schools, may be ineffective for a certain type of high-performing disadvantaged student. This type of student is often found in small districts where selective public high schools do not receive adequate support. He or she is generally not enrolled in a school that has a critical mass of fellow high achievers, and is unlikely to encounter a teacher who attended a selective college.

Another study in the United States (Castleman and Goodman, 2018^[21]) shows the potential of intensive college counselling provided to college-aspiring, low-income students. These interventions are typically run by community-based non-profit organisations, and provide personalised guidance to students throughout the college search, application and financial aid processes. These interventions shift the focus towards enrolment in four-year colleges that are less expensive and have higher graduation rates than the alternatives that students would otherwise choose. Counselling also improves students' persistence through at least the second year of college, suggesting a potential to increase the rate of degree completion amongst disadvantaged students. Similar results are observed with another intervention tested by Hoxby and Turner, (2013^[22]). They show that mailing high-achieving seniors an information packet and application fee waivers makes low-income students more likely to enrol in colleges that have stronger academic records and higher graduation rates than those to which students with similar profiles would normally apply.

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Carrell and Sacedote (2017^[23]) find that mentoring programmes have a significant impact on college attendance and persistence for these students, especially amongst women. They interpret these results as evidence that mentoring can substitute for a lack of parent or teacher time and encouragement to students to apply to an institution of higher education. For this target population, neither financial incentives nor information alone appears to be effective. This also confirms the results shown by Carruthers and Fox (2016^[24]) who evaluate a large-scale coaching programme for prospective tertiary students and observe that financial aid *per se* is not sufficient to increase participation rates (Peter, Spiess and Zambre, 2018^[19]).

Source: Jensen R. (2010), "The (perceived) returns to education and the demand for schooling", <https://doi.org/10.1162/qjec.2010.125.2.515>; Chiapa C. et al. (2012), "The effect of social programs and exposure to professionals on the educational aspirations of the poor", <https://doi.org/10.1016/j.econedurev.2012.05.006>; Carrell, S. and B. Sacerdote (2017), "Why do college-going interventions work?" <https://doi.org/10.1257/app.20150530>; Hoxby C. and C. Avery (2012), "The missing 'one-offs': The hidden supply of high-achieving, low-income students", <https://doi.org/10.3386/w18586>; Castleman B. and J. Goodman (2018), "Intensive college counseling and the enrollment and persistence of low-income students", https://doi.org/10.1162/EDFP_a_00204; Peter. et al. (2018), "Informing students about college: An efficient way to decrease the socio-economic gap in Enrollment: Evidence from a randomized field experiment", <http://dx.doi.org/10.2139/ssrn.3287800>; Caroline Hoxby C. and S. Turner (2012), "Expanding college opportunities for high-achieving, low-income students"; Carruthers, C. K. and W.F. Fox (2016), "Aid for all: College coaching, financial aid, and post-secondary persistence in Tennessee", <https://doi.org/10.1016/j.econedurev.2015.06.001>.

EDUCATION AND CAREER EXPECTATIONS AMONGST DISADVANTAGED STUDENTS

In PISA 2018, 69% of students across OECD countries reported that they expect to complete a tertiary degree, regardless of their career plan. Students' expectations are partially shaped by the direct financial and opportunity costs of participating in higher education. The economic returns to higher education usually depend on the structure of the local labour force. One should expect that the proportion of adolescents who expect to complete tertiary education reflects the proportion of highly educated employees in the labour force, and the employment prospects of university graduates in these countries.

All of these indicators vary considerably from one country to another. For instance, amongst PISA-participating countries that are also included in the World Indicators of Skills for Employment (WISE) database, the percentage of employed adults with tertiary education ranges from 9% in Indonesia to 58% in the Russian Federation (hereafter "Russia") (Figure II.6.3 and Table II.B1.6.8). In all countries with data available in the WISE database, in 2013, more than one in four adults who had not attained upper secondary education were not employed, while this proportion was smaller than one in ten amongst adults who held a degree from an institution of higher education. Even if the structure of the labour force may change in the future, current adult employment rates suggest that the prospects for employment should be much better for the most educated adults. By contrast, in many countries, fewer than two in five low-educated adults are employed, suggesting a precarious future for this group.

However, in 2018, the proportion of students who held high expectations for further education varied not only between, but also within, countries and economies, and particularly when considering students' socio-economic status. In all countries/economies, disadvantaged students held less-ambitious expectations than advantaged students (Figure II.6.4). This is consistent with observations that show that disadvantaged students are often under-represented at every level of higher education (OECD, 2018^[25]). On average across OECD countries in 2018, only five in ten disadvantaged students, compared with nine in ten advantaged students, expected to complete tertiary education. The difference in education expectations between these two groups of students was especially large – greater than 50 percentage points – in the Czech Republic, Hungary, the Republic of Moldova (hereafter "Moldova"), Poland, Romania and the Slovak Republic. By contrast, the difference was less than 10 percentage points in Peru and Singapore, and even negative (by 3 percentage points) in Ukraine.

Performance and expectations

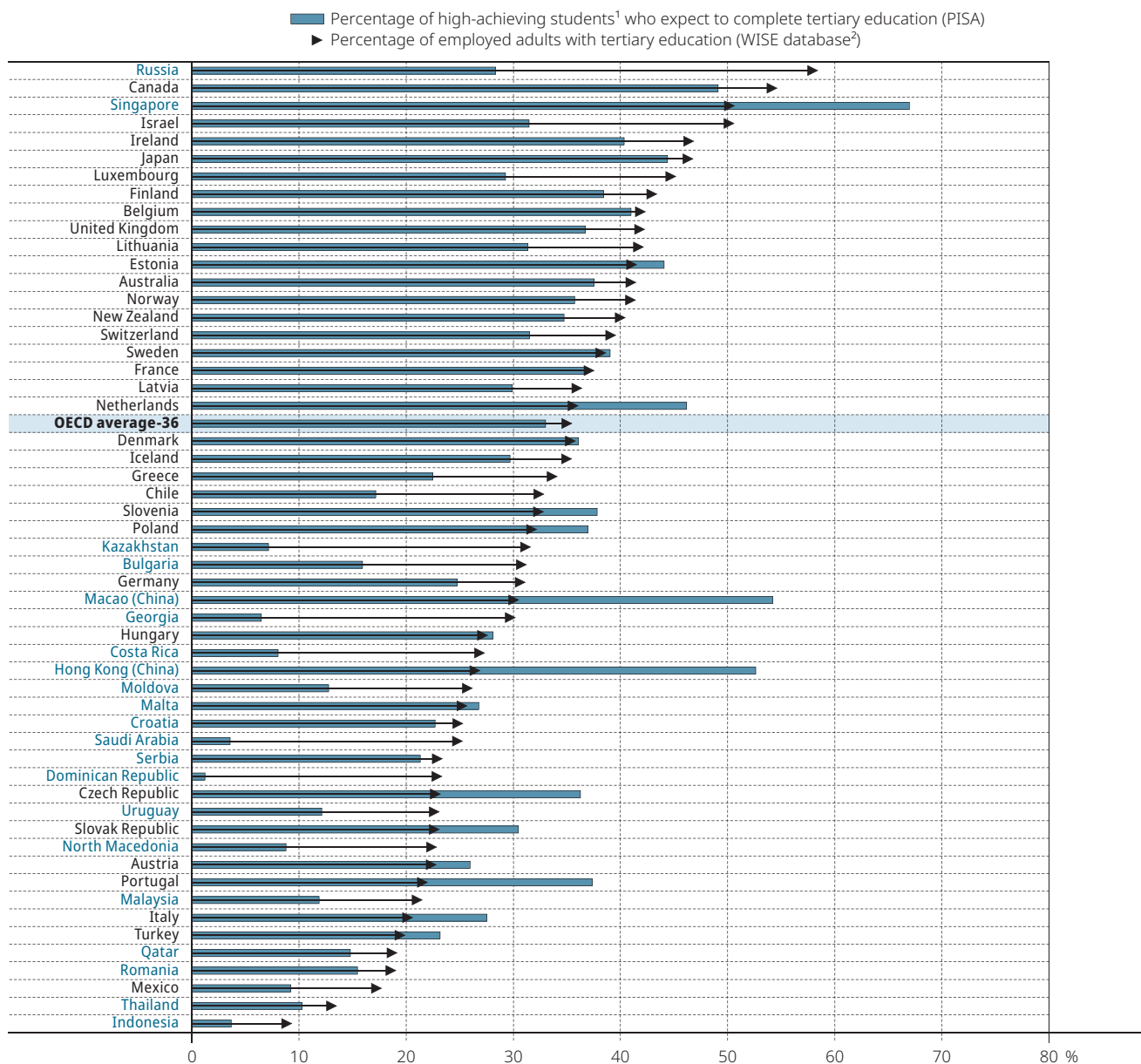
That disadvantaged students are more likely than advantaged students to hold low ambitions for their future education reflects, to some extent, the fact that disadvantaged students are more likely than their advantaged peers to struggle at school. The expectation to complete tertiary education builds on a student's belief about his or her likelihood of successfully completing the programme, and in a reasonable amount of time. As advantaged students tend to outperform their disadvantaged peers (see Chapter 2), they are also more likely to believe that they can succeed in further academic studies. The analysis of longitudinal data based on PISA samples (from 2000 and 2003) in five countries (Australia, Canada, Denmark, Switzerland and the United States) suggests that performance at age 15 is a strong predictor of higher education and early career outcomes (OECD, 2018^[26]).



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Figure II.6.3 Proportion of high-skilled employees in the labour force and students with realistic and ambitious expectations

Based on students' reports in PISA and WISE database



1. Students who attain at least Level 2 in all three core domains and Level 4 in one of them.

2. WISE refers to the World Indicators of Skills for Employment; for more information, please refer to <https://www.oecd.org/employment/skills-for-employment-indicators.htm>.

Notes: Only countries and economies with available data are shown in this figure.

Tertiary education corresponds to ISCED levels 5A, 5B or 6 according to the International Standard Classification of Education (ISCED-1997).

Countries and economies are ranked in descending order of the percentage of employed adults with tertiary education.

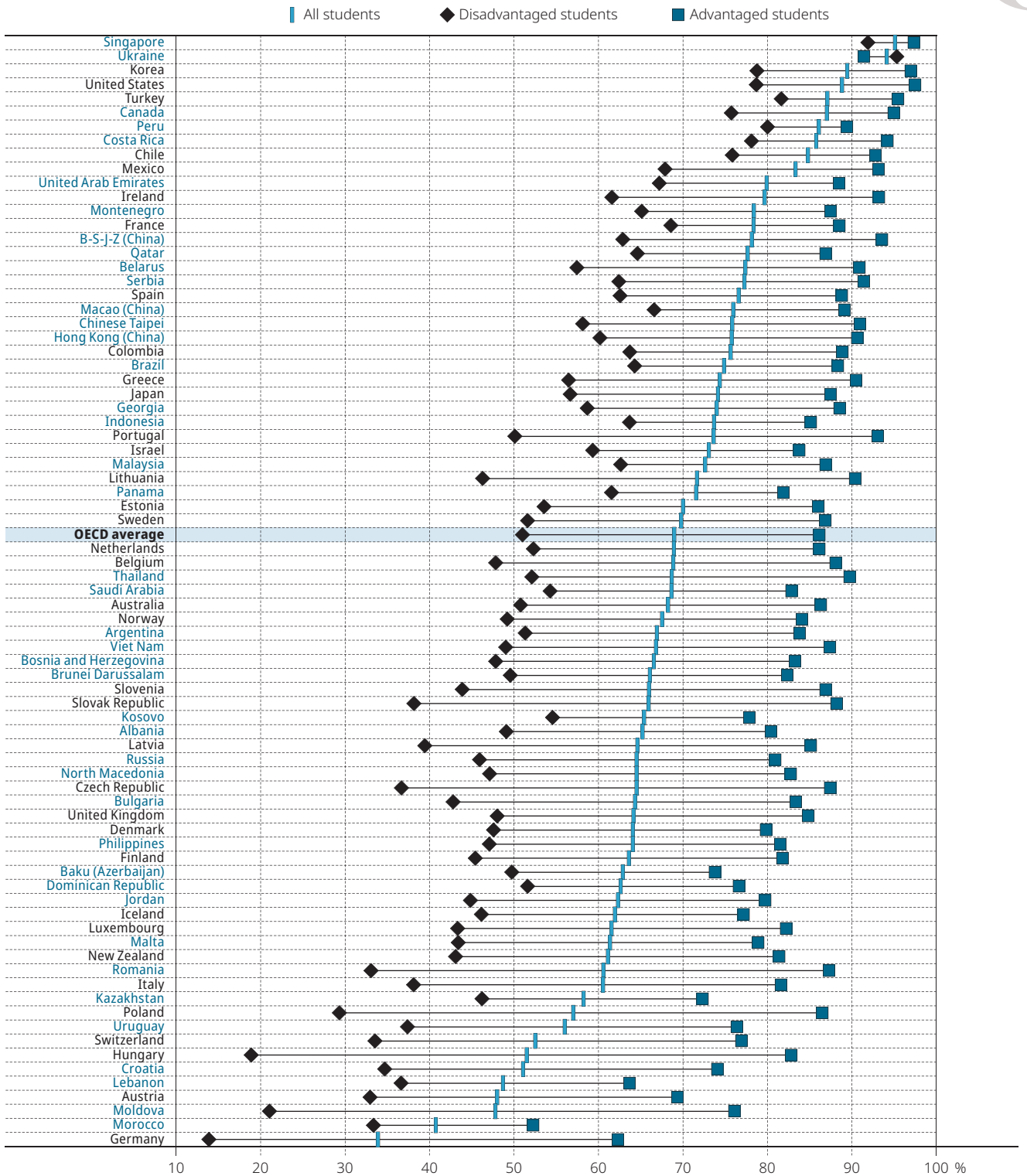
OECD average-36 refers to the arithmetic mean across OECD countries (and Colombia), excluding Spain.

Source: OECD, PISA 2018 Database, Table II.B1.6.8.

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In the subset of 32 countries and economies that distributed the optional Educational Career questionnaire, students were asked to describe (“not important”, “somewhat important”, “important”, “very important”) the factors that influenced the decisions they made about their future occupation. More than three in four students reported that getting good grades is important or very important in their decision about their future occupation, and eight in ten reported that the school subject they are good at is important or very important (Table II.B1.6.5).

Figure II.6.4 Students who expect to complete tertiary education



Note: Differences between advantaged and disadvantaged students are all statistically significant (see Annex A3).

Countries and economies are ranked in descending order of the percentage of all students who expect to complete tertiary education.

Source: OECD, PISA 2018 Database, Table II.B1.6.5.

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However, even though performance is closely associated with expectations of further education, sizeable proportions of students who performed poorly in PISA still held ambitious expectations about their future education. On average across OECD countries in 2018, of those students who scored below Level 2 in at least one of the core PISA subjects (reading, mathematics and science), 49% reported that they expect to complete tertiary education. In Chile, Costa Rica, Korea, Mexico, Peru, Singapore, Turkey, Ukraine and the United States, more than three in four low-performing students reported so (Table II.B1.6.6).

In contrast, many students, especially disadvantaged students, hold lower ambitions than would be expected given their academic achievement. In almost all countries/economies, of the high-achieving students who attained proficiency Level 4 in at least one of the three core PISA subjects and attained at least proficiency Level 2 in the other two, less than 8% of advantaged students did not expect to complete tertiary education (Figure II.6.5). But high-achieving disadvantaged students were less likely than high-achieving advantaged students to expect to complete higher education. On average across OECD countries, 28% of high-achieving disadvantaged students reported that they do not expect to complete tertiary education. In Austria, Finland, Germany, Hungary, Italy, Kazakhstan, Latvia, Moldova, New Zealand, Norway, Poland, Sweden and Switzerland, the difference in expectations related to socio-economic status was larger than 25 percentage points. Previous results suggest that the influence of socio-economic status on aspirations for further education was often stronger in highly differentiated systems, where students are tracked early into different streams, than in more comprehensive ones, where all students follow a similar path through education; but this relationship is not deterministic (Buchmann and Park, 2009^[4]; Dupriez et al., 2012^[5]). However, amongst this set of countries/economies with the highest differences in expectations related to socio-economic status, only 4 use early tracking (before the age of 12), but in 7, students are not tracked before the age of 16.

Holding expectations of future education that are not aligned with academic performance may be damaging at both the personal and societal levels. Students on an education track who do not have adequate skills may take longer to complete their degree or even drop out before they earn one. Such failures have a high social and economic cost, apart from the frustration these students feel in not meeting their goals (Sabates, Harris and Staff, 2011^[27]; Yates et al., 2010^[6]; Musset and Kurekova, 2018^[12]).

Even more worrying is the proportion of students who, despite high performance, appear to have low expectations for their future education. These low expectations, which may be due to low self-esteem or financial constraints, may deprive societies and economies of valuable and much-needed talent. As technologies continue to advance, the demand for highly educated workers will increase. While the employment rate amongst low-skilled adults (those with less than upper secondary education) was not higher than 72% in 2014, across PISA-participating countries included in the WISE database, 67% to 90% of tertiary-educated adults in these countries were employed that year (Table II.B1.6.8).

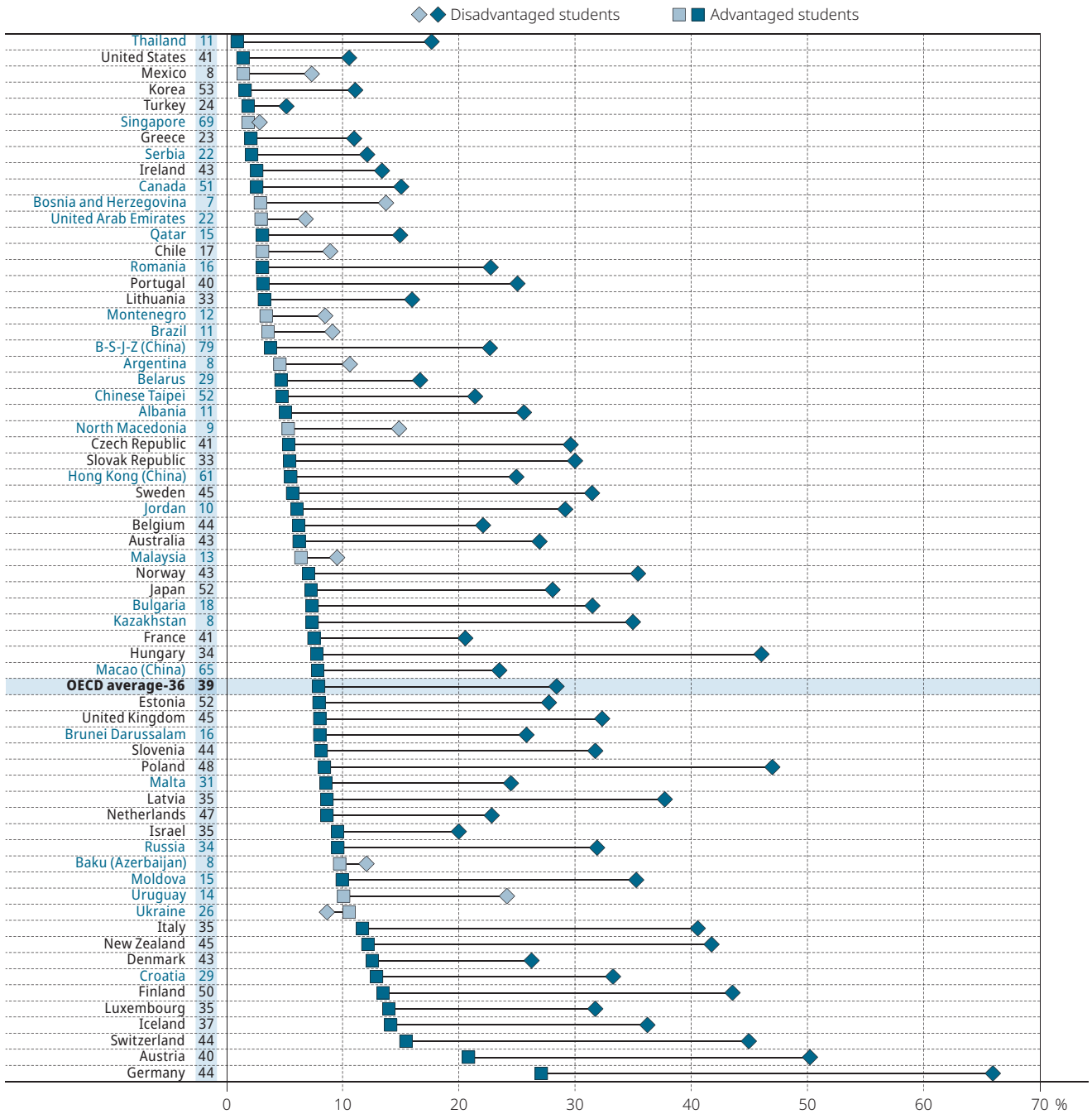
It is obviously difficult to predict the number of tertiary-educated adults that will be needed in the future workforce, and the strength of this demand is likely to vary across countries, depending on the economy's structure and technological advances. Nonetheless, it seems clear that the need for qualified workers is likely to continue and probably grow in the coming years. In all countries with available data, the proportion of employed adults with tertiary education grew between 2003 and 2013 (the longest period with comparable data). In almost all of these countries, the annual growth rate increased in the second part of the period, ranging from 1% to 7% a year between 2009 and 2013.

To get a sense of the alignment of students' expectations of further education with the realities of the labour market, one may compare the proportion of students who reported, in PISA 2018, that they expect to complete tertiary education, and who attained proficiency Level 4 in at least one of the three core PISA subjects and attained at least proficiency Level 2 in the other two, with the proportion of highly educated employees in the labour force in their countries, as observed in the WISE database (for 2013). Across the 57 PISA-participating countries with available data, students' expectations about their future education appeared to be mostly in line with the share of tertiary-educated employees in their country. However, several countries show high levels of mismatch between students' expectations and the reality on the ground. For example, in Bulgaria, Chile, Costa Rica, the Dominican Republic, Georgia, Israel, Kazakhstan, Luxembourg, Russia and Saudi Arabia, the proportion of students who expected to complete tertiary education, and were high achievers, was much smaller than the proportion of highly qualified employees. This situation may result in a shortage of adequately qualified workers in the labour force.

Encouraging students, especially those from low-educated families, to set high, yet realistic, expectations for future education and work is not only a way of promoting social mobility, it is necessary to fuel economic prosperity. Given that they can reach many young people in a systematic way, schools are a key access point for formal career guidance (Musset and Mytna Kurekova, 2018^[28]). Such career guidance should help teenagers from all backgrounds broaden their aspirations to include a larger set of options than those their family and social network may suggest, and help them make informed decisions.

Figure II.6.5 **High performers who do not expect to complete tertiary education, by socio-economic status**

Percentage of students amongst those who have attained at least minimum proficiency (Level 2) in the three core PISA subjects and are high performers (Level 4) in at least one subject



Notes: The percentage of high performers is shown next to the country/economy name.

Statistically significant differences are marked in a darker tone (see Annex A3).

Only countries and economies with sufficient proportions of high performers amongst advantaged/disadvantaged students are shown in this figure.

Countries and economies are ranked in ascending order of the percentage of advantaged students.

OECD average-36 refers to the arithmetic mean across OECD countries (and Colombia), excluding Spain.

Source: OECD, PISA 2018 Database, Table II.B1.6.7.

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CAREER GUIDANCE AT SCHOOL

The results described in the previous sections suggest that students, especially those from disadvantaged families, have misaligned perceptions about performance at school and their expectations of future education and work. This incoherence is often due to a lack of accurate information. The family is often the most easily available source of advice and influence on a teenager's career plans; but parents are not always aware of the range of career options available to their child. They often prefer general education over vocational programmes (Musset and Kurekova, 2018^[12]), even if for some students an alternative pathway may lead to better education outcomes (Goux, Gurgand and Maurin, 2016^[29]).

Some parents, especially low-educated parents, may also lack sufficient information about higher education. They may overestimate the academic prerequisites for university education, and underestimate the economic returns to completing a university degree, such as the likelihood of finding a job after graduation. Existing evidence suggests that students from disadvantaged families have less knowledge about the choices of tertiary programmes available to them (Giustinelli and Pavoni, 2017^[30]; Hoxby and Turner, 2015^[31]) and are not always aware of the financial aid they could receive to help them meet the cost of tertiary education (Bettinger et al., 2012^[32]).

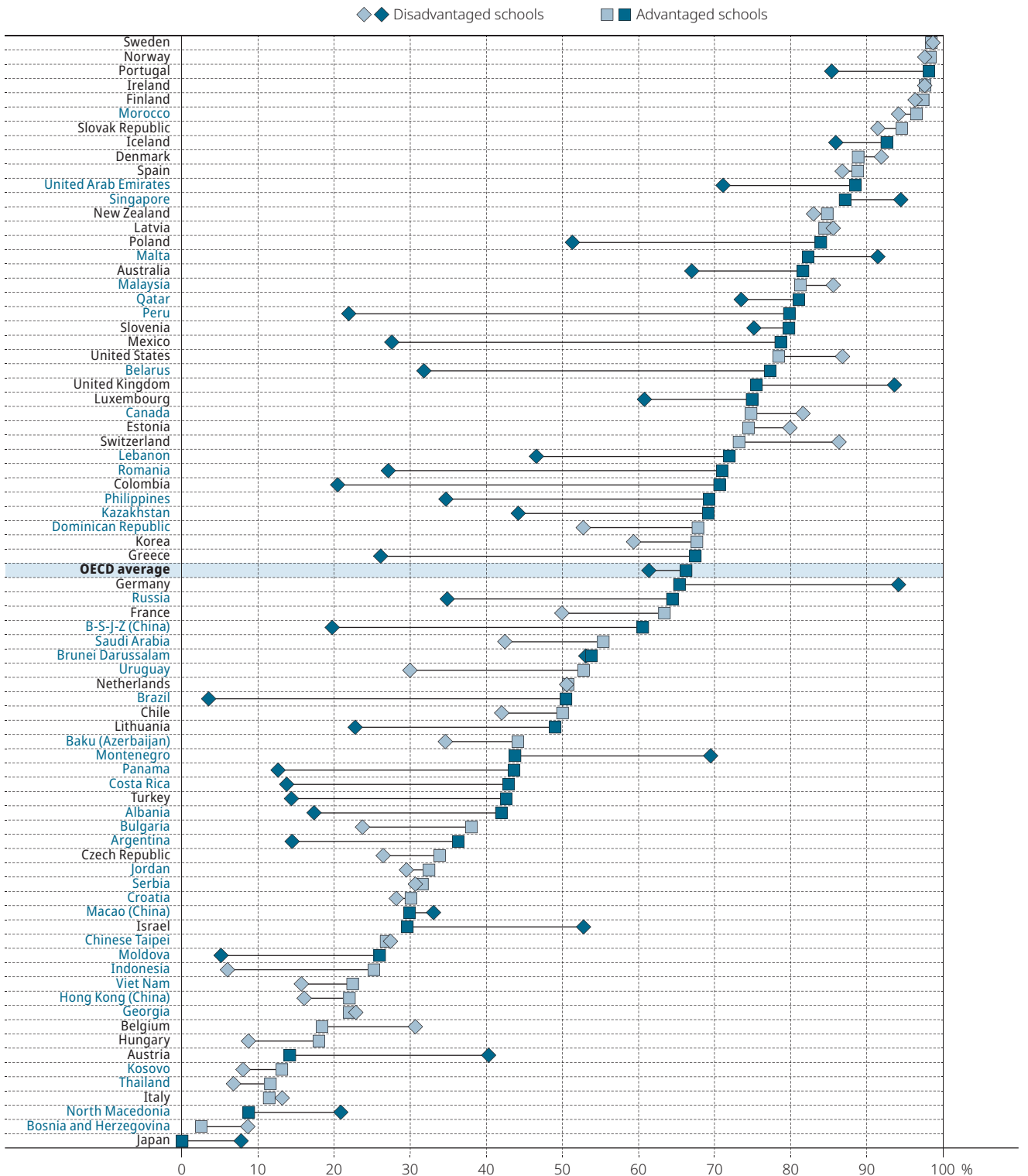
Providing career guidance or job shadowing experiences in school may be one way to help all teenagers, whatever their talents and aptitudes, to develop ambitious and realistic expectations about their future.

PISA 2018 asked school principals whether career guidance for students was available in their school and, if so, who was responsible for providing it: several or one principal or teacher, a dedicated career guidance counsellor, or other. According to school principals in almost all countries, students enrolled in a modal grade school benefited from some kind of career guidance (Table II.B1.6.9).¹ More than eight in ten students in all but nine PISA-participating countries and economies (the exceptions were Argentina, Baku [Azerbaijan], Belgium, Bosnia and Herzegovina, Brazil, Croatia, Greece, Italy and Uruguay) were enrolled in a school where some type of career guidance is offered. However, the modality and the provider varied significantly across countries, and this may affect the quality and relevance of the type of advice provided to students.

On average across OECD countries, amongst students enrolled in a school that offers career guidance, two in three of them attended a school where career guidance is formally scheduled into the students' time, not just when students seek such advice (Table II.B1.6.10). In 10 of the 79 PISA-participating countries/economies, namely Denmark, Finland, Iceland, Ireland, Morocco, Norway, Portugal, Singapore, the Slovak Republic and Sweden, more than nine in ten students attended schools where guidance is provided by dedicated guidance counsellors who are either employed by the school or regularly visit the school. In 3 countries, namely Bosnia and Herzegovina, Japan and Thailand, fewer than one in ten students received advice from a dedicated guidance counsellor (Table II.B1.6.9). In these countries, almost all students were enrolled in a school where teachers are responsible for providing career guidance to students. On average across OECD countries, dedicated counsellors were more frequently found in general and modular schools than in vocational ones. Amongst countries where more than 5% of students were enrolled in vocational schools, only in Albania, Germany, Montenegro, the Republic of North Macedonia and the United Kingdom was the proportion of students who have the opportunity to discuss their career plans with an expert significantly larger amongst students enrolled in vocational education than amongst students enrolled in general or modular education. In 10 countries/economies where more than 5% of students were enrolled in vocational schools, the opposite was observed.

Socio-economically disadvantaged students are often most at risk of lacking relevant information about future education and career choices. However, in most countries, schools that enrol more disadvantaged students were less likely, on average, to provide opportunities for students to discuss their career plans with a specialised adviser. Only in ten countries that participated in PISA 2018 were students in disadvantaged schools significantly more likely to benefit from career guidance provided by a dedicated counsellor (Figure II.6.6). In 29 countries, the opposite was true, meaning that students in disadvantaged schools had fewer opportunities to discuss their future with an expert. The gap between advantaged and disadvantaged schools was especially large – greater than 40 percentage points – in Beijing, Shanghai, Jiangsu and Zhejiang (China) (hereafter “B-S-J-Z [China]”), Belarus, Brazil, Colombia, Greece, Mexico, Peru and Romania.

Figure II.6.6 **Advantaged/disadvantaged schools where one or more dedicated counsellor(s) provide career guidance**
 Percentage of students in schools that provide career guidance



Notes: Statistically significant differences are marked in a darker tone (see Annex A3).

For this analysis, the sample is restricted to schools with the modal ISCED level for 15-year-old students (see Annex A3).

Countries and economies are ranked in descending order of the percentage of students in advantaged schools.

Source: OECD, PISA 2018 Database, Table II.B1.6.9.

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HOW TEENAGERS LEARN ABOUT PROSPECTIVE CAREERS

In the subset of 32 countries and economies that distributed the Educational Career questionnaire, students were asked whether they have done any of the following to find out about future study or types of work: did an internship; attended job shadowing or work-site visits; visited a job fair; spoke to a career adviser at school; spoke to an adviser outside of school; completed a questionnaire to find out about [his/her] interests and abilities; researched the Internet for information about careers; went to an organised tour in a higher education institution; or researched the Internet about higher education programmes.

Working as interns, shadowing workers in their jobs and visiting job fairs are all “employer-led activities” that may help students gain a better understanding of the labour market. Such activities may be useful for all students as they may help students define their career aspirations more clearly, using concrete ideas that are not limited to the knowledge – or lack thereof – of their close connections and families.² On average across the 18 OECD countries where students were asked what they did to find out more about possible future studies or careers, almost two in three students reported that they had engaged in at least one of these activities (Table II.B1.6.11). Differences between and within countries were large, though. In Austria, Denmark, Germany and Malta, more than four in five students reported that they had engaged in such activities, while in Belgium and Hong Kong (China), less than half as many students so reported.

On average across OECD countries, disadvantaged students were less likely to report that they had worked as interns, shadowed workers in their jobs or visited a job fair in order to prepare for their future career or work. The gap related to socio-economic status was especially large – more than 20 percentage points – in Brazil and Morocco; in Costa Rica, Kazakhstan, Korea, Lithuania and Spain, the gap ranged from 10 to 15 percentage points. Austria, Germany, Hungary, Serbia, the Slovak Republic and Chinese Taipei were the exceptions. In these countries, advantaged students were less likely to report that they had engaged in one of those employer-led activities.

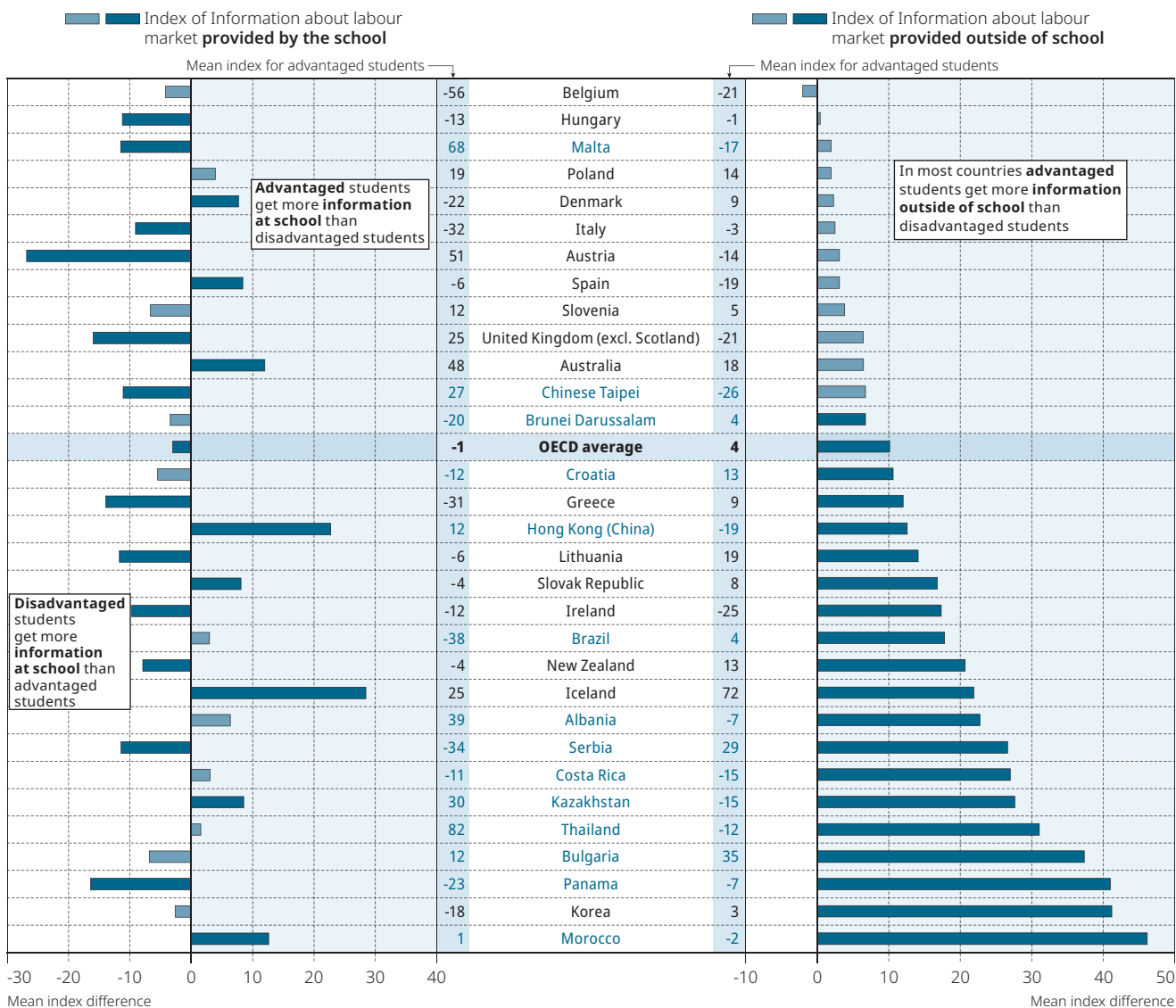
More specifically, disadvantaged students more often job shadowed or visited a job fair than advantaged students. In a few countries, such as France, Hungary, the Slovak Republic, Slovenia and Chinese Taipei, the percentage of disadvantaged students who had worked as an intern was much higher than the percentage of advantaged students who had done so. In some of these countries, disadvantaged students were more likely to be enrolled in vocational schools. In these schools, education is more openly oriented towards eventual insertion into the labour force, and it is more likely to include a mandatory training period.

In the same vein, in 12 of the countries that distributed the optional Educational Career questionnaire, the proportion of students who reported that they had met with a career guidance adviser outside of school was significantly larger amongst advantaged than disadvantaged students. Such a service may be prohibitively expensive for low-income families. But disadvantaged students were also less likely to have participated in activities that do not require a financial investment. In these 12 countries, disadvantaged students were less likely to report that they had seen an adviser in their school, or had answered a questionnaire to find out about their interests and abilities. Disadvantaged students were also less likely than advantaged students to report that they had browsed the Internet for information about careers or education programmes. In most countries that distributed the optional Educational Career questionnaire, at least 75% of advantaged students reported that they had used the Internet to search for information about careers or about higher education programmes; the percentage of disadvantaged students who so reported was at least 10 percentage points lower (Table II.B1.6.11).

The Educational Career questionnaire was also used to find out which skills students had acquired in or outside of school that could help them make decisions about continuing their education and may be useful for the transition from school to work. For example, the questionnaire asked students whether they had acquired skills, at or outside of school, related to finding information about jobs they are interested in; searching for a job; writing a résumé or a summary of their qualifications; preparing for a job interview; or finding information about financing higher education (e.g. student loans or grants). These skills may be considered as useful for helping students navigate the job-search process, apply for a particular job, and succeed in job interviews. Students’ responses were summarised to create two indices measuring whether students considered themselves as having acquired a set of skills at or outside of school. Both indices were standardised to have a mean of 0 and a standard deviation of 1 across OECD countries.

Based on students’ reports, PISA finds that, in most countries, disadvantaged students were more likely than advantaged students to have acquired, at school, the skills that may be useful for the transition from school to work, while advantaged students were more likely to have acquired such skills outside of school (Figure II.6.7).

Figure II.6.7 **How students get information about the labour market**
 Difference between advantaged and disadvantaged students in the following indices



Notes: Statistically significant differences are marked in a darker tone (see Annex A3).

Only countries and economies with available data are shown in this figure.

Countries and economies are ranked in ascending order of the difference between advantaged and disadvantaged students in the index of information about labour market provided outside of school.

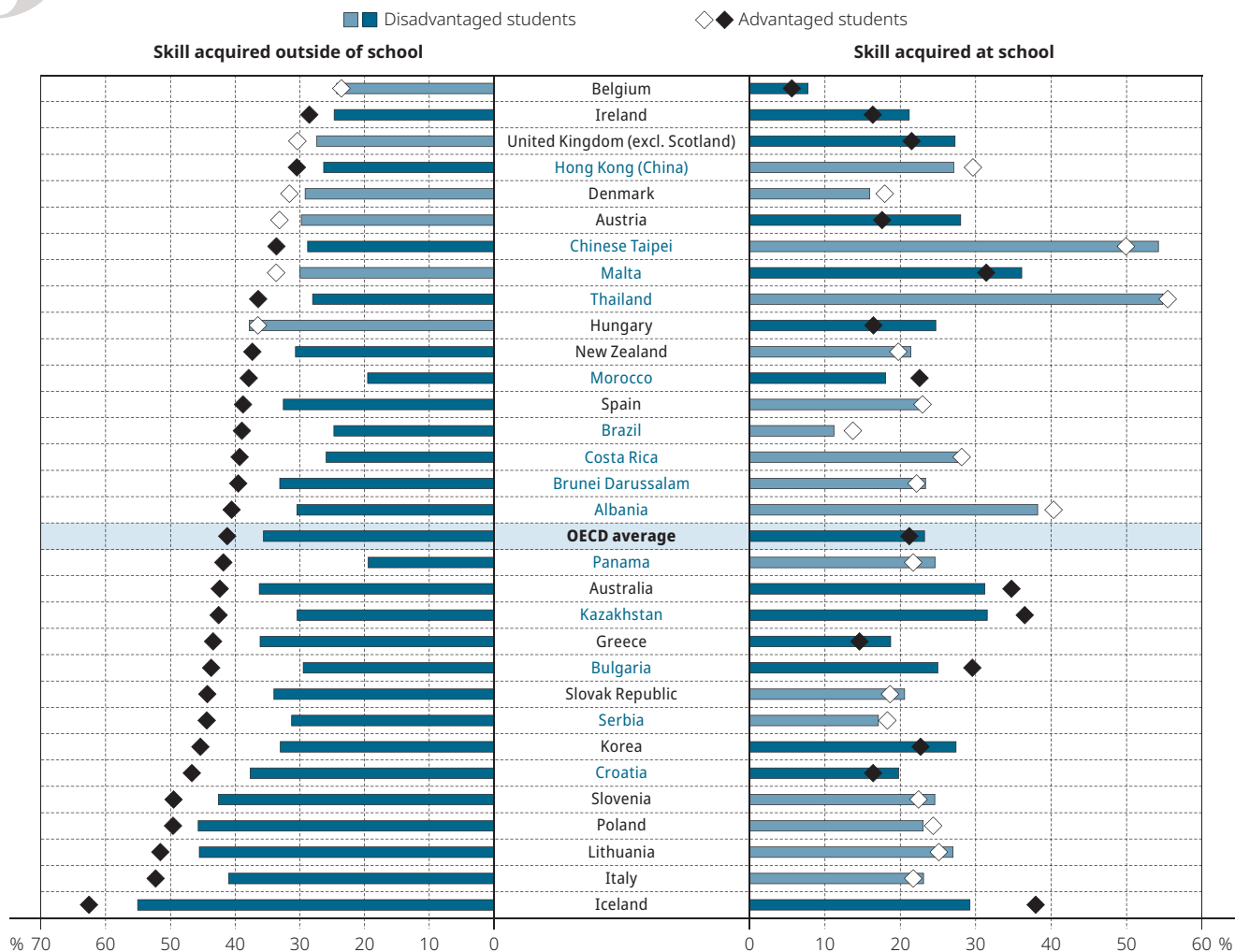
Source: OECD, PISA 2018 Database, Table II.B1.6.12.

StatLink <https://doi.org/10.1787/888934037811>

But a particularly worrying finding is that only a small proportion of disadvantaged students reported knowing how to get information about student financing (e.g. student loans or grants). On average across OECD countries that distributed the optional Educational Career questionnaire, 42.5% of disadvantaged students reported that they had not acquired such skills (see Table II.B1.6.13). When they had acquired such skills, more of them had done so outside of school (35.6%) than at school (23.2%) (see Figure II.6.8). In Bulgaria and Thailand, fewer than one in four disadvantaged students reported that they had not acquired these skills; but in Belgium, Denmark, Hong Kong (China), Ireland, Morocco and New Zealand, more than one in two disadvantaged students had not acquired such skills. Financial constraints may limit access to tertiary education, so having access to information about financial aid could help capable students from low-income families overcome that particular barrier. Recent evidence suggests that providing both information about existing student aid for college enrolment and assistance in completing the application may have a considerable impact on college enrolment. See Box II.6.2 and for a review, see Herbaut and Geven, 2019^[37].



Figure II.6.8 Students who reported knowing how to find information about student financing, by socio-economic status



Notes: Statistically significant differences are marked in a darker tone (see Annex A3).

Only countries and economies with available data are shown in this figure.

Countries and economies are ranked in ascending order of the percentage of advantaged students who acquired skills outside of school.

Source: OECD, PISA 2018 Database, Table II.B1.6.13.

StatLink <https://doi.org/10.1787/888934037830>

Box II.6.2. How needs-based interventions may narrow the socio-economic gap in tertiary enrolment

While access to tertiary education has increased dramatically in most countries over the past few decades, large inequities in access to higher education remain. Young people with low-educated parents are much less likely to complete higher education than those with highly educated parents. These differences in educational attainment translate into persistent earnings inequalities (OECD, 2018_[26]).

In order to reduce this socio-economic gap in enrolment in post-secondary education, several countries have implemented financial aid programmes targeted to students from low-income families. The evaluation of a large-scale, needs-based public programme in France ("*Bourse sur critères sociaux*") suggest that these programmes may be effective in increasing college enrolment rates, students' perseverance, and completion rates (Fack and Grenet, 2015_[33]). Similar conclusions were drawn from a randomised experiment assessing the impact of a private needs-based grant programme in Wisconsin in the United States (Goldrick-Rab et al., 2016_[34]). Previous evidence from the United States suggests that low-income families may indeed be highly sensitive to all financial costs implied in the admissions procedures for tertiary education. For instance, a marginal decrease in the cost of applications to colleges significantly widened the range of college students who applied, and eventually increased the number of low-income students who enrolled in more selective colleges (Pallais, 2015_[35]).

However, the impact of these needs-based programmes may be weakened if disadvantaged secondary school students do not have a clear understanding of the financial aid opportunities available to them, and of the conditions of eligibility. A randomised experiment conducted in three US states shows that providing assistance in navigating through the complex application process, notably filling out the Free Application for Federal Student Aid (FAFSA), has a considerable impact on college enrolment and future retention in college amongst secondary school students (Bettinger et al., 2012_[32]). This research also suggests that, for this population, providing information only about costs and financial aid may not be sufficient to raise college-enrolment rates. However, another randomised experiment conducted in Santiago, Chile, showed that giving direct information about loans and scholarships four years before the application process begins can lead to more positive behaviours towards education amongst eighth graders (Dinkelman and Martínez A., 2014_[36]).

Source: Fack, G. and J. Grenet (2015), "Improving college access and success for low-income students: Evidence from a large need-based grant program", <http://dx.doi.org/10.1257/app.20130423>; Goldrick-Rab et al. (2016), "Reducing income inequality in educational attainment: Experimental evidence on the impact of financial aid on college completion", <http://dx.doi.org/10.1086/685442>; Dinkelman and Martínez (2014), "Investing in schooling in Chile: The role of information about financial aid for higher education", http://dx.doi.org/10.1162/rest_a_00384; Bettinger et al. (2012), "The role of application assistance and information in college decisions: Results from the H&R Block Fafsa experiment", <http://dx.doi.org/10.1093/qje/qjs017>; Pallais (2015), "Small differences that matter: Mistakes in applying to college", <http://dx.doi.org/10.1086/678520>.

Notes

1. For this analysis, as in Chapters 4 and 5 in this volume, the sample was restricted to the schools that enrolled students in "modal ISCED level", defined here as the level attended by at least one-third of the PISA sample. In Albania, Argentina, Baku (Azerbaijan), B-S-J-Z (China), Belarus, Colombia, Costa Rica, the Czech Republic, the Dominican Republic, Indonesia, Ireland, Kazakhstan, Luxembourg, Macao (China), Morocco, the Slovak Republic, Chinese Taipei and Uruguay, both lower secondary (ISCED level 2) and upper secondary (ISCED level 3) schools meet this definition. In all other countries, analyses are restricted to either lower secondary or upper secondary schools (see Table II.C.1. in Annex C for details). In several countries, lower and upper secondary education is provided in the same school. As the restriction is made at the school level, some students from a grade other than the modal grade in the country may also be included in the analysis.
2. Results from longitudinal data suggest that, once the selection effects are taken into account, participation in internships or apprenticeships has a positive impact on college enrolment or employment amongst low-ability students or those from low-educated families (Neumark and Rothstein, 2006_[38]). The results of other programmes appear more mixed, however see also Mann, Huddleston and Kashefpakdel, 2019_[39].

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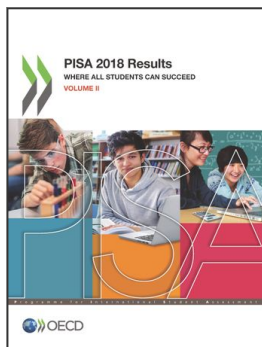
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