

4. Why equity in education is so elusive

Perhaps the most impressive outcome of world-class school systems is that they deliver high-quality education across the entire school system so that every student benefits from excellent teaching. Achieving greater equity in education is not only a social-justice imperative, it is also a way to use resources more efficiently, and to increase the supply of knowledge and skills that fuel economic growth and promote social cohesion.

In early 2015, I worked with Eric Hanushek from Stanford University and Ludger Woessmann from the German Institute for Economic Research on a report for UNESCO's Education World Forum. The forum was exploring global targets for education as part of the Sustainable Development Goals.¹

Hanushek had worked out a methodology that calculates the long-term economic benefits of raising the quality of education, and it showed the potential benefits to both advanced and developing economies. PISA provided a way of measuring the quality of education across different countries. So combining PISA and Hanushek's work was a good way to examine the economic impact of improved education.

The first thing that Hanushek and Woessman's results showed was that the quality of schooling in a country is a reliable predictor of the wealth that countries will produce in the long run.

At the most basic level, making sure that everyone has access to schooling, without touching the quality of the school system, will yield some economic gains, particularly in poorer countries where many children still miss out on school.

But there is a much bigger impact from an increase in the quality of education. If every student can demonstrate that he or she has basic skills, direct and major long-term benefits to the economy accrue. Indeed, Hanushek and Woessman showed that if every 15-year-old student reached at least baseline Level 2 on the PISA proficiency scale by 2030 the benefits for economic growth and sustainable development would be enormous (**FIGURE 4.1**).

Of the countries that Hanushek and Woessmann studied, Ghana in West Africa had the lowest enrolment rate for secondary schools (46%) and also the lowest achievement levels for those 15-year-olds who are in school. If Ghana could educate all of its students to at least the basic level of reading and mathematics skills, it would see a gain over the lifetime of children born today that, in present value terms, is 38 times its current GDP.

For lower-middle income countries, the gains would be 13 times current GDP and would average out to a 28% higher GDP over the next 80 years. And for upper-middle-income countries, whose students generally perform better academically, it would average out to a 16% higher GDP.

What is obvious from this research is that improving education is not only beneficial for poor countries, it is beneficial for wealthy countries too.

The oil-producing countries are a good example. In March 2010, I was speaking to education ministers of the Arab states in Egypt, and wondered how these countries had succeeded in converting their natural resources into purchasing power, but had failed to convert their wealth into new generations of skilled young people who could secure their countries' economic and social well-being over the long run.

Israel's late Prime Minister Golda Meir once quipped that Moses led the Jewish people through the desert for 40 years – just to bring them to the one place in the Middle East where there was no oil. But the people of Israel have made up for their country's lack of “black gold”: today, Israel has an innovative economy and its population enjoys a standard of living that is out of reach to most residents in its oil-rich neighbours. More generally, our data show that countries with greater income from natural resources tend to be economically and socially less developed, as exports of national resources tend to bolster the currency, making imports cheap and the development of an industrial base more difficult. As governments in

resource-rich countries are under less pressure to tax their citizens, they are also less accountable to them.

Our findings deliver an important message for countries rich in natural resources: the wealth that lies untapped in the undeveloped skills of their people is far greater than the wealth they extract from their natural resources. And while natural resources are exhaustible – the more you use the less you have – knowledge is a growing resource – the more you use the more you have. The scientific discovery that had the largest impact on human development was the discovery of ignorance, and learning as the means to advance knowledge.

PISA data also show a significant negative relationship between the money countries earn from their natural resources and the knowledge and skills of their school population. As New York Times columnist Thomas Friedman put it, PISA and oil don't mix easily.² Israel is not alone in outperforming its oil-rich neighbours by a large margin when it comes to learning outcomes at school: most of the highest-performing education systems are poor in natural resources.

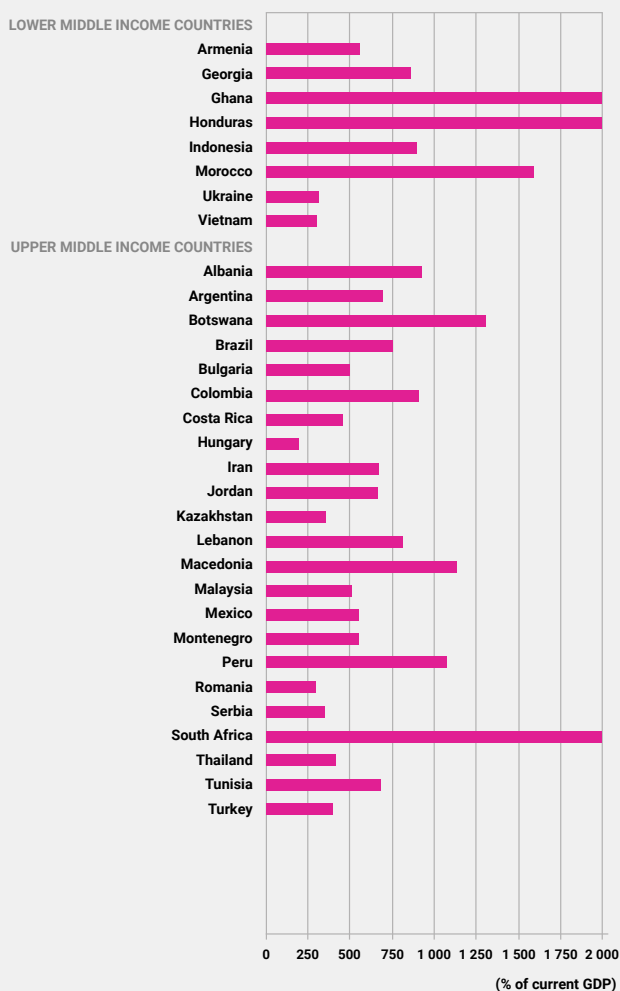
The exceptions – Australia, Canada and Norway, which are rich in natural resources but still score well on PISA – have all established deliberate policies of investing the profits made through these resources, not just consuming them.

One interpretation is that in countries with little in the way of natural resources – good examples include Finland, Japan and Singapore – citizens understand that their country must live by its wits – literally, its knowledge and skills – and that these depend on the quality of education provided. So the degree to which a country values education seems to depend at least in part on the country's view of how knowledge and skills fit into the way it fills its national coffers. Placing a high value on education might thus be a prerequisite for building both a top-notch education system and a thriving economy.

As a group, high-income countries that are not part of the OECD would see an economic gain equivalent to almost five times the value of their current GDP – if they equipped all students with at least basic skills. Again, this is just the direct economic benefit; imagine the social impact on large parts of populations that currently lack basic knowledge and skills.

It is only recently that countries in the Arab world have begun to take action. The United Arab Emirates was the first country in the region that began to formally

FIGURE 4.1: IF EVERY CHILD ACQUIRED AT LEAST BASIC SKILLS IN SECONDARY SCHOOL, ECONOMIES WOULD FLOURISH

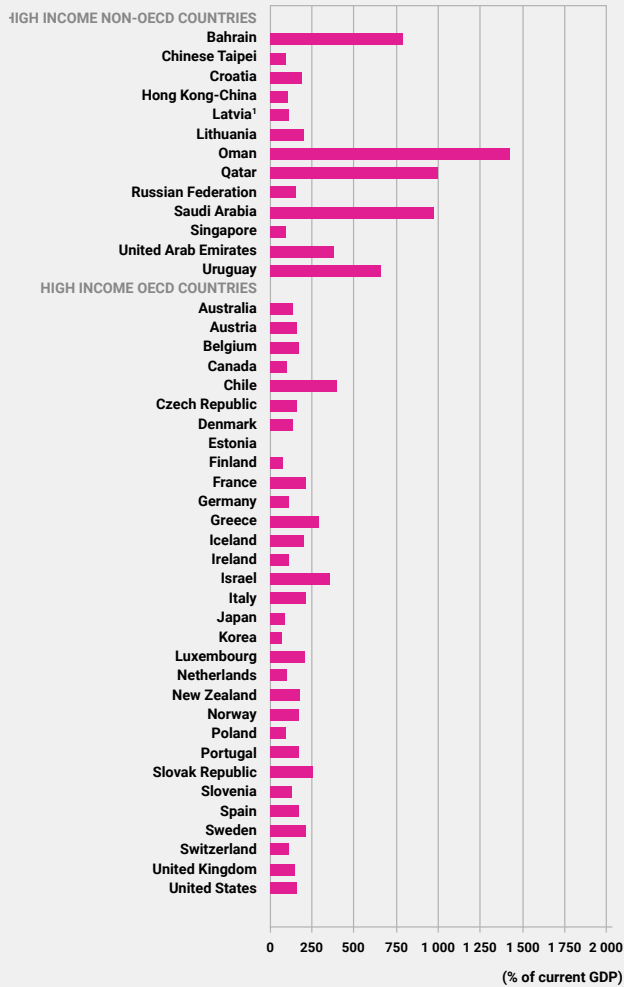


¹Latvia acceded to the OECD on 1 July 2016.

Notes: Estimated discounted value of future increases in GDP until 2095, given a reform that achieves full participation in secondary school and where every student attains a minimum of 420 points on the PISA test, expressed as a percentage of current GDP. Value is 3 881% for Ghana, 2 016% for Honduras, 2 624% for South Africa.

Source: Hanushek and Woessmann (2015), *Universal Basic Skills: What Countries Stand to Gain*.

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Notes: Estimated discounted value of future increases in GDP until 2095, given a reform that achieves full participation in secondary school and where every student attains a minimum of 420 points on the PISA test, expressed as a percentage of current GDP.

benchmark its performance internationally by setting a PISA-based performance target. When I gave the Ramadan Majlis Lecture in Abu Dhabi in August 2015, the crown prince and his cabinet expressed a deep commitment to improve the education system rapidly and profoundly. The country is now on its way to raising the status of education. The lesson its leaders have drawn is that a high income doesn't compensate for shortcomings in education.

One may be tempted to think that at least the wealthy OECD countries would have all the means to eliminate extreme underperformance in education. But that isn't the case. For example, one in four 15-year-olds in the United States does not successfully complete even the most basic tasks in PISA.

If the United States were to ensure that all of its students had basic skills, the economic gains could reach over USD 27 trillion in additional income for the economy over the working life of these students. So even high-income OECD countries would gain significantly if all of their students left school with at least basic knowledge and skills. For this group of countries, the average future GDP would be 3.5% higher than it would be without this improvement. That is close to what these countries now spend on school education.

In other words, the economic gains that would accrue solely from eliminating extreme underperformance in high-income OECD countries by 2030 would more than pay for the primary and secondary education of all students.

Such improvements in student performance are entirely realistic. For example, Poland was able to reduce the share of underperforming students in PISA by one-third, from 22% to 14%, within less than a decade. Between 2009 and 2012, Shanghai reduced the share of underperforming students from 4.9% to 3.8%.

Of course, more ambitious improvements can result in much larger potential gains. The calculations based on all students having basic skills are lower estimates because they assume that the improvement does not affect students who have already acquired higher knowledge and skills. But evidence from PISA indicates that school reforms that lead to improved performance among low achievers invariably also help higher achievers.

The calculations from Hanushek show that the economic impact of the share of students with basic skills is similar across all levels of development. They also

show that the economic impact of expanding the share of top-performing students is significantly larger in countries that have further to go to catch up to the most productive countries. The process of economic convergence seems accelerated in countries with larger shares of high-performing students. This underlines the importance, particularly for middle-income countries, of investing in excellence in education.

Countries that have a large proportion of top-performing students are also more likely to succeed in providing equitable education opportunities to all their students. Investments in excellence and equity in education seem to reinforce each other. When countries develop a student population with strong foundation skills, they will most likely also develop a larger share of high performers.

To be sure, such long-term projections are just that – forecasts; and forecasts are only as solid as the assumptions on which they are based. But Hanushek’s analyses rely on just two major assumptions. The first is that a better-educated workforce leads to a larger stream of new ideas that produces technological progress at a faster rate. For some, that assumption might even seem conservative, given that the world is becoming increasingly knowledge-intensive and is rewarding better skills at an ever-higher rate.

For those who remain sceptical, Hanushek provides an alternative scenario in which productivity is frozen, and every new worker will simply expand the pool of existing workers with similar skills and continue to work with the same productivity until the end of their working life. This rather pessimistic scenario, in which people just keep doing what their predecessors have been doing, leads to smaller but still impressive economic rewards after schooling has been improved.

The second assumption is that the improved skills will actually be used in the economy. Here, the Survey of Adult Skills (PIAAC) shows that there are significant differences in how well different countries extract value from their talent pool.³ So while improved schooling is a necessary condition for economic progress, countries also need to ensure that they add higher value-added jobs that help get more people with better skills working – and for better pay. The projections factor these issues into the analyses by assuming that new skills in a country will be absorbed as effectively as has occurred across countries that had undergone similar transitions in the past.

■ Towards inclusive social progress

The links between income inequality and economic growth are well established. If income inequality becomes too high, large numbers of people no longer have the means to participate in the economy; they will also be unable to invest in their own skills to climb up the social ladder. Of course, if incomes are too similar, there is less incentive to progress at work, and growth and development might suffer too.

A conventional way to strike a balance between those two undesirables is to redistribute income, for example, through taxes. But instead of dealing with the consequences of income inequality through redistribution of wealth, it seems much smarter to start at the root of the problem and address the sources of income inequality. Then things are not a zero-sum game and more people stand to gain.

A major source of inequality in wages is inequality in skills. Inequality in skills equals inequality in society. Our parents told us that we should study hard to get a good job and a decent salary – and that piece of advice has never been more true than today.

As the OECD's annual publication, *Education at a Glance*, shows, highly educated people have never had better life chances than they enjoy today, while those with poor qualifications have never faced a greater risk of social and economic exclusion.⁴ Those people with lower skills are facing a decline in pay, while rising numbers of higher-skilled workers have generally maintained, if not boosted their incomes.

The consequences of inequalities in skills within and across countries go well beyond economic and social concerns. In February 2008, I had an intensive exchange with NATO ambassadors about OECD work on inequality in skills and education. This topic had been put on the agenda because the ambassadors were concerned about the long-term effects these inequalities could have on geopolitical stability. Policy makers are realising that inequalities in education provide a fertile breeding ground for radicalism. In today's interconnected world, a country's future might depend as much on the quality of education outside of its borders, as on the quality of education offered within.

My colleague, Marco Paccagnella, has used data from the Survey of Adult Skills to study the relationship between education and earnings more closely.⁵ He found that if all adults were simply to complete an additional year of education (which no doubt

would be good for each of them as well as for the overall economic and social well-being of their country), top earners would actually benefit much more than those with lower wages. So wage inequality would rise. Essentially, the data show that the more people earn, the more further improvements in their education boost their earnings. The data also show that the financial returns to university-level education would increase more steeply at the top end of the wage scale, while returns from secondary education would actually decline.

This might be because higher education is where individuals acquire the specialised knowledge and skills that are more highly rewarded in the labour market. Another explanation is that technological advances mainly benefit the most skilled individuals, boosting their earnings most.

In a nutshell, raising overall levels of educational attainment alone could actually widen the wage gap rather than shrink it. In much of Europe and North America, the shift towards knowledge-based economies has led more people to acquire more education, and education has played an ever more important role in social progress. But it has not been a story of growing opportunity and mobility across the board. Rather, it has been a story of opportunity and reward being concentrated increasingly among people who began life with access to wealth and knowledge. School and university choices have become reflections of social and economic class, often reinforcing, rather than mitigating, social inequality.

But Paccagnella's analysis also shows that ensuring that more people acquire essential foundation skills, whatever their skills or formal qualifications, can be an effective way of achieving more equitable increases in earnings. Given that finding, increasing investment in foundation skills – by raising the quality of basic education for everyone – would not only result in higher productivity and greater employability among adults, it would also ensure that the benefits of economic growth are more equally shared across the population.

In this sense, improving education differs from simple tax and redistribution schemes that might change how income is spread throughout a society, but do not add to output. More inclusive growth, made possible through universal attainment of basic skills, has tremendous potential to ensure that the benefits of economic development are shared more equitably among citizens.

Countries where people are more highly skilled, on average, are also those where proficiency in skills is spread more evenly across the population. But the analysis also shows that countries with greater inequality in skills are also those where parents' education has a stronger impact on their children's skills. In other words, where skills are less evenly distributed in the population, young adults are less likely to acquire higher skills than their parents – and thus inequality in both skills and wages becomes more firmly entrenched.

There are several things we can learn from this. Countries where the skills and income of people vary widely also tend to be those where social background has the strongest impact on the acquisition of skills, educational attainment and, ultimately, wages. Investing in high-quality basic education – and in adult education and education programmes for those who need to catch up on foundation skills – is an effective way to improve a country's talent pool, and a way to achieve an economically and socially more inclusive society. In addition, combating increasing wage inequality requires a package of policies that covers education and training, the labour market, and the tax and transfer systems.

The struggle to level the playing field

What wise parents want for their children is what the government should want for all children. Children from wealthier families will find many open doors to a successful life. But children from poor families often have just one chance in life, and that is a good school that gives them an opportunity to develop their potential. Those who miss that boat rarely catch up, as subsequent education opportunities in life tend to reinforce early education outcomes.⁶

There has been much discussion about the extent to which countries' performance on tests like PISA is shaped by the socio-economic context of families, schools and the country itself. Indeed, where there are students with economic, social and cultural advantages, it is likely that they will be better equipped to do well. This is not just about poverty of material resources, but equally important about poverty of aspiration and hope. School systems tend to reproduce social advantage and

disadvantage; results from PISA show this. It is particularly disappointing that, in many countries, surprisingly little headway has been made towards giving all children an equal chance to succeed.

However, the fact that the impact of social background on educational success varies greatly across countries shows there is nothing inevitable about disadvantaged students performing worse than more advantaged students. As I mentioned earlier, results from education systems as different as Estonia, Hong Kong, Shanghai and Viet Nam show that the poorest students in one region might score higher than the wealthiest students in another country.

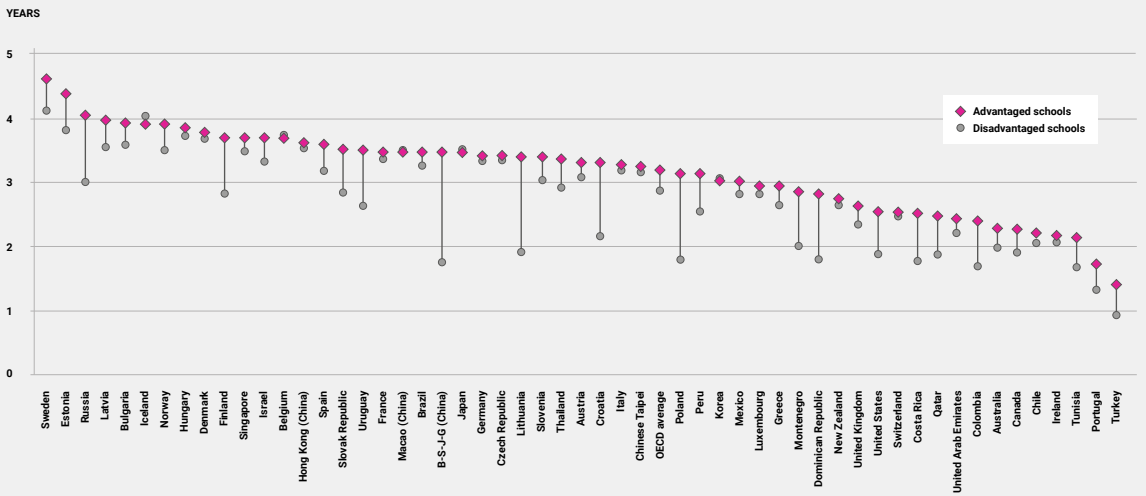
In 2015, Yuan Yuan Pan, a brilliant student from Tsinghua University, worked as an intern with our PISA team.⁷ When I had to go to Duijiangyan city in the Sichuan province of China that summer, I sought her advice to plan some school visits. It turned out that she had been born in a small town in that province, with very poor resources. But her teachers recognised her talent and did everything possible to support her. She passed the demanding Chinese entrance exam system as well as the interview for what is arguably China's most prestigious university – a university that consistently tops international league tables in engineering and computer sciences, and attracts over 10 million applicants each year.

Yuan Yuan Pan is not an exception; more recently, the government has taken additional measures to boost the chances of bright students from poor areas to make it into China's prestigious universities. Students from poor and remote areas who pass the university entrance exam are now receiving bonus scores to better their chances of admission. The best of them will receive full scholarships from top-ranked universities.

Providing access to high-quality early childhood education and care is often regarded as the most effective way to level the playing field in education and in life. But, as illustrated in **FIGURE 4.2**, reality hasn't yet caught up with theory. Perhaps not unexpectedly, the figure shows that today's 15-year-olds had widely different exposure to pre-primary education, ranging from one year in Turkey to over four years in Estonia and Sweden, on average. But it is disappointing that in most countries children in privileged schools had benefitted from more years in pre-primary education than had children in disadvantaged schools. This shows how

FIGURE 4.2: FIFTEEN-YEAR-OLDS IN ADVANTAGED SCHOOLS ARE MORE LIKELY TO HAVE ATTENDED PRE-PRIMARY SCHOOL

Number of years in pre-primary education among students attending socio-economically disadvantaged and advantaged schools



Note: B-S-J-G (China) refers to Beijing-Shanghai-Jiangsu-Guangdong (China).

Source: OECD, PISA 2015 Database, Table II.6.51.

early childhood education and care offered without much of a plan can actually reinforce rather than moderate social inequality.

As I have said many times, excellence in education and equity in education are not mutually exclusive. For example, while students from the most privileged families in France and the Netherlands perform similarly in PISA, the poorest students in the Netherlands do as well as those from middle-income families in France.⁸ What strikes me most when studying these data is that the perception of poverty can matter as much as actual poverty rates.

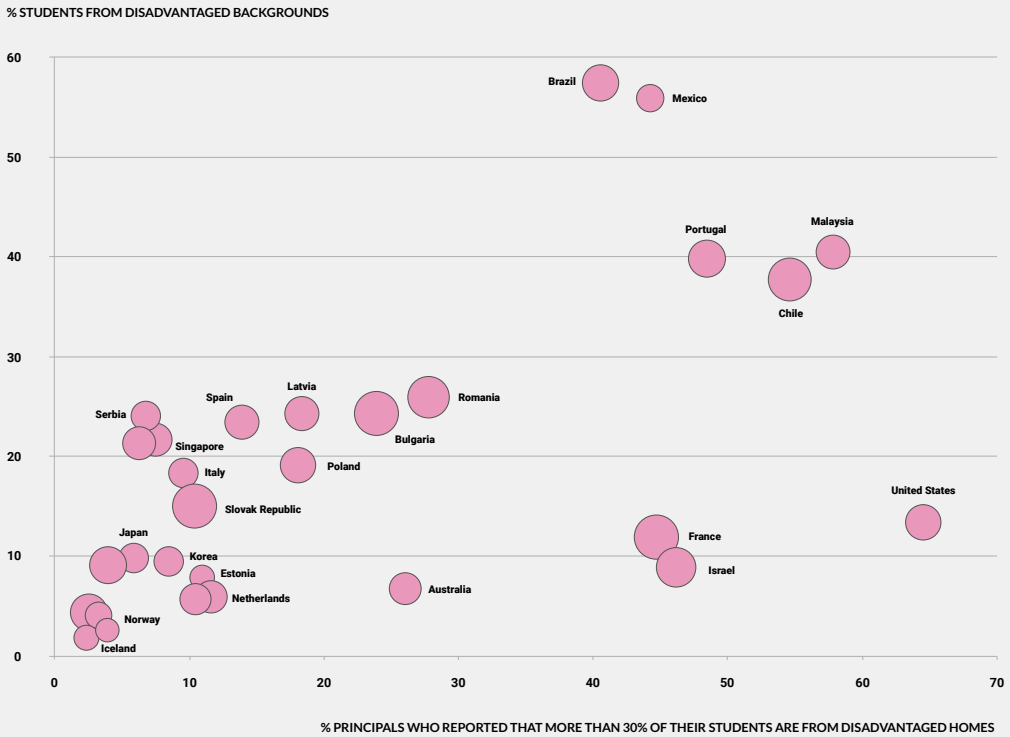
There are some countries where school principals recognise that they are teaching in places of relative poverty or relative advantage. Principals in Brazil, Chile, Malaysia, Mexico and Portugal are right to observe that they have large shares of disadvantaged students in their schools. Similarly, head teachers in the Czech Republic, Denmark, Finland, Iceland, Japan, Norway and South Korea know when they are in charge of schools where there is limited disadvantage.

But actual disadvantage and principals' perceptions of disadvantage aren't always aligned.⁹ In the PISA 2012 assessment, 65% of principals in the United States reported that more than 30% of their students are from disadvantaged homes – a proportion far larger than reported in any other country. However, the actual percentage of disadvantaged students recorded by PISA was just 13%, marginally higher than that in Japan and South Korea. But in those two countries, only 6% and 9% of principals, respectively, reported a share of disadvantaged students in their schools comparable to that reported by principals in the United States (**FIGURE 4.3**).

In other words, the actual incidence of child poverty was roughly the same among these three countries, but more than six times as many American principals as principals in Japan and South Korea reported that more than 30% of their students were disadvantaged. Conversely, in Croatia, Serbia and Singapore, more than 20% of students were disadvantaged, while 7% of principals or less reported significant populations of disadvantaged students.

It might be the case that a child considered poor in the United States is regarded as wealthy in another country; but in relative terms, the perceived problem of socio-economic disadvantage in schools is much greater in the United States than the actual backgrounds of students suggests. There is a similar mismatch in France too.

FIGURE 4.3: STUDENTS' ACTUAL DISADVANTAGE, AND PRINCIPALS' PERCEPTION OF DISADVANTAGE, ARE SOMETIMES VERY DIFFERENT



Note: The size of the bubbles represents the strength of the relationship between socio-economic status and student performance in the PISA mathematics test.

Source: <http://oecdeducationtoday.blogspot.fr/2014/07/poverty-and-perception-of-poverty-how.html>.

Socio-economic disadvantage has an observable impact on learning outcomes – observable, but not inevitable. In fact, that impact reflects the extent to which an education system provides equitable learning opportunities. In Finland, Iceland and Norway, one would expect this impact to be small because these countries have relatively few disadvantaged students in their schools. Achieving equity in school is easy when a society distributes wealth and family education equitably. But the more impressive examples are countries like PISA top-performer Singapore, where socio-economic disadvantage is significant, but its impact on learning outcomes is only moderate.

These countries seem very good at nurturing the extraordinary talents of ordinary students and at ensuring that every student benefits from excellent teaching. By contrast, France has a comparatively small share of disadvantaged students, but school principals there perceive this share to be larger than it really is. Student performance in France is closely related to socio-economic status – more closely, in fact, than in any other country except Chile and the Slovak Republic. Strikingly, the results show that principals' perceptions of disadvantage among their students correlate with inequalities in education opportunities more strongly than actual disadvantage does.

There is another way of looking at this: in Hong Kong, Macao and Viet Nam, more than 60% of students from the bottom quarter of the socio-economic spectrum scored among the top quarter of all the world's students on the PISA 2015 tests; in Estonia, Japan and Singapore, around one in two of the most disadvantaged students did so. By contrast, in Chile, Greece, Iceland, Israel and Mexico, fewer than one in five of the most disadvantaged students scored among the top quarter of all students.¹⁰

So what does all this mean? Socio-economic disadvantage is a challenge to educators everywhere, but in some countries, perceived disadvantage is far greater than real disadvantage, and that perception seems to make a significant difference for student performance. In other countries, real disadvantage is far greater than school principals' perception of it, but their schools and perhaps the broader society seem to be able to help their students overcome that disadvantage.

Similarly, the PISA data show that, for many countries, the problem of underachievement does not just involve poor children in poor neighbourhoods, it

is a problem that affects many children in many neighbourhoods. The bottom line is that the country where you go to school seems to have a much greater impact on your learning outcomes than the social background of the family you were born into.

■ Matching resources with needs

One of the comments that I have heard frequently in discussions about social diversity in the classroom is that schools cannot solve the problems of society. But I always ask myself: what else should we expect from schools than to address the challenges confronting their society? And what could be more important than supporting those teachers and schools working in the most difficult circumstances, and those students with the greatest needs? It seems clear that society increasingly looks to schools to remedy social problems that were, in the past, addressed by others. The task for public policy is to help schools meet those demands.

For a start, many education systems can do better in aligning resources with needs. When it comes to material resources, much progress has been achieved; but attracting the most talented teachers to the most challenging classrooms remains difficult in most countries. It is not as simple as paying teachers who work in disadvantaged schools more; it requires holistic approaches in which teachers feel supported in their professional and personal life when they take on additional challenges, and when they know that additional effort will be valued and publicly recognised.

It is difficult for teachers to allocate scarce additional time and resources to the children with the greatest needs. People who laud the value of diversity in classrooms are often talking about the classes other people's children attend. It is generally difficult to convince socio-economically advantaged parents whose children go to school with other privileged children that everyone is better off when classes are socially diverse. Policy makers, too, find it hard to allocate resources where the challenges are greatest and where those resources can have the biggest impact, often because poor children usually don't have someone lobbying for them.

In too many countries, the postcode tells you all you need to know about what kind of education children are acquiring. If schools are popular, house prices in their catchment areas will rise, further segregating the population. People with fewer

assets, and less income and education end up finding housing where education and social opportunities are poorer. The result is that in most countries, differences in education outcomes related to social inequalities are stubbornly persistent, and too much talent remains latent.

But equity is only partly about socio-economic status and the need to spend more resources on the most deprived children. Equally important is the realisation that different individuals learn differently and have different needs. The struggle of the 20th century was about the right to be equal. The struggle in the 21st century will be about the right to be different.

■ **Being open to guidance from students themselves**

In 2017, I spent three days with Sir Richard Branson at his home on Necker Island. Sir Richard left school, disillusioned, at age 16 because he felt that school did nothing to develop his creative and entrepreneurial talents. (Nor did his school diagnose his dyslexia.) On his last day at school, his headmaster famously told him he would either end up in prison or become a millionaire. We all know how that worked out: Sir Richard became one of Britain's most successful entrepreneurs (and a billionaire) growing his Virgin Group brand from a record shop in London into a multinational juggernaut that includes health, music, media and travel (including space travel) companies. You could say he was a beneficiary of a world that rewarded his knowledge and skills rather than his academic credentials.

I asked him why his airline company, Virgin Atlantic, thrived at a time when many others went bust. His answer was simple: he approached things differently. When others followed the doctrine of maximising efficiency and tailoring the work organisation to that end, he put his staff first and asked them what they needed to excel. He empowered them to create an environment that would best serve their customers.

He also has a vision for education that puts character and values at its heart. Those aspects seem particularly important in the face of inequity and fragmentation in society, where people need a strong sense of right and wrong, sensitivity to the claims that others make on us, and a grasp of the limits on individual and collective action.

Sir Richard is certainly not alone. School dropouts like Thomas Edison, Albert Einstein, Bill Gates, Steve Jobs and Mark Zuckerberg have all fundamentally transformed their fields. And yet, in economies that still react mainly to qualifications earned at the beginning of a working life rather than to the capabilities acquired throughout life, very few of those who fail at school will become a Sir Richard, let alone have a voice in transforming education.

In those three days with Sir Richard I realised how often the people who make decisions about education are usually those who have been well served by the education system, not those who struggled through it. But it will often be the latter who can help reveal an education system's weaknesses and highlight the urgency of the need for change.

There are many ways in which schools could use the voice and experience of students – both those who succeeded and those who “failed” – to guide improvements to the relevance and organisation of schooling. Portugal's Education Minister Tiago Brandão Rodrigues explained to me in 2016 how the ministry had, as one of its first initiatives, given Portugal's schools an additional euro for every student enrolled, and the students themselves could decide how to spend the money. At first, not all of the money was well spent. In one school, students reportedly voted to buy everyone an ice cream. But as time went by, students in many schools took ownership over resource allocations in their school, well beyond this limited budget, and helped schools better align resources with what really made a difference in the life and learning of students. Marc Prensky, American writer on education, and Russell Quaglia, American researcher on education, have done extensive work on the impact of students' voice and agency. Their insights could have a major impact on efforts to make instruction more relevant to a wider range of learners.^{11,12}

How policy can help create a more equitable system

How we treat the most vulnerable students and citizens shows who we are as a society. Providing equitable education opportunities is not a technically complex issue, and the PISA data show that in some countries – and in some schools in many

countries – even the most disadvantaged children can be high performers in school. The issue becomes difficult only when it becomes intertwined with politics and vested interests, which can massively distort what is in the best interest of children.

PISA data show that one of the most important factors that can affect a student's performance is the socio-economic background of the other students in the class. The implication is that one of the most important resources to be allocated to schools and classrooms is the students themselves. Germany's failure to join other northern European nations in moving away from a tripartite organisation of secondary schools, based on social class, in the years leading up to and just following the Second World War made it difficult for that country to provide the quality of education to lower-income, and particularly immigrant, students that they needed to have a decent chance in life.

The subsequent decision in some of Germany's states to change from three education streams to two has contributed to the improvement in equity in recent years. Along the same lines, Poland realised a substantial reduction in the share of poorly performing students by converting a secondary school system that was primarily organised by social class into one in which all classes of students are enrolled in comprehensive schools.

Japan's decision, taken in the 19th century, to break with the kind of school and social structure on which Germany's school system is still based made it possible for Japan to create schools in which all Japanese children have a good chance of achieving world-class outcomes. The Meiji government's reform contributed to that country's ability to combine high overall performance with high equity of results.

Sweden calculates the funding that it sends to each school based on a formula intended to make sure that every school has what it takes to implement the country's demanding curriculum. According to this formula, isolated communities above the Arctic Circle get more for the education of their students per capita than Stockholm does. This is because there are fewer students in rural high schools than in the city who will take a certain course – say, physics – so classes will be smaller; but all students, no matter where they live, are entitled to be taught physics because physics is a required course in the curriculum. Along the same lines, Swedish schools with a greater share of immigrant students receive more resources than schools with fewer immigrants.

In 2016, I had the privilege to chair the selection committee for the 2016 Pupil Premium Awards in the England, an initiative that provides schools with additional resources for each disadvantaged student. On the one hand, the pupil premium is not unique. The kind of formula-based funding that Sweden pioneered is now common practice in many countries.¹³ On the other hand, the way in which the pupil premium has sparked ideas in some of England's schools is remarkable. England gives schools wide discretion in how to use the pupil premium, and the accompanying accountability requirements are exemplary. Essentially, schools can allocate these resources as they see fit, as long as they can point to and explain the evidence base for their decisions and account for their decisions to the public. That means they can enhance the instructional system, but they can also integrate a wider range of social services into the school environment that are critical for supporting disadvantaged students.

In other countries, similar resource allocations to schools tend to be far more prescriptive and regulated. Creating this kind of ownership for innovative solutions seems to be an important ingredient of empowerment. I was intrigued by the diversity of approaches that schools in England were choosing, and wondered whether government could ever be equally imaginative. Many of the schools went beyond exams and results to prioritise student well-being. Some schools focused on parents, conducting workshops for them to understand current teaching methods or asking parents to come to the school to give presentations to students about their work. Perhaps not surprisingly then, the PISA 2015 assessment showed the United Kingdom as one of the few Western countries where disadvantaged schools reported fewer shortages of material resources than privileged schools. Put another way, the United Kingdom was able to align material resources with socio-economic need (**FIGURE 4.4**).¹⁴

However, even when countries manage to devote equal if not more resources to schools facing greater socio-economic challenges, few countries succeed in aligning the quality of resources with those challenges (**FIGURE 4.4**). In other words, schools with greater needs sometimes receive more resources, but not necessarily the high-quality resources that could be the most useful.

But some countries have begun to change this. Singapore sends its best teachers to work with the students who are having the greatest difficulty meeting Singapore's

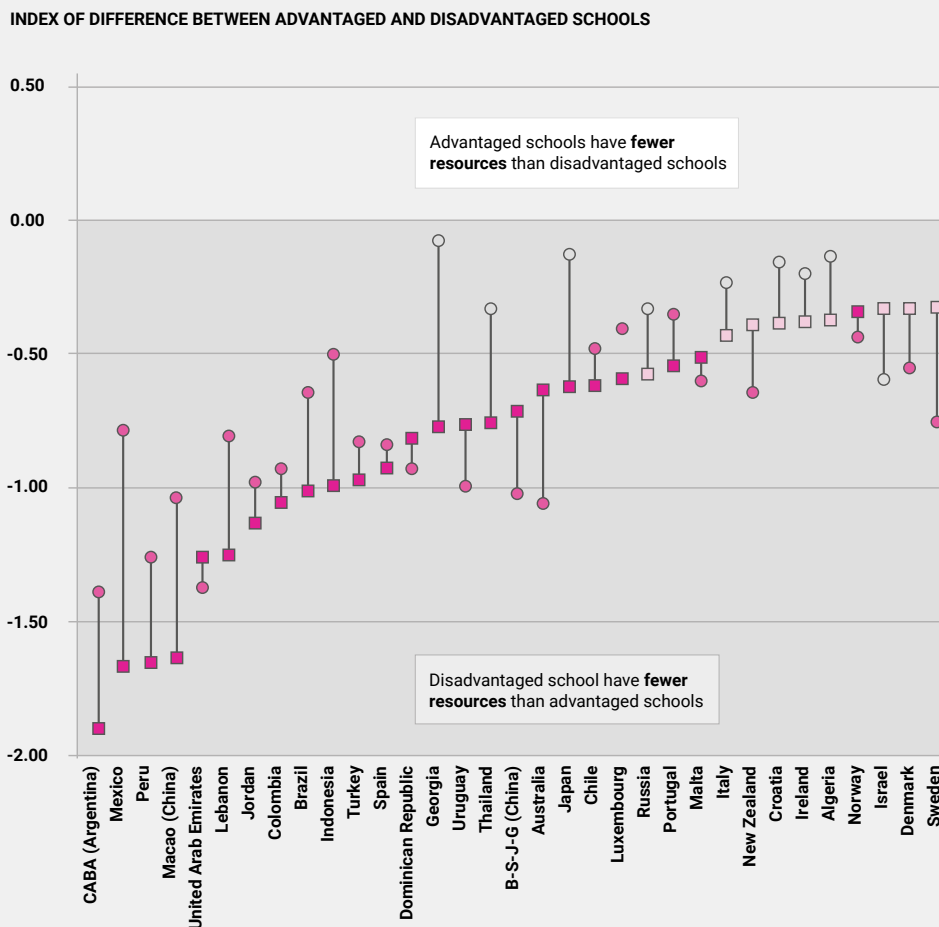
high standards. In Japan, officials in the prefectural offices will transfer good teachers to schools with weak faculties to make sure that all students have equally capable instructors.

Sometimes even symbolic action can have a transformative impact. In 2006, Cecilia María Vélez, Minister of Education in Colombia at that time, showed me a former waste-treatment facility that used to poison some of the poorest neighbourhoods of the capital, Bogotá. The facility had been closed and Minister Velez had transformed it into a school and library, now called *El Tintal*. I saw it packed with children and their parents learning to read and studying with the help of teachers, coaches and social workers. I could see how the transformation of this former source of pollution and disease had become a symbol of the new Colombia: a once conflict-ridden country undergoing a profound silent revolution, where education, once the preserve of the wealthy, was finally becoming a public good.

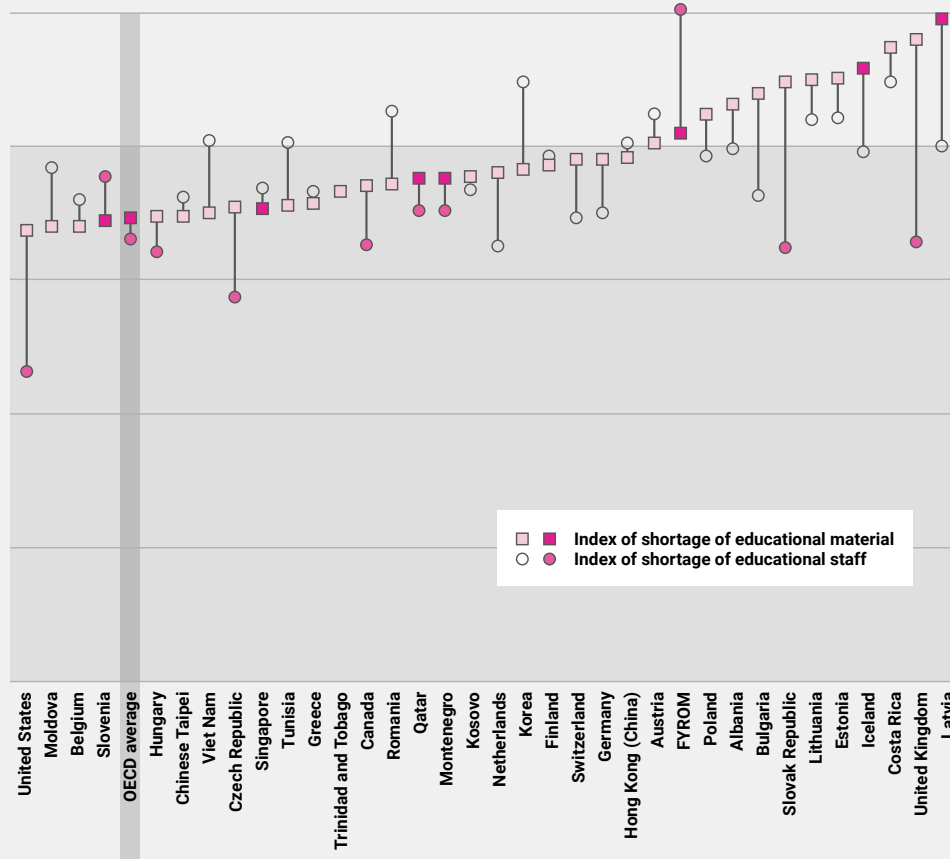
Shanghai manages to attain both high scores in PISA and low variations in student performance across the schools in the province. This has not come about by chance but by determined efforts to convert weaker schools into stronger schools. As Marc Tucker notes,¹⁵ these efforts include systematically upgrading the infrastructure of all schools to similar levels; establishing a system of financial transfer payments to schools serving disadvantaged students; and establishing career structures that incentivise high-performing teachers to teach in disadvantaged schools. It also involves pairing high-performing districts and schools with low-performing districts and schools, so that the authorities in each can exchange and discuss their development plans with each other, and institutes for teachers' professional development can share their curricula, teaching materials and good practices. The government commissions "strong" public schools to take over the administration of "weak" ones by having the "strong" school appoint one of its experienced leaders, such as the deputy principal, to be the principal of the "weak" school, and sending a team of experienced teachers to lead in teaching. The underlying expectation is that the ethos, management style and teaching methods of the high-performing school can be transferred to the poorer-performing school.

There is nothing other than outdated regulations and a lack of imagination that would prevent other education systems from pursuing similar efforts. In fact, there

FIGURE 4.4: DISADVANTAGED SCHOOLS ARE OFTEN ALLOCATED FEWER RESOURCES THAN ADVANTAGED SCHOOLS



Notes: The index of shortage of educational material is measured by an index summarising school principals' agreement with four statements about whether the school's capacity to provide instruction is hindered by a lack of and/or inadequate educational materials, including physical infrastructure. The index of shortage of educational staff is measured by an index summarising school principals' agreement with four statements about whether the school's capacity to provide instruction is hindered by a lack of and/or inadequate qualifications of the school staff. Negative differences imply that principals in disadvantaged schools perceive the amount and/or quality of resources in their schools



as an obstacle to providing instruction to a greater extent than principals in advantaged schools do. Positive differences mean that the perception of having inadequate resources is more common among principals of schools with a more privileged socio-economic intake. CABA (Argentina) refers to Ciudad Autónoma de Buenos Aires (Argentina). B-S-J-G (China) refers to Beijing-Shanghai-Jiangsu-Guangdong (China). FYROM refers to the Former Yugoslav Republic of Macedonia.

Source: OECD, PISA 2015 Database, Table I.6.13.

StatLink  <http://dx.doi.org/10.1787/888933432823>

are similar examples elsewhere. When I visited the state of Ceará, in Brazil, I saw how the highest-performing schools there received a significant reward in additional financial resources that allowed them to hire more specialised teachers and experts. However, they were not using these additional resources in their own school; they were required to allocate them to the schools that struggle most. So everyone won: the high-performing schools gained additional prestige and an expanded team, and the low-performing schools benefitted from the expertise of high-performing schools – which might have been more valuable to them than additional money.

Contrast this with a system of school finance in many US states that, for a long time, allowed wealthy people to form school-tax districts with other wealthy people who, collectively, were able to pay low tax rates and still produce large tax revenues, enabling these wealthy people to hire the best teachers in the state and surround their children with children from other wealthy families, thereby creating overwhelming educational advantages for their children. At the other end of the spectrum, poor families, who could not afford the houses that are available in the communities that are home to wealthy people, often ended up paying high tax rates but raising very little revenue. While adequacy lawsuits in the 1980s and 1990s have made school finance somewhat more equitable, PISA data show that schools in disadvantaged neighbourhoods still report a much greater shortage of human resources than schools in more privileged neighbourhoods.¹⁶

Moreover, the fact that significant funding gaps exist shows that it is in the power of localities to pass bonds to invest in infrastructure. So while the best-resourced school districts get buildings that are equipped with advanced science laboratories, sophisticated equipment, elaborate theatres, Olympic-sized swimming pools and computer-based graphics labs, not to mention teachers who majored in the subjects they teach at some of the most elite colleges in the country, the schools serving the poor are still often housed in old and often crumbling buildings. In between are many gradations of quality, reflecting the different socio-economic segments of the population.

What Germany accomplished indirectly by having different secondary schools for students from different social classes, the United States achieved directly through its system of local control of school finance. The effect of that system is exactly the same as the effect, in other countries, of having different schools for different socio-

economic segments of the population. There are schools for the rich, schools for the middle classes, schools for the working classes and schools for the poor. The difference is that in those few industrialised countries that still practice this sort of streaming, it is practised only at the secondary level, while in the United States this sort of social segregation is evident in elementary or primary school as well as in high school. In this challenging context, it is remarkable that the United States has been able to raise equity in education opportunities at least to the OECD average level.

Canada had a similar system of school financing as that in the United States, but the country has been gradually shifting funding decisions entirely or almost entirely to provincial authorities. Provinces now provide block grants based on numbers of students. There are also grants to fund particular needs, such as special education, or to help districts meet specific challenges, such as transportation in remote districts. There is also “equalisation funding”, which is used in the districts that retain some local funding to provide equal support to the poorer districts.

Of course, in the early stages of a country’s economic development, the demand for highly educated people is limited, and so are the resources for developing such people. One way to meet that need is to put what money there is into the children who are, by virtue of the education and income of their parents, the most advantaged students in the whole society. That is why segregating schools by social class and concentrating efforts on a small number of students was an efficient strategy for providing education in countries in the first stages of industrialisation. But now, when far larger proportions of highly educated people are demanded in the world’s high-wage economies, it is not only socially unjust but highly inefficient to organise an education system this way.

■ **An invitation to the dance in France**

Even in education systems where social disparities are considerable, there are many grassroots initiatives that successfully combat inequality.

OECD data show that one of the largest gaps in learning outcomes between children from poor families and those from wealthy families is found in France. In fact, France is one of the few countries that has gone backwards on equity in PISA: differences in opportunity keep growing.

But a show I saw at the *Maison de la Danse* in Lyon in 2015 gave me hope. The performers were all amateurs from one of the poorest neighbourhoods in the city. Some of the actors, aged four to 92, had never before set foot in the place, and even fewer would have attended a classical music concert. And yet all of them danced to Mozart.

Given a history of poor participation in educational and cultural activities in this district of the city, the organisers had recruited 200 volunteer performers in the hopes of ending up with 100. Not only did no one drop out of the project, an additional 100 people showed up spontaneously after news of the project spread across the city. Some of the young performers might have never received a pass grade in school or heard an encouraging word from their teachers, but that night they all received a wild ovation from an audience of well over 1 000 people.

The magic of this initiative was its simple formula, one that could inspire education everywhere. It used artistic expression to transcend ingrained identities and ideas that keep people apart. It united the most inspiring professionals with amateurs to show that those who may have the skills, but not yet the confidence, can still participate. The project demanded rigour in practice and set the highest standards for everyone involved. Choreographers did not insist on their own ideas; they were capable of helping the participants see and develop their own creative approaches. The choreographers and dancers worked together for more than a year until every detail fit perfectly together. The budget for this project was incredibly small compared with the result and its impact.

What impressed me most when speaking with some of the dancers, choreographers, social workers, teachers and school leaders involved was how this project was creating ripples in the wider community. Every participant I spoke with told me how much the work had helped them grow; and the words I heard most frequently were tolerance, identity, respect, fairness, social responsibility, integrity and self-awareness – precisely the kinds of things that school systems are now looking to cultivate in their students.

A parent who admitted that he had been reluctant to send his daughter to this social experiment explained how much his daughter had developed because of it. Other parents said that they had worried that the time their children spent practising the arts would cut into their school work – only to find that their children’s academic

performance improved over the year. And a primary school teacher described how much her class was inspired, and how much her own teaching was enriched, by working with non-teaching professionals.

On my way back to Paris, with the world and all its problems passing by at the pace of a high-speed train, I wondered how the French education system will respond to the mounting challenges it faces, and how open it will be to such innovative experiences. Of course, having certain fundamental knowledge and skills will always remain the cornerstone of success in life, but these are no longer enough. The future will judge French schools on their capacity to help students develop autonomy and prepare them to live and work amid diverse cultures, and to appreciate different ideas, perspectives and values.

■ Celebrating diversity and partnerships in New Zealand

In 2013, on the other side of the world, I was greeted by a group of ferocious warriors at *Te Kura Kaupapa Māori o Hoani Waititi*, New Zealand's first community school offering Māori medium instruction. They approached slowly, offering the choice between picking a fight or settling for peace. With that choice made, we were warmly received with a traditional *pōwhiri* greeting ceremony at the school's *marae*, a special place for such symbolic meetings. In Māori culture, greeting others is an important opportunity for people to show respect and set the tone for whatever comes after.

That hour-long ceremony included speakers crafting poetic images and an impressive singing performance from the school's entire student population. Principal Rawiri Wright, former leader of the Māori language schooling organisation, asked me later how such artistic and social skills feature in New Zealand' schools standards and in comparisons made by the OECD. He also referred proudly to the latest results on academic performance, which showed his students outperforming schools with much more advantaged students. He saw these results vindicating his stance that the academic performance that we value comes as a by-product of the holistic Māori medium instruction that his school offers.

Wright readily conceded that the school was not without its fair share of social and managerial issues, but it demonstrated how Māori running their own schools can offer

their children – who often perform as dismally as minorities in other schools – a viable education that prepares them both to be citizens in the modern world and to be active proponents of their traditional culture. Wright sees helping children understand their cultural heritage as the foundation on which the self-confidence and self-esteem that are so badly needed among the Māori student population is built.

It may seem like something from another era to ask children to remember 700 ancestors, but it also means giving them assurance that they are not alone in facing the challenges of a rapidly changing world. Pita Sharples, Associate Minister for Education with responsibility for some key Māori education priorities, gave a moving account of how he had established this school against all odds but with the deep commitment of the community. This had been after more than a century in which teaching the Māori language and culture had been outlawed.

In very different ways, community engagement and partnership were also the guiding principles of Sylvia Park School in Auckland. Most of us know what it is like to be invited to school for a parents' evening – on the school's terms and according to the school's schedule. We also know who tends to show up at these meetings, and who doesn't – or can't. The Mutukaroa Home School Learning Partnership at Sylvia Park has turned all this on its head.

Arina, an inspiring teacher and counsellor, explained how she did whatever it took to meet each parent at their home or at work, review their child's performance with them individually, and then provide parents with the assistance they needed to assume their responsibilities for the development of their child. The ministry's evaluation found that the Sylvia Park project had lifted the achievement of new entrants from well below the national average to above it in just two years. The ministry was already examining ways to scale-up the initiative, replicating the core elements of the partnership in a way that would work for other schools.

At Newton Central School in Auckland, I met Hoana Pearson, another school principal who defined the world through relationships. For her, there was no bridge too far, no stakeholder too distant, no dispute that could not be resolved through consultation, dialogue and collaboration. No one escaped her warm hug. As we walked from one richly decorated classroom to the next, she greeted every child by name, and picked up pieces of trash to maintain the meticulous order of the

premises. Newton Central provides education that reflects a deep commitment to biculturalism and the principles of the Treaty of Waitangi, the agreement struck in the 19th century between Māori leaders and the British.

At Newton Central, socio-economic background and culture were not obstacles to learning; instead, the school capitalised on the diversity of its students. Principal Pearson encouraged her teachers to collaborate and be innovative. She worked with individual teachers to identify any weaknesses in their practice, and that often meant not just creating awareness of what they did, but changing their underlying mindset. She motivated her teachers to have high expectations, a shared sense of purpose, and a collective belief in their common ability to make a difference for every child.

Hoana Pearson made this happen, and New Zealand's liberal and entrepreneurial school system gave her the space to make it happen. Newton Central is an example of how school autonomy works at its best, and it explained why many of New Zealand's schools are among the highest performers in PISA.

The challenge for New Zealand is to get everybody to that level, to spread good practice and make excellence universal. I have heard from some school principals of the difficulties they face in attracting, developing and retaining effective teachers, in managing their resources strategically and in collaborating with other schools. In New Zealand's more privileged schools, the school's trustees provide strong support. They elect talented principals and add the expertise of lawyers, accountants and administrators, essential for running autonomous schools. But schools in disadvantaged neighbourhoods have a hard time finding any trustees; when they do, these trustees are unlikely to provide the governance, oversight and resources needed – and they are even more unlikely to challenge an underperforming principal.

New Zealand's school system does not need to respond to this situation with administrative prescription; improvement can come from the knowledge that is already in the school system. That means that professional autonomy should go hand in hand with a collaborative culture. Teachers need to be independent but not left alone; they can work in multiprofessional teams and be supported by health and social professionals. New Zealand needs its best teachers to help other teachers get on top of changes made to the curriculum or teaching practice; it needs its best school principals to enable other schools to develop and apply effective strategies.

Having successfully introduced a coherent system of education standards – the first of its kind in New Zealand – the government is providing schools and teachers with the tools they need to implement these standards and monitor the progress of individual students. But there is still a long way to go until strategic thinking and planning take place at every level of the system, until every school discusses what the national standards mean for them, until every decision is made at the level of those most able to implement them.

The teachers' unions in New Zealand have contested the setting of standards and public transparency, fearing this will introduce a culture of external accountability and factory-style organisation of the kind that will drive out creative and professional teachers and school leaders. Given the nature of the evaluation tools and their heavy reliance on professional judgement, these concerns seem somewhat misplaced, but they were an undercurrent in many of my conversations. There seem to be too few principals like Hoana Pearson, who cherish autonomy but see their schools as part of a national education system, who embrace national standards as a tool for peer learning and for the continuous improvement of school leaders' and teachers' daily practice.

■ Getting parents involved

Policies to foster inclusion need to look beyond school walls. Creating an environment of co-operation with parents and communities is at the heart of this. If parents and teachers establish relationships based on trust, schools can rely on parents as valuable partners in the cognitive and socio-emotional education of their students. Indeed, PISA shows that school principals' perceptions of parents' constant pressure to adopt high academic standards and raise student achievement tends to be associated with fewer underperforming students.¹⁷

I asked a teacher in a rural suburb of Chengdu, China, how she succeeded in bringing parents along on the educational journey of her children, given that few of them had any education themselves. She replied that, like other teachers in her school, she phoned parents about twice a week to discuss the development of their child. She spoke with them not just about classroom issues, but also about more general parental support. When I asked her how she could manage that in addition to her many other responsibilities, she seemed surprised and said she had never

thought about this as an additional workload; she felt she would never be able to do her work as a teacher without the help and support of her students' parents. The school system supported her in this endeavour, not least by limiting her classroom teaching time to 15 hours per week.

Reconciling choice and equity

Many countries are struggling to reconcile their aspirations for greater flexibility and more opportunities for parents to choose their child's school with the need to ensure quality, equity and coherence in their school systems.

While enhanced school autonomy seems a common characteristic of high-performing education systems, these education systems differ substantially in how they regulate autonomy. They often pursue very different approaches when it comes to linking school autonomy to school choice, and to reconciling choice with equity. For example, England and Shanghai both emphasise market mechanisms, but while public policy in England mainly operates on the demand side of markets, seeking to improve schooling by enhancing parents' choice, in Shanghai, the main emphasis of public policy lies in creating a level playing field at the supply side: providing schools in the most disadvantaged areas with the best educational resources. While Finland and Hong Kong both emphasise local autonomy, in Finland that autonomy is exercised within a strong public school system, while most schools in Hong Kong are managed by independent school governing boards with relatively loose steering mechanisms.

Some countries have strengthened choice and equity-related mechanisms at the same time. England, for example, has rapidly increased the number of academies,¹⁸ schools funded directly by the Department for Education and independent of local authority control. At the same time, England has established a pupil premium (see above) that provides schools with additional resources based on the socio-economic composition of their student body.¹⁹ Some countries have also made it possible for private schools to be integrated into the public education system as government-dependent schools or as independent schools that receive a certain amount of public funding.

Proponents of school choice defend the right of parents to send their child to the school of their preference – because of quality, pedagogical approaches, religious denomination, affordability or geographic location – regardless of legal restrictions or financial or geographic barriers. The idea is that, given students’ diverse needs and interests, a larger number of options in any one school system should lead to better value by reducing the cost of failure and mismatch. More options should stimulate competition and, in doing so, prompt schools to innovate, experiment with new pedagogies, become more efficient and improve the quality of the learning experience. Proponents argue that the increasing social and cultural diversity of modern societies calls for greater diversification in the education landscape, including allowing non-traditional providers and even commercial companies to enter the market.

Critics of school choice argue that, when presented with more options, students from advantaged backgrounds often choose to leave the public system, leading to greater social and cultural segregation in the school system. They are also concerned with over-reliance on theoretical models of rational, price-based economic competition as the basis for the allocation of resources.

At the macro level, such segregation can deprive children of opportunities to learn, play and communicate with children from different social, cultural and ethnic backgrounds; that, in turn, threatens social cohesion. To critics, vouchers and voucher-like systems divert public resources to private and sometimes commercial providers, thereby depriving public schools, which tend to serve large populations of disadvantaged students, of the resources they need to maintain the quality of the education they provide.

A closer look at the evidence shows that the arguments are not so clear-cut. Consider Hong Kong. This is a system that has a market-driven approach in virtually every field of public service, but it has been able to combine high student performance with a high degree of social equity in the distribution of education opportunities.

■ **Education reform in Hong Kong**

Schooling in Hong Kong used to be entirely funded by charitable philanthropy; it was only when the economy gathered strength in the 1960s that the government began

to subsidise education. With the majority of schools run by charitable entities, the government rarely intervenes directly. Parents have a powerful influence on schools, both through their choice of schools and through local control. Parents sit on school-management committees, parent-teacher associations and on home-school co-operation committees. When I visited Hong Kong in 2012, then-Permanent Secretary for Education Cherry Tse told me that parents have more influence on what happens on the ground than does the Education Bureau. The city's vibrant cyber community has added to the tremendous pressures on schools to maintain a high quality of education.

Most leading newspapers report on policy debates as well as disputes in schools. Ruth Lee, principal at Ying Wa Girls' School, one of Hong Kong's elite schools that I visited at that time, explained how principals and teachers face a daily struggle to balance administrative accountability, client accountability and professional accountability while keeping their focus firmly on nurturing well-rounded children and helping parents see beyond their child's entry into university.

But that does not mean that education isn't a government priority. On the contrary, Hong Kong devotes more of its public budget – 23% – to education than any OECD country. What struck me even more was that the Education Bureau isn't the only body interested in education: education is high on the agenda of virtually every other government agency too. For example, Robin Ip, Deputy Head of Hong Kong's Central Policy Unit at the time, explained to me how important the development and deployment of teaching talent features as a cross-government priority. His unit provides advice on how Hong Kong can maintain its competitive edge in areas such as finance, trade and shipping, nurturing emerging industries (including education), and deepening economic co-operation with mainland China.

Ho Wai Chi, Assistant Director of the Independent Commission Against Corruption, and his team explained how the Commission deploys almost a fifth of its staff to education and community relations throughout the territory, with the aim of moving the agenda from fighting corruption to preventing it, and building a climate of trust in the rule of law and the institutions protecting it. That includes work on a secondary-school curriculum that builds confidence in the rule of law, addresses ethical dilemmas and seeks to change the agency's image from sending people to jail to sustaining society.

2012 was a year of particular importance for Hong Kong's education system, as it was the first year in which a cohort that had gone through the new integrated education system had graduated. The learner-centred reforms over the past years involved significant expansion of education opportunities as well as a shift in emphasis from teaching to learning, from relying on the memorisation of facts to developing learning skills, from serving economic needs to addressing individual needs.

The broader and more flexible curriculum seeks a better balance among intellectual, social, moral, physical and aesthetic facets, with much greater emphasis on the skills important for work, including foundation skills, career-related competencies, thinking skills, people skills, and on developing the values and attitudes that will help students succeed in a multicultural world. The reforms have also included more funding flexibility in support of schools.

Results from PISA suggest that Hong Kong is on the right track. They show high performance and significant improvements in students' more advanced skills and confidence as learners.

But it is also apparent that education in Hong Kong is rife with serious tensions: tension between what is desirable for the long-term and what is needed in the short-term; between the global and local; between the academic, personal, social and economic goals of the curriculum; between competition and co-operation; between specialisation and attention to the whole person; between knowledge transmission and knowledge creation; between the aspirations of a new, innovative curriculum and the narrow focus on exam preparation defended by a powerful private tutoring industry; between uniformity and diversity; and between assessment for selection and assessment for development.

The system is now also more subject to the political economy. Policies are no longer determined by technocrats, but by politicians with an eye on re-election. With teachers and school leaders a large and vocal part of the electorate, maintaining the high-quality examination and assessment regime is already proving to be a struggle.

The Flemish Community of Belgium and the Netherlands are also examples of successful choice-based systems.²⁰

■ School choice in the Flemish Community of Belgium

The Flemish Community of Belgium was a high performer in the PISA 2015 science, reading and mathematics tests; 12% of students there were top performers in science. While some 75% of secondary school students and 62% of primary school students are not enrolled in public schools, most private schools can be considered as “government-dependent”: they aim to meet regional attainment targets and are subject to quality-assurance inspections organised by the state. Rare are the private schools that position themselves completely outside the public system, and for-profit private schools are almost non-existent.

Education in the Flemish Community is characterised by the constitutional principle of “freedom of education”, which gives any person the right to set up a school and determine its education principles, as long as it fulfils the regulations set by the Flemish government. Schools are not allowed to select students based on the results of admissions tests, performance, religious background or gender. Parents are allowed to choose the school for their child and are guaranteed access to a school within a reasonable distance from their home, with funding allocated to schools on a per-student basis. However, because of insufficient capacity, parents’ choice is not always guaranteed and actually can be limited.

While schools managed by public authorities are required to be ideologically neutral, and the authorities must provide a choice of religious and non-denominational lessons, this does not apply to subsidised private schools. The largest share of these schools is run by denominational foundations, predominantly Catholic, but they also include schools, such as Waldorf schools, that use specific pedagogic methods.

Although the Flemish Community relies on an extensive Catholic school sector and other private school providers, schools cannot legally select students; they are obliged to accept all students regardless of religious background. There are no tuition fees in pre-primary, primary and secondary education. While both elementary and secondary schools levy charges, these are strictly regulated.

The Flemish education system is one of the most decentralised among all systems in OECD countries. Both public and private schools enjoy considerable autonomy. They are responsible for recruiting teachers, allocating resources and deciding on

spending unrelated to staff. They can also determine course content, within the limits imposed by the publicly defined minimum curriculum targets. Schools can adopt different pedagogical approaches. The result is a comparatively high level of competition among schools in a semi-urban context. However, the between-school variation in PISA performance is one of the largest among OECD countries.

In recent years, school choice has been increasingly regulated in order to mitigate its adverse impact on socio-economic diversity across schools in urban areas. Attempts to ensure equal opportunities in school enrolment were pioneered in 2003 and adjusted in subsequent years. Drawing on lessons learned, a 2011 decree gives priority to certain places in oversubscribed schools to both disadvantaged and advantaged students, in proportion to the socio-economic composition of the neighbourhood in which the school is located. Implementation of this policy is decentralised to so-called "local negotiation platforms", which helps build stakeholder buy-in to the rules.

The Flemish Community of Belgium benefits from many of the advantages of school choice, such as a wide variety of pedagogies, which offers real choice for parents, and a strong drive towards quality, through competition between schools. It also suffers from some of the disadvantages of school choice, such as a relatively high level of socio-economic segregation among schools and a strong relationship between family background and learning outcomes. But overall, the education system largely succeeds in limiting inequity and social segregation by implementing some steering and accountability mechanisms that apply to all schools. The attainment targets, far from being an imposed national curriculum, offer guidance to schools in maintaining quality. An inspectorate evaluates schools regularly and monitors their performance. There are no central examinations, but system- and school-level assessments of the education delivered in specific subjects allow for monitoring the overall quality of education. Public and private schools are treated the same way in the state's accountability and oversight mechanisms.

■ Diversity among and within schools in the Netherlands

Like the Flemish Community of Belgium, the Netherlands is a high-performing school system where more than two in three 15-year-old students attend publicly

funded private schools. It is also a highly diversified system, with wide differences among schools in pedagogical approaches, religious denomination and socio-economic profile. But the between-school variation in PISA science performance in 2015 was one of the largest among OECD countries (just over 65% of the performance variation is explained by between-school differences in performance).

The Netherlands has a highly decentralised school system. School autonomy is grounded in the principle of “freedom of education”, guaranteed by the Dutch Constitution since 1917. This allows any person to set up a school, organise teaching, and determine the educational, religious or ideological principles on which teaching is based. In principle, parents can choose their child’s school (although this is somewhat restricted by the guidance given by education professionals when students complete primary school); but local authorities control enrolments to some extent in order to mitigate imbalances in school composition or weight student funding to support greater social diversity in schools.

In 2011, about one in three primary students was enrolled in a public school, one in three was enrolled in a Catholic school, one in four attended a Protestant school, and the remainder were enrolled in other types of government-dependent private schools. While public schools are open to all students, government-dependent private schools may refuse students whose parents do not subscribe to the school’s profile or principles.

A distinctive feature of the Dutch system is the institution of school boards. These bodies are given far more powers than the schools they govern. The boards oversee the implementation of legislation and regulations in the school, and employ teachers and other staff. While in the past public schools were governed mostly by local authorities, governance has increasingly been devolved to independent school boards. The school governors who make up the boards may be volunteers (laypersons receiving an honorarium) or professionals (who receive a salary).

The role of the school boards is a subject of debate in the Netherlands. A recent OECD review²¹ calls for strengthening the governance capacity and accountability of school boards by improving transparency and rebalancing decision-making powers between the board and school leaders.

Since the 1980s, the government has devolved additional responsibilities to schools. Private foundations have assumed responsibility for schools managed

by local authorities (although the schools themselves remain public) and lump-sum financing has been introduced, which gives school boards the freedom to make their own spending decisions. Conversely, some re-centralisation has taken place through the establishment of national learning objectives and examination programmes. Mergers of school boards have been promoted, as larger school boards are considered to be more professional and financially stable.

In the decentralised Dutch education system, religious organisations and associations of citizens receive public funding for the schools for which they are responsible, provided they meet government regulations. Public and private schools receive the same amount of public funding in the form of a lump-sum allocation based on the number of enrolled students. Since the mid-1980s, additional subsidies are assigned for disadvantaged students, reflecting the higher cost of teaching them. Since 2006, these voucher weights have been based on parents' educational attainment, replacing previous criteria based on students' immigrant background.

Although publicly funded private schools are not allowed to charge mandatory tuition fees or operate for profit, state-funded schools can supplement their funding with voluntary contributions from parents or businesses. Private schools receive significantly more of such contributions than public schools do. Publicly funded private schools are not allowed to engage in selective admissions, but parents of prospective students may be required to subscribe to the school's profile or principles.

Similar to that of the Flemish Community of Belgium, the education system of the Netherlands manages to offer parents a wide choice, and fund private entities that organise schools with public resources in a way that is generally seen as fair. The overall high quality of the system can partly be attributed to its diversity, the degree of competition among schools, and the high level of autonomy enjoyed by school boards, school leaders and teachers. While the Netherlands shows large between-school variations in PISA performance, it succeeds – better than the Flemish Community of Belgium does – in maintaining equity in its system. The accountability system works well; teachers are regarded, and work, as professionals; and the relative consistency in the quality of schools allows for examinations to be centrally designed.

■ Choosing schools

In contrast to successful choice-based school systems such as those in Belgium, Hong Kong and the Netherlands, in Chile and Sweden the introduction of choice-based mechanisms seems to have led to a widening of social disparities without overall improvements in results. In May 2015, we published a report about this for Sweden, which I presented with Minister of Education Gustav Fridolin and then-Minister for Upper Secondary School, Adult Education and Training, Aida Hadžialić.²² Five years earlier, in May 2010, I had given a keynote at the Summit of European Mayors in Stockholm where I had presented data that highlighted how Sweden's emphasis on autonomy and choice, which wasn't balanced with a strong regulatory framework and the capacity to intervene, was threatening Sweden's long-standing success in quality and equity in education. I was surprised, then, when Swedish mayors told me that they were prioritising choice over other considerations in response to demands from their residents.

It is worth taking a closer look at the data, and also to consider the political economy of the issues involved. The degree of choice that parents enjoy and the level of competition in school systems vary widely between countries and within countries among different social groups. Across 18 countries with comparative data in the PISA 2015 assessment, the parents of 64% of students reported that they had a choice of at least one other school available to them, but this percentage varies widely among countries.²³ Parents of students who attend rural and disadvantaged schools reported having less choice than parents of students in urban and advantaged schools.

PISA also asked parents to report how much importance they gave to certain criteria when choosing a school for their child. These were mainly related to school quality, financial considerations, the school's philosophy or mission, and distance between their home and the school. Across the 18 education systems, parents were more likely to consider important that there is a safe school environment, that the school has a good reputation and that the school has an active and pleasant climate – even more than the academic achievement of the students in the school.²⁴

It is noteworthy that the parents of children who attend disadvantaged, rural and/or public schools were considerably more likely than the parents of children in advantaged, urban and/or private schools to report that the distance between

the home and the school is important. The children of parents who assigned more importance to distance scored considerably lower in the PISA science assessment, even after accounting for the students' and schools' socio-economic profile. This was also observed among students whose parents considered low expenses to be important or very important. These students scored 30 points lower in science (roughly the equivalent of a school year) than students whose parents considered low expenses to be only somewhat important or not important. Again, the parents of students in disadvantaged and public schools were more likely than the parents of students in advantaged and private schools to consider low expenses important when they choose a school for their child. It seems that struggling families often have a hard time making choices based on student outcomes even if they have access to information about schools. They may not have the time to visit different schools, they may not have the transportation needed to get their children to the school of choice, or they may not have the time to get them to a school located further from their home or to pick them up at the end of the school day.

The degree of competition in a school system and the rate of enrolment in private schools can be related, but they are not the same thing. On average across OECD countries, about 84% of 15-year-old students attend public schools, about 12% attend government-dependent private schools, and slightly more than 4% attend government-independent private schools. Of the 12% of students who are enrolled in private government-dependent schools, around 38% of them attend schools run by a church or other religious organisation, 54% attend schools run by another non-profit organisation, and 8% attend schools run by a for-profit organisation. In Ireland, all 15-year-old students in private government-dependent schools attend a religious school; in Austria, all students enrolled in private government-dependent schools attend those run by another non-profit organisation; and in Sweden, over half of students in private government-dependent schools attend one run by a for-profit organisation.²⁵

■ **Public, private and public-private**

Greater enrolment in private schools is often referred to as the privatisation of education, and is regarded as a move away from the notion of education as a public

good. But we are often too quick to make that link. In many countries where large parts of the school system operate under private legal statutes, such schools are seen as legally private but functionally public. This means that, even though they are private entities, they contribute to fulfilling public missions and functions, and they see themselves as part of public education. For example, they can partly or completely follow the national curriculum and serve the public mission of education by providing quality education. There are also many cases in which private schools provide access to education for underserved communities and have equity-related missions.

As in other sectors of public policy, the distinction between public and private education is often blurred. Public-private partnerships are an accepted reality in various other public policy sectors, and there is no reason why education should be an exception. For me, the more relevant question is: how can public policy objectives, such as providing high-quality education for all students, be achieved?

Many critics of school choice claim that the prevalence of private schools would have a negative impact on the quality of education. But PISA data show that there is no relationship between the share of private schools in a country and the performance of an education system. After accounting for the socio-economic profile of schools, there is little difference in performance between public and private schools in most countries; where such differences are observed, they are mostly in favour of public schools.

At the system level, equity also seems virtually unrelated to the percentage of students enrolled in private schools. The positive association between the percentage of students enrolled in government-dependent private schools and student performance is mainly explained by the greater levels of autonomy these schools enjoy. This is noteworthy because opponents to school choice often argue that a larger share of private schools would turn education systems into quasi education “markets”, with increased competition and segregation among schools. They also argue that extending the possibilities for private schools to be integrated into a functionally public system and receive public funding fosters disparities among schools, leading to greater between-school variations in learning outcomes. But again, at the country level, there is no correlation between the share of private schools in an education system and the percentage of the variation in PISA scores that is explained by that share.

Perhaps the most contentious issue is how much public funding should go to private schools. In Finland, Hong Kong, the Netherlands, the Slovak Republic and Sweden, principals of privately managed schools reported that over 90% of school funding comes from the government; in Belgium, Germany, Hungary, Ireland, Luxembourg and Slovenia, between 80% and 90% of funding for privately managed schools does. By contrast, in Greece, Mexico, the United Kingdom and the United States, 1% or less of funding for privately managed schools comes from the government; in New Zealand, between 1% and 10% does.²⁶ What is noteworthy here is that in countries where privately managed schools receive larger proportions of public funding, there is less of a difference in the socio-economic profiles of publicly and privately managed schools (**FIGURE 4.5**). Across OECD countries, 45% of the variation in this difference can be explained by the level of public funding devoted to privately managed schools; across all participating countries, 35% of the variation in this difference can be accounted for in this way.

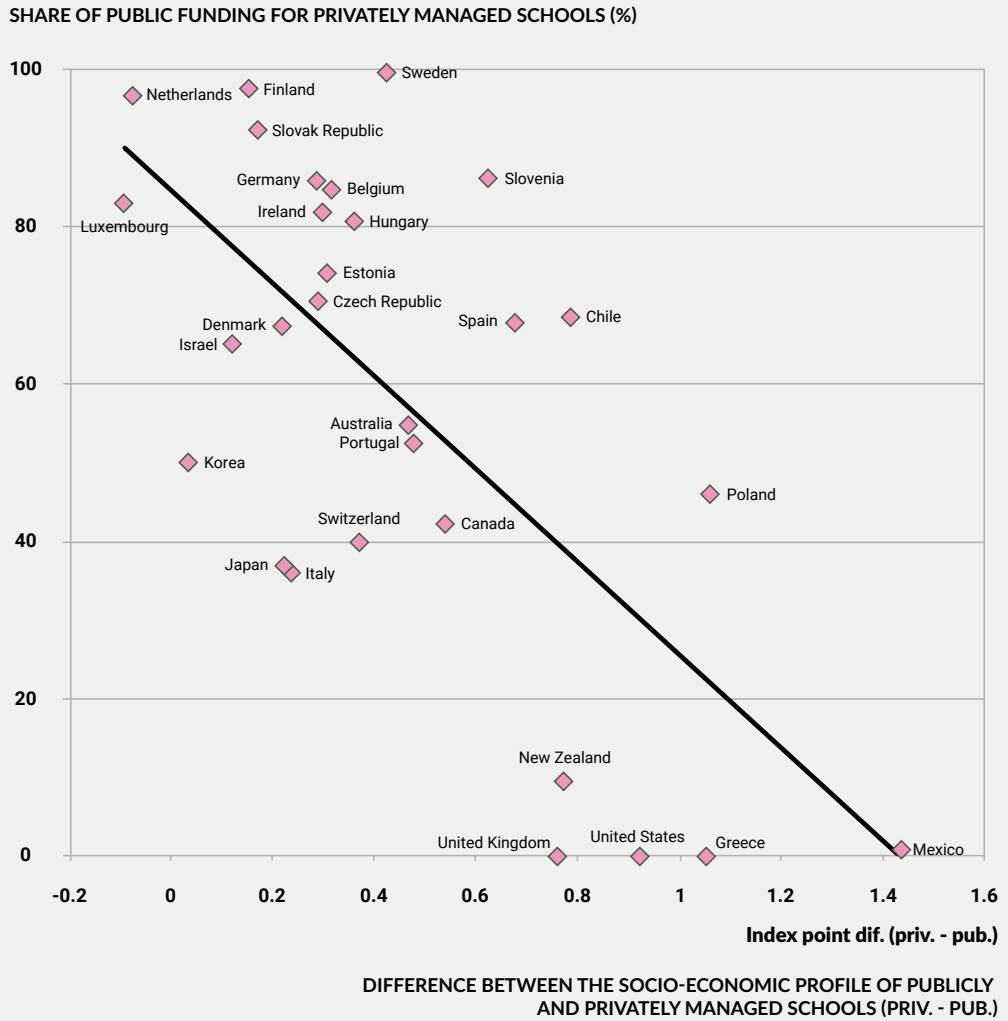
In order to mitigate the potential negative effects of school choice and public funding of private schools, particularly segregation and social stratification, various governments have implemented compensatory financing mechanisms. For example, Chile, the Flemish Community of Belgium and the Netherlands have instituted weighted student-funding schemes, whereby funding follows the student on a per-student basis, and the amount provided depends on the socio-economic status and education needs of each student. These schemes target disadvantaged students and, in doing so, make these students more attractive to schools competing for enrolment.

Specific area-based support schemes, such as the “zones of educational priority” found in France and Greece, are observed in school systems with large between-school variations in performance and a concentration of low-performing schools in certain locations. In Belgium, government-dependent private schools, which constitute a majority of the market, receive almost the same amount as public schools, and they are forbidden from charging tuition fees or selecting students.

■ **The vexing issue of vouchers**

It is also important to pay due attention to the mechanisms by which public funding is provided to private schools. One way is through vouchers, which assist

FIGURE 4.5: PUBLIC FUNDING CAN MAKE PRIVATE EDUCATION AFFORDABLE FOR ALL STUDENTS



Source: OECD, PISA 2009 Database.

parents directly. As of 2009, 9 out of 22 OECD countries with available data reported that they use vouchers to facilitate enrolment in government-dependent private primary schools. In five of these countries, the voucher programme was restricted to disadvantaged students. At the lower secondary level, 11 out of 24 countries reported using voucher schemes, 7 of which targeted disadvantaged students. At the upper secondary level, 5 of 11 voucher programmes were means-tested. Of the surveyed OECD countries, seven reported that they provide vouchers from primary through upper secondary school.²⁷ Tuition tax credits, which allow parents to deduct expenses for private school tuition from their tax liabilities, are used less frequently than vouchers. As of 2009, only 3 out of 26 OECD countries with available data reported using tax credits to facilitate enrolment in government-dependent private schools.²⁸

Between universal voucher systems, in which vouchers are available to all students, and targeted voucher systems, in which vouchers are provided only to disadvantaged students, there are large differences in their role in mitigating the adverse effects of school choice. Vouchers that are available for all students can help expand school choice and promote competition among schools. School vouchers that target only disadvantaged students can help improve equity in access to schools. An analysis of PISA data shows that, when comparing systems with similar levels of public funding for privately managed schools, the difference in the socio-economic profiles between publicly managed schools and privately managed schools is twice as large in education systems that use universal vouchers as in systems that use targeted vouchers.

The design of voucher schemes is thus a key determinant of their success. For example, regulating private school pricing and admissions criteria seems to limit the social inequities associated with voucher schemes.²⁹

Beyond that, the international evidence suggests that schools that are selective in their admissions tend to attract students with greater ability and higher socio-economic status, regardless of the quality of the education they provide. Given that high-ability students are less costly to educate and their presence can make a school more attractive to parents, schools that can control their intake wind up with a competitive advantage. Allowing private schools to select their students thus gives these schools an incentive to compete on the basis of exclusiveness rather than on their intrinsic quality. That, in turn, can undermine the positive effects of competition.

The evidence also shows that selective admissions can be a source of greater inequality and stratification within a school system. However, there are few studies that have investigated whether these effects vary, depending on the selection criteria – for example, interviews with parents compared to results of aptitude tests. It is also important to keep in mind that students are selected not only based on explicit admissions criteria but also because of parents' self-selection, selective expulsion and more subtle barriers to entry. Policies that aim to reduce segregation in a school system should therefore also identify and address overly complex application procedures, expulsion practices, lack of information and other factors that prevent some students and parents from exercising their right to choose a school.

Critics also argue that allowing publicly funded private schools to charge tuition fees gives these schools an unfair advantage over public schools and undermines the principle of free school choice. Like selective admissions, imposing substantial add-on fees tends to skim the top students from the public sector and increase inequalities in education. Some policy interventions that limited fees for low-income families have been effective in reducing segregation; but I have found few empirical studies in developed countries that have determined the effect of fees as distinct from that of selective admissions and other confounding factors.

Relatively little is known about whether there is a threshold of household contributions beyond which lower-income families will be deterred from choosing subsidised private schools. However, both simulations and empirical evidence confirm that public funding might fail to widen access to private schools unless it is accompanied by restrictions on tuition fees. If private schools invest public resources to improve their quality, rather than to broaden access, subsidies can exacerbate inequities across schools. This is one of the reasons why abolishing substantial add-on fees, along with offering targeted vouchers, can help reduce disparities in achievement between advantaged and disadvantaged students.

I have concluded from all this that school choice, in and of itself, neither assures nor undermines the quality of education. What seem to matter are smart policies that maximise the benefits of choice while minimising the risks, and establishing a level playing field for all providers to contribute to the school system. Well-crafted school-choice policies can help school systems deliver education tailored to a

diverse student population, while limiting the risk of social segregation. When market mechanisms are introduced or expanded in education systems, the role of public policy needs to shift from overseeing the quality and efficiency of public schools to ensuring that oversight and governance arrangements are in place to guarantee that every child benefits from accessible, high-quality education.

It is clear that school choice will only generate the anticipated benefits when the choice is real, relevant and meaningful, that is, when parents can choose an important aspect of their child's education, such as the pedagogical approaches used to teach him or her. If schools are not allowed to respond to diverse student populations, and to distinguish themselves from each other, choice is meaningless.

In turn, private schools might need to accept the public steering and accountability mechanisms that ensure the attainment of public-policy objectives in exchange for the funding they receive from the public purse. All parents must be able to exercise their right to choose the school of their preference; that means government and schools need to invest in developing their relationships with parents and local communities, and help parents make informed decisions. Successful choice-based systems have carefully designed checks and balances that prevent choice from leading to inequity and segregation.

Last but not least, the more flexibility there is in the school system, the stronger public policy needs to be. While greater school autonomy, decentralisation and a more demand-driven school system seek to devolve decision making to the frontline, central authorities need to maintain a strategic vision and clear guidelines for education, and offer meaningful feedback to local school networks and individual schools. In other words, only through a concerted effort by central and local education authorities will school choice benefit all students.

Big city, big education opportunities

More than half of the world's population now lives in cities and this ratio is projected to increase to seven out of ten people by 2050. Urban environments attract people from rural areas and foreign countries hoping for better economic

prospects and easier access to public services, such as education and health care, and a wider variety of cultural institutions. Major urban areas have already seen their populations grow to equal or surpass those of many countries. Mexico City's population of over 20 million, for example, is larger than that of Denmark, Hungary or the Netherlands.

The concentration of human talent can stimulate research and development, making cities regional hubs for growth and innovation. The concentration of resources found in cities makes it easier to conduct business. In cities, companies are closer to more clients and customers, they have immediate access to transport, and they have access to a skilled labour force. Cities often share certain characteristics that distinguish them from the rest of the country. This means that cities in two very different countries – New York City and Shanghai, for example – may have more in common with each other than with the rural communities in their own countries.

But while urban areas concentrate productivity and employment opportunities, they can also contain high levels of poverty and labour-market exclusion. These difficult conditions can unravel social networks and loosen family and community ties, which, in turn, can engender social alienation, distrust and violence. Many of these problems tend to show up at the school gate.

Still, cities offer significant advantages to schools, such as a richer cultural environment, a more attractive workplace for teachers, more school choice, and better job prospects that can help motivate students. Indeed, major cities have also been among the star performers in education. Countless policy makers and researchers have flocked to observe the education systems of Hong Kong, Shanghai and Singapore, which have consistently ranked among the top performers in PISA assessments.³⁰ Many visitors have been particularly impressed by how these education systems succeed in embracing the social diversity in student populations that is intrinsic to large urban environments – something that many other education systems struggle to achieve.

PISA results confirm that, in several countries, students from urban areas (defined here as cities with over one million inhabitants) do as well as students in PISA's top performing city-states, even if the different push and pull factors of urban environments play out very differently across countries.³¹

For example, students in urban centres in Japan can compare their science performance with top-performer Singapore. Students in major urban centres in Portugal, a country that performs around the OECD average, can compare with the average student in Finland. And students in urban centres in Poland can compare with the average student in South Korea. More generally, students in large urban areas in OECD countries outperform students in rural schools by the equivalent of more than one year of education.

These differences in performance between students living in rural areas and those in big cities can sometimes be linked to the socio-economic disparities between their populations. But PISA results show that differences in social background explain only part of the story; much of the performance gap remains even after accounting for socio-economic status. So there does seem to be something distinct about education in large cities.

What seems most striking is how willing cities are to expose and share their strengths and weaknesses across cultural and linguistic borders. In a way, cities seem to engage with global opportunities much more than countries as a whole do. Whenever I meet with city leaders, I find them outward-looking and keenly interested to learn from other cities, wherever on the globe these may be located. Rarely do they ask whether they can or should learn from other cities and cultures the way that national education leaders often do.

But not everywhere do students in large cities do better. While the performance of most countries improves when only the scores of students in urban environments are considered, the opposite effect is seen in a few countries. In Belgium and the United States, for example, the performance of students in large urban areas drags down the overall national score. This might be because, in these countries, not all students enjoy the advantages that large urban centres offer. They might, for example, come from socio-economically disadvantaged homes, speak a different language at home than the one in which they are taught at school, or have only one parent to turn to for support and assistance.

The large difference in performance in Poland, for example, reflects the wide gap in socio-economic levels between urban and rural areas. And those differences are made manifest in how educational resources, and cultural and educational facilities,

are distributed, depending on the socio-economic profile of a geographic area. All of these can have an impact on student performance.

So while moderate PISA performers like Israel, Poland and Portugal can take some pride in knowing that their students living in urban areas now perform on par with students in the best-performing education systems, these countries need to address inequities in the distribution of educational resources and opportunities, and in learning outcomes insofar as they are associated with students' backgrounds.

In particular, isolated communities in these countries might need targeted support and policies to ensure that students attending schools in these areas reach their full potential. Conversely, those countries whose urban students underperform will have to figure out how to enable these students to tap into the cultural and social advantages that urban environments provide, otherwise these countries will continue to fall short in excellence in education.

Targeted support for immigrant students

In March 2004, the president of the German commission for immigration and integration, Rita Süßmuth, and I reported on the educational achievement of students with an immigrant background.³² At the time, the commission showed its concern about how well schools help students integrate into their new communities, but the topic did not rise to the top of the policy agenda until much later. In those years, Germany, like many other countries, lost valuable time to prepare the country for a more diverse school population.

More than a decade later, in January 2016, when I met with Filippo Grandi, United Nations High Commissioner for Refugees, the issue of migration had taken on an entirely new dimension. Tens of thousands of migrants and asylum-seekers – including an unprecedented number of children – were flooding into Europe to seek safety and a better life.

Even before that influx, the population of immigrant students in OECD countries had grown from 9.4% of the population of 15-year-old students in 2006 to 12.5% of that population in 2015. But despite media-stoked concern, this growth did not lead to a

decline in the education standards in host communities.³³ That may be surprising, but only at first glance. While it is true that migrants often endure economic hardship and precarious living conditions, many immigrants bring to their host countries valuable knowledge and skills. On average across OECD countries, the majority of the first-generation immigrant students taking part in the PISA 2015 assessment had at least one parent who had attended school for as many years as the average parent in the host country.

Equally striking is the remarkable cross-country variation in performance between immigrant students and students without an immigrant background, even after accounting for their socio-economic status (**FIGURES 4.6 AND 4.7**). Even if the culture and the education acquired before migrating have an impact on student performance, the country where immigrant students settle seems to matter much more.

But designing education policies to address immigrant students' needs – particularly language instruction – is not easy, and education policy alone is insufficient. For example, immigrant students' performance in PISA is more strongly (and negatively) associated with the concentration of disadvantaged students in schools than with the concentration of immigrants or of students who speak at home a language that is different from the language of instruction.³⁴ Reducing the concentration of disadvantage in schools might require changes in other social policy, such as housing or welfare, to encourage a more balanced social mix in schools.

Consider this: When the influx of low-skilled immigrants to Europe began to grow rapidly in the 1970s, the Netherlands chose to accommodate the migrants in large, specially constructed urban housing blocks. The neighbouring Flemish-speaking community of Belgium, whose schools are run on policies very similar to those in the Netherlands, chose to give vouchers to migrant workers to supplement the amount that they would otherwise have to spend on housing. They could use these vouchers wherever they wished. The result was that there were fewer Flemish schools composed entirely of the sons and daughters of migrant workers.

Years later, the Netherlands faced an enormous challenge to educate students from the public housing projects whom they had not been able to integrate into their education system and who continued to be low achievers. By contrast, in Flemish-

speaking Belgium, where the migrants had been more dispersed, students from immigrant families were doing far better than their counterparts in the Netherlands, where housing segregation had led to school segregation.

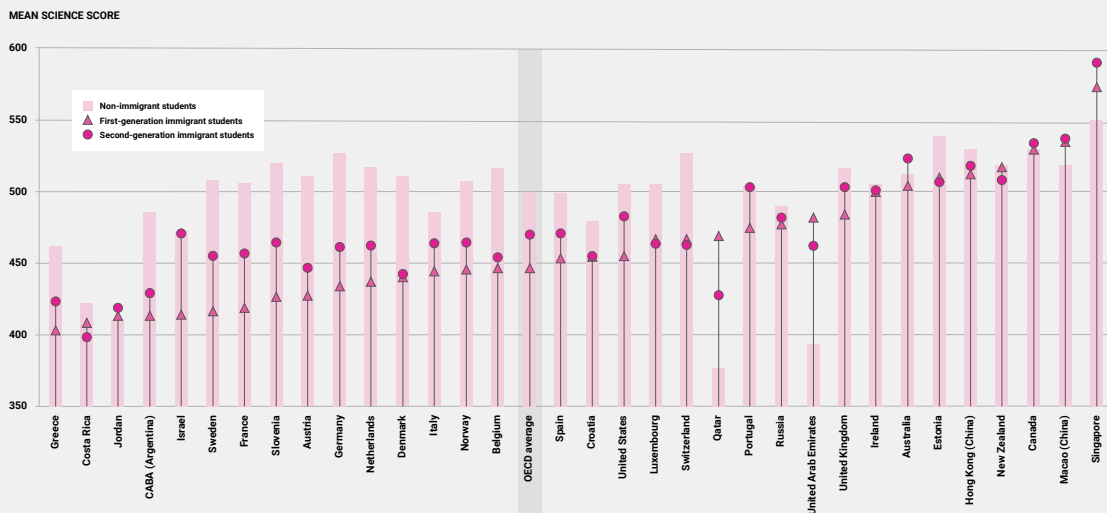
Many children with an immigrant background face enormous challenges at school. They need to adjust quickly to different academic expectations, learn in a new language, forge a social identity that incorporates both their background and their adopted country of residence – and withstand conflicting pressures from family and peers. These difficulties are magnified when immigrants are segregated in poor neighbourhoods with disadvantaged schools. It should thus come as no surprise that PISA data have consistently shown a performance gap between students with an immigrant background and native-born students.

However, this should not mask the finding that many immigrant students overcome these obstacles and excel academically. Despite the considerable challenges they face, they succeed in school, a testament to the great drive, motivation and openness that they and their families possess.

In 1954, the United States opened its borders to an immigrant from Syria. His son, Steve Jobs, became one of the world's most creative entrepreneurs who revolutionised six industries: personal computers, film, music, telephony, tablet computing and digital publishing. Jobs's life story may sound like a fairy tale, but it is firmly rooted in reality. While immigrants are over-represented among poor performers in PISA, they are not under-represented among top performers, certainly not when accounting for socio-economic status. In many countries, the share of disadvantaged immigrants who attain high scores in PISA is as large as the share of disadvantaged students without an immigrant background who are high performers. In fact, in a number of countries there is a larger share of immigrants than non-immigrants among the highest-achieving disadvantaged students.³⁵

These highly motivated students, who manage to overcome the double disadvantage of poverty and an immigrant background, have the potential to make exceptional contributions to their host countries. Most immigrant students and their parents hold an ambition to succeed that in some cases surpasses the aspirations of families in their host country.³⁶ For example, parents of immigrant students in several countries are more likely to expect that their children will earn

FIGURE 4.6: IMMIGRANT STUDENTS CAN PERFORM AS WELL AS THEIR NATIVE PEERS



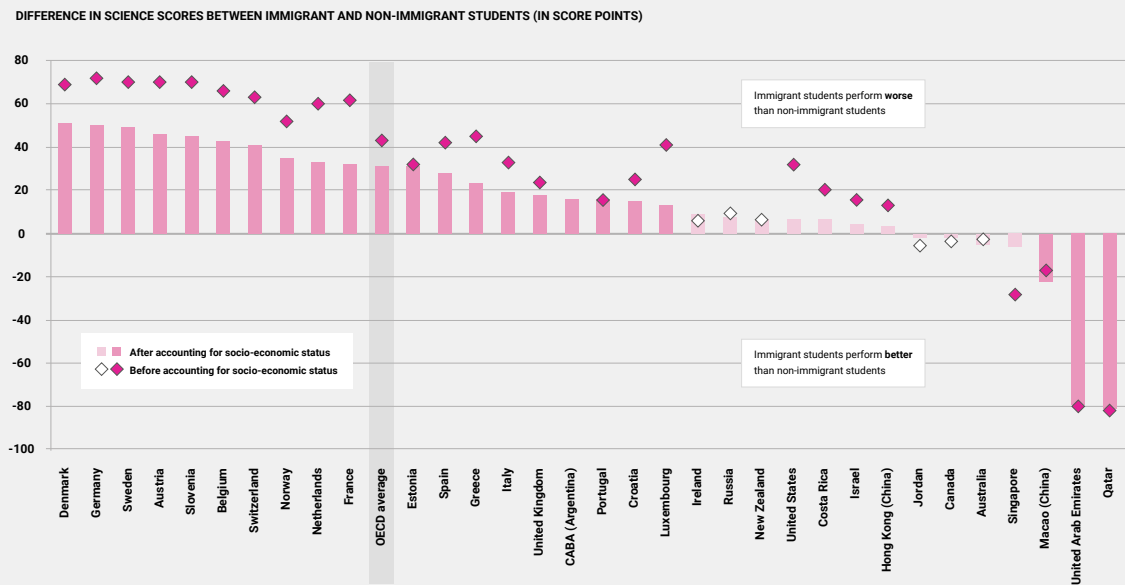
Notes: Only countries where the percentage of immigrant students is higher than 6.25% are shown. CABA (Argentina) refers to Ciudad Autónoma de Buenos Aires (Argentina).

Countries and economies are ranked in ascending order of the mean science score of first-generation immigrant students.

Source: OCDE, PISA 2015 Database, Table 1.7.4a

StatLink  <http://dx.doi.org/10.1787/888933432903>

FIGURE 4.7: IMMIGRANT STUDENTS ARE NOT DOOMED TO POOR PERFORMANCE



Notes: Only countries where the percentage of immigrant students is higher than 6.25%, and with available data on the PISA index of economic, social and cultural status are shown. CABA (Argentina) refers to Ciudad Autónoma de Buenos Aires (Argentina). Statistically significant differences are marked in a darker tone.

Countries and economies are ranked in descending order of the difference in science performance related to immigrant background, after accounting for students' socio-economic status.

Source: OECD, PISA 2015 Databases, Table I.7.4a.

StatLink <http://dx.doi.org/10.1787/888933432915>

a university-level degree than the native-born parents of native-born students. That is remarkable, given that immigrant students in these countries are more disadvantaged and do not perform as well as students without an immigrant background. When comparing students of similar socio-economic status, the difference between immigrant and non-immigrant students in their parents' expectations for their future education grows even larger. This is important, as students who hold ambitious yet realistic expectations about their future are more likely to put effort into their learning and make better use of the opportunities available to them to achieve their goals.

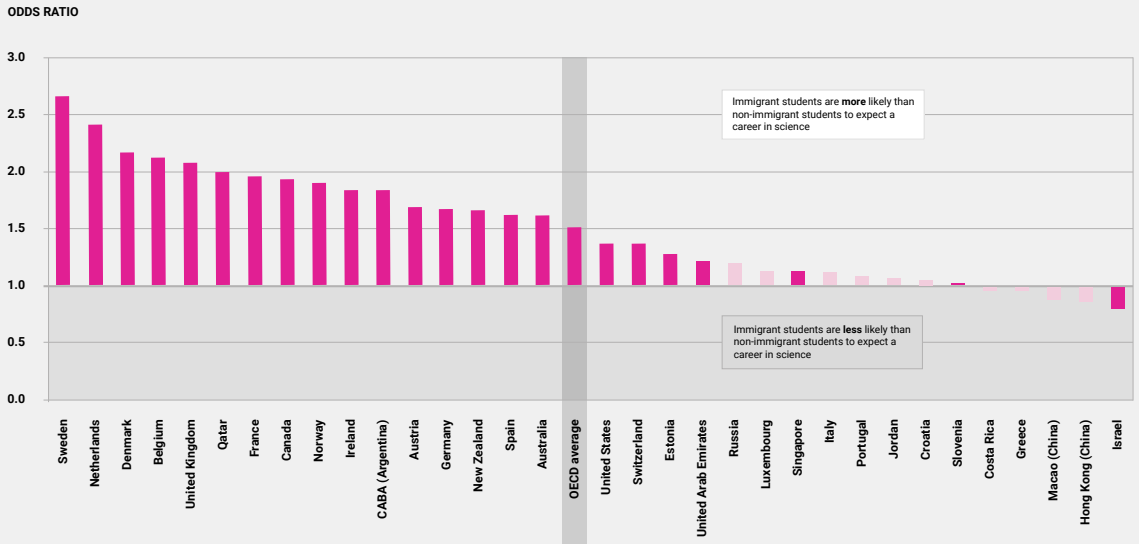
Similarly, immigrant students are 50% more likely than their non-immigrant peers who perform just as well in science to expect to work in a science-related career (**FIGURE 4.8**).

The large variation in performance between immigrant and non-immigrant students in different countries suggests that policy can play a significant role in minimising those disparities. The key is to dismantle the barriers that usually make it harder for immigrant students to succeed at school. The crunch point is not necessarily the point of entry, but afterwards, when educators and school systems decide whether or not to offer programmes and support specifically designed to help immigrant students succeed.

A quick-win policy response is to provide language support for immigrant students with limited proficiency in the language of instruction. Common features of successful language-support programmes include sustained language training across all grade levels, centrally developed curricula, teachers who are specifically educated in second-language acquisition, and a focus on academic language. Integrating language and content learning has also been proven effective.³⁷

Since language development and general intellectual growth are intertwined, I also learned that it is best not to postpone teaching the mainstream curriculum until students fully master their new language. What is important is to ensure close co-operation between language teachers and classroom teachers, an approach that is widely used in countries that seem most successful in educating immigrant students, such as Australia, Canada and Sweden.

FIGURE 4.8: IMMIGRANT STUDENTS ARE MORE APT TO EXPECT TO PURSUE A SCIENCE CAREER



Notes: The figure shows the likelihood of immigrant students expecting a career in science, compared with non-immigrant students, after accounting for science performance. Only countries/economies where the percentage of immigrant students is higher than 6.25% are shown. CABA (Argentina) refers to Ciudad Autónoma de Buenos Aires (Argentina).

Countries and economies are ranked in descending order of the likelihood that immigrant students expect a career in science, after accounting for science performance.

Source: OECD PISA 2015 database, Table 1.7.7.

StatLink  <http://dx.doi.org/10.1787/888933432964>

Offering high-quality early childhood education, tailored to language development, is another policy response. Participating in early education programmes can improve the chances that immigrant students start school at the same level as non-immigrant children. Targeted home visits can encourage enrolment in early childhood education and can help families support their child's learning at home.

But research shows that spending on early childhood education, in and of itself, is not enough.³⁸ Key to success is helping children from disadvantaged backgrounds develop the kinds of cognitive, social and emotional skills that they might not acquire at home.

A third high-impact policy option is to build specialist knowledge in the schools receiving immigrant children. This can involve providing special education for teachers to better tailor instructional approaches to diverse student populations and support second-language learning. It can also help if teacher turnover is reduced in schools serving disadvantaged and immigrant populations, and if high-quality and experienced teachers are encouraged to work in these schools. Hiring more teachers from ethnic minority or immigrant backgrounds can help reverse the growing disparity between an increasingly diverse student population and a largely homogeneous teacher workforce, especially in countries where immigration is a more recent phenomenon.

The harder challenge is avoiding concentrating immigrant students in the same, underachieving schools. Schools that struggle to do well for domestic students will struggle even more with a large population of children who cannot speak or understand the language of instruction. Countries use different ways to address the concentration of immigrant and other disadvantaged students in particular schools. One way is to attract other students to these schools, including more advantaged students. A second is to better equip immigrant parents with information on how to select the best school for their child. A third is to limit the extent to which advantaged schools can select students.

A second set of options is related to limiting the use of selection policies, including ability grouping, early tracking and grade repetition. Tracking students into different types of education, such as vocational or academic, seems to be especially disadvantageous for immigrant students, particularly when it occurs at an early age. Early separation from

mainstream students may prevent immigrant students from developing the linguistic and culturally relevant skills they need to perform well at school.

Extra support and guidance for immigrant parents can also help. While immigrant parents may have high aspirations for their children, they may feel limited in their capacity to support their children if they have poor language skills or an insufficient understanding of the school system. Programmes to support immigrant parents can include home visits to encourage these parents to participate in educational activities, employing specialised liaison staff to improve communication between schools and families, and reaching out to parents to involve them in school-based activities.

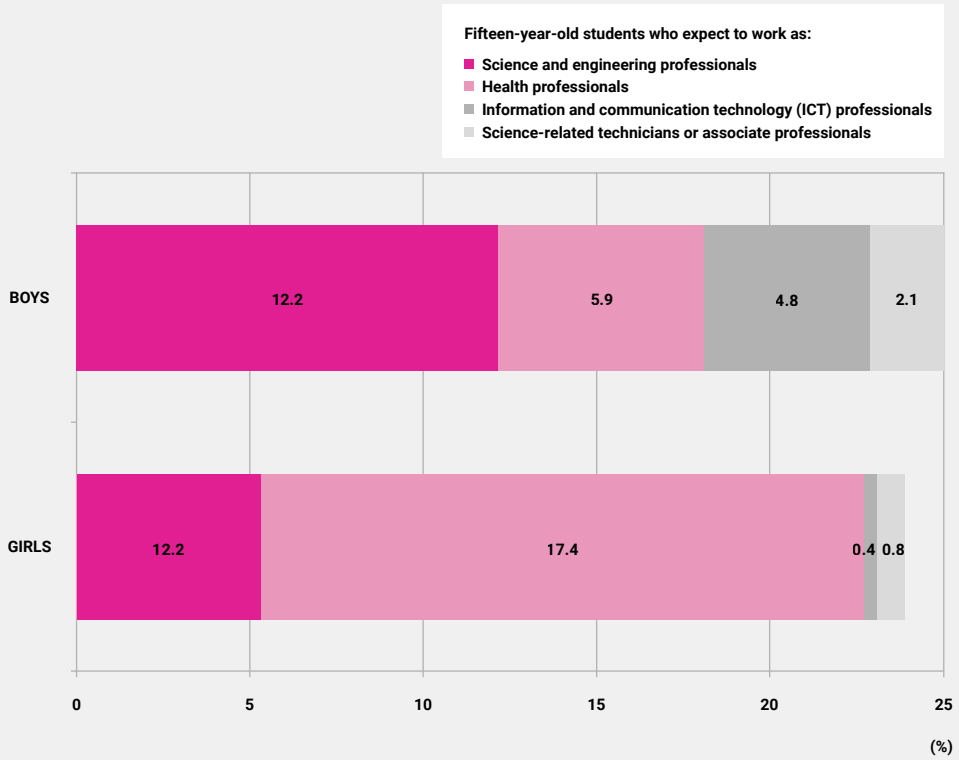
The stubbornly persistent gender gap in education

Technically, the industrialised world had closed the gender gap in education – as measured in average years of schooling – by the 1960s. That has made a huge difference, as about half of the economic growth in OECD countries over the past 50 years has been due to higher educational attainment, mainly among women. But women still earn 15% less than men, on average in OECD countries, and 20% less among the highest-paid workers. Some people say that this is because men and women who do similar work are not paid the same. But a more important factor is that men and women pursue different careers; and those career choices are made much earlier than commonly thought.³⁹

We found that, even though boys and girls show similar performance on the PISA science test, on average across OECD countries, around 5% of 15-year-old girls contemplate pursuing a career as a science or engineering professional, compared with 12% of boys (**FIGURE 4.9**).

We may need to look at even younger ages in the search for solutions to these disparities. When Education and Employers, a charity in the United Kingdom, asked 20 000 children between the ages of 7 and 11 to draw their future,⁴⁰ over 4 times the number of boys as girls indicated that they wanted to become engineers; nearly double the number of boys as girls drew a scientist as the profile of their future career.

FIGURE 4.9: GENDER DIFFERENCES IN CAREER CHOICES TAKE ROOT IN CHILDHOOD



Note: OECD average.

Source: OECD, PISA 2015 Database, Tables I.3.11a-d.

To be fair, many countries have done a lot to level the playing field, and this is seen in the similarity of performance on the PISA 2015 science test between 15-year-old boys and girls. But while claiming victory in having closed gender gaps in girls' and boys' cognitive abilities, we may have lost sight of other social and emotional dimensions of learning that could have a stronger impact on children as they think about what they want to be when they grow up.

Providing more science lessons may therefore miss the point. The question is rather how to make science learning more relevant to children and young people. One answer may be to broaden their views of the world by giving them greater exposure to a wider range of occupations.

In most countries, teachers and schools need to do better to help girls see science and mathematics not just as school subjects, but as pathways to careers and life opportunities. This is significant not only because women are severely under-represented in the science, technology, engineering and mathematics (STEM) fields of study and occupations, but also because graduates of these fields are in high demand in the labour market and jobs in these fields are among the most highly paid.

Secondary-school career counselling comes far too late. It is clear from the drawings made by the 7-11 year-olds that children arrive at school with strong assumptions based on their own day-to-day experiences, which are often shaped by stereotypes regarding gender, ethnicity and social class. Those who still have doubts should watch the two-minute "Redraw the Balance" film which shows 66 child-drawn pictures of firefighters, surgeons and fighter pilots – 61 of which were represented by men and just five by women.⁴¹

There is another dimension to this. While gender differences in student performance overall are modest, it is striking that 6 out of 10 low achievers in all three of the subjects that PISA assesses – reading, mathematics and science – are boys. These low achievers seem to be stuck in a vicious cycle of low performance, disengagement and low motivation. At the same time, the top performers in mathematics and science are mostly boys.

We have known for a while that even the highest-performing girls are less confident in their abilities in mathematics and science than high-performing boys, but the PISA

data also suggest that they do not seem to be getting much encouragement from their parents either. In all countries and economies surveyed on this question, parents were more likely to expect their sons, rather than their daughters, to work in a STEM field – even when boys and girls perform equally well in mathematics and science. In 2012, some 50% of parents in Chile, Hungary and Portugal reported that they expect their sons to have a career in science, technology, engineering or mathematics, but less than 20% held such expectations for their daughters. Interestingly, in South Korea, the difference in parents' expectations of a STEM career for their child, based on whether the child is a girl or boy, is just seven percentage points.

The good news is that narrowing these gender gaps does not require expensive reform. Rather, it requires concerted efforts by parents, teachers and employers to become more aware of their own conscious or unconscious biases so that they give girls and boys equal chances for success at school and beyond.

For example, PISA shows clearly that boys and girls have different reading preferences. Girls are far more likely than boys to read novels and magazines for enjoyment while boys prefer comic books and newspapers. If parents and teachers gave boys a greater choice in what they read, boys might be more successful in at least narrowing the wide gender gap in reading performance.

PISA also finds that boys spend more time playing video games and less time doing homework than girls. While excessive video gaming is shown to be a drag on student performance, a moderate amount of video gaming is related to boys' better performance in digital reading than in print reading (although boys still lag behind girls in both types of reading). Anyone with teenage children will know how difficult it is to tell them how to spend their free time; but all parents should be aware that convincing their children that completing their homework comes before playing video games will significantly improve their children's life chances.

One of the most revealing findings from PISA 2012 is that teachers consistently give girls better marks in mathematics than boys, even when boys and girls perform similarly on the PISA mathematics test. That might be because girls are "good students" – attentive in class and respectful of authority – while boys may have less self-control. But while higher marks may mean success at school, they are not necessarily an advantage for girls in the long run, particularly when they lead to

lowered aspirations. Labour markets reward people for what they know and what they can do with what they know, not for their grades at school.

And when it comes to the entering the labour market, PISA shows that girls are more likely than boys to get information about future studies or careers through Internet research, while boys are more likely than girls to get hands-on experience, by working as interns, job shadowing, visiting a job fair or speaking to career advisers outside school. This implies that employers and guidance counsellors can do far more to engage girls in learning about potential careers.

Perhaps surprisingly, the large gender gap in reading performance observed among 15-year-olds virtually disappears among 16-29 year-olds.⁴² Why? Data from the Survey of Adult Skills show that young men are much more likely than young women to read at work – and at home. Once again, this suggests that there are many ways to narrow or even eliminate gender gaps in education and skills, as long as we enlist parents, teachers, school leaders and employers in giving boys and girls the same opportunities and encouragement to learn.

Education and the fight against extremism

Whoever has a hammer sees every problem as a nail. Those in the security business tend to see the answer to radicalism and terrorism in military power, and those in the financial business, in cutting flows of money. It is only natural for educators to view the struggle against extremism as a battle for hearts and minds. So I should not have been surprised when around 90 education ministers at the 2016 Education World Forum in London repeatedly touched on this issue in their conversations.

At the same time, the terrorist attacks in Europe, in particular, have brought home that it is far too simplistic to depict extremists and terrorists as victims of poverty or poor education. More research on the background and biographies of extremists and terrorists is badly needed, but it is clear that these people often do not come from the most impoverished parts of societies. Radicals are also found among young people from middle-class families who have completed their formal education. Ironically,

those terrorists seem to be well-equipped with the entrepreneurial, creative and collaborative skills that have become the bedrock of a 21st-century education.

But that is no reason to give up on education as the most powerful tool for building a fairer and more humane and inclusive world. We know that extremism flourishes in splintered societies. Young people become receptive to extremist ideas when their self-image, self-confidence and trust in others are threatened by conflicting world views.

Some countries do so much better than others not just in equipping disadvantaged and immigrant children with strong academic skills, but also in helping them integrate fully into society. In the PISA 2012 assessment, 9 out of 10 Norwegian 15-year-old students with an immigrant background said they felt a sense of belonging at school, compared with fewer than 4 out of 10 immigrant students in France. The well-being of immigrant students is affected not just by cultural differences between the country of origin and the host country, but also by how schools and communities in the host country help immigrant students handle the daily problems of living, learning and communicating.

Still, having good academic and social skills does not seem to prevent people from using those skills to destroy, rather than advance, their societies. So how can education combat extremism? It comes down to the heart of education: teaching the values that can give students a reliable compass and the tools to navigate with confidence through an increasingly complex, volatile and uncertain world.

Of course, that is treacherous territory. As my colleague Dirk Van Damme explains, to make one's way through it, one has to strike a balance between strengthening common values in societies, such as respect and tolerance, which cannot be compromised, and appreciating the diversity in our societies and the plurality of values that diversity engenders. Leaning too far in either direction is risky: enforcing an artificial uniformity of values is detrimental to people's capacity to acknowledge different perspectives; and overemphasising diversity can lead to cultural relativism that questions the legitimacy of any core value. But avoiding this issue in discussions about the curriculum just means that it becomes another problem put on the shoulders of classroom teachers without any adequate support.

As difficult as it is to get that balance right, educators need to prepare students for the culturally diverse and digitally connected communities in which they

will work and socialise. It is important to begin reflecting on how well education systems deliver on that broader notion of citizenship in the 21st century. In 2013, governments asked PISA to explore the possibility of developing metrics on this in its international assessments. They called it “global competency” – the set of skills that enables people to see the world through different eyes and appreciate different ideas, perspectives and values.⁴³

■ What we mean when we talk about “global competence”

PISA defines global competence⁴⁴ as “the capacity to analyse global and intercultural issues critically and from multiple perspectives, to understand how differences affect perceptions, judgements, and ideas of self and others, and to engage in open, appropriate and effective interactions with others from different backgrounds on the basis of a shared respect for human dignity”. According to PISA, global competence includes the ability to:

- **Examine issues of local, global and cultural significance.** This refers to the ability to combine knowledge about the world with critical reasoning whenever people form their opinions about a global issue. Globally competent students can draw on and combine the disciplinary knowledge and modes of thinking acquired in school to ask questions, analyse data and arguments, explain phenomena, and develop a position regarding a local, global or cultural issue. They can also access, analyse and critically evaluate messages delivered through the media, and can create new media content.
- **Understand and appreciate the perspectives and world views of others.** This highlights a willingness and capacity to consider global problems from multiple viewpoints. As individuals acquire knowledge about other cultures’ histories, values, communication styles, beliefs and practices, they begin to recognise that their perspectives and behaviours are shaped by many influences, that they are not always fully aware of these influences, and that others have views of the world that are profoundly different from their own. Engaging with different perspectives and world views requires individuals to examine the origins and

implications of others' and their own assumptions. People who acknowledge and appreciate the qualities that distinguish individuals from one another are less likely to tolerate acts of injustice in their daily interactions. In contrast, people who fail to develop this competence are considerably more likely to internalise stereotypes, prejudices and false heuristics about those who are "different".

- **Engage in open, appropriate and effective interactions across cultures.** Globally competent people can adapt their behaviour and communication to interact with individuals from different cultures. They engage in respectful dialogue, want to understand the other, and try to include marginalised groups. This dimension emphasises individuals' capacity to bridge differences with others by communicating in ways that are open, appropriate and effective. "Open" interactions mean relationships in which all participants demonstrate sensitivity towards, curiosity about, and a willingness to engage with others and their perspectives. "Appropriate" refers to interactions that respect the cultural norms of both parties. In "effective" communication, all participants can make themselves understood and understand the other.
- **Take action for collective well-being and sustainable development.** This dimension focuses on young people's role as active and responsible members of society, and refers to individuals' readiness to respond to a given local, global or intercultural issue or situation. It recognises that young people can have an impact on personal and local situations. Competent people in this sense create opportunities to take informed, reflective action and have their voices heard. Taking action may imply standing up for a schoolmate whose human dignity is in jeopardy, initiating a global media campaign at school, or disseminating a personal opinion about the refugee crisis through social media.

The PISA assessment of global competence offers a way to provide countries with the data they need to build more sustainable societies through education. It will provide a comprehensive overview of education systems' efforts to create learning environments that encourage young people to understand one another and the world

beyond their immediate environment, and to take action towards building cohesive and sustainable communities. It can help the many teachers who work every day to combat ignorance, prejudice and hatred, which are at the root of disengagement, discrimination and violence.

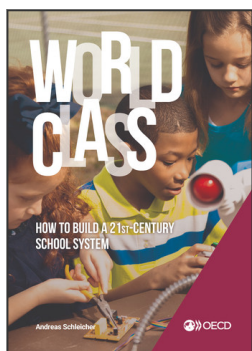
Naturally, global competence can be developed in many contexts; but schools can play a crucial role in this regard. Schools can provide opportunities for young people to critically examine developments that are significant to both the world at large and to their own lives. They can teach students how to use digital information and social media platforms critically and responsibly. Schools can also encourage intercultural sensitivity and respect by encouraging students to engage in experiences that nurture an appreciation for diverse peoples, languages and cultures.

■ **School as a venue for constructive debate**

Since the end of the Second World War, liberal societies have engaged confidently in the global battlefield of ideas. But in the 21st century, it seems that liberal and democratic ideals and values are facing a fresh onslaught, and will have to prove their worth once again against competing world views.

This is where education comes in. Universities and schools – and their online learning programmes – are important venues in which these ideas and values can be shared and debated. It is important to support and strengthen education in its role as a global exchange of ideas.

The five million students who cross international borders each year to get the best possible education are also champions of intercultural dialogue and global understanding. There could even be many more of them if we invest in education sufficiently to be able to offer attractive opportunities for bright people in countries where the ideological battles for young people's hearts and minds are becoming increasingly fierce and the stakes alarmingly high.



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