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Students' financial literacy, behaviour and expectations

This chapter discusses how students would behave in hypothetical spending and saving situations, similar to those that they may encounter in their current lives or in the near future. It then discusses how such behaviour is related to their financial literacy. The chapter then looks at the relationship between performance in financial literacy and students' expectations for their studies and careers, to see whether financially literate students are more willing to invest in their future, after taking into account their socio-economic status and performance in other subjects assessed by PISA.



Students nearing the end of compulsory education will soon be taking decisions that will have significant consequences for their adult lives, such as deciding whether to continue their studies or whether to enter the labour market. Whatever choice they make will have financial implications too. Continuing with education will require students to discuss and decide with their families how to finance their studies, whether to accumulate some savings to contribute to education costs, and whether to take a student loan. Whether students continue their studies or go to work, the end of compulsory education for many is associated with living more autonomously and learning how to budget. More generally, soon after the end of compulsory education, young people become legally able to enter into financial contracts, including various forms of credit agreements, further expanding the range of financial choices they can make.

The PISA definition of financial literacy stresses that financial knowledge and understanding can be used “to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life”. Students performing at the highest proficiency levels on the PISA financial literacy scale are already able to take decisions that have an impact on their lives over the longer term. Students performing at Level 4 can apply their understanding of less common financial concepts and terms to contexts that will be relevant to them as they move towards adulthood, and to make financial decisions taking into account longer-term consequences. In addition, students performing at Level 5 can apply their understanding of a wide range of financial terms and concepts to contexts that may only become relevant to their lives later on and can describe the potential outcomes of financial decisions, showing an understanding of the wider financial landscape (see Chapter 3). Financially literate students can be expected to be forward-looking and to take decisions after considering not only their immediate preferences but also their future needs, such as recognising the importance of saving and of investing in their higher education.

This chapter discusses the relationship between financial literacy and student outcomes that are relevant to their immediate and near future, such as how they would face decisions about saving and spending, and what their expectations are for their studies and careers, after accounting for their socio-economic status and performance in other subjects.

What the data tell us

- At least 50% of students on average in each of the 13 countries and economies with available data reported that they would save if they want to buy something for which they do not have enough money.
- On average across OECD countries and economies, 49% of students reported that they save each week or month, 20% save only when they have money to spare, and 22% save only when they want to buy something. Few students (6%) responded that they do not save any money.
- On average across OECD countries and economies, when asked what they would do if they want to buy something for which they do not have enough money, students who perform at Level 4 or 5 in financial literacy are about three times as likely as students performing at or below Level 1 with similar characteristics and performance in core PISA subjects to report that they would save, rather than reporting that they would buy the item anyway with money that should be used for something else.
- In Australia, Chile, Italy, Lithuania, Peru and Spain, students performing at Level 4 or above in financial literacy were at least 70% more likely than similar students performing at or below Level 1 to report that they expect to complete university education, after taking into account socio-economic status, performance in mathematics and reading, and other student characteristics.

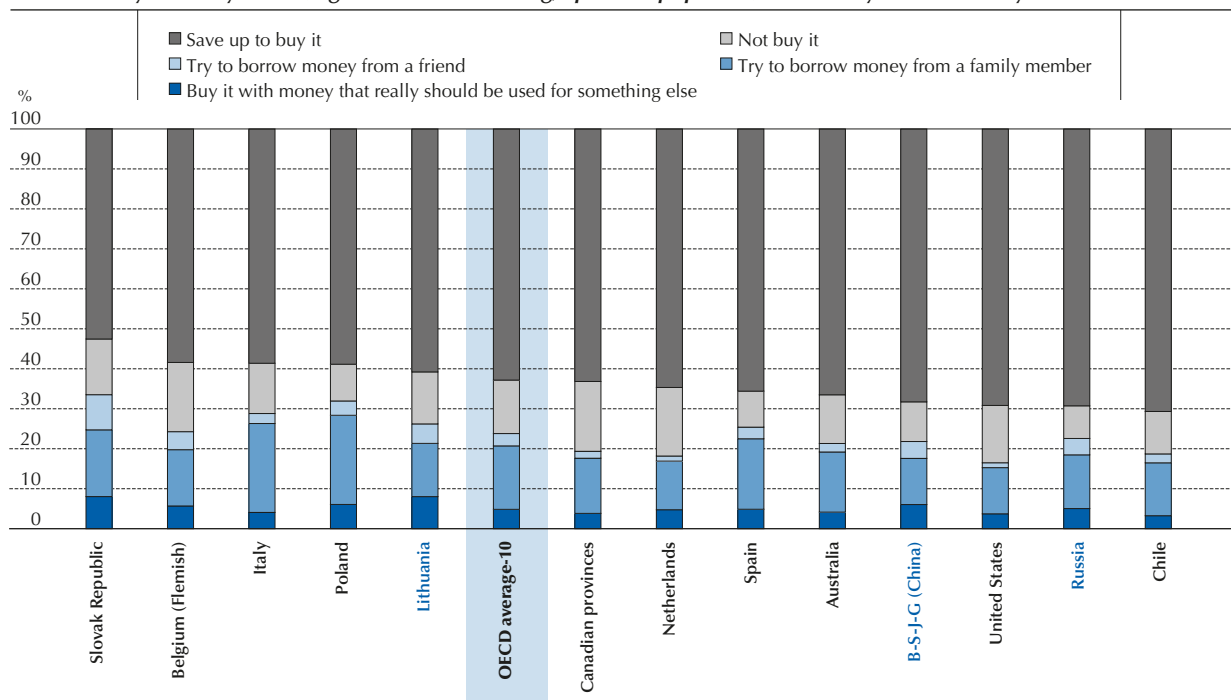
EXPECTED STUDENT BEHAVIOUR IN THE IMMEDIATE FUTURE: SAVING AND SPENDING DECISIONS

PISA 2015 asked students sitting the financial literacy test how they would behave in hypothetical spending and saving situations, similar to those that they may encounter immediately or in the near future.¹ Young people's saving behaviour can be seen as a first step to greater financial independence, as saving is a way for them to become more autonomous in their spending choices (Coleman and Hendry, 1999; Otto, 2013). Moreover, financial habits are formed early on (CFPB, 2016; Whitebread and Bingham, 2013) and saving behaviour at a young age is correlated with saving behaviour in young adulthood and later (Ashby, Schoon and Webley, 2011; Friedline, Elliott and Nam, 2011).




More precisely, PISA 2015 asked students who sat the financial literacy assessment the following question: “If you don’t have enough money to buy something you really want (e.g. an item of clothing, sports equipment) what are you most likely to do?”, allowing them to choose among various hypothetical strategies, including buying the item anyway with money that should be used for something else; trying to borrow money from a family member; trying to borrow money from a friend; saving money; or not buying the item. Figure IV.6.1 shows that on average across OECD countries and economies, most students (63%) reported that they would save if they want to buy something for which they do not have enough money. Some 16% reported that they would try to borrow money from family and 13% reported that they would not buy the item, on average. Few reported that they would borrow money from friends (3%) or buy the item anyway with money that should be used for something else (5%).

Figure IV.6.1 ■ **Students’ expected spending behaviour**
Results based on students’ response to the question “If you don’t have enough money to buy something you really want (e.g. an item of clothing, sports equipment) what are you most likely to do?”



Countries and economies are ranked in ascending order of the percentage of students who would “save up to buy it”.

Source: OECD, PISA 2015 Database, Table IV.6.1.

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In some countries and economies, spending behaviour also varies by student characteristics (Table IV.6.2). In most countries and economies, hypothetical spending behaviour is not associated with gender. Spending behaviour is also weakly correlated with socio-economic status. Only in Australia, Lithuania and the Slovak Republic were advantaged students more likely than disadvantaged students to report that they would save rather than buy the item anyway; and only in Australia and Spain were advantaged students more likely than their disadvantaged peers to report that they would try to borrow money from their family rather than buying the item anyway.

The choice of some spending options is correlated with discussing money matters with parents. Students in Australia, the Flemish Community of Belgium, Beijing-Shanghai-Jiangsu-Guangdong (China) (hereafter “B-S-J-G [China]”), Chile, Italy and Poland who discuss money issues with parents at least sometimes were more likely than students who never discuss these issues with their parents to report that they would try to borrow money from a family member. Students in Australia, the Flemish Community of Belgium, B-S-J-G (China), Chile, Italy, Lithuania, the Netherlands and the Russian Federation (hereafter “Russia”) who discuss money issues with their parents at least sometimes are two to four times more likely than students who never discuss these issues with their parents to report that they would save money. This suggests that parents may have a role in shaping their children’s spending behaviour.



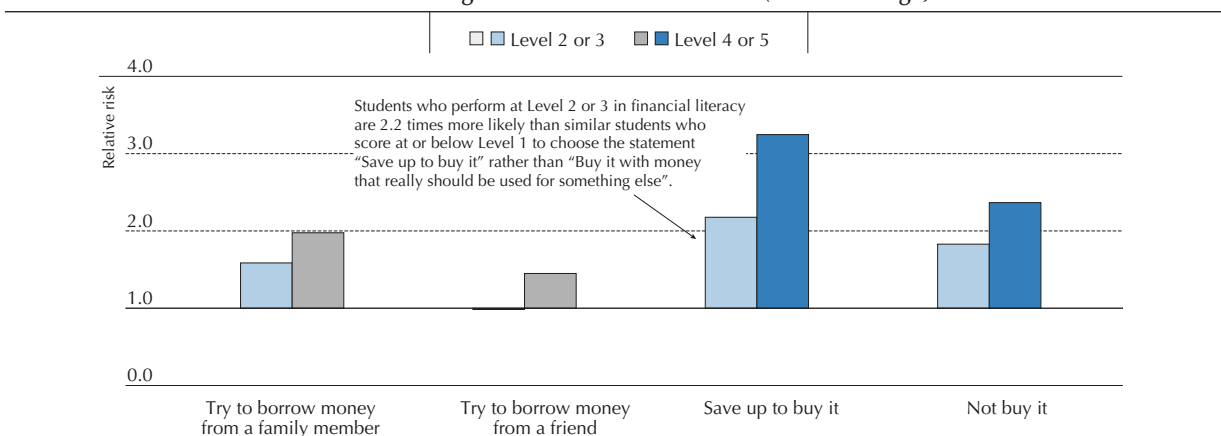
To what extent is financial literacy associated with the choice students would make in this spending situation? Figure IV.6.2 shows how likely students at different proficiency levels in financial literacy are to report that they would save, borrow or not buy the item compared with reporting that they would buy the item anyway. Saving money and refraining from buying the item can be considered as safer choices than buying the item anyway, which may indicate a lack of ability to distinguish between needs and wants, or a lack of understanding that money spent on one item cannot be spent again on something else.

On average across OECD countries and economies, students who perform at Level 2 or 3 were about twice as likely as students who perform at or below Level 1 to report that they would save rather than to report that they would buy the item anyway, after taking into account student characteristics, such as gender, socio-economic status, motivation to achieve (an index summarising whether students agree with five statements, such as “I see myself as an ambitious person” and “I want to be the best, whatever I do”), frequency of discussing money matters with their parents and performance in mathematics and reading. Similarly, students who perform at Level 4 or 5 were more than three times as likely as similar students who perform at or below Level 1 to report that they would save rather than to report that they would buy the item anyway, on average across the participating OECD countries and economies. In 4 countries and economies out of 13, students who perform at Level 2 or above were more likely than students with similar characteristics who perform at or below Level 1 to report that they would save rather than to report that they would buy the item anyway (Table IV.6.3). On average across OECD countries and economies, students who score above the baseline level of proficiency in financial literacy (that is, at or above Level 2) were also more likely than students who perform below the baseline level to report that they would not buy the item rather than buy the item anyway.

These results suggest that, at least in some countries and economies, financially literate students may be more likely than less financially literate students to prefer saving to overspending, even when both groups of students share similar socio-economic status, motivation, frequency of discussing money issues with their parents and performance in core PISA subjects. However, as PISA data do not allow for determining causality, the association between financial literacy and propensity to save may also be related to the fact that students with a preference for saving or who are better able to delay gratification may become more financially literate through their experience in managing money.

PISA 2015 also asked students who sat the financial literacy assessment to choose which one among a series of statements about saving money best applies to them. Students could indicate that they save the same amount of money each week or month; they save some money each week or month, but the amount varies; they save money only when they have money to spare; they save money only when they want to buy something; they do not save any money; or that they have no money so they do not save.

Figure IV.6.2 ■ **Students' expected spending behaviour, by performance in financial literacy**
Likelihood of students' response to the question "If you don't have enough money to buy something you really want (e.g. an item of clothing, sports equipment) what are you most likely to do?", after accounting for student characteristics (OECD average)



Notes: Relative risks that are statistically significant are marked in shades of blue (see Annex A3).

Student characteristics include gender, socio-economic status, achievement motivation, discussing money matters with parents at least sometimes, and performance in mathematics and reading.

Source: OECD, PISA 2015 Database, Table IV.6.3.

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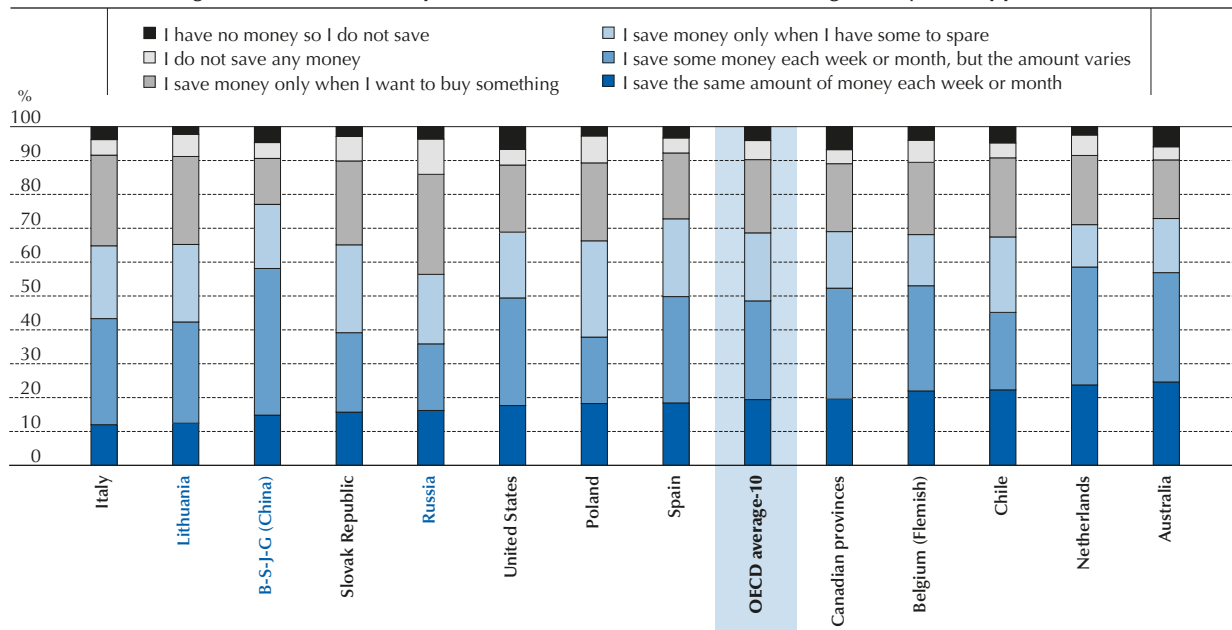


Figure IV.6.3 shows that on average across OECD countries and economies, 19% of students reported that they save the same amount each week or month, 29% reported that they save some money each week or month, but the amount varies, 20% save only when they have money to spare, and 22% save only when they want to buy something. Few students responded that they do not save any money (6%) or that they do not save because they do not have any money (4%).

In some countries and economies, saving behaviour also varies by student characteristics, such as gender, socio-economic status, motivation to achieve and frequency of discussing money matters with parents (Table IV.6.5). Some saving options are associated with gender. In Australia, the Flemish Community of Belgium, the participating Canadian provinces (British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario and Prince Edward Island), Lithuania, Poland, Russia and the United States, boys were more likely than girls to report that they save the same amount regularly than not to save; and boys in Australia, the Canadian provinces and the United States were more likely than girls to report that they save only when they want to buy something than not to save at all.

Some saving options are associated with socio-economic status. Advantaged students in Australia, the Canadian provinces, Lithuania, the Netherlands and Poland were more likely than disadvantaged students to report that they save each week or month (regular and/or varying amounts).

Figure IV.6.3 ■ **Students' saving behaviour**
Percentage of students who reported that this statement about saving money best applies to them



Countries and economies are ranked in ascending order of the percentage of students who reported "I save the same amount of money each week or month".

Source: OECD, PISA 2015 Database, Table IV.6.4.

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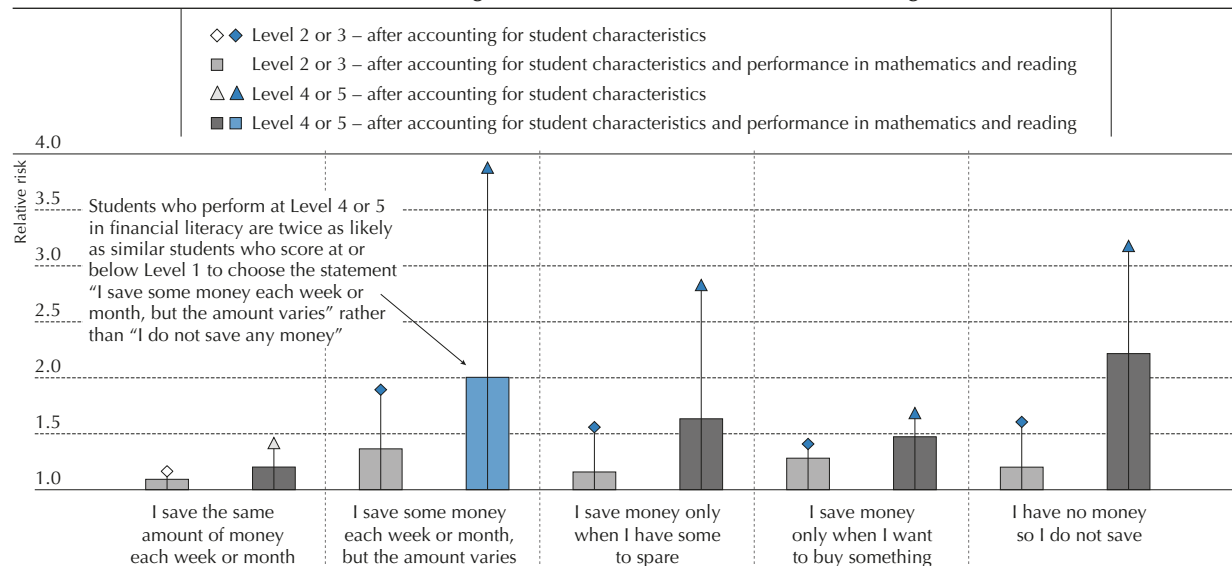
Achievement motivation is positively correlated to saving. In Australia, Chile and Poland, students with higher values on the PISA index of achievement motivation were more likely to save the same amount of money each week or month than not to save; in Australia, Chile, the Slovak Republic and the United States, more motivated students were more likely to report that they save a variable amount each week or month than not to save; and in Australia, Chile, Russia and the Slovak Republic, more motivated students were more likely to report that they save money when they have some to spare than not to save.

Discussing money matters with parents is also related to saving. In Australia, the Flemish Community of Belgium, B-S-J-G (China), the Canadian provinces, Italy, the Netherlands and the Slovak Republic, students who discuss money matters with their parents at least sometimes were more likely to report that they save at regular intervals (the same or varying amounts of money) than students who never discuss such issues with their parents.

Are financially literate students more able than less financially literate students to recognise the value of saving? To what extent is financial literacy associated with students' self-reported saving choices? Figure IV.6.4 shows how likely students at different proficiency levels in financial literacy are to report that they save (or have no money to save) compared with not saving, after taking into account student characteristics, such as gender, socio-economic status, motivation to achieve, frequency of discussing money matters with their parents and performance in mathematics and reading.

On average across OECD countries and economies, after taking into account students' gender, socio-economic status, motivation to achieve and discussion with parents, students who perform above the baseline level of proficiency were more likely than students with similar characteristics who perform at or below Level 1 to report that they save a variable amount regularly, that they save when they have money to spare, and that they save when they want to buy something rather than to report that they do not save (as represented by the triangles and diamonds in Figure IV.6.4). However, such associations become weaker or not statistically significant in most countries and economies once performance in mathematics and reading are also accounted for (as represented by the bars in Figure IV.6.4). This result is consistent with the possibility that higher-performing students are more aware that certain responses about saving behaviour may be more socially desirable.

Figure IV.6.4 ■ **Students' saving behaviour, by performance in financial literacy**
Likelihood of students' self-reports on which statement about saving money best applies to them, after accounting for student characteristics, OECD average



Notes: Relative risks that are statistically significant are marked in shades of blue (see Annex A3). No value referring to students who perform at Level 2 or 3, after accounting for student characteristics and performance in mathematics and reading is statistically significant.

Student characteristics include gender, socio-economic status, achievement motivation, and discussing money matters with parents at least sometimes.

Source: OECD, PISA 2015 Database, Table IV.6.6.

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FINANCIAL LITERACY AND STUDENTS' EXPECTATIONS ABOUT THEIR FUTURE STUDIES AND CAREERS

Earning a university degree represents a significant investment in the future of a young person, both in human capital and in economic terms. In OECD countries, earnings differentials between adults with tertiary education and those with upper secondary education are generally more pronounced than the difference between the earnings of those with upper secondary education and those who have not attained that level of education. This suggests that there are large earnings advantages for those who attain tertiary education. On average across OECD countries, adults with a master's, doctoral or equivalent degree earn almost twice as much as those with only upper secondary education, and those with a bachelor's or equivalent degree earn 48% more (OECD, 2016a). Educational attainment is also positively related to health and life satisfaction (OECD, 2016b; Boarini et al., 2012).



Are more financially literate students better able to see the value of completing higher education and of working in highly skilled occupations? The relationship between expectations and performance in school subjects like mathematics and reading is likely to be complex. High-performing students may expect to pursue their studies in higher education and then to work in highly skilled occupations as a reflection of their success at school. At the same time, students with high motivation and expectations are likely to put more effort in their studies and to perform better in school subjects than less-motivated students.

Students' performance in financial literacy may be associated with their expectations for their future directly or indirectly through its correlation with mathematics and reading performance. Students with higher financial literacy may attribute more value to investing in their human capital (Pesando, 2017); but it may also be the case that students with higher expectations perform better in financial literacy, as a result of the correlation of performance in financial literacy with that in mathematics and reading. PISA data do not allow for establishing causal relationships, but they can be used to describe the association between performance in financial literacy and students' expectations for their future, after taking into account performance in mathematics and reading and other student characteristics.

PISA 2015 asked students which education level they expected to complete (see also *PISA 2015 Results, Volume III: Students' Well-Being* [OECD, 2017]). Among the countries and economies that participated in the financial literacy assessment, the proportion of students expecting to complete university-level education (ISCED levels 5A or 6) ranges from less than 20% in Russia and the Netherlands to over 60% in the Canadian provinces, Chile, Peru and the United States (Table IV.6.8). Within countries and economies, education expectations are strongly correlated with socio-economic status, which, in turn, depends on parents' level of education, among other factors. On average across OECD countries and economies, the percentage of students who expect to complete tertiary education is 40 percentage points larger among socio-economically advantaged students than among disadvantaged students. This difference is positive and statistically significant in all countries and economies with available data (Table IV.6.8). Comparing averages across countries that participated in the PISA financial literacy assessment, in most of these countries, the proportion of 15-year-olds who expect to complete tertiary education is larger than the proportion of young adults and adults in the country – the generations of older siblings and parents of current PISA students – who actually attained tertiary education (Table IV.6.7).

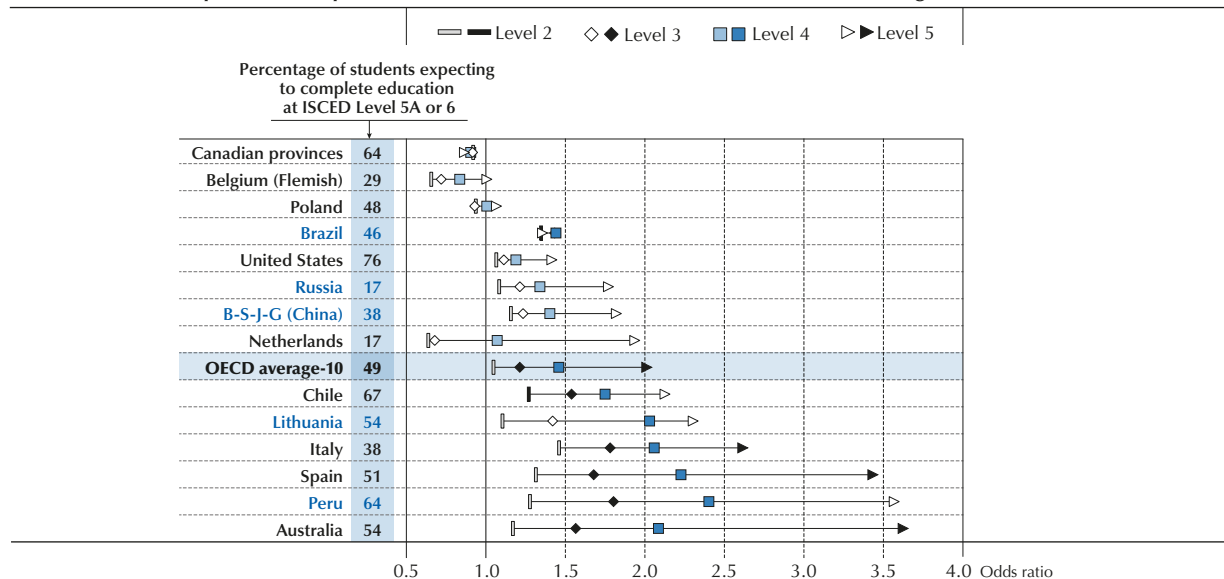
Figure IV.6.5 shows that, on average across OECD countries and economies, students who perform at Level 5 were about twice as likely as students performing at or below Level 1 to report that they expect to complete university education, after taking into account student characteristics, such as their gender, socio-economic status, motivation to achieve and performance in mathematics and reading.² In Australia, Chile, Italy, Lithuania, Peru and Spain, students performing at Level 4 or above were at least 70% more likely than similar students performing at or below Level 1 to report that they expect to complete university education. This suggests that, even after comparing students with similar socio-economic status, motivation and performance in other subjects, financially literate students may be more willing to invest in their human capital, or that forward-looking students may become more financially literate.

PISA also asked students what kind of job they expect to have when they are about 30 years old. Students expecting to work in some managerial positions, as professionals or as high-level armed forces officers are considered as expecting to work in highly skilled occupations (ILO, 2012).³ Working in skilled occupations and more frequent use of skills at work are typically associated with higher wages and greater job satisfaction (OECD, 2016c).

Among the countries and economies that participated in the financial literacy assessment, the percentage of students expecting to work in highly skilled occupations ranges from less than 50% in B-S-J-G (China), the Netherlands, Poland and the Slovak Republic to over 70% in Brazil, the Canadian provinces and Peru. Within countries and economies, career expectations are strongly associated with students' socio-economic status. On average across the participating OECD countries and economies, the percentage of students who expect to work in highly skilled occupations is 26 percentage points larger among advantaged students than among disadvantaged students. This difference is positive and statistically significant in all countries and economies with available data (Table IV.6.10).

Figure IV.6.6 shows that, in some countries and economies, students' career expectations are also associated with their financial literacy, after accounting for other factors that might influence career expectations, such as students' gender, socio-economic status, motivation to achieve and performance in mathematics and reading. On average across OECD countries and economies, students who perform at Level 5 were 47% more likely than students performing at or below Level 1 to report that they expect to have a high-skilled occupation when they are 30 years old, after taking into account student characteristics and ability. In Australia, Italy and the Netherlands, students performing at Level 5 were at least 60% more likely than similar students performing at or below Level 1 to report that they expect to have a high-skilled occupation (Table IV.6.11). This suggests that, even after comparing students with similar socio-economic status, motivation and performance in other subjects, financially literate students may be more willing to invest in their future in order to work in a more skilled occupation, or that forward-looking students may become more financially literate.

Figure IV.6.5 ■ **Students' education expectations, by performance in financial literacy**
Likelihood to expect to complete education at ISCED Level 5A or 6, after accounting for student characteristics



Notes: Statistically significant values are shown in a darker tone (see Annex A3).

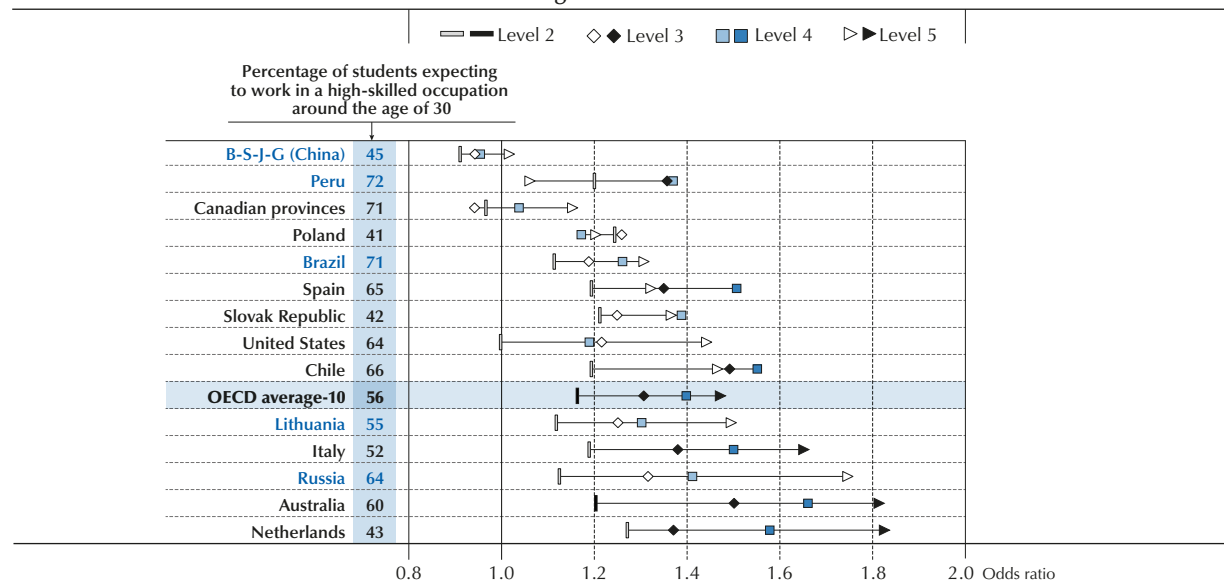
Odds ratios in this figure are computed taking into account student characteristics, including gender, socio-economic status, achievement motivation, as well as performance in mathematics and reading.

Countries and economies are ranked in ascending order of the odds ratio of students performing at Level 5 to expect to complete education at ISCED Level 5A or 6.

Source: OECD, PISA 2015 Database, Tables IV.6.8 and IV.6.9.

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Figure IV.6.6 ■ **Students' career expectations, by performance in financial literacy**
Likelihood to expect to work in a high-skilled occupation around the age of 30, after accounting for student characteristics



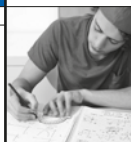
Notes: Statistically significant values are shown in a darker tone (see Annex A3).

Odds ratios in this figure are computed taking into account student characteristics, including gender, socio-economic status, achievement motivation, as well as performance in mathematics and reading.

Countries and economies are ranked in ascending order of the odds ratio of students performing at Level 5 expecting to work in a high-skilled occupation around the age of 30.

Source: OECD, PISA 2015 Database, Tables IV.6.10 and IV.6.11.

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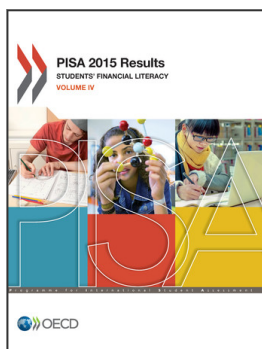


Notes

1. Information about students' saving and spending decisions is based on their responses to a short questionnaire appearing at the end of the cognitive PISA 2015 financial literacy assessment. As in Chapter 5, results about saving and spending decisions in this chapter are only reported for countries and economies with a sufficiently high response rate across the questions on money experiences, including Australia, the Flemish Community of Belgium, B-S-J-G (China), the Canadian provinces, Chile, Italy, Lithuania, the Netherlands, Poland, Russia, the Slovak Republic, Spain and the United States; OECD averages in this chapter are therefore based on ten countries and economies as in other chapters. Annex A1 contains more details and analysis on response rates per country/economy.
2. The relationship between financial literacy and science performance is not discussed in the text and figures because science competencies are not strictly necessary to be proficient in financial literacy and there are no links across the two assessment frameworks. The relationship between performance in financial literacy and performance in science, in addition to mathematics and reading, is nevertheless presented in the tables.
3. Occupations classified at ISCO Skills Level 4 are occupations within ISCO major group 1 (managers), with the exception of sub-major group 14 (hospitality, retail, and other services managers); occupations within ISCO major group 2 (professionals); and occupations within ISCO sub-major group 01 (commissioned armed forces officers) (ILO, 2012).

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From:
PISA 2015 Results (Volume IV)
Students' Financial Literacy

Access the complete publication at:
<https://doi.org/10.1787/9789264270282-en>

Please cite this chapter as:

OECD (2017), "Students' financial literacy, behaviour and expectations", in *PISA 2015 Results (Volume IV): Students' Financial Literacy*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264270282-10-en>

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