Financing the future:

Australian students' results in the PISA 2012
Financial Literacy assessment

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Contents

Executive Summary

PISA, the Programme for International Student Assessment, seeks to measure how well young adults at age 15 (and, therefore, near the end of compulsory schooling in most participating education systems) are equipped to use their knowledge and skills in particular areas to meet real–life challenges. PISA's orientation reflects a change in the goals and objectives of curricula, which increasingly address how well students are able to apply what they learn at school.

What does PISA assess?

The primary focus of PISA is on public policy issues related to education provision. Questions guiding the development of PISA are:

» How well are young adults prepared to meet the challenges of the future?

» What skills do they have that will help them adapt to change in their lives?

» Are they able to analyse, reason and communicate their arguments and ideas to others?

» Are some ways of organising schools and school learning more effective than others?

» What influence does the quality of school resources have on student outcomes?

» What educational structures and practices maximise the opportunities of students from disadvantaged backgrounds?

» To what extent is student performance dependent on background?

» How equitable is education provision for students from all backgrounds?

Who is assessed?

PISA assesses a random sample of 15-year-old students, drawn from a nationally representative sample of schools. In 2012, 65 countries and economies (all 34 OECD countries and 31 partner countries and economies) and around half-a-million students (representing 28 million 15-year-old students) participated in the PISA assessment.

In Australia, a total of 3 293 students across 768 schools sat the financial literacy assessment. About 29 000 students internationally completed the assessment, representing about nine million 15-year-olds in the schools of the 18 participating countries and economies.

The PISA 2012 financial literacy assessment is the first large-scale international study to assess the financial literacy of 15-year-old students. The optional assessment was conducted in 13 OECD countries and economies: Australia, the Flemish Community of Belgium, the Czech Republic, Estonia, France, Israel, Italy, New Zealand, Poland, the Slovak Republic, Slovenia, Spain and the United States, and five partner countries and economies: Colombia, Croatia, Latvia, the Russian Federation and Shanghai-China.

How are results reported?

Results in PISA are reported using statistics such as mean scores and measures of distribution of performance. PISA also attaches meaning to the performance scale by providing results in descriptive terms, where descriptions of the skills and knowledge students can typically use are attached to achievement results. Students who achieve Level 5 (a score of 625 points or higher) are considered *top performers* in financial literacy, while students who fail to reach Level 2 (a score of 400 points or lower), the international baseline proficiency level, are considered *low performers*.

Australia's performance in the PISA 2012 Financial Literacy assessment

Results from an international perspective

» Overall, Australian students performed very well in the 2012 Financial Literacy assessment, and achieved an average score of 526 points, which was significantly higher than the OECD average of 500 score points.

» Two economies (Shanghai-China and the Flemish community of Belgium) performed significantly higher than Australia.

» Australia's performance was not significantly different from that of two countries (Estonia and New Zealand).

» Australia's performance was significantly higher than 13 countries (Czech Republic, Poland, Latvia, the United States, the Russian Federation, France, Slovenia, Spain, Croatia, Israel, Slovak Republic, Italy and Colombia).

» Sixteen per cent of Australian students were top performers, compared to 43 per cent of students in Shanghai-China, 20 per cent of students in the Flemish community of Belgium and 10 per cent of students across the OECD.

» Ten per cent of Australian students were low performers in financial literacy. The same proportion of students in the Czech Republic, Latvia and Poland were low performers, while for students in Shanghai-China the proportion of low performing students was only two per cent.

Results for groups of Australian students

Results for females and males

» Differences between the sexes were found to be in favour of males in only one country – Italy.

» Males and females from all other participating countries, including Australia, performed at a level not significantly different from one another.

- » Seventeen per cent of Australian males and 15 per cent of Australian females were top performers compared to 11 per cent of males and eight per cent of females across the OECD.
- » Twelve per cent of Australian males and eight per cent of Australian females were low performers in financial literacy compared to 17 per cent of males and 14 per cent of females across the OECD.

Results for geographic location of schools

The geographic location of schools was classified using the broad categories (metropolitan, provincial and remote) defined in the *MCEECDYA Schools Geographic Location Classification*.

- » Students in metropolitan schools achieved an average score of 535 points and performed significantly higher than students in provincial schools (by 32 score points on average) and students in remote schools (by 69 score points on average). Students in provincial schools performed significantly higher than students in remote schools (by 37 score points on average).
- » Eighteen per cent of students in metropolitan schools, 11 per cent of students in provincial schools and two per cent of students in remote schools were top performers.
- » Nine per cent of students in metropolitan schools, 14 per cent of students in provincial schools and 22 per cent of students in remote schools were low performers.

Results for Indigenous students

Indigenous background was identified from information provided by the school, which was taken from school records.

- » Indigenous students achieved an average score of 477 points. Indigenous students performed significantly lower than Non-Indigenous students, with a difference of 51 score points on average.
- » Ten per cent of Indigenous students were top performers compared to 16 per cent of Non-Indigenous students.
- » Almost one-quarter (23%) of Indigenous students were low performers compared to one-tenth of Non-Indigenous students.

Results for socioeconomic background

Socioeconomic background in PISA is measures by an index of economic, social and cultural status.

- » In general, the higher the level of a student's socioeconomic background, the better the student's performance in financial literacy. Students in the highest socioeconomic quartile achieved an average score of 569 points and performed 87 score points on average higher than students in the lowest socioeconomic quartile.
- » More than one-quarter (27%) of students in the highest socioeconomic quartile were top performers compared to eight per cent of students in the lowest socioeconomic quartile.
- » Four per cent of students in the highest socioeconomic quartile were low performers compared to one-fifth (21%) of students in the lowest socioeconomic quartile.

Results for immigrant background

Immigrant background was measured on students' self-report of where they and their parents were born.

- » Australian-born students' performance in financial literacy was significantly lower than that of first-generation students and was not significantly different from that of foreign-born students.

Results for language background

Language background was based on students' responses regarding the main language spoken at home.

> » Students who spoke English at home performed at a level not significantly different to those students who spoke a language other than English at home.

Australian students' financial experiences and attitudes

> » In Australia, 82 per cent of students reported that they have a bank account. More female students (85%) than male students (77%) reported having their own bank account, and those females who did scored higher on average in financial literacy than females who did not have a bank account. There was no difference for males.

> » In Australia, 75 per cent of socioeconomically disadvantaged students hold a bank account compared with 89 per cent of advantaged students.

> » Students in Australia who hold a bank account score 26 points higher than students who do not, but they perform at the same level after taking socioeconomic status into account.

> » 73 per cent of Australian students earn money from work, including working outside school hours (e.g. a holiday job, part-time work), working in a family business, or performing occasional informal jobs, such as baby-sitting or gardening.

> » In Australia, more females than males receive money from working outside school hours and from occasional jobs, such as baby sitting, while more males receive income from working in a family business or from selling things.

> » While internationally more disadvantaged students than advantaged students reported working outside of school hours, this was not the case in Australia.

> » The most common influences on spending behaviour of Australian students were the need to 'fit in' and advertising, both on television or radio and in print.

> » Students who reported that advertising influenced their spending choices scored higher on average in financial literacy than those who were not influenced by these sources of information.

> » More males than females indicated that their friends or the need to 'fit in' influenced their spending.

> » More students from disadvantaged backgrounds than students from an advantaged background responded that they were influenced by advertising in magazines, flyers and newspapers, and by the need to 'fit in' when making decisions about spending money.

Figures

Tables

Reader's Guide

Target population for PISA

This report uses '15-year-olds' as shorthand for the PISA target population. In practice, the target population was students who were aged between 15 years and 3 (complete) months and 16 years and 2 (complete) months at the beginning of the assessment period, and who were enrolled in an educational institution that they were attending full-time or part-time. Since the largest part (but not all) of the PISA target population is made up of 15-year-olds, the target population is often referred to as 15-year-olds.

OECD average

An OECD average was calculated for most indicators in this report and is presented for comparative purposes. The OECD average reported here represents those OECD countries which participated in the assessment of financial literacy as a single entity, with each participating country contributing to the average with equal weight. The OECD average is equivalent to the arithmetic mean of the respective country statistics.

Rounding of figures

Because of rounding, some numbers in tables may not exactly add to the totals reported. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

When standard errors have been rounded to one or two decimal places and the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005 respectively.

Confidence intervals and standard errors

In this and other publications, student achievement is often described by a mean score. For PISA, each mean score is calculated from the sample of students who undertook the PISA assessment and is referred to as the sample mean. These sample means are an approximation of the actual mean score (known as the population mean) that would have been obtained had all students in a country actually sat the PISA assessment.

Since the sample mean is just one point along the range of student achievement scores, more information is needed to gauge whether the sample mean is an under estimation or over estimation of the population mean. The calculation of confidence intervals can assist assessment of a sample mean's precision as a population mean. Confidence intervals provide a range of scores within which we are confident that the population mean actually lies.

In this report, sample means are presented with an associated standard error. The confidence interval, which can be calculated using the standard error, indicates that there is a 95% chance that the actual population mean lies within plus or minus 1.96 standard errors of the sample mean.

Mean performance

Mean scores provide a summary of student performance and allow comparisons of the relative standing between different countries and different subgroups. In addition, the distribution of scores (reported at the 5th, 10th, 25th, 75th, 90th and 95th percentiles) are reported in graphical format. The following box details show how to read these graphs.

Each country's results are represented in horizontal bars with various shading. On the left end of the bar is the 5th percentile—this is the score below which 5% of the students have scored. The next two lines indicate the 10th percentile and the 25th percentile. The next line at the left of the white band is the lower limit of the confidence interval for the mean—i.e., there is 95% confidence that the mean will lie in this white band. The line in the centre of the white band is the mean. The lines to the right of the white band indicate the 75th, 90th and 95th percentiles.
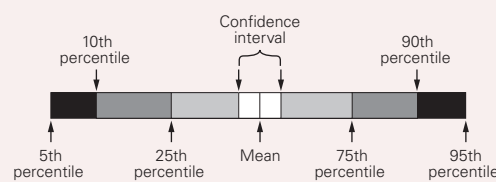
Proficiency levels

To summarise data from responses to the PISA assessment, performance scales were constructed for each assessment domain, including financial literacy. The scales are used to describe the performance of students in different countries, including in terms of described performance levels. The described performance levels are known as proficiency levels.

This publication uses top performers as shorthand for those students proficient at Level 5 or 6 of the assessment and low performers for those students proficient below Level 2 of the assessment.

Definitions of background characteristics

There are a number of definitions used in this report that are particular to the Australian context, as well as many that are relevant to the international context. This section provides an explanation for those that are not self-evident.

Indigenous background

Indigenous background is derived from information provided by the school, which was taken from school records. Students were identified as being of Australian Aboriginal or Torres Strait Islander descent. For the purposes of this publication, data for the two groups are presented together under the term Indigenous Australian students.

Socioeconomic background

Two measures are used by the OECD to represent elements of socioeconomic background. One is the highest level of the father's and mother's occupation (known as HISEI), which is coded in accordance with the International Labour Organization's International Standard Classification of Occupations. The other measure is the index of economic, social and cultural status (ESCS), which was created to capture

the wider aspects of a student's family and home background. The ESCS is based on three indices: the highest occupational status of parents (HISEI); the highest educational level of parents in years of education (PARED); and home possessions (HOMEPOS). The index of home possessions (HOMEPOS) comprises all items on the indices of family wealth (WEALTH), cultural resources (CULTPOSS), access to home educational and cultural resources (HEDRES), and books in the home.

ESCS is the measure of socioeconomic background used in this report.

Geographic location

In Australia, participating schools were coded with respect to the MCEECDYA *Schools Geographic Location Classification*. For the analysis in this report, only the broadest categories are used:

» Metropolitan—including mainland capital cities or major urban districts with a population of 100,000 or more (e.g., Queanbeyan, Cairns, Geelong, Hobart)

» Provincial—including provincial cities and other non-remote provincial areas (e.g., Darwin, Ballarat, Bundaberg, Geraldton, Tamworth)

» Remote—Remote areas and very remote areas. Remote: very restricted accessibility of goods, services and opportunities for social interaction (e.g., Coolabah, Mallacoota, Capella, Mt Isa, Port Lincoln, Port Hedland, Swansea, Alice Springs). Very remote: very little accessibility of goods, services and opportunities for social interaction (e.g., Bourke, Thursday Island, Yalata, Condingup, Nhulunbuy).

Immigrant background

For the analysis in this report, immigrant background has been defined by the following categories:

» Australian-born students—students born in Australia with both parents born in Australia

» First-generation students—students born in Australia with at least one parent born overseas

» Foreign-born students—students born overseas with both parents also born overseas.

Sample surveys

PISA is a sample survey and, as such, a random sample of students was selected to represent the population of 15-year-old students. The PISA sample was designed as a two-stage stratified sample. The first stage involves the sampling of schools in which 15-year-old students could be enrolled. The second stage of the selection process sampled students within the sampled schools.

The following variables were used in the stratification of the school sample: jurisdiction; school sector; geographic location (based on the MCEECDYA's *Schools Geographic Location Classification*); sex of students at the school; a socioeconomic background variable (based on the Australian Bureau of Statistics' Socio-economic Indexes for Areas—SEIFA; the SEIFA consists of four indexes that rank geographic areas across Australia in terms of their relative socioeconomic advantage and disadvantage); and an achievement variable (based on a Year 9 NAPLAN numeracy school-level score).

Top performers and low performers

In PISA, top performers are those students who achieve proficiency level 5 or higher. These students are considered to be highly proficient in that particular literacy. Low performers are those who do not reach the baseline of proficiency level 2, those at proficiency level 1 or lower. The baseline, proficiency level 2, has been defined internationally as the level of performance on the PISA scale that will enable students to actively participate in life situations. Students who fail to reach level 2 have not yet acquired the skills and knowledge that will allow them to adequately participate in the 21st century workforce and contribute as active citizens.

CHAPTER 1

Introduction

This report focuses on the findings from the Financial Literacy assessment conducted as an optional component of the Programme for International Student Assessment (PISA) in 2012. The first part of this chapter provides background information about the PISA assessment itself and then describes the Financial Literacy component of the assessment.

Chapter 2 provides a brief overview of the financial literacy framework and provides examples of the financial literacy items constructed for their assessment, along with how these items were scored. It describes how the assessment scores are calculated and presented, and how to understand what they mean. Chapter 3 presents results for Australian students' performance on financial literacy from an international perspective, while Chapter 4 focuses on relationships between financial literacy and student background within Australia. Finally, Chapter 5 examines students' experiences, attitudes and behaviour and their performance in financial literacy, both within Australia and making comparisons internationally.

Background to PISA

The Programme for International Student Assessment (PISA) is an initiative of the Organisation for Economic Co-operation and Development (OECD) in Paris. PISA represents a desire by governments to monitor the outcomes of education systems in terms of student achievement on a regular basis and within an internationally accepted common framework. The OECD launched PISA in 1997, on a cycle that starts with the development or review of a framework, continues through instrument development, field testing, revision and main study testing then to data analysis and reporting, over a period of four years (although the fourth year of one cycle and the first year of the next cycle overlap- meaning that there is three years between reports).

The first PISA assessment was conducted in 2000 and revealed wide differences in the extent to which countries succeed in equipping young adults with knowledge and skills in key subject areas. In some countries, the results were well received, showing that their 15-year-olds were well prepared to meet the challenges of the future. In other countries, the results were disappointing, showing that their 15-year-olds' performance was considerably behind that of other countries, in some instances by the equivalent of several years of schooling.

What skills does PISA assess?

With its goal of measuring competencies that will equip students to participate productively and adaptively in their life beyond school education, PISA assessment focuses on young people's ability to apply their knowledge and skills to real-life problems and situations. In such situations, are students able to analyse, reason and communicate their ideas effectively? How well do they make use of technological advances? Do they have the capacity and are they equipped with strategies to continue learning throughout their lives?

> *PISA uses the term 'literacy' to encompass this broad range of competencies relevant to coping with adult life in today's rapidly changing societies. In such a context, adults need to be literate in many domains, as well as in the traditional literacy areas of being able to read and write. The OECD considers that mathematics, science and technology are sufficiently pervasive in modern life that personal fulfilment, employment, and full participation in society increasingly require an adult population, which is not only able to read and write, but also mathematically, scientifically and technologically literate.'*
>
> *(OECD, 2000, p. 9)*

Since 2000, PISA has been conducted every three years, assessing reading literacy, mathematical literacy and scientific literacy. In each cycle the assessment areas are rotated, so that one domain is the major focus (the major domain) and the other two literacy domains, the minor domains.

In the fifth cycle of PISA, conducted in 2012, mathematical literacy was a major domain. With a larger amount of the assessment time being devoted to this subject area compared to the minor domains, this allowed for an in-depth analysis of mathematical literacy and the reporting of results by subscale to be undertaken.

PISA 2000	PISA 2003	PISA 2006	PISA 2009	PISA 2012
Reading literacy	Reading literacy	Reading literacy	Reading literacy	Reading literacy
Mathematical literacy	Mathematical literacy	Mathematical literacy	Mathematical literacy	Mathematical literacy
Scientific literacy	Scientific literacy	Scientific literacy	Scientific literacy	Scientific literacy

■ Major domain   ▢ Minor domain

Figure 1.1 Summary of the assessment areas in PISA 2012

PISA also assesses different subject areas from cycle to cycle. In PISA 2003, an additional assessment domain, problem solving, was assessed. In PISA 2012, problem solving was once again assessed as a computer-based assessment. Countries also had the option of participating in a computer–based assessment of mathematical and reading literacy and a paper-based assessment of financial literacy. Results on the performance of Australian students in the major PISA assessment were published in 2013, along with the international report, and the Australian report on problem solving will be published later in 2014.

The main goals of PISA

PISA seeks to measure how well young adults, at age 15[1] and therefore near the end of compulsory schooling in most participating education systems, are prepared to use knowledge and skills in particular areas to meet real-life challenges. This is in contrast to assessments that seek to measure the extent to which students have mastered a specific curriculum. PISA's orientation reflects a change in the goals and objectives of curricula, which increasingly address how well students are able to apply what they learn at school.

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1   Refer to the Reader's Guide for more information about the target population for PISA.

As part of the PISA process, students complete an assessment on reading literacy, mathematical literacy and scientific literacy as well as an extensive background questionnaire. School principals complete a survey describing the context of education at their school, including the level of resources in the school and qualifications of staff. The reporting of the findings from PISA is then able to focus on issues such as:

» How well are young adults prepared to meet the challenges of the future? Can they analyse, reason and communicate their ideas effectively? What skills do they possess that will facilitate their capacity to adapt to rapid societal change?

» Are some ways of organising schools or school learning more effective than others?

» What influence does the quality of school resources have on student outcomes?

» What educational structures and practices maximise the opportunities of students from disadvantaged backgrounds? How equitable is the provision of education within a country or across countries?

The importance of financial literacy[2]

In recent years, developed and emerging countries and economies have become increasingly concerned about the level of financial literacy of their citizens. This has stemmed in particular from shrinking public and private support systems, shifting demographic profiles including the ageing of the population, and wide-ranging developments in the financial marketplace. Concern was also heightened by the financial crisis, with the recognition that lack of financial literacy was one of the factors contributing to ill-informed financial decisions and that these decisions could, in turn, have tremendous negative spill-over (INFE/OECD, 2009; OECD, 2009). As a result, financial literacy is now globally acknowledged as an important element of economic and financial stability and development (INFE, 2009).

In addition, there has been a widespread transfer of risk from both governments and employers to individuals. Many have changed the format of pension plans, shifting onto workers the responsibility to save for their own financial security after retirement. Traditional Pay-as-you-go (PAYG) pension schemes are supplemented by new schemes in which the individual is subject to both revenue and investment risk. Most surveys show that a majority of workers are unaware of the risks they now have to face, and do not have sufficient knowledge and skill to manage such risks adequately, even if they are aware of them (OECD, 2008). Furthermore, the array of risks that people have to face is increasing: for example, individuals face the risks associated with longevity, credit, financial markets, and out-of-pocket healthcare.

Increased individual responsibility

The number of financial decisions that individuals have to make is increasing as a consequence of changes in the market and the economy. For instance, longer life expectancy means individuals need to ensure that they accumulate savings to cover much longer periods of retirement. People also need to assume more responsibility for funding personal or family healthcare needs. Moreover, increasing education costs make it important for parents to plan and invest adequately for their children's education. Even when individuals use the services of financial intermediaries and advisors, they need to understand what is being offered or advised. The individual is responsible for the financial product he or she decides to purchase, and the individual will face all the consequences of the choice. While these trends are most obvious in developed countries, similar issues are also emerging in many developing economies. Individuals everywhere need to be financially literate to make informed and responsible decisions.

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2   Some parts of this chapter adapted or reproduced (with permission) from the PISA 2012 Financial Literacy Assessment Framework (OECD, 2012a)

Younger generations are not only likely to face ever-increasing complexity in financial products, services and markets, but they are more likely to have to bear more financial risks in adulthood than their parents. In particular, they are likely to bear more responsibility for the planning of their own retirement savings and investments, and the coverage of their healthcare needs; and they will have to deal with more sophisticated and diverse financial products.

Because of the changes in the marketplace and social welfare systems (and particularly pension systems), current generations are unlikely to be able to learn from past generations. They will have to rely on their own knowledge or, given the complexities of new systems, make informed use of professional financial advice. Efforts to improve financial knowledge in the workplace or in other settings can be severely limited by a lack of early exposure to financial education and by a lack of awareness of the benefits of continuing financial education. It is therefore important to provide early opportunities for establishing the foundations of financial literacy.

In addition to preparing young people for their adult life, financial education in schools can also address the immediate financial issues facing young people. Many children are consumers of financial services from a young age. It is not uncommon for them to have accounts with access to online payment facilities or to use mobile phones (with various payment options) even before they become teenagers, and it is clear that financial literacy skills would be of benefit to them when using such products. Before leaving school, they may also face decisions about such issues as car insurance, savings products and overdrafts.

In many countries, at around the age of 15 to 18, young people (and their parents) face one of their most important financial decisions: that is, whether or not to invest in higher education. The gap in wages between workers with and without a tertiary education has widened in many economies. At the same time, the education costs borne by students and their families have increased, often leading to a reliance on credit.

It is important for people to be financially literate before they engage in major financial transactions and contracts. Financial education programmes for young people can be essential in nurturing sound financial knowledge and behaviour in students from a young age, which they can draw on in the coming years (Ministerial Council for Education Early Childhood Development and Youth Affairs, 2011).

The financial literacy assessment in PISA 2012

Given the importance of developing young people's financial literacy skills, and ongoing policy efforts aimed at introducing this subject into schools, reliable data on levels of financial literacy are deemed to be necessary. Such data can further inform financial education strategies and the implementation of financial education programmes in schools by identifying groups in need and priority areas of learning and by measuring change across time. Monitoring progress allows countries to gauge success of national programs, for example. Several countries, including Australia, have undertaken national surveys of their adults' financial literacy (ANZ and Roy Morgan Research, 2011). However until the assessment of financial literacy for PISA 2012 was developed, there were few data collection efforts aimed at young people, and none that could be compared across countries. The availability of such data is essential for understanding how well today's youth are prepared to face new and changing financial environments. The inclusion of financial literacy in the PISA 2012 assessment for Australia was supported by the Australian Securities and Investment Commission (ASIC).

Participants in the financial literacy assessment

Although PISA was originally an OECD assessment, created by the governments of OECD countries, it has become a major assessment in many regions and countries around the world. Since the first assessment in 2000, when PISA was implemented in 32 OECD countries, it has expanded from one cycle to the

next to include non-OECD countries, referred to as partner countries, as well as economic regions (economies)[3].

The PISA 2012 financial literacy assessment is the first large-scale international study to assess the financial literacy of 15–year-old students. The optional assessment was conducted in 13 OECD countries and economies: Australia, the Flemish Community of Belgium, the Czech Republic, Estonia, France, Israel, Italy, New Zealand, Poland, the Slovak Republic, Slovenia, Spain and the United States, and five partner countries and economies: Colombia, Croatia, Latvia, the Russian Federation and Shanghai-China.

The Australian PISA 2012 sample

In most countries 150 schools and 35 students in each school were randomly selected to participate in PISA. In some countries, including Australia, a larger sample of schools and students participated. This allows for countries to carry out specific national options at the same time as the PISA assessment, or for meaningful comparisons to be made between different sectors of the population.

In Australia, a larger sample of schools and students participated in PISA to produce reliable estimates and adequate representatives for:

> » each of the Australian states and territories
> In order for comparisons to be made between states and territories, it is necessary to 'oversample' the smaller states because a random sample proportionate to state populations would not yield sufficient students in the smaller states to give a result that would be sufficiently precise.

> » Indigenous students
> A sufficiently large sample of Australia's Indigenous students was required so that valid and reliable separate analysis can be conducted.

The Australian PISA 2012 school sample consisted of 768 schools. The sample was designed so that schools were selected with a probability proportional to the enrolment of 15–year-olds in each school. Stratification of the sample ensured that the PISA sample was representative of the 15–year-old population. Several variables were used in the stratification of the school sample including state, school sector, geographic location, gender of students at the school, a socioeconomic background variable[4] and an achievement variable[5]. (Table 1.1)

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3   Economic regions are required to meet the same PISA technical standards as other participating countries. Results for an economic region are only representative of the region assessed, and not representative of the country.

4   Based on the Australian Bureau of Statistics Socio-economic Indexes for Areas (SEIFA).

5   Based on a NAPLAN Numeracy school-level score.

Table 1.1 Number of Australian PISA 2012 schools, by state and school sector

Jurisdiction	Sector			Total
	Catholic	Government	Independent	
ACT	8	24	11	43
NSW	43	113	28	184
VIC	31	77	26	134
QLD	24	82	25	131
SA	17	55	18	90
WA	18	51	21	90
TAS	12	46	11	69
NT	5	17	5	27
Total	158	465	145	768

Note: The numbers are based on unweighted data

Eighty-five per cent of the Australian PISA schools were coeducational. The number of all-female and all-male schools was similar (eight per cent and seven per cent respectively).

Students

The target population for PISA is students between 15 years and 3 (completed) months and 16 years and 2 (completed) months at the beginning of the testing period, enrolled in an educational institution, either full- or part-time. Since the largest part of the PISA target population is made up of 15-year-olds, the target population is often referred to as 15-year-olds.

Internationally, the desired minimum number of students to be assessed per country is 4 500. In general, a random sample of 35 students is selected with equal probability from each school using a list of all 15-year-old students that is submitted by the school. Around 510,000 students, representing 28 million 15-year-old students internationally, took part in PISA 2012.

In PISA 2012, the Australian school and student sample was refined to improve sampling methodologies. This resulted in 20 students and all age-eligible Indigenous students being sampled per school. In addition to this, eight additional 15-year-old students were chosen at random from participating schools to participate in the financial literacy assessment. These students were assessed in addition to those who participated in the core PISA assessment.

A total of 3 293 students across Australia sat the financial literacy assessment, and about 29 000 students internationally completed the assessment of financial literacy in 2012, representing about nine million 15-year-olds in the schools of the 18 participating countries and economies.

Table 1.2 describes the financial literacy sample according to the key background characteristics used in this report. An explanation of each of these background variables is provided in the *Reader's Guide*. Note that by agreement, there is no jurisdictional or sectoral analysis conducted for this report.

Table 1.2 The Australian financial literacy sample, by student background characteristics

Background variable	N Students*	Weighted N	Weighted %
Sex			
Male	1 624	125 527	50
Female	1 669	125 547	50
Indigenous background			
Non-Indigenous	2 840	237 922	95
Indigenous	453	13 152	5
Socioeconomic background (ESCS)			
Lowest quartile	893	61 717	25
Second quartile	821	61 817	25
Third quartile	767	61 935	25
Fourth quartile	743	61 751	25
Geographic location			
Metropolitan	2 252	183 312	73
Provincial	961	65 122	26
Remote	80	2 640	1
Language at home			
English	2 923	220 929	89
Language other than English	308	26 016	11
Immigrant background			
Australian-born	1 964	139 833	58
First-generation	895	77 289	32
Foreign-born	304	25 406	10

*Note that N does not always add to the full sample as some background information is not available for all students

What participants did

Students who participated in PISA 2012 completed a paper–based assessment booklet that contained questions about one or more of the literacy domains being tested (see Chapter 2 for examples of these items), and a Student Questionnaire.

Cognitive assessment

A paper–based test was used, with assessments lasting a total of two hours for each student, comprising four 30–minute clusters of test material.

Each test booklet included: two clusters of financial literacy items which included, in total, 40 questions (or tasks) (that is, 60 minutes of testing time); one cluster of mathematics test items; and one cluster of reading items. Mathematics and reading scores discussed in this report are slightly different from the mathematics and reading scores of the core assessment reported in the international reports (OECD, 2013) and from those in the Australian National Report (Thomson, De Bortoli & Buckley, 2013) as they are drawn from a different sample of students.

Students who sat the financial literacy assessment were also asked a number of questions relating to their exposure to financial matters, such as: whether they got pocket money, whether they worked part–time, casually or in a family business, whether they had a bank account.

As in other domains, financial literacy items were grouped in units comprising one or two items based around a common stimulus. The selection includes financially focused stimulus material in diverse formats, including prose, diagrams, tables, charts and illustrations.

A range of item response formats were employed to cover the full range of cognitive abilities and knowledge identified in the assessment frameworks. There were five types of question format: multiple choice and complex multiple choice items, in which students selected from among several possible answers, closed constructed response items, in which students were required to provide an unambiguous single word, a number or diagrammatic answer, and open constructed response and short response items, in which students provided a written response, showing the methods and thought processes they had used.

Context questionnaires

PISA collected contextual information from students and principals. The internationally standard Student Questionnaire sought information on students and their family background, aspects of motivation, learning and instruction in mathematics, and context of instruction including instructional time and class size. Students were allowed up to 40 minutes to complete the questionnaire, to which they responded after the completion of the paper-based assessment, and before the completion of the computer-based assessment. All students completed this questionnaire. Australian students were also asked a number of national questions provided by ASIC focussing on students' perceptions about what influences them to spend money, their understanding of money and the perceived importance of learning about money at school.

The School Questionnaire, answered by the principal (or the principal's designate), sought descriptive information about the school, including the quality of the schools' human and material resources, decision-making processes, information about instructional practices, school and classroom climate. In Australia, the school questionnaire was administered online and took around 30 minutes to complete.

School principals received a questionnaire that asked standard questions about school policies and the learning environment, and also included questions about the provision of financial education in school.

Further information

Further information about PISA in Australia is available from the national PISA website: www.acer.edu.au/ozpisa.

CHAPTER 2

The development of the financial literacy domain[6]

A growing number of governments have begun developing dedicated national strategies for financial education. These aim to enhance the provision and efficiency of financial education through nationally co-ordinated and tailored efforts, and have been adopted either as stand-alone public policies, or in combination with financial inclusion and/or consumer protection policies.

In Australia, education authorities in all jurisdictions endorsed each iteration of the National Consumer and Financial Literacy Framework in 2005, 2009 and 2011. The framework describes essential consumer and financial capabilities, acts as a learning framework, provides guidance on how consumer and financial education may be structured in compulsory education and emphasises teacher professional development as a critical success factor.

The National Financial Literacy Strategy, adopted in 2011, was co-ordinated by the Australian Securities and Investments Commission (ASIC) and provided a framework to develop and deliver initiatives to improve financial literacy for all Australians. In 2013-14, ASIC completed a review of Australia's strategy taking stock of progress. Australia's National Strategy (2014-16), provides a framework for action to address the key priorities. Education remains a key priority, with formal education pathways of schools, tertiary and community education seen as keys to building financial literacy capability and wellbeing in all Australians throughout life.

In Australian education, Consumer and Financial literacy uses the same three dimensions[7] as the OECD's financial literacy assessment framework when developing curriculum and related teaching and learning resources within the mathematics, English and science curricula; it will later become a core component of a wide variety of school subjects including economics and business, physical education and health, enterprise and technology, geography and work studies. Integrating financial literacy topics into school subjects developed further with the inclusion of financial literacy in the Australian curriculum that is being phased in. As part of this endeavour, ASIC created a national education portal called MoneySmart Teaching.

A few countries have also developed standards for financial literacy in order to precisely define the content to be taught and the skills to be developed. Although the content varies across countries, financial

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6   Some parts of this chapter are adapted or reproduced (with permission) from the *PISA 2012 Assessment and Analytical Framework* (OECD, 2013) and from *PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century. OECD (2014)*

7   Refer to page 13 of this chapter

literacy usually includes categories such as money and transactions, planning and managing finance, risk and rewards, and an understanding of the financial landscape, including economic concepts and consumer rights and responsibilities. In Australia an additional content category called enterprise is used to provide alignment to the Melbourne Declaration (2008), focusing on the outcome of enterprising behaviours.

In other countries

In the Flemish Community of Belgium, learning outcomes for secondary schools that came into effect in 2010-11 cover typical financial education topics, such as budgeting, alongside economics topics, such as labour, goods and services, welfare and poverty. They are mandatory in all secondary schools while schools can decide how and in which subjects these cross-curricular competencies should be integrated. In Shanghai-China, some financial education topics have been integrated into the existing national curriculum since the 1970s, while schools have some autonomy in teaching financial education with respect to the national curriculum. In the Pudong New Area of Shanghai, regular training on finance has been delivered since 2009 in primary and lower secondary schools. In the Czech Republic, a Ministry of Finance-led working group developed Standards for Financial Literacy in 2007, which define contents and expected outcomes of financial education for primary and secondary school students. The standards focus on such topics as money, household budget management, financial products and consumer rights. In Estonia, implementing financial education in schools started in 1996 when finance-related topics were incorporated in the first National Curriculum. According to the new curricula adopted by the government in 2010, in primary and lower secondary school, monetary and finance-related topics are incorporated in human study, social studies, crafts and home economics, as well as mathematics. In New Zealand, financial literacy has been included in the curriculum since 2007, a result of the Financial Literacy Framework. This framework contains learning outcomes across two strands: managing money and income (covering money, income, savings, spending and budgeting, and credit); and setting goals and planning ahead (covering setting financial goals, and identifying and managing risk).

In other countries, economics and/or business studies are taught with the expectation that they will improve financial literacy. This sometimes occurs alongside lessons on personal finance (i.e. teaching students how to manage their money). In France, students enrolled in the general and scientific tracks of high schools are taught economics, social sciences and management. In the United States, there are differences across states in whether schools are mandated to offer courses in economics and/or personal finance.

What is measured

The main focus of the PISA financial literacy assessment is on measuring the proficiency of 15-year-old students in demonstrating and applying the knowledge and skills that they have learned in and out of school. Like other PISA domains, financial literacy is assessed using an instrument designed to provide data that are valid, reliable and interpretable. The *PISA 2012 Assessment and Analytical Framework* (OECD, 2013) provides a comprehensive framework to assess the financial literacy of 15-year-old students, including a common language to discuss financial literacy with a view to illustrating what is being measured and the groundwork for building a described proficiency scale with which to interpret the results of the assessment.

Defining financial literacy

The definition of financial literacy for 15-year-olds that underlies the assessment of financial literacy in PISA 2012 builds on the OECD definitions of financial education and adult financial literacy.

The OECD defines financial education as "the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (OECD, 2005).

The definition of financial literacy in the PISA Financial Literacy Assessment Framework refines the adult definition to make it relevant to the competencies (or literacy) of 15-year-old students. PISA is also forward looking, and so the definition incorporates the ability to use knowledge and skills to meet challenges in the future.

"Financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order 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."

This definition, like other PISA domain definitions, has two parts. The first part refers to the kind of thinking and behaviour that characterises the domain. The second part refers to the purposes for developing the particular literacy. PISA conceives of the term literacy as the capacity of 15-year-old students to apply knowledge and skills in key subject areas and to analyse, reason and communicate effectively as they pose, solve and interpret problems in a variety of situations.

In the following paragraphs, each part of the PISA 2012 definition of financial literacy is considered in turn to help clarify its meaning in relation to the assessment.

"Financial literacy…"

Literacy is viewed as an expanding set of knowledge, skills and strategies, which individuals build on throughout life, rather than as a fixed quantity, a line to be crossed, with illiteracy on one side and literacy on the other. Literacy involves more than the reproduction of accumulated knowledge, although measuring prior financial knowledge is an important element in the assessment. It also involves a mobilisation of cognitive and practical skills, and other resources, such as attitudes, motivation and values. The PISA 2012 assessment of financial literacy draws on a range of knowledge and skills associated with development of the capacity to deal with the financial demands of everyday life in contemporary society.

"…is knowledge and understanding of financial concepts and risks…"

Financial literacy is thus contingent on some knowledge and understanding of fundamental elements of the financial world, including key financial concepts as well as the purpose and basic features of financial products. This also includes risks that may threaten financial well-being as well as insurance policies and pensions. Fifteen-year-old students are beginning to acquire this knowledge and gain experience of the financial environment that they and their families inhabit and the main risks they face. They are likely to have been shopping to buy household goods or personal items; some will have taken part in family discussions about money and whether what is wanted is actually needed or affordable; and a sizeable proportion of them will have already begun to earn and save money. Some 15-year-old students already have experience of financial products and commitments through a bank account or a mobile phone contract. A grasp of concepts, such as interest, inflation, and value for money, are soon going to be, if they are not already, important for their financial well-being.

"…and the skills,…"

These skills include such generic cognitive processes as accessing information, comparing and contrasting, extrapolating and evaluating, applied in a financial context. They include basic skills in mathematical literacy, such as the ability to calculate a percentage or to convert from one currency to another, and language skills, such as the capacity to read and interpret advertising and contractual texts.

"…motivation and confidence…"

Financial literacy involves not only the knowledge, understanding and skills to deal with financial issues, but also non–cognitive attributes: the motivation to seek information and advice in order to engage in financial activities, the confidence to do so, and the ability to manage emotional and psychological factors that influence financial decision making. These attributes are considered as a goal of financial education, as well as being instrumental in building financial knowledge and skills.

"…to apply such knowledge and understanding in order to make effective decisions…"

PISA focuses on the ability to activate and apply knowledge and understanding in real–life situations rather than the reproduction of knowledge. In assessing financial literacy, this translates into measuring 15–year–old students' ability to transfer and apply what they have learned about personal finance into effective decision making. The term "effective decisions" refers to informed and responsible decisions that satisfy a given need.

"…across a range of financial contexts…"

Effective financial decisions apply to a range of financial contexts that relate to 15–year–old students' present daily life and experience, but also to steps they are likely to take in the near future as adults. For example, 15–year–old students may make relatively simple financial decisions, such as how they will use their pocket money or, at most, which mobile phone contract they will choose; but they may soon be faced with major decisions about education and work options with long–term financial consequences.

"…to improve the financial well-being of individuals and society…"

Financial literacy in PISA is primarily conceived of as personal financial literacy, distinguished from economic literacy, which includes both broader concepts, such as the theories of demand and supply, market structures and so on. Financial literacy is concerned with the way individuals understand, manage and plan their own and their households' – which often means their families' – financial affairs. It is recognised, however, that good understanding, management and planning on the part of individuals has some collective impact on the wider society in contributing to national and even global stability, productivity and development.

"…and to enable participation in economic life."

Like the other PISA literacy definitions, the definition of financial literacy implies the importance of the individual's role as a thoughtful and engaged member of society. Individuals with a high level of financial literacy are better equipped to make decisions that are of benefit to themselves, and also to constructively support and critique the economic world in which they live.

In practical terms, a person with a high level of financial literacy can make the kinds of personal or household decisions about money and finance that will improve their financial well–being, all else being equal. Improving financial well–being depends on the starting point; for young people, it may mean saving in order to have the money to travel or study without relying on excessive levels of credit, while for some households, it could be increasing the amount of money available to pay for essentials, such as electricity, by shopping around to find financial products with lower fees or interest charges.

The types of financial decisions made by young people as they reach adulthood will vary and may include relatively simple choices, such as how to spend their weekly allowance, through to complex comparisons of different student loan products or credit cards. In order to make such decisions, they need relevant knowledge and self–confidence as well as a range of other basic skills including numeracy, reading ability and problem solving skills. They may also benefit from a broad knowledge base, including some aspects of economics, business or enterprise, although these subjects would not provide them with all of the specific skills that make up financial literacy. The item PAY SLIP (see the released items

described in this chapter), is a good example of the ways in which students may draw on other aspects of their education when answering financial literacy questions. The item is strongly grounded in personal finance, but includes numbers, although no mathematics is required; it requires basic reading, and uses terms that may be particularly familiar to economics or business students.

The three dimensions of the financial literacy assessment

Content, processes and contexts can be thought of as three different dimensions on the area to be assessed, where:

» *Content* comprises the areas of knowledge and understandings that are essential in the area of literacy in question.

» *Processes* describes the mental strategies or approaches that are called upon to negotiate the material.

» *Contexts* refers to the situations in which the domain knowledge, skills and understandings are applied, ranging from the personal to the global.

The following section provides a summary of these dimensions. All of the released items from the 2012 financial literacy assessment are presented at the end of this chapter.

Content

The content categories comprise the areas of knowledge and understanding that are essential in the area of financial literacy. They are conceived of as the areas of knowledge and understanding that must be drawn upon in order to perform a particular financial task. These form the four content areas for PISA financial literacy: **money and transactions**; **planning and managing finances**; **risk and reward**; and **financial landscape.**

» **Money and transactions**: This category, which represents the first core content of financial literacy, includes the awareness of the different forms and purposes of money and handling simple monetary transactions such as everyday payments, spending, value for money, bank cards, cheques, bank accounts and currencies.

» **Planning and managing finances**: This category, which covers essential financial literacy skills, includes planning and managing of income and wealth over both the short term and long term and in particular the knowledge and ability to monitor income and expenses as well as to make use of income and other available resources to enhance financial well–being.

» **Risk and reward**: This category incorporates the ability to identify ways of managing, balancing and covering risks (including through insurance and saving products) and an understanding of the potential for financial gains or losses across a range of financial contexts and products, such as credit agreement with a variable interest rate and investment products.

» **Financial landscape**: This category relates to the character and features of the financial world. It covers knowing the rights and responsibilities of consumers in the financial marketplace and within the general financial environment, and the main implications of financial contracts. It also incorporates an understanding of the consequences of change in economic conditions and public policies, such as changes in interest rates, inflation, taxation.

Processes

The process categories relate to cognitive processes and describe students' ability to recognise and apply concepts relevant to the domain, and to understand, analyse, reason about, evaluate and suggest solutions. In PISA financial literacy, four process categories have been defined with no particular hierarchical order: **identify financial information**; **analyse information in a financial context; evaluate financial issues**; and **apply financial knowledge and understanding**.

» **Identify financial information**: This category is applicable when the individual searches and accesses sources of financial information and identifies or recognises its relevance.

» **Analyse information in a financial context**: This category covers a wide range of cognitive activities undertaken in financial contexts, including interpreting, comparing and contrasting, synthesising, and extrapolating from information that is provided.

» **Evaluate financial issues**: This category focuses on recognising or constructing financial justifications and explanations, drawing on financial knowledge and understanding applied in specified contexts. It also involves cognitive activities, such as explaining, assessing and generalising.

» **Apply financial knowledge and understanding**: This category focuses on taking effective action in a financial setting by using knowledge of financial products and contexts and understanding of financial concepts.

Contexts

The context categories refer to the situations in which the financial knowledge, skills and understandings are applied, ranging from the personal to the global. In PISA, assessment tasks are framed in general life situations, which may include but are not confined to school contexts. The focus may be on the individual, family or peer group, the community, or even on a global scale. The contexts identified for the PISA financial literacy assessment include: education and work; home and family; individual; and societal.

» **Education and work**: This category is important to 15-year-old students. While many students will continue in education or training at post-compulsory education, some of them may soon move into the labour market or may already be engaged in casual employment outside of school hours.

» **Home and family**: This category includes financial issues relating to the costs involved in running a household. It is most likely that 15-year-old students will be living with family, but this context category also encompasses households that are not based on family relationships, such as the kind of shared accommodation that young people often use shortly after leaving the family home.

» **Individual**: This category is important within personal finance and especially for students, as most of their financial decisions, including using products such as mobile phones or laptops, are related to themselves and made for their personal benefit, and as many risks and responsibilities must also be borne by individuals. It includes choosing personal products and services as well as contractual issues, such as getting a loan.

» **Societal**: The core of the financial literacy domain is focused on personal finances, but this context category recognises that individuals' financial decisions and behaviours can influence and be influenced by the rest of society. It includes matters such as being informed and understanding the rights and responsibilities of financial consumers and understanding the purpose of taxes and local government charges.

Proficiency levels

The PISA test design makes it possible to construct a single scale of proficiency. Each question in the PISA financial literacy assessment is associated with a particular point on the scale that shows its difficulty, and each student's performance is associated with a particular point on the same scale that shows his or her estimated financial literacy performance. The proficiency scale is divided into five proficiency levels. Students can be described as 'at' a proficiency level, meaning that they are likely to be able to successfully complete questions that are located at or below the difficulty level associated with this proficiency level or point on the scale, but less likely to be able to complete questions that are above this difficulty level.

The financial literacy proficiency scale spans from Level 1, the lowest, to Level 5, the highest proficiency level, with summary descriptions of the kinds of financial literacy competencies associated with the different levels of proficiency (Figure 2.1).

Level	Score range	Percentage of students able to perform tasks at each level or above (OECD average-13)	What student can typically do
5	Equal to or higher than 625 points	9.7%	Students can apply their understanding of a wide range of financial terms and concepts to contexts that may only become relevant to their lives in the long term. They can analyse complex financial products and can take into account features of financial documents that are significant but unstated or not immediately evident, such as transaction costs. They can work with a high level of accuracy and solve non-routine financial problems, and they can describe the potential outcomes of financial decisions, showing an understanding of the wider financial landscape, such as income tax.
4	550 to less than 625 points	31.6%	Students can apply their understanding of less common financial concepts and terms to contexts that will be relevant to them as they move towards adulthood, such as bank account management and compound interest in saving products. They can interpret and evaluate a range of detailed financial documents, such as bank statements, and explain the functions of less commonly used financial products. They can make financial decisions taking into account longer-term consequences, such as understanding the overall cost implication of paying back a loan over a longer period, and they can solve routine problems in less common financial contexts.
3	475 to less than 550 points	61.8%	Students can apply their understanding of commonly used financial concepts, terms and products to situations that are relevant to them. They begin to consider the consequences of financial decisions and they can make simple financial plans in familiar contexts. They can make straightforward interpretations of a range of financial documents and can apply a range of basic numerical operations, including calculating percentages. They can choose the numerical operations needed to solve routine problems in relatively common financial literacy contexts, such as budget calculations.
2 Baseline	400 to less than 475 points	84.7%	Students begin to apply their knowledge of common financial products and commonly used financial terms and concepts. They can use given information to make financial decisions in contexts that are immediately relevant to them. They can recognise the value of a simple budget and can interpret prominent features of everyday financial documents. They can apply single basic numerical operations, including division, to answer financial questions. They show an understanding of the relationships between different financial elements, such as the amount of use and the costs incurred.
1	326 to less than 400 points	95.2%	Students can identify common financial products and terms and interpret information relating to basic financial concepts. They can recognise the difference between needs and wants and can make simple decisions on everyday spending. They can recognise the purpose of everyday financial documents such as an invoice and apply single and basic numerical operations (addition, subtraction or multiplication) in financial contexts that they are likely to have experienced personally.

Figure 2.1 Summary descriptions of the five proficiency levels on the financial literacy scale

Some of the questions used in the assessment of financial literacy in PISA 2012 are presented in this section of the report, and each are mapped onto their corresponding position on the described proficiency scale in Figure 2.2. Each question can be associated with a particular point on the scale that indicates its relative difficulty. The first column in the mapping shows the proficiency level within which the question

is located. The second column shows the name of the unit and the question number. Questions within the same unit can represent a range of difficulties: the unit INVOICE, for example, comprises questions or parts of questions at Levels 1, 2, 3 and 5. Thus, a single unit may cover a broad section of the PISA financial literacy difficulty range. Column 3 shows the score at which the item is located, and column 4 provides a description of the nature of the question.

Level	Questions	Score	Nature of the question
1	INVOICE Question 1	360	Interpret a financial document, an invoice, identifying its purpose in the context of individual. Students are required to identify financial information by demonstrating a basic understanding of what an invoice is. Calculations are not required.
	AT THE MARKET Question 3	398	Evaluate financial information for decision making in shopping. The question examines whether students can recognise that buying things in bulk may be wasteful if a large amount is not needed, and it may be unaffordable to bear the higher absolute cost of buying in bulk in the short term. Students are required to evaluate a financial issue in the situation presented and describe their conclusion in this open-constructed response question. Students can provide their answers either verbally, without quantitative information, or with quantitative information of the price and weight. Full credit will be given if students can explain that buying more tomatoes at a cheaper price may not always be a good decision for some people.
2 Baseline	AT THE MARKET Question 2	459	Apply the concept of value for money. Students are asked to make a logical comparison between boxed and loose tomatoes and to explain which option provides the best value for money. In order to support their argument, students can provide their answer in words or explain their idea with quantitative information by using the price ("Zed") and weight (kilogram). Using the context of shopping for groceries, this item assesses whether students can interpret and use financial and numeric information and explain their judgment based on proportional reasoning and single basic numerical operations (multiplication and division). To gain credit for this item, students have to demonstrate that they have compared the two ways of buying tomatoes using a common point of comparison.
	INVOICE Question 2	461	Identify a delivery cost in an invoice for clothing. It asks a specific question, and the relevant information is explicitly stated. To answer this question correctly, students need to identify the relevant information, understanding that postage refers to the delivery charge. While calculations are not required, students are required to identify numerical information: the cost of postage.
3	NEW OFFER Question 1 Partial credit	510	Reflect on and evaluate the consequences of changing from one set of loan conditions to another. While all of the necessary information is provided in the question, in order to gain credit, students need to identify what is relevant and reflect on the consequences of taking a particular financial action. Students need to interpret financial and numeric information, reason about the effect that different financial actions (i.e. borrowing money from different loan providers) and variables have on financial well-being. No numerical operations are required. Partial credit is given for the responses including reference to either having extra money to use or getting a lower interest rate.
	INVOICE Question 3 Partial credit	547	Interpret a financial document in a complicated situation that is likely to take place in real life. Students are required to calculate the correct amount due, given that the quantity described on the invoice is incorrect. Partial credit is given for the responses taking into account either the tax change or postage. To get partial credit, students need to interpret and use financial and numeric information and apply basic numerical operations (i.e. subtraction).
4	PAY SLIP Question 1	551	Identify financial information on a pay slip. Students need to understand the difference between gross and net pay, that is, the difference between pay before and after any deductions have been made (such as deductions for health care or tax). Numeric operations are not required.
	NEW OFFER Question 2	582	Evaluate two complex financial products, two different personal loans, with competing information to explain a negative financial consequence of changing to a larger loan. Students need to interpret financial and numeric information, reason about the effect that different financial actions and variables have on financial well-being. In order to get full credit, students are required to describe a negative consequence of changing loans, such as the time taken to repay the money or the additional interest paid. No numerical operations are required.

Level	Questions	Score	Nature of the question
5	INVOICE Question 3 Full credit	660	Interpret a financial document in a complicated situation that is likely to take place in real life. Students are required to calculate the correct amount due, given that the quantity described on the invoice is incorrect. Full credit is given for the responses taking into account the tax change and postage. To get full credit, students need to interpret and use financial and numeric information in an unfamiliar context and solve a financial problem by using multiple numerical operations (i.e. addition, subtraction and calculation of percentages).
	NEW OFFER Question 1 Full credit	663	Reflect on and evaluate the consequences of changing from one set of loan conditions to another. While all of the necessary information is provided in the question, in order to gain credit, students need to identify what is relevant and reflect on the consequences of taking a particular financial action. Students need to interpret financial and numeric information, reason about the effect that different financial actions (i.e. borrowing money from different loan providers) and variables have on financial well-being. No numerical operations are required. Full credit is given for the responses including reference to both having extra money to use and getting a lower interest rate.

Figure 2.2 Map of selected financial literacy questions in PISA 2012, illustrating the proficiency levels

Released items

This section presents examples of the questions used in the optional assessment of financial literacy in PISA 2012 either in the main survey or the field trial. The examples include two questions for each proficiency level with regard to the following four items: (i) INVOICE (including questions for Level 1, 2, 3 and 5); (ii) AT THE MARKET (including questions for Level 1 and 2); (iii) NEW OFFER (including questions for Level 3, 4 and 5); and (iv) PAY SLIP (including a question for Level 4).

Not all questions are made public, as some will be used again when the assessment is repeated in 2015 in order to establish reliable trends in performance.

Example 1 INVOICE

Sarah receives this invoice in the mail.

INVOICE

Invoice Number: 2034
Date issued: 28 February

BREEZY CLOTHING

Sarah Johanson
29 Worthill Rd
Kensington
Zedland 3122

Breezy Clothing
498 Marple Lane
Brightwell
Zedland 2090

Product code	Description	Quantity	Unit cost	Total (excluding tax)
T011	T-shirt	3	20	60 zeds
J023	jeans	1	60	60 zeds
S002	scarf	1	10	10 zeds

Total Excluding Tax:	130 zeds
Tax 10%:	13 zeds
Postage:	10 zeds
Total Including Tax:	153 zeds
Already Paid:	0 zeds
Total due:	153 zeds
Date due:	31 March

INVOICE – Question 1

Why was this invoice sent to Sarah?

A Because Sarah needs to pay the money to Breezy Clothing.

B Because Breezy Clothing needs to pay the money to Sarah.

C Because Sarah has paid the money to Breezy Clothing.

D Because Breezy Clothing has paid the money to Sarah.

Question type: Multiple choice	
Description: Recognise the purpose of an invoice	
Content: Money and transactions	
Process: Identify financial information	
Context: Individual	
Difficulty: 360.3 (Level 1)	

Scoring

Full Credit

A. Because Sarah needs to pay the money to Breezy Clothing.

No Credit

Other responses.

Missing.

Comment

This simple multiple-choice question asks students to interpret a financial document, an invoice, identifying its purpose in the context of individual. Questions about interpreting financial documents are generally categorised as being in the content area of money and transactions. Students are required to identify financial information by demonstrating a basic understanding of what an invoice is. Calculations are not required. The question is located at Level 1.

INVOICE – Question 2

How much has Breezy Clothing charged for delivering the clothes?

Delivery charge in zeds: ………………..

Question type: Open-constructed response	
Description: Identify the cost of postage on an invoice	
Content: Money and transactions	
Process: Identify financial information	
Context: Individual	
Difficulty: 460.7 (Level 2)	

Scoring

Full Credit

10

ten

tene [Unambiguous mis–spelling of correct numerical value.]

No Credit

Other responses.

Missing.

Comment

This short open–constructed response question asks students to identify a delivery cost in an invoice for clothing. It asks a specific question, and the relevant information is explicitly stated. To answer this question correctly, students need to identify the relevant information, understanding that postage refers to the delivery charge. This is an example of the types of interpretation that they may need to make frequently in adult life. While calculations are not required, students are required to identify numerical information: the cost of postage. This item is situated at Level 2.

INVOICE – Question 3

Sarah notices that Breezy Clothing made a mistake on the invoice.

Sarah ordered and received two T-shirts, **not** three.

The postage fee is a fixed charge.

What will be the total on the new invoice?

Question type: Open-constructed response	
Description: Find a new total on an invoice, taking into account several factors (or demonstrate process required)	
Content: Money and transactions	
Process: Apply financial knowledge and understanding	
Context: Individual	
Difficulty: Full credit: 659.6 (Level 5); Partial credit: 547.1 (Level 3)	

Scoring

Full Credit

131

One hundred and thirty-one

One hudred and thirty-one [Unambiguous mis-spelling of 131]

Partial credit

133 [Leaves tax at 13 zeds] OR 121 [Omits postage]

One hundred and thirty-three

One hudred and therty-thre [unambiguous mis-spelling of 133]

One hundred and twenty-one

No Credit

Other responses.

123 [Leaves tax at 13 zeds and omits postage.]

Missing.

Comment

This question asks students to interpret a financial document in a complicated situation that is likely to take place in real life. Students are required to calculate the correct amount due, given that the quantity described on the invoice is incorrect. In this task, full credit is given for the responses taking into account the tax change and postage, and partial credit is given to responses that only consider one of those factors. The partial-credit score is located at Level 3 while the full-credit score is located at Level 5. To get full credit, students need to interpret and use financial and numeric information in an unfamiliar context and solve a financial problem by using multiple numerical operations (i.e. addition, subtraction and calculation of percentages). To get partial credit, students need to interpret and use financial and numeric information and apply basic numerical operations (i.e. subtraction).

Example 2   AT THE MARKET

AT THE MARKET

You can buy tomatoes by the kilogram or by the box.

2.75 zeds per kg

22 zeds for a 10 kg box

AT THE MARKET – Question 2

The box of tomatoes is better value for money than the loose tomatoes.

Give a reason to support this statement.

....

....

Question type:	Open-constructed response
Description:	Recognise value by comparing prices per unit
Content:	Money and transactions
Process:	Analyse information in a financial context
Context:	Home and family
Difficulty:	428.4 (Level 2)

Scoring

Full Credit

Explicitly or implicitly recognises that the price per kilogram of boxed tomatoes is less than the price per kilogram for loose tomatoes.

- » It is 2.75 zeds per kg for the loose tomatoes but only 2.2 zeds per kg for the boxed tomatoes.
- » It is only 2.20 per kg for the box.
- » Because 10kg of loose tomatoes would cost 27.50 zeds.
- » There are more kgs for every 1 zed you pay.
- » Loose tomatoes cost 2.75 per kg but tomatoes in the box cost 2.2 per kg.
- » It is cheaper per kg. *[Accept generalisation.]*
- » It is cheaper per tomato. *[Accept assumption that tomatoes are the same size.]*
- » You get more tomato per zed. *[Accept generalisation.]*

No Credit:

Other responses.

- » The box is always better value *[No explanation.]*
- » You get more for less. *[Vague.]*
- » Bulk buying is better.
- » The price per kilogram is different. *[Does not indicate that the box price is lower.]*

Missing.

Comment

This question requires students to apply the concept of value for money in a context familiar to 15-year-old students. Students are asked to make a logical comparison between boxed and loose tomatoes and to explain which option provides the best value for money. In order to support their argument, students can provide their answer in words or explain their idea with quantitative information by using the price ("Zed") and weight (kilogram).

In this question, the unit of currency is the imaginary Zed. PISA questions often refer to situations that take place in the fictional country of Zedland, where the Zed is the unit of currency. This artificial currency has been introduced to enhance comparability across countries and is explained to the students before the test begins.

Using the context of shopping for groceries, which is a familiar, everyday context to 15-year-old students, this item assesses whether students can interpret and use financial and numeric information and explain their judgment based on proportional reasoning and single basic numerical operations (multiplication and division). Questions about the buying of goods are generally categorised as being in the content area of money and transactions. To gain credit for this item, students have to demonstrate that they have compared the two ways of buying tomatoes using a common point of comparison. The question is located at Level 2.

AT THE MARKET – Question 3

Buying a box of tomatoes may be a bad financial decision for some people.

Explain why.

....

....

Question type: Open-constructed response	
Description: Recognise value by comparing prices per unit	
Content: Money and transactions	
Process: Evaluate financial issues	
Context: Home and family	
Difficulty: 397.6 (Level 1)	

Scoring

Full Credit

Refers to wastage if a larger amount of tomatoes is not needed.

- » The tomatoes might rot before you use them all.
- » Because you may not need 10 kg of tomatoes.
- » The ones at the bottom of the box might be bad so you are wasting money.

OR

Refers to the idea that some people cannot afford the higher absolute cost of buying in bulk.

- » You may not be able to afford a whole box.
- » You have to spend 22 zeds (rather than 2.75 or 5.50 for 1 or 2 kg) and you might not have that amount to spend.
- » You might have to go without something else that you need to pay for the box of tomatoes.

No Credit

Other responses.

- » It is a bad idea.
- » Some people don't like tomatoes *[Irrelevant.]*

Missing.

Comment

This question asks students to evaluate financial information for decision making in shopping, which is a situation familiar to 15-year-old students. The question examines whether students can recognise that buying things in bulk may be wasteful if a large amount is not needed, and it may be unaffordable to bear the higher absolute cost of buying in bulk in the short term. Students are required to evaluate a financial issue in the situation presented and describe their conclusion in this open-constructed response question. Students can provide their answers either verbally, without quantitative information, or with quantitative information of the price and weight. Full credit will be given if students can explain that buying more tomatoes at a cheaper price may not always be a good decision for some people. The question is located at Level 1.

Example 3 NEW OFFER

NEW OFFER

Mrs Jones has a loan of 8000 zeds with FirstZed Finance. The annual interest rate on the loan is 15%. Her repayments each month are 150 zeds.

After one year Mrs Jones still owes 7400 zeds.

Another finance company called Zedbest will give Mrs Jones a loan of 10 000 zeds with an annual interest rate of 13%. Her repayments each month would also be 150 zeds.

NEW OFFER – Question 1

If she takes the Zedbest loan, Mrs Jones will immediately pay off her existing loan.

What are two other financial benefits for Mrs Jones if she takes the Zedbest loan?

1. ....

2. ....

Question type: Open-constructed response	
Description: Recognise positive consequences of transferring a loan to a lower interest rate	
Content: Planning and managing finances	
Process: Analyse information in a financial context	
Context: Individual	
Difficulty: Full credit: 662.9 (Level 5); Partial credit: 509.7 (Level 3)	

Scoring

Full Credit

Refers to BOTH having extra money to use AND getting a lower interest rate.

» She will be paying 13% interest instead of 15%.

» She has an extra 2600 zeds.

» She has extra money to spend.

» The interest rate is lower.

Partial Credit

Refers to only one of the above.

» She will only be paying 13% interest rate.

- » [Blank]
- » She has extra money to spend.
- » [Blank]
- » The interest rate is 2% less.
- » She will pay off her loan to FirstZed. *[2nd benefit is a restatement of stem.]*

No Credit

Other responses.

- » She will pay off her debt. *[Repeats stem.]*

Missing.

Comment

This item asks students to reflect on and evaluate the consequences of changing from one set of loan conditions to another. While having a loan from a financial institution may be unfamiliar to 15-year-old students, this question is relevant to them since many of them will borrow money from financial institutions once they become adults. While all of the necessary information is provided in the question, in order to gain credit, students need to identify what is relevant and reflect on the consequences of taking a particular financial action. Therefore, the question belongs to the content category of planning and managing finances. Students need to interpret financial and numeric information, reason about the effect that different financial actions (i.e. borrowing money from different loan providers) and variables have on financial well-being. No numerical operations are required. In this task, full credit is given for the responses including reference to both having extra money to use and getting a lower interest rate. Partial credit is given to responses that explain one of those. The partial-credit score is located at Level 3 while the full-credit score is located at Level 5.

NEW OFFER – Question 2

> What is one possible **negative** financial consequence for Mrs Jones if she agrees to the Zedbest loan?
>
> ....

Question type: Open-constructed response	
Description: Recognise a negative consequence of having a large loan	
Content: Planning and managing finances	
Process: Evaluate financial issues	
Context: Individual	
Difficulty: 581.8 (Level 4)	

Scoring

Full Credit

Refers to Mrs Jones having more debt.

- » She will owe more money.
- » She will be unable to control her spending.
- » She is going deeper into debt.

Refers to paying more interest in total.

- » 13% of 10 000 is greater than 15% of 8000.

Refers to taking longer to pay the loan off.

- » It might take longer to repay because the loan is bigger and the payments are the same.

Refers to the possibility of paying a cancellation fee with FirstZed.

- » She may have a penalty fee for paying the FirstZed loan early.

No Credit

Other responses.

Missing.

Comment

This question asks students to evaluate two complex financial products, two different personal loans, with competing information to explain a negative financial consequence of changing to a larger loan. Students need to interpret financial and numeric information, reason about the effect that different financial actions and variables have on financial well-being. In order to get full credit, students are required to describe a negative consequence of changing loans, such as the time taken to repay the money or the additional interest paid. No numerical operations are required. The question is located at Level 4.

Example 4   PAY SLIP

Each month, Jane's salary is paid into her bank account. This is Jane's pay slip for July.

PAY SLIP

Each month, Jane's employer pays money into Jane's bank account.

This is Jane's pay slip for July.

EMPLOYEE PAY SLIP: Jane Citizen

Position: Manager	1 July to 31 July
Gross salary	2800 zeds
Deductions	300 zeds
Net salary	2500 zeds
Gross salary to date this year	19 600 zeds

PAY SLIP – Question 1

How much money did Jane's employer pay into her bank account on 31 July?

A 300 zeds

B 2500 zeds

C 2800 zeds

D 19 600 zeds

Question type: Multiple choice
Description: Identify the net salary on a pay slip
Content: Money and transactions
Process: Identify financial information
Context: Education and work
Difficulty: 550.5 (Level 4)

Scoring

Full Credit

B. 2500 zeds

No Credit

Other responses.

Missing.

Comment

This multiple-choice question asks students to identify financial information on a pay slip. While a pay slip is a common financial document, it may provide an unfamiliar financial context to 15-year-old students. Students need to understand the difference between gross and net pay, that is, the difference between pay before and after any deductions have been made (such as deductions for health care or tax). Numeric operations are not required. The question is located at Level 4.

CHAPTER 3

Results – Internationally and for Australia

How the financial literacy results are reported

Mean scores and distribution of scores

Mean scores provide a summary about student performance and allow comparisons of the relative standing between different countries and different subgroups. The mean score on the PISA 2012 financial literacy scale across the 13 participating OECD countries[8] was set at 500 score points on average, with a standard deviation of 100 points. This mean score will become the benchmark against which financial literacy performance in subsequent assessments will be compared.

The distribution of scores along the financial literacy scale also provides further detail about students' performance. Results are reported at the 5th, 10th, 25th, 75th, 90th and 95th percentiles, in graphical format to observe the variation in student performance with in a country or subgroup.

Each country's results are represented in horizontal bars with various shading. On the left end of the bar is the 5th percentile—this is the score below which 5% of the students have scored. The next two lines indicate the 10th percentile and the 25th percentile. The next line at the left of the white band is the lower limit of the confidence interval for the mean—i.e., there is 95% confidence that the mean will lie in this white band. The line in the centre of the white band is the mean. The lines to the right of the white band indicate the 75th, 90th and 95th percentiles.

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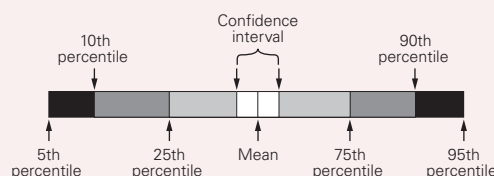
8   As PISA is an OECD assessment, the mean international score is calculated using data from all participating OECD countries and scaled to have a mean of 500 and a standard deviation of 100. Data from partner countries and economies is scaled in a similar manner but the data from these countries and economies does not contribute to the mean.

Australia's financial literacy performance from an international perspective

Figure 3.1 provides the mean financial literacy scores, along with the standard errors, confidence intervals around the mean, and the difference between the 5th and 95th percentiles. Figure 3.2 shows the graphical distribution of student performance. Countries are shown in order from the highest to the lowest mean financial literacy score and the three colour bands indicate whether a particular country has performed at a significantly higher or lower level, or whether they performed at a level not significantly different to Australia.

	Country	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
Significantly higher than Australia	Shanghai-China	603	3.2	596-609	269	
	Belgium	541	3.5	534-547	317	
Not significantly different from Australia	Estonia	529	3.0	523-534	261	
	Australia	526	2.1	521-530	333	
	New Zealand	520	3.7	512-527	388	
Significantly lower than Australia	Czech Republic	513	3.2	506-519	288	
	Poland	510	3.7	502-517	264	
	Latvia	501	3.3	494-506	251	
	OECD average-13	**500**	**1.0**	**497-501**	**317**	
	United States	492	4.9	482-501	331	
	Russian Federation	486	3.7	479-493	289	
	France	486	3.4	479-492	341	
	Slovenia	485	3.3	478-491	300	
	Spain	484	3.2	478-490	280	
	Croatia	480	3.8	472-487	283	
	Israel	476	6.1	464-488	383	
	Slovak Republic	470	4.9	460-479	350	
	Italy	466	2.1	462-470	284	
	Colombia	379	4.7	369-387	352	

Mean Financial literacy performance

Note: OECD average-13 refers to the average of the 13 OECD countries participating in the financial literacy assessment

Figure 3.1 Mean scores and distribution of students' performance on the financial literacy scale, by country

Shanghai–China achieved the highest score on the financial literacy assessment with an average score of 603 score points, which was significantly higher than any other country. The average student in Shanghai–China is working at a high level within proficiency level 4, whereas the average student across the OECD[9] is operating at a level near the base of proficiency level 3.

The Flemish community of Belgium scored at a significantly lower level than Shanghai–China but higher than all other countries, and was the highest performer of all participating OECD countries. Australia, with an average score of 526 points, scored significantly higher than the OECD average, and outperformed all other countries except Estonia and New Zealand. This score places the average Australian student towards the top of proficiency level 3.

9   "across the OECD" refers to the average across the 13 participating OECD countries.

These five countries, along with Czech Republic and Poland, scored at a level significantly higher than the OECD average. The average score for students in Latvia and the United States was not significantly different to the OECD average, while scores for all other countries were significantly lower than the OECD average.

The spread of scores between the highest and lowest performers was 317 score points on average across OECD countries. This is substantially higher than the 225 score points which separates average performance of students in Shanghai-China and students in Colombia, the highest and lowest achieving countries in the sample. In Australia the gap was a little higher, 333 score points. Amongst OECD countries the gap between high[10] and low performers was highest in New Zealand, with a spread of almost four standard deviations (388 score points).

Proficiency levels provide further meaning about students' ability in financial literacy. As outlined in Chapter 2 of this report, there are five proficiency levels defined in the PISA financial literacy assessment, ranging from Level 5 (the highest proficiency level) to Level 1 (the lowest proficiency level). The mean proportion of students at each proficiency level from below Level 1 to Level 5 by country is shown in Figure 3.2. Countries have been ordered by the percentage of students classified at Level 1 and below. Countries with the lowest proportion of students at or below Level 1 are placed at the top of the figure and countries with the highest proportion of students at or below Level 1 are placed at the bottom.
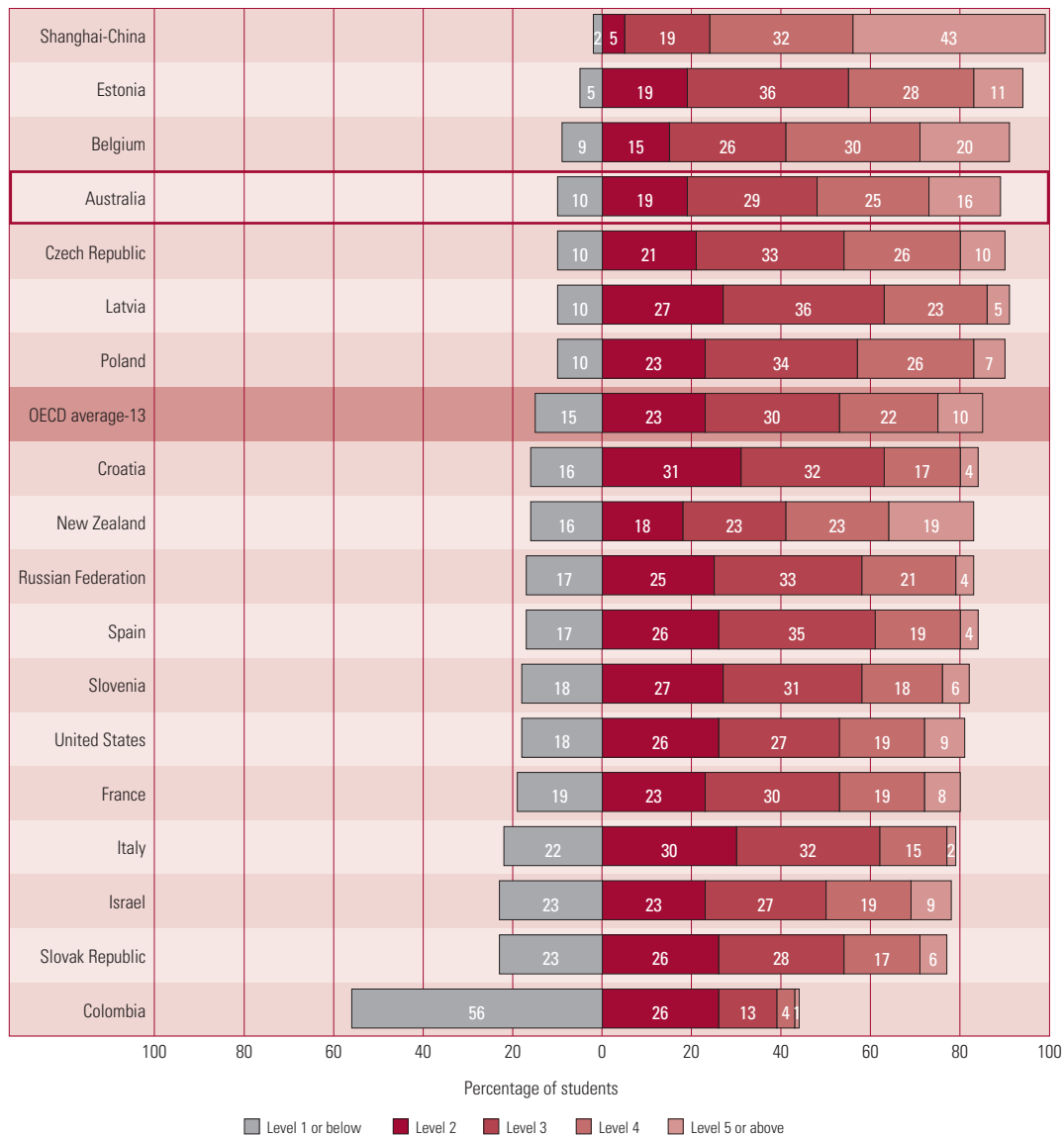

Figure 3.2 Proportion of students at financial literacy proficiency levels, internationally

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10   See Reader's Guide for definition of high and low performers.

Students who achieved a score of 625 points were placed at proficiency Level 5. These students can successfully complete the most difficult items on the assessment. They can apply their understanding to a wide range of financial terms and concepts to contexts that may only become relevant to their lives in the long term, such as borrowing money from loan providers. They are able to work with a high level of accuracy to solve non-routine financial problems, and they can describe the potential outcomes of financial decisions, showing an understanding of the wider financial landscape. The tasks at this level are related to students' ability to look ahead and plan for the future to solve financial problems or make the kinds of financial decisions that will be relevant to many of them in the future, regardless of country contexts. These tasks relate to higher-order uses of knowledge and skills and can thus reinforce other competencies, such as the use of basic mathematical knowledge and the ability to look ahead and plan for the future.

On average, ten per cent of students across the 13 OECD countries performed at this level. In five countries and economies a higher percentage achieved this level. Forty-three per cent of students in Shanghai–China performed at this level, while in Belgium and New Zealand 20 per cent and 19 per cent respectively of their students were highly proficient in financial literacy. In Australia, 16 per cent of students achieved at Level 5, and in Estonia 11 per cent achieved this level. Two countries (Italy and Colombia) had two per cent or fewer students performing at this level, and in Spain and the Russian Federation just four per cent of students were high achievers.

Students proficient at Level 4 on the financial literacy scale are able to apply their knowledge of less common financial concepts and terms in contexts that will be relevant to them as they move towards adulthood. Students at this level can interpret and evaluate a range of detailed financial documents and explain the functions of less commonly used financial products. They can also make financial decisions taking into account longer-term consequences and can solve routine problems in less common financial contexts. Tasks at Level 4 require an understanding of less common financial concepts and terms for students, such as bank account management and compound interest. Compound interest refers to the process of earning (or paying) interest on interest. Students need to show that they understand that the simple interest rate should be applied to both the original amount saved or borrowed and any interest that has been added to an account. The scope of tasks at this level also includes contexts that are not necessarily familiar to 15-year-old students but that will be relevant to them in their near future, such as a pay slip. Tasks also require an ability to identify the possible consequences of financial decisions, and apply this to making financial product choices such as deciding between two loan offers with different terms and conditions.

On average across the OECD almost one-third (32%) of students achieved at Level 4 or above[11]. In six countries and economies more than one third of students performed at Level 4 or above: Czech Republic (36%), New Zealand (43%), Australia (41%), Estonia (40%), Belgium (50%) and Shanghai–China (75%). In six OECD countries the percentage of students performing at level 4 or above is lower than the OECD average: France (28%), Israel (27%), Spain (22%), Slovenia (24%) and Italy (17%).

Students proficient at Level 3 can apply their knowledge to commonly used financial concepts, terms and products to situations that are relevant to them. Students at this level are beginning to consider the consequences of financial decisions, and they make simple financial plans in common contexts, such as starting to compare some of the financial benefits of borrowing money with different interest rates and repayments. They are able to make straightforward interpretations of a range of financial documents, such as an invoice and a payslip, and apply a range of basic numerical operations, such as making budget calculations. Students at this level can also choose the numerical operations needed to solve routine problems in relatively common financial literacy contexts. Therefore, they show not only a capacity to use mathematical tools but also to think creatively and choose the tools that best apply to the financial tasks at hand.

Across the 13 participating OECD countries, on average, more than three in five (62%) students are proficient at Level 3 or above. In Australia 70 per cent of students were proficient at this level. Across

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11   Level 4 or Level 5

all 18 participating countries and economies, on average, 61 per cent of students are at least proficient at Level 3. In seven OECD countries, the percentage of students performing at Level 3 or above is lower than the OECD average (62%): France (58%), Spain (57%), the US (56%), Slovenia (55%), Israel (54%), Slovak Republic (51%) and Italy (49%). In 17 of the 18 participating countries and economies, almost half of students perform at or above Level 3; the exception is Colombia, where 18 per cent of students perform at this level. In three top-performing countries and economies, namely Shanghai–China, Belgium and Estonia, more than three in four students performed at Level 3 or higher.

Level 2 is considered to be the baseline of financial literacy proficiency: at this level students are expected to begin to apply their knowledge to make financial decisions in contexts that are immediately relevant to them. They can recognise the value of a simple budget, and undertake a simple assessment of value-for-money, for example choosing between buying tomatoes by the kilo or by the box. Students at this level can also apply single basic numerical operations to answer financial questions, and can show an understanding of the relationships between different financial elements, such as the amount of use and the costs incurred. These skills are essential for full participation in society as an independent and responsible citizen. Beyond their direct relevance and relationship with mathematics and reading, these financial literacy skills can also help build other competencies that are becoming increasingly important, such as critical thinking and problem solving.

Across the 13 participating OECD countries, on average, 85 per cent of students are proficient at or above Level 2. In other words, more than eight in ten students are able to apply their knowledge to commonly used financial products, terms and concepts. In five OECD countries and economies, the percentage of students performing at or above Level 2 is higher than the OECD average (85%): Australia (90%), Czech Republic (90%), Poland (90%), Belgium (91%) and Estonia (95%). In Shanghai–China, 98 per cent of students perform tasks at or above Level 2. In 17 out of the 18 participating countries and economies, more than three in four students performed at or above Level 2; the exception is Colombia, where 44 per cent of students performed at that level.

Students who are proficient at Level 1 display very basic financial literacy skills: they can identify common financial products and terms and interpret information relating to basic financial concepts, such as recognising the purpose of an invoice. They can recognise the difference between needs and wants and they make simple decisions on everyday spending, such as recognising the value by comparing prices per unit. Students at this level can also apply single and basic numerical operations, such as addition, subtraction or multiplication, in financial contexts that they are likely to have experienced personally.

Students performing at Level 1 (and below Level 2 –the baseline level), are not yet able to apply their knowledge to real-life situations involving financial issues and decisions. Across the 13 participating OECD countries and economies, on average, 15 per cent of students perform below the baseline level. A large variation is observed across countries and economies. In Australia, 10 per cent of students are performing below the baseline level.

Relationship between financial literacy, reading and mathematics performance

The intercorrelation between the literacy domains in PISA is generally fairly high. On average across the OECD the correlation between mathematical and reading literacy is 0.77. As might be expected, the correlation across the 13 OECD countries between financial literacy and mathematical literacy is also strong (0.83) and between reading literacy and financial literacy just a little weaker (0.79). For Australian students the correlation between mathematical literacy and financial literacy is similar to the OECD average (0.84) but it is stronger between reading literacy and financial literacy than on average across the OECD. While the correlations are generally high amongst all participant countries, this is not unilateral. In Colombia, for example, the correlations between either mathematical literacy or reading literacy and financial literacy are only around 0.5. These differences stress that the knowledge and skills beyond mathematics and reading should be strengthened in countries such as this to enable students to

make informed financial decisions and plan their future. It underlines the importance of examining such relationships not only for countries but also for sub populations, for similar reasons.

Another way of looking at the relationship between financial literacy and mathematics and reading is to examine to what extent the variation in financial literacy performance can be explained by mathematics and reading. Figure 3.3 shows that in Australia, 21 per cent of the financial literacy score reflects skills that are uniquely captured by the financial literacy assessment. This is slightly lower than on average across the OECD (25%). The remaining 79 per cent of the Australian financial literacy score reflects skills that can be measured in mathematics and/or reading assessments. Of this 79 per cent:

> » more than half of the variation is shared with both mathematics and reading (60% of the total variation);
> » about 10 per cent is uniquely shared between financial literacy and mathematics; and
> » about nine per cent of the variation in financial literacy performance relies on skills that are specifically measured in the reading assessment.

Figure 3.3 also shows how the association of financial literacy skills with those of reading and mathematics varies across countries and economies. In Colombia, the Russian Federation, Italy and Spain, performance in mathematics and reading explains a lower proportion of the financial literacy variation than on average across OECD countries and economies. In these four countries, more than in others, a student's performance in financial literacy may not closely reflect their performance in mathematics and reading. In contrast, strong associations between the skills measured in the financial literacy assessment and performance in mathematics and reading are found in some middle and high performing countries and economies in financial literacy, such as New Zealand, Shanghai–China and the United States: in these three countries and economies, more than 80 per cent of the variation in financial literacy score reflects skills that can be measured in mathematics and/or reading assessments.

Legend:
- Variation associated with more than one subject
- Variation uniquely associated with mathematics performance
- Variation uniquely associated with reading performance
- Residual (unexplained) variation

Countries (top to bottom): New Zealand, Shanghai-China, United States, Slovenia, Croatia, Australia, Slovak Republic, Belgium, Poland, France, Czech Republic, OECD average-13, Israel, Estonia, Latvia, Spain, Italy, Russian Federation, Colombia
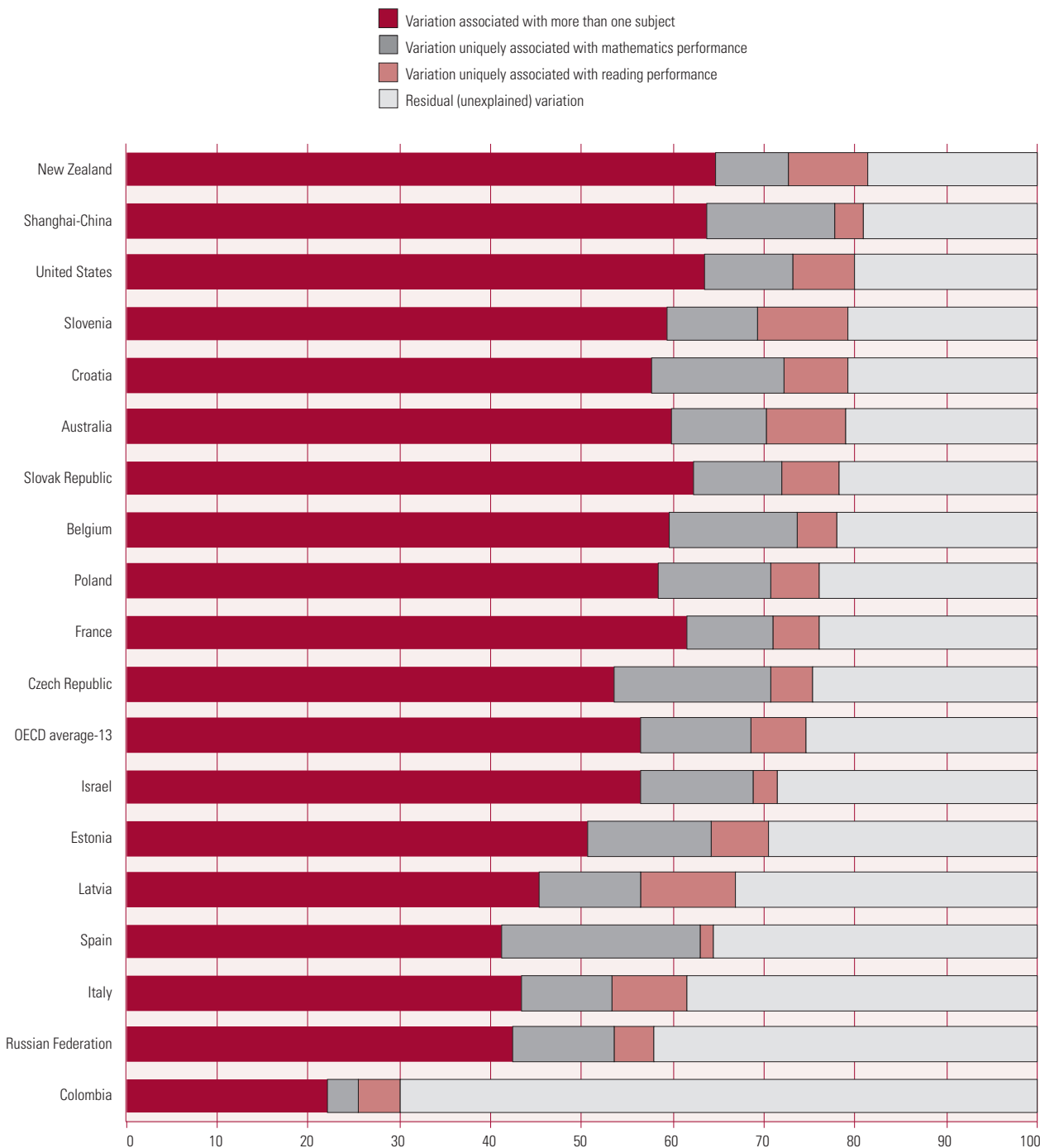
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 3.3 Variation in financial literacy performance associated with performance in mathematics and reading

The strong positive correlations between financial, mathematical and reading literacy indicate that, in general, students who perform well in mathematics and/or reading literacy also perform well in financial literacy. However, Figure 3.4 shows that there are wide variations in financial literacy performance for any given level of performance in mathematics and reading. This figure shows a ranking of countries in relative performance, where relative performance compares students' actual performance to the performance that would be expected based on their performance in mathematics and reading.

In Australia, as well as the Czech Republic, the Russian Federation, New Zealand, Belgium and Estonia, students performed significantly higher in financial literacy than students in other countries with similar performance in mathematics and reading. In the first four of these countries, more than 60 per cent of students perform better in financial literacy than expected given their scores in mathematics and reading.

Figure 3.4 shows a bar chart titled "Score-point difference between actual and expected performance in financial literacy" with the y-axis ranging from -25 to 25.

The upper region is labelled: "Students' performance in financial literacy is higher than the performance of students with similar scores in mathematics and reading"

The lower region is labelled: "Students' performance in financial literacy is lower than the performance of students with similar scores in mathematics and reading"

Countries (x-axis): Czech Republic, Australia, Russian Federation, New Zealand, Belgium, Estonia, Spain, Slovak Republic, Poland, Croatia, OECD average-13, US, Latvia, Shanghai-China, Colombia, Israel, Slovenia, Italy, France
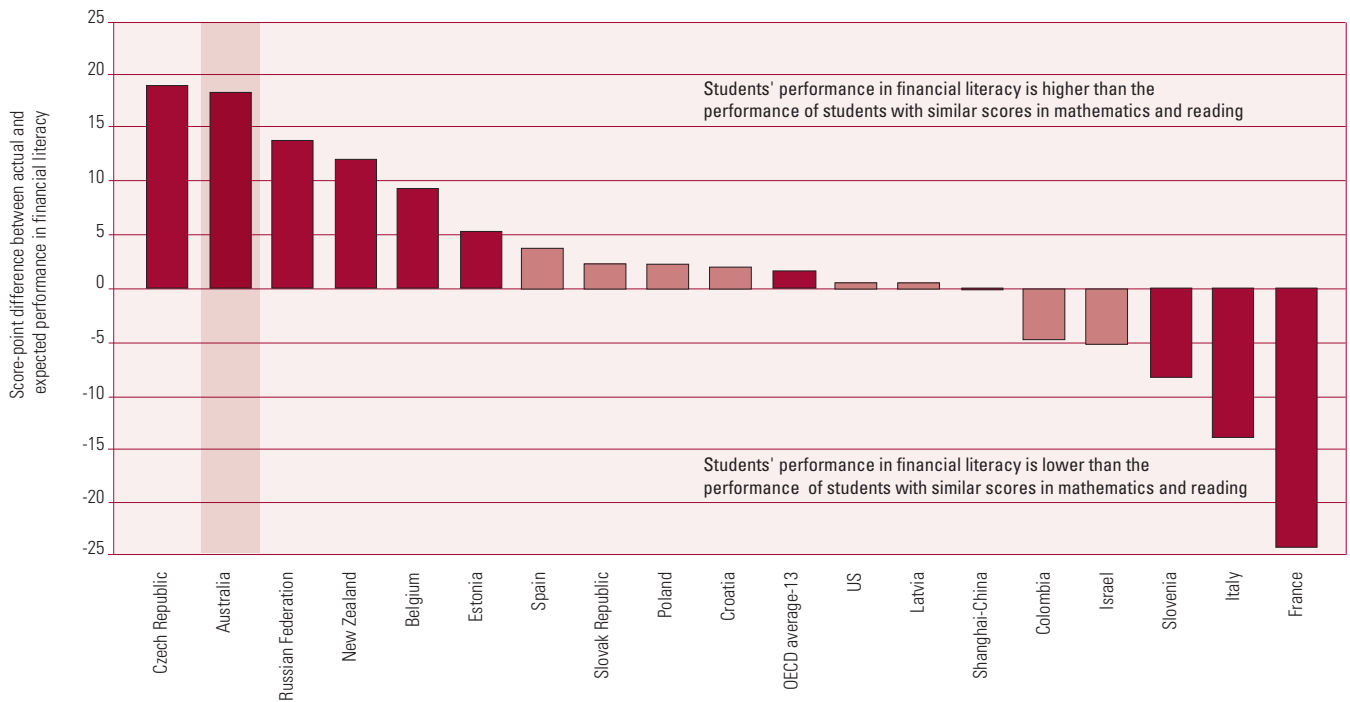
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 3.4 Relative performance in financial literacy

Of the six countries which performed statistically higher than expected, five (Australia, Belgium, Czech Republic, Estonia and New Zealand) have started to develop school curricula for financial literacy, including the development of learning frameworks, and in Australia, Belgium, Czech Republic and New Zealand, professional development for teachers is also available.

CHAPTER 4

Relationships between financial literacy and student background

There are many aspects of a student's background that can influence their financial literacy competencies and skills (Lusardi et al. 2010). This chapter provides an analysis of Australian students' financial literacy performance in the context of certain student characteristics as detailed in Table 1.2 of Chapter 1: sex, Indigenous background, geographic location, immigrant and language background, and socioeconomic background, as well as parental occupation and education separately.

Financial literacy performance by sex

Figure 4.1 provides the means and standard errors separately for males and females in the table on the left, while the right shows the differences between scores graphically.
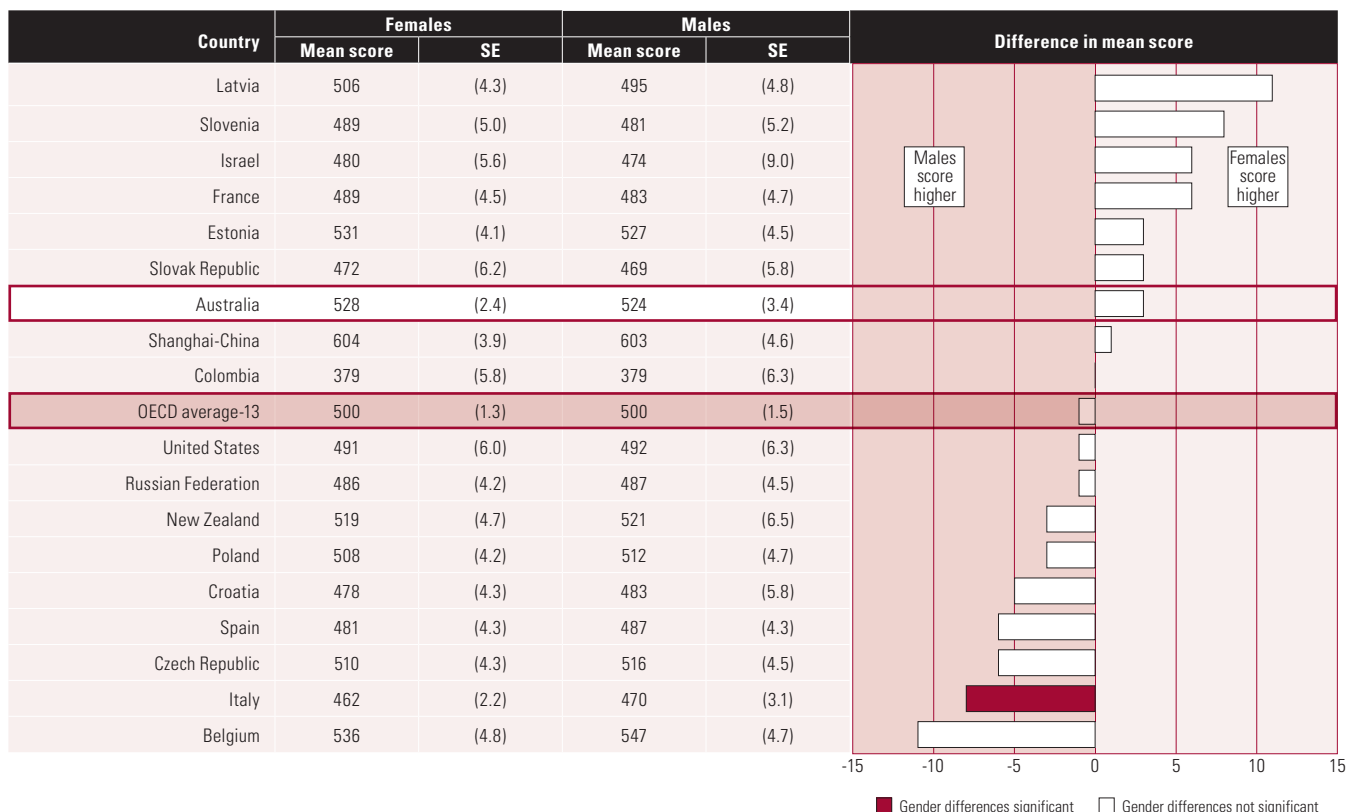
Country	Females		Males		Difference in mean score
	Mean score	SE	Mean score	SE	
Latvia	506	(4.3)	495	(4.8)	
Slovenia	489	(5.0)	481	(5.2)	
Israel	480	(5.6)	474	(9.0)	
France	489	(4.5)	483	(4.7)	
Estonia	531	(4.1)	527	(4.5)	
Slovak Republic	472	(6.2)	469	(5.8)	
Australia	528	(2.4)	524	(3.4)	
Shanghai-China	604	(3.9)	603	(4.6)	
Colombia	379	(5.8)	379	(6.3)	
OECD average-13	500	(1.3)	500	(1.5)	
United States	491	(6.0)	492	(6.3)	
Russian Federation	486	(4.2)	487	(4.5)	
New Zealand	519	(4.7)	521	(6.5)	
Poland	508	(4.2)	512	(4.7)	
Croatia	478	(4.3)	483	(5.8)	
Spain	481	(4.3)	487	(4.3)	
Czech Republic	510	(4.3)	516	(4.5)	
Italy	462	(2.2)	470	(3.1)	
Belgium	536	(4.8)	547	(4.7)	

Males score higher — Females score higher

-15 -10 -5 0 5 10 15

■ Gender differences significant   □ Gender differences not significant

Figure 4.1 Sex differences in financial literacy performance, internationally

In contrast with mathematical and reading literacy, there were gender differences evident only in one country (Italy) on financial literacy, and this difference, although statistically significant, was small. However, as shown in Figure 4.2, once students' performance in mathematics and reading was controlled for, males tended to outperform females in financial literacy in a number of countries. This was the case for Australia, as well as for Italy, Shanghai–China, Latvia, Poland, Slovak Republic, Slovenia, Belgium, Estonia, Croatia, and the United States. Again, the differences were not large – 15 points in Italy and only six score points in Australia.
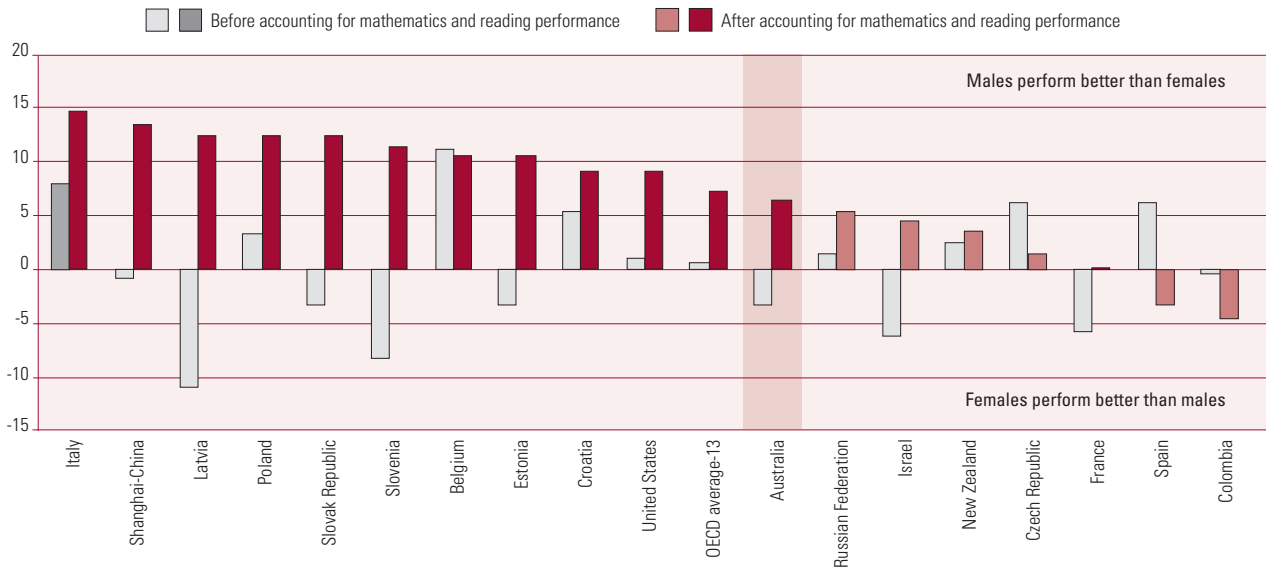
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.2 Sex differences internationally in financial literacy performance, after accounting for mathematics and reading performance

Figure 4.3 provides the percentage of males and females at each of the financial literacy proficiency levels – the OECD average and for Australia as a whole. On average across OECD countries, 11 per cent of males and eight per cent of females achieved proficiency level 5 or above, while 17 per cent of Australian males and 15 per cent of Australian females were top performers in this area. At the other end of the proficiency scale, 17 per cent of males and 14 per cent of females on average across the OECD countries performed at Level 1 and below, while in Australia 12 per cent of males and eight per cent of females performed at this low level.

The finding that there are more males than females, both internationally and in Australia, among the low performers (at or below Level 1) and the top performers (Level 5 and above) is of interest because it is a different pattern to that seen in mathematical literacy – where there were more males at the high end of achievement but fewer at the lower end.
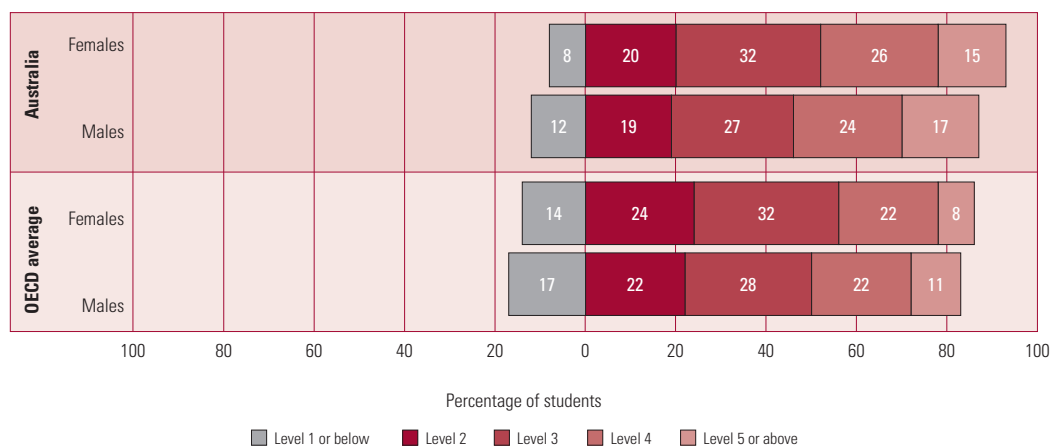

Figure 4.3 Proficiency in financial literacy internationally and for Australia, by sex

While these findings from PISA show limited gender differences in financial literacy, other studies of adults have reported that men have better financial knowledge than women (in Australia, for example: ANZ, 2011; Agnew, Bateman & Thorp, 2013). It could be hypothesised that gender differences in adulthood may be, to some extent, a reflection of different socioeconomic characteristics of men and women. For example, as they grow up, males and females may be exposed to different opportunities to learn and improve their financial competencies, such as different opportunities to access labour and financial markets, therefore ending up with different levels of financial knowledge and varying degrees of understanding of different financial strategies in adulthood.

> » Seventeen per cent of Australian males and 15 per cent of Australian females were top performers compared to 11 per cent of males and eight per cent of females across the OECD.
>
> » Twelve per cent of Australian males and eight per cent of Australian females were low performers in financial literacy compared to 17 per cent of males and 14 per cent of females across the OECD.

Financial literacy performance by Indigenous background

Figure 4.4 shows the mean scores and distribution of scores for Indigenous and Non-Indigenous students. The average score for Indigenous students was 477 score points, significantly lower than both the OECD average and the average score for Non-Indigenous students, but just in the range of proficiency level 3, above the baseline of level 2. The average score for Non-Indigenous students was 529 score points, placing these students at around the middle of proficiency level 3.

The mean score difference of 51 score points represents about two-thirds of a proficiency level. While this gap is clearly still large enough to be of some concern, it is substantially smaller than the gap between Indigenous and Non-Indigenous students on mathematical literacy (90 score points) or reading literacy (87 score points).

The spread of scores was much greater for Indigenous than Non-Indigenous students, spanning some 382 score points compared to 329 score points for Non-Indigenous students.
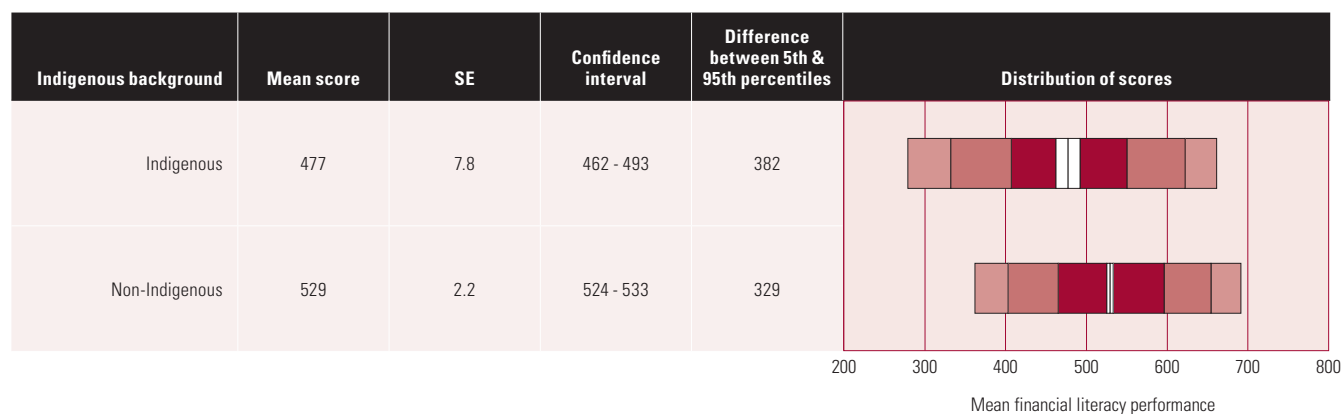
Indigenous background	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
Indigenous	477	7.8	462 - 493	382	
Non-Indigenous	529	2.2	524 - 533	329	

Figure 4.4 **Mean scores and distribution of students' performance on the financial literacy scale, by Indigenous background**

This wide spread of scores is also evident in the proficiency levels for Indigenous and Non-Indigenous students, as shown in Figure 4.5. Considering the average low score for Indigenous students, there was nevertheless a substantial proportion of high performers, with 10 per cent of Indigenous students performing at Level 5 or above (16 per cent of Non-Indigenous students were at a similar level). However, almost one-quarter of Indigenous students (23%) achieved only Level 1 or below, compared to one-tenth (10%) of Non-Indigenous students. These students are not yet able to apply their knowledge to real-life situations involving financial issues and decisions.
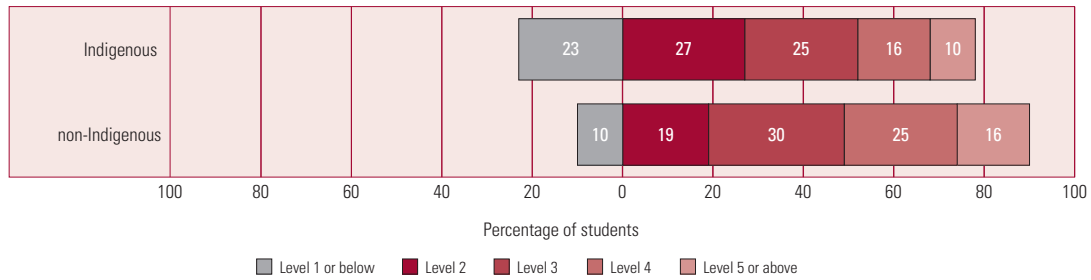
Figure 4.5 Proportion of students at financial literacy proficiency levels, by Indigenous background

Financial literacy performance by sex and Indigenous background

Figure 4.6 shows that there was no difference between the performance of Indigenous males and females, with the mean score of 481 for Indigenous females being not significantly different to the mean score of 474 for Indigenous male students. Indigenous females scored on average 49 score points lower than Non–Indigenous females, and Indigenous males on average 53 score points lower than Non-Indigenous males.
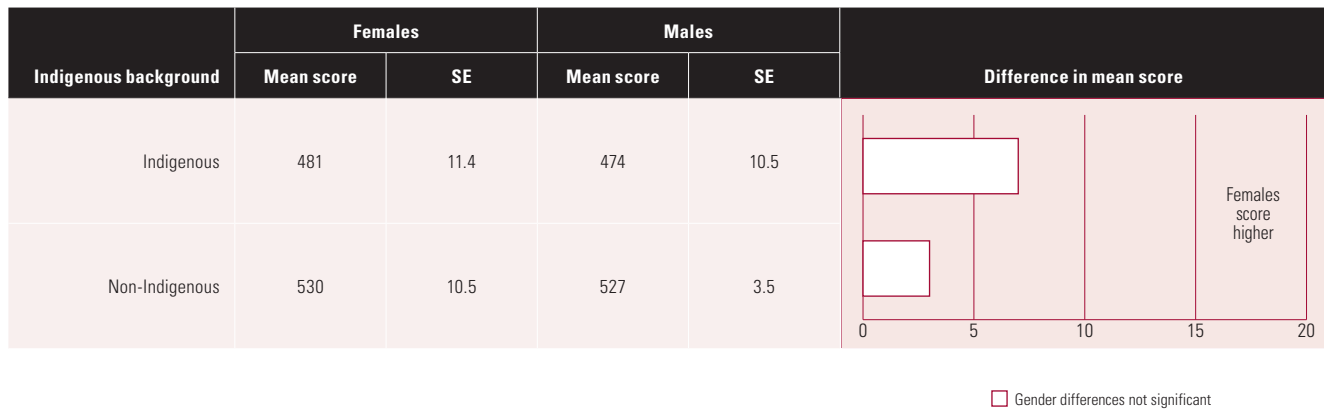
Indigenous background	Females		Males		Difference in mean score
	Mean score	SE	Mean score	SE	
Indigenous	481	11.4	474	10.5	
Non-Indigenous	530	10.5	527	3.5	

Figure 4.6 Differences in financial literacy performance, by sex and Indigenous background

Figure 4.7 presents the proportion of Indigenous and Non–Indigenous students at each of the proficiency levels, by sex. The proportions for male and female Indigenous students are striking in their similarity – 10 per cent of each group are top performers with a further 15 per cent of females and 16 per cent of males in the next highest proficiency level. The proportions of Indigenous males and females are also very similar at the other end of the achievement scale, and substantially larger than for Non–Indigenous males and females.
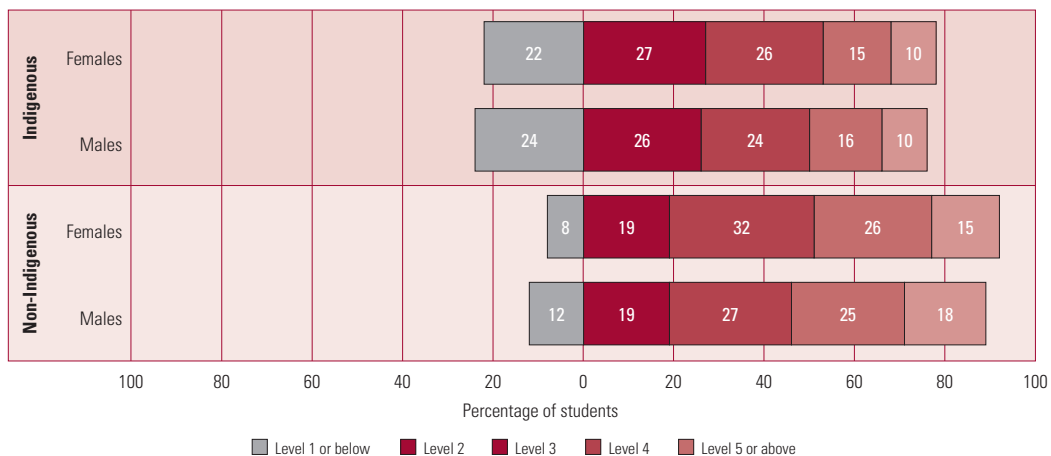

Figure 4.7 Proportion of students at financial literacy proficiency levels, by sex and Indigenous background

» Indigenous students achieved an average score of 477 points. Indigenous students performed significantly lower than Non-Indigenous students, with a difference of 51 score points on average.

» Ten per cent of Indigenous students were top performers compared to 16 per cent of non-Indigenous students.

» Almost one-quarter (23%) of Indigenous students were low performers compared to one-tenth of non-Indigenous students.

Financial literacy performance by geographic location

Using the MCEECDYA *Schools Geographic Location Classification*[12], schools were categorised by their geographic location using three broad categories (metropolitan, provincial and remote). Students who attended schools in metropolitan areas achieved significantly higher scores than those in provincial or remote areas, and students who attended schools in provincial areas performed significantly higher than those in remote areas (Figure 4.8).

The average score for students in metropolitan areas was 535 score points, close to the top of proficiency level 3. The average score for students in provincial areas places these students just below the middle of the same proficiency level, and that of students in remote areas places them towards the top of the baseline – proficiency level 2.
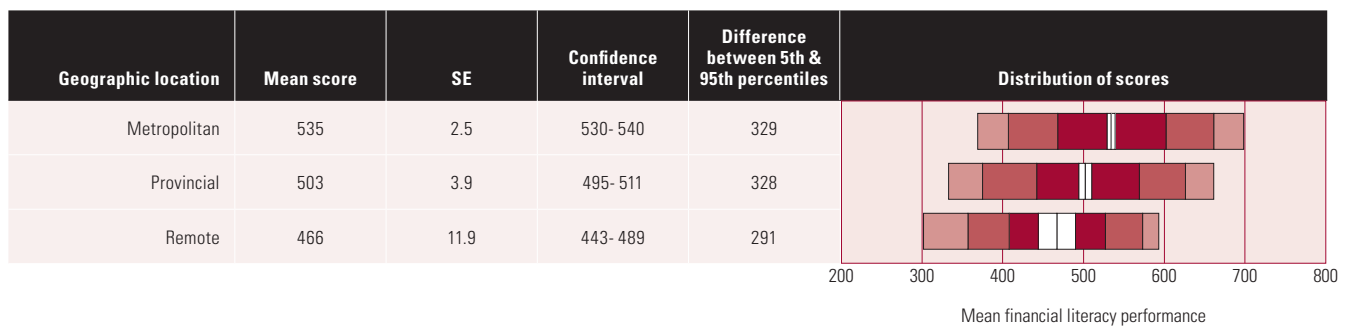
Geographic location	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
Metropolitan	535	2.5	530- 540	329	
Provincial	503	3.9	495- 511	328	
Remote	466	11.9	443- 489	291	

Mean financial literacy performance

Figure 4.8 Mean scores and distribution of students' performance on the financial literacy scale, by geographic location

Eighteen per cent of students in metropolitan schools were high achievers in financial literacy, achieving at proficiency level 5 or higher (Figure 4.9). Only 11 per cent of students in provincial schools and just two per cent of students in remote schools had this level of mastery of financial literacy.

At the other end of the scale, just nine per cent of students in metropolitan schools did not achieve the minimum standard of proficiency level 2. Fourteen per cent of students in provincial schools and 22 per cent of students in remote schools failed to achieve this minimum level. Again, this is a large proportion of students who are not yet able to apply their knowledge to real-life situations involving financial issues and decisions.
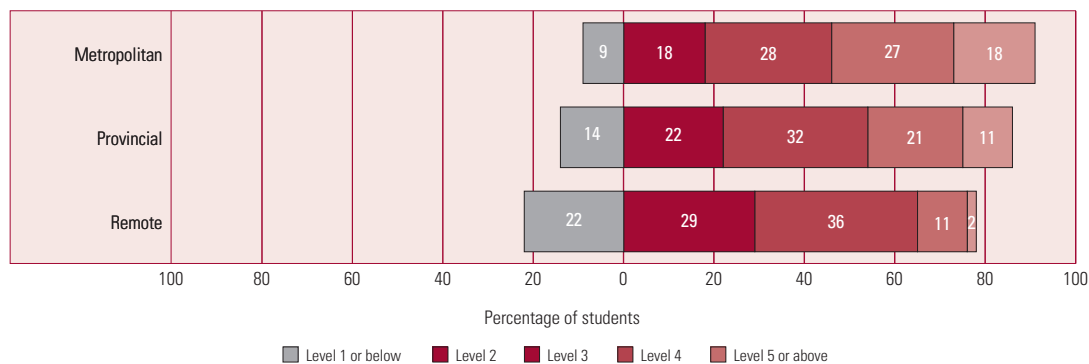
12   The Reader's Guide provides more information about the MCEECDYA *Schools Geographic Location Classification*

Figure 4.9 legend:
☐ Level 1 or below ■ Level 2 ■ Level 3 ■ Level 4 ■ Level 5 or above

Figure 4.9 Proportion of students at financial literacy proficiency levels, by geographic location

» Students in metropolitan schools achieved an average score of 535 points and performed significantly higher than students in provincial schools (by 32 score points on average) and students in remote schools (by 69 score points on average). Students in provincial schools performed significantly higher than students in remote schools (by 37 score points on average).

» Eighteen per cent of students in metropolitan schools, 11 per cent of schools in provincial schools and two per cent of students in remote schools were top performers.

» Nine per cent of students in metropolitan schools, 14 per cent of students in provincial schools and 22 per cent of students in remote schools were low performers.

Financial literacy performance by socioeconomic background

Socioeconomic background is measured by PISA's ESCS index, which is based on a number of questions about a student's family and home background. The mean scores for financial literacy performance at each socioeconomic quartile (ESCS) are shown in Figure 4.10 and illustrate that, on average, students from higher socioeconomic backgrounds perform at a higher level than students from lower socioeconomic backgrounds.

Students in the highest socioeconomic quartile achieved an average score of 569 score points, placing them at proficiency level 4. This was 87 score points higher than that of students in the lowest socioeconomic quartile, and represents a difference of more than one proficiency level. This is similar to the pattern seen in PISA mathematics. Students in the lowest quartile of socioeconomic background are operating at the lowest level of proficiency level 3, however it is a positive sign that this is above the baseline proficiency level.
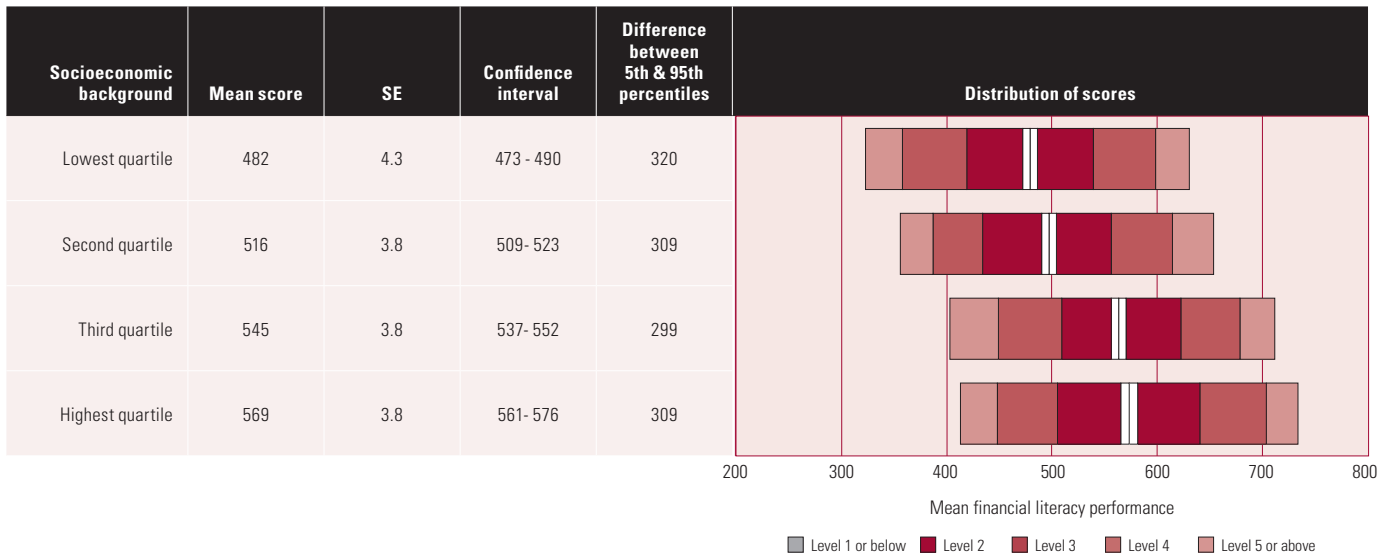
Socioeconomic background	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
Lowest quartile	482	4.3	473 - 490	320	
Second quartile	516	3.8	509- 523	309	
Third quartile	545	3.8	537- 552	299	
Highest quartile	569	3.8	561- 576	309	

Figure 4.10 Mean scores and distribution of students' performance on the financial literacy scale, by socioeconomic background

The proportion of students in each quartile of socioeconomic background at each of the proficiency levels is shown in Figure 4.11. The proportion of top performers ranges from a substantial 27 per cent of students in the highest quartile of socioeconomic background, to just eight per cent of those in the lowest quartile. Almost 60 per cent of students in the highest quartile of SES performed at Level 5 or Level 6, showing advanced levels of financial literacy understanding, and it is of some concern that only one-quarter of students in the lowest quartile have this level of knowledge, while almost the same proportion (21%) were performing at a level below the baseline proficiency level, at proficiency level 1 or lower.
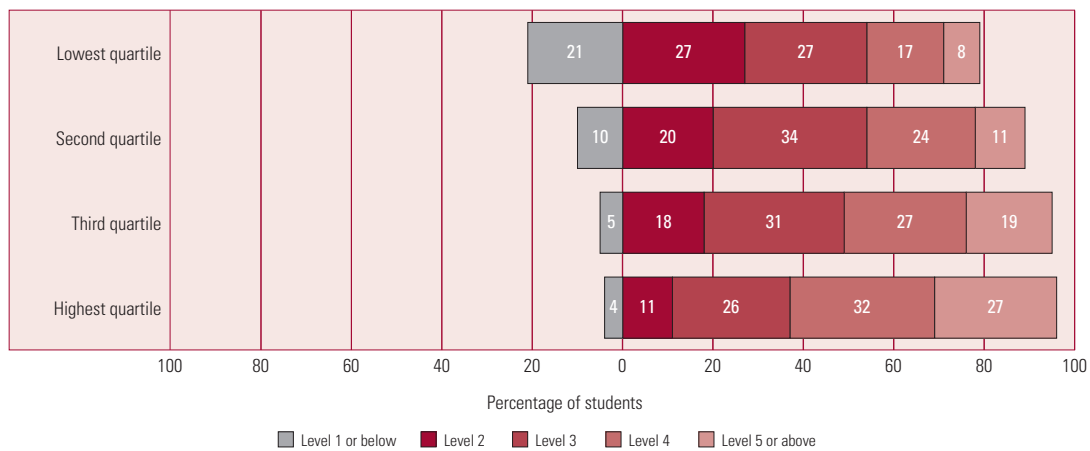

Figure 4.11 Proportion of students at financial literacy proficiency levels, by socioeconomic background

» In general, the higher the level of a student's socioeconomic background, the better the student's performance in financial literacy. Students in the highest socioeconomic quartile achieved an average score of 569 points and performed 87 score points on average higher than students in the lowest socioeconomic quartile.

» More than one-quarter (27%) of students in the highest socioeconomic quartile were top performers compared to eight per cent of students in the lowest socioeconomic quartile.

» Four per cent of students in the highest socioeconomic quartile were low performers compared to one-fifth (21%) of students in the lowest socioeconomic quartile.

Financial literacy performance by immigrant status

Immigrant background was measured on students' self-report of where they and their parents were born[13]. The mean financial literacy scores, together with the standard error, confidence intervals around the mean, the difference between the 5th and 95th percentiles and distribution of scores is shown in Figure 4.12.

The pattern of scores for financial literacy is similar to the pattern seen in mathematical literacy. First-generation students scored significantly higher than either Australian-born or foreign-born students, whereas there was no significant difference between the scores of Australian-born and foreign-born students. The average score for first-generation students places them at the top of proficiency level 3, while the means for Australian-born and foreign-born students places them a little over midway in this same proficiency level.

The spread of scores for foreign-born students was substantially wider than for the other two groups, reflecting that foreign-born students is a very broad category that encompasses a range of backgrounds from economic migrants to political refugees.

Immigrant background	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
Australian-born	356	6.9	342- 370	328.9	
First-generation	378	9.6	360- 397	315.7	
Foreign-born	337	15.8	306- 368	365.3	

Figure 4.12 Mean scores and distribution of students' performance on the financial literacy scale, by immigrant background

At the higher end of the financial literacy proficiency scale, 18 per cent of first-generation students were high achievers, slightly higher than the percentage of Australian-born (15%) or foreign-born (14%) students. There was also a higher proportion of first-generation students at proficiency level 4 than the proportion of foreign-born or Australian-born students at the same level, resulting in a higher mean score for this group. Around the same proportion of students in each group failed to achieve the baseline proficiency level (Figure 4.13).
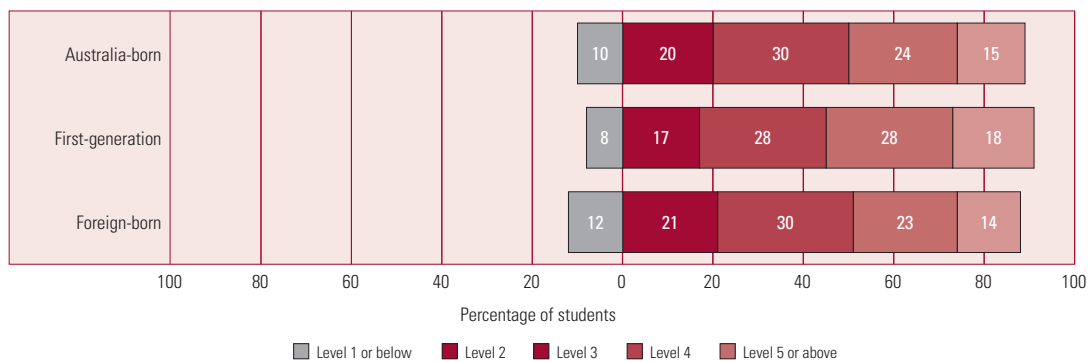

Figure 4.13 Proportion of students at financial literacy proficiency levels, by immigrant background

> » Australian-born students' performance in financial literacy was significantly lower than that of first-generation students and was not significantly different from that of foreign-born students.

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13   The Reader's Guide provides more information about immigrant background

Financial literacy performance by language background

Language background was measured by students' self-report of the main language spoken in their home. These details were collapsed into two categories: those students who reported that they spoke English at home; and those students who spoke a language other than English at home.

Students who spoke English at home scored 527 points on average, which was not significantly different from the 529 score point average for those students who spoke a language other than English at home. Both groups are located at around the middle of proficiency level 3.

Figure 4.14 shows, however, that the spread of scores for students who spoke a language other than English at home was wider (377 points) than for students who spoke English at home (323 score points). As was noted for country of birth, language spoken at home is also a very broad category that encompasses a range of backgrounds.
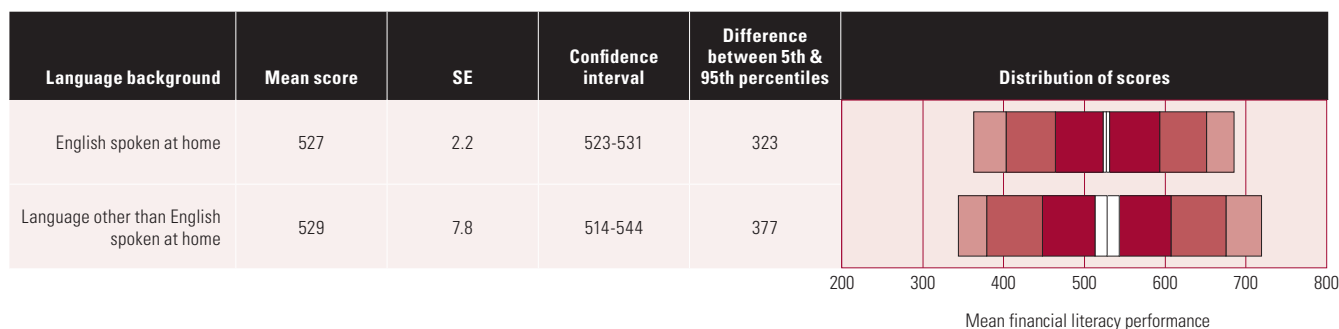
Language background	Mean score	SE	Confidence interval	Difference between 5th & 95th percentiles	Distribution of scores
English spoken at home	527	2.2	523-531	323	
Language other than English spoken at home	529	7.8	514-544	377	

Figure 4.14 Mean scores and distribution of students' performance on the financial literacy scale, by language background

Figure 4.15 shows that the proportion of students who performed at Level 5 was higher for students who spoke English at home (20%) than for students who spoke a language other than English at home (16%). Interestingly, the proportion of students who failed to reach Level 2 was also higher for students who spoke English at home (13%) than for students who spoke a language other than English at home (10%).
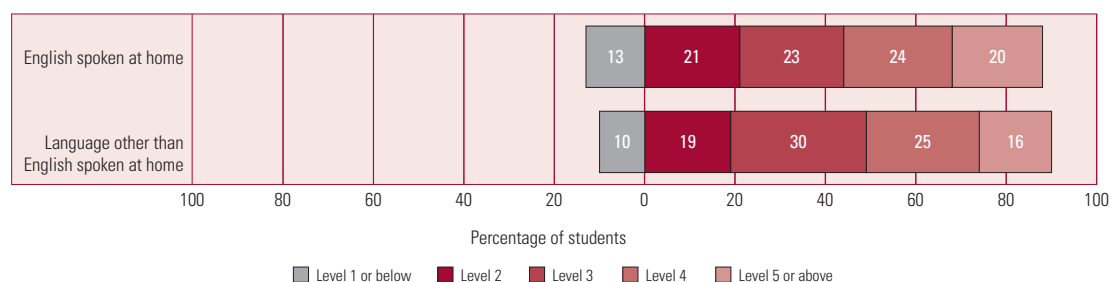

Figure 4.15 Proportion of students at financial literacy proficiency levels, by language background

> » Students who spoke English at home performed at a level not significantly different to those students who spoke a language other than English at home.

The relationship between a student's background and financial literacy

To what extent do the factors examined so far in this chapter explain differences in financial literacy performance across students, as compared to other domains such as mathematics and reading? This section analyses the relationship between each of these factors and performance in financial literacy, as compared to mathematics and reading. At the end of the chapter, all factors are considered together.

Socioeconomic gradients

The terms socioeconomic gradient or social gradient refer to the relationship between an outcome and socioeconomic background. In the case of PISA, the outcome is students' performance (in this case in financial literacy) and the measure of socioeconomic background is the ESCS index. PISA data show that there is a significant relationship between students' performance and their socioeconomic background as measured by ESCS. This was seen earlier in this chapter, with substantial differences in scores between those in the lowest socioeconomic quartile and those in the highest.

This relationship is evident in Australia and all PISA countries, although the strength of the relationship differs among countries. Using a graphical representation, the line of best fit for the points that represent students' performance against socioeconomic background (ESCS) provides information about several aspects of the relationship. This line is referred to as the socioeconomic or social gradient. Two elements of this line help understand this relationship.

The slope and the strength of the social gradient measure different aspects of the relationship between socioeconomic background and performance. If the slope of the gradient is steep and the strength of the relationship between socioeconomic background and performance is strong, the challenges for systems are the greatest. That is, students in these systems are more likely to perform at a level determined by their socioeconomic background and there is a greater performance differential between students from the most advantaged and least advantaged backgrounds. In Australia, it would seem that this is not the case—that while it does happen to some extent, there are many exceptions.

The strength of the relationship between achievement and socioeconomic background refers to how well socioeconomic background predicts performance. It is important to consider how closely individual results fit to the line of best fit. In other words, are the points representing the performance and ESCS measures for all the individual students situated close to the line of best fit or are the individual students widely scattered about it? The closer all the points are to the line of best fit, the greater the strength of the relationship. This aspect of the social gradient is represented by the percentage of the variation in performance that can be explained by the ESCS index. If the percentage is large, it indicates that performance is relatively highly determined by ESCS; whereas if the percentage is small, it indicates that performance is not highly determined by ESCS. For OECD countries as a whole, the strength of the relationship between achievement in financial literacy and socioeconomic background is about 14, meaning that 14 per cent of the variation in student performance is accounted for by socioeconomic background. In Australia, for financial literacy, the strength of the relationship was just over 11, meaning that about 11 per cent of the variation in achievement was explained by socioeconomic background.

The slope of the gradient line refers to the impact of socioeconomic background on performance. A steeper slope indicates a greater impact of socioeconomic background on performance, such that there is a bigger difference in performance between low socioeconomic background students and high-socioeconomic background students than in systems with gentler slopes. Education systems typically aim to decrease the differences in performance between different social groups. Greater equity would be indicated by a flatter gradient. Australia is the only country where performance differences related to socioeconomic background are relatively large (i.e., the strength of the relationship is weak).

Table 4.1 presents the data on strength and slope for each country in the financial literacy assessment. On average across the OECD countries participating in this assessment, around 14 per cent of the student performance in financial literacy within each country and economy is associated with the *PISA index of economic, social and cultural status*. Estonia combines high performance and high equity as it displays above-average performance and above-average equity (i.e. a weak association between performance and socioeconomic status). Italy and the Russian Federation also display above-average equity. By contrast, in New Zealand, the relationship between student performance and socioeconomic status is stronger than

average. Australia displays above–average performance but the measures of equity are not significantly different to the OECD average.

Table 4.1 Comparing countries'/economies' performance in financial literacy and equity

Country/Economy	Mean performance in financial literacy	Strength of the relationship between financial literacy performance and socioeconomic status	Performance difference across socioeconomic groups
	Mean score	Percentage of explained variance in financial literacy performance	Score-point difference in financial literacy associated with one-unit increase in the PISA index of economic, social and cultural status
OECD average-13	500	13.6	41
Estonia	529	6.7	24
Australia	526	11.3	42
Belgium	541	11.3	37
Poland	510	12.2	31
Shanghai-China	603	12.5	29
Czech Republic	513	13.3	45
New Zealand	520	19.0	64
Latvia	501	13.2	32
United States	492	16.6	41
Italy	466	7.5	25
Russian Federation	486	9.6	36
Croatia	480	10.4	33
Colombia	379	13.0	33
Israel	476	14.4	50
Spain	484	14.6	32
France	486	15.5	50
Slovenia	485	16.3	41
Slovak Republic	470	18.2	48

Countries/economies with mean performance in financial literacy above the OECD average
Countries/economies where the strength of the relationship between financial literacy performance and socioeconomic status is below the OECD average
Countries/economies where performance differences across the socioeconomic spectrum are below the OECD average

Countries/economies with mean performance in financial literacy not statistically different from the OECD average
Countries/economies where the strength of the relationship between financial literacy performance and socioeconomic status is not statistically different from the OECD average
Countries/economies where performance differences across the socioeconomic spectrum are not statistically different from the OECD average

Countries/economies with mean performance in financial literacy below the OECD average
Countries/economies where the strength of the relationship between financial literacy performance and socioeconomic status is above the OECD average
Countries/economies where performance differences across the socioeconomic spectrum are above the OECD average

Note: Countries and economies are presented in three groups: those whose mean performance is above the OECD average, those whose mean performance is not statistically different from the OECD average, and those whose mean performance is below the OECD average. Within each group, countries and economies are ranked in descending order of the strength of the relationship between performance and socioeconomic status.

Source: OECD (2014), PISA 2012 Database, Table VI.3.4.

Another way of exploring this relationship is to consider the performance difference between relatively advantaged students (the top quarter of socioeconomic status) and more disadvantaged students (the bottom quarter of socioeconomic status). This difference amounts to 91 score points, on average across

OECD countries and economies, equivalent to more than one PISA proficiency level. The difference between advantaged and disadvantaged students is smallest in Estonia, at 53 score points, and largest in New Zealand, at 127 score points. As is mentioned earlier in this chapter, the difference for Australian schools was 87 score points.

As can also be seen in Table 4.1, on average across OECD countries and economies students' performance improved by 41 score points with a one-unit increase in the index of socioeconomic status. Performance differences between socioeconomic groups are smaller than the OECD average (meaning that the slope of the gradient is relatively flat) in Colombia, Croatia, Estonia, Italy, Latvia, Shanghai–China, Spain, Belgium and Poland. In contrast, performance differences between socioeconomic groups are larger than the OECD average (meaning that the slope of the gradient is relatively steep) in France, Israel, New Zealand and Slovak Republic, at over 45 score points. The slope is steepest in New Zealand, at over 64 score points, equivalent to almost one PISA proficiency level (75 score points). The slope for Australia was 42 score points, similar to the average across the OECD.

Is socioeconomic status more strongly related to financial literacy than to other domains like mathematics and reading? On average across the OECD, there are almost no differences among the three domains considered – financial literacy, mathematics and reading – in the degree to which the *PISA index of economic, social and cultural status* explains variation in scores (Figure 4.16). However, when looking at countries and economies individually, there are some differences in the extent to which socioeconomic status can explain financial literacy, mathematics and reading: socioeconomic status is more strongly associated with financial literacy than mathematics in Colombia, and it is more strongly associated with financial literacy than reading in Spain. In contrast, socioeconomic status is more strongly associated with mathematics than with financial literacy in Poland, and it is more strongly associated with reading than with financial literacy in Australia, Belgium and Italy, although most of these differences tend to be quite small.
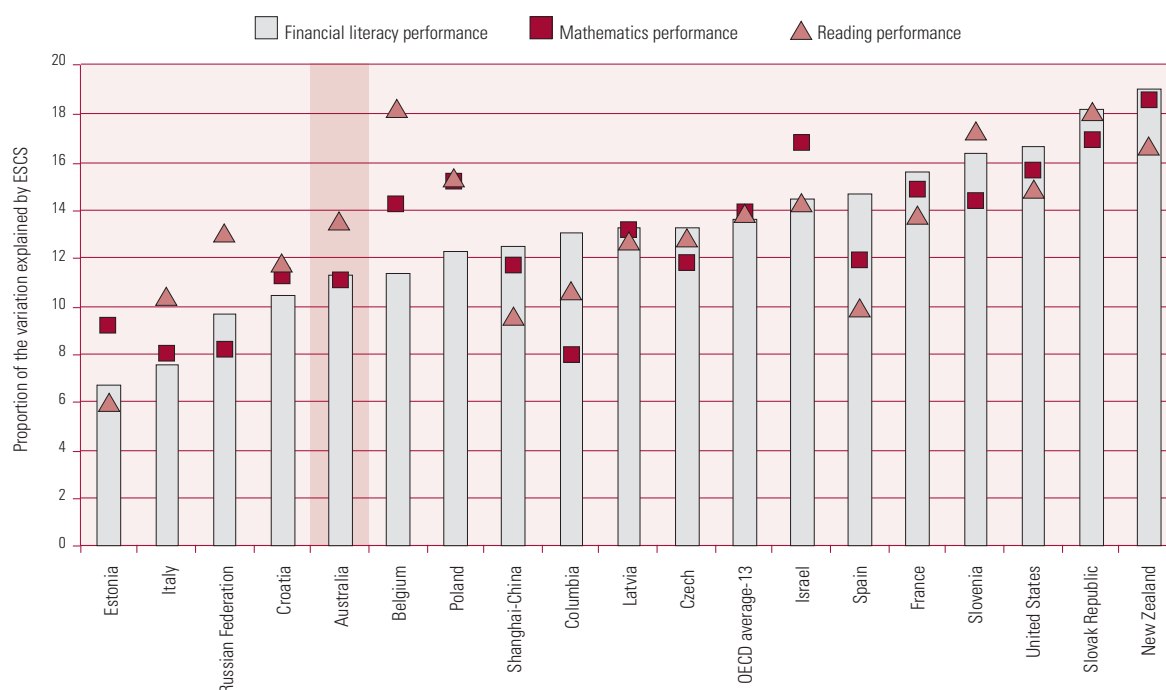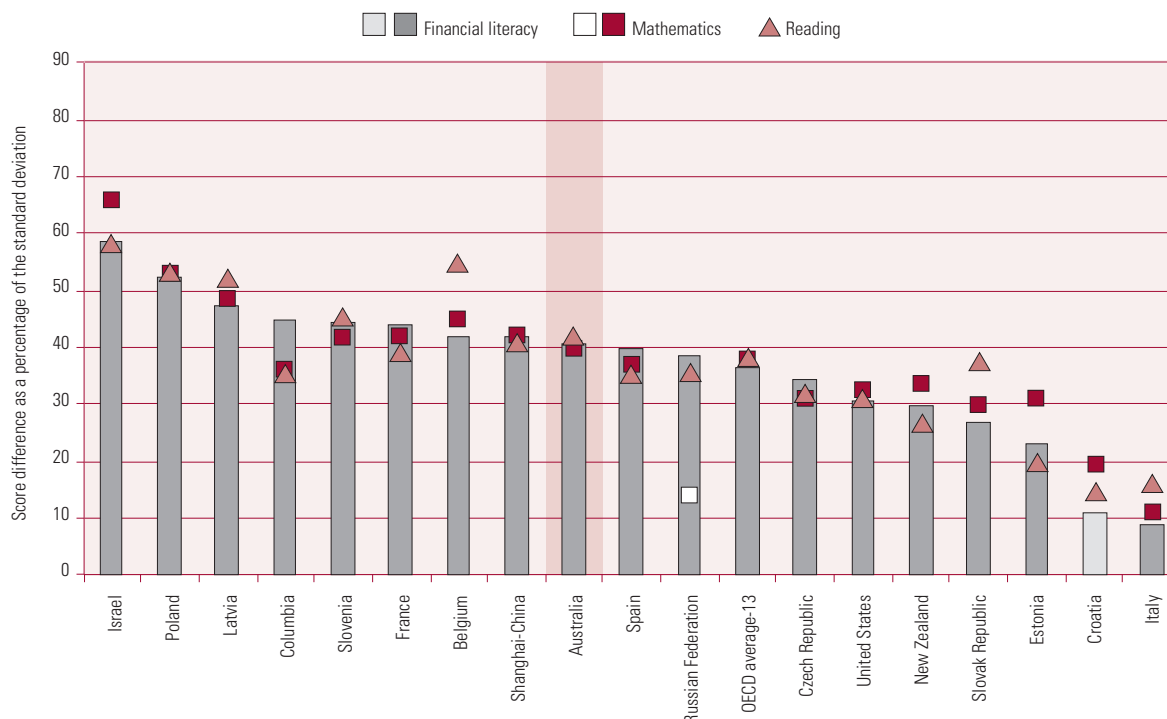

From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.16 Proportion of the variation in students' performance explained by socioeconomic background

Is there a difference in financial literacy performance related to parent's education or to parent's occupation? How do financial literacy performance gaps compare to performance gaps in mathematics and reading? Is discussing money matters with parents more frequently related to better financial literacy performance?

PISA results confirm that parents' highest level of education is related to their children's performance in financial literacy. On average across OECD countries, 48% of students have at least one parent with tertiary education, while 52% have no parent with tertiary education. In Australia, a slightly higher proportion of students (55%) reported at least one parent with a tertiary education. Figure 4.17 shows that on average across OECD countries and economies, the performance gap related to parents' highest education is very similar in financial literacy, mathematics and reading performance. Across countries and economies, the performance difference related to parents' highest education is larger in mathematics than in financial literacy in Estonia, Croatia and Israel and it is larger in reading than in financial literacy in the Slovak Republic, Belgium and Italy; in the Russian Federation the performance difference related to parents' highest education is larger in financial literacy than in mathematics. In Australia there were no differences between the three areas.

Note: Values that are statistically significant are marked in a darker tone. All differences in reading performance are statistically significant. From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.17 Difference related to parents' highest educational status in financial literacy, mathematics and reading performance

In almost all countries and economies that participated in the assessment (both OECD and non-OECD), students whose mother and/or father attained tertiary education perform better in financial literacy than students whose parents did not hold a tertiary qualification. Figure 4.18 shows that on average across OECD countries and economies, the difference in financial literacy performance between students with at least one parent with tertiary education and students with no parent with tertiary education is 40 score points; this difference is largest in Israel (75 score points), Colombia (55 points), and France (51 points); it is smallest in Italy (9 score points). Students in France, Spain, Colombia, and the Russian Federation with at least one parent with tertiary education also perform better than students with similar performance in mathematics and reading whose parents did not attain tertiary education. In Australia the difference in financial literacy performance related to having a parent with a tertiary education (as opposed to not) is 47 score points.
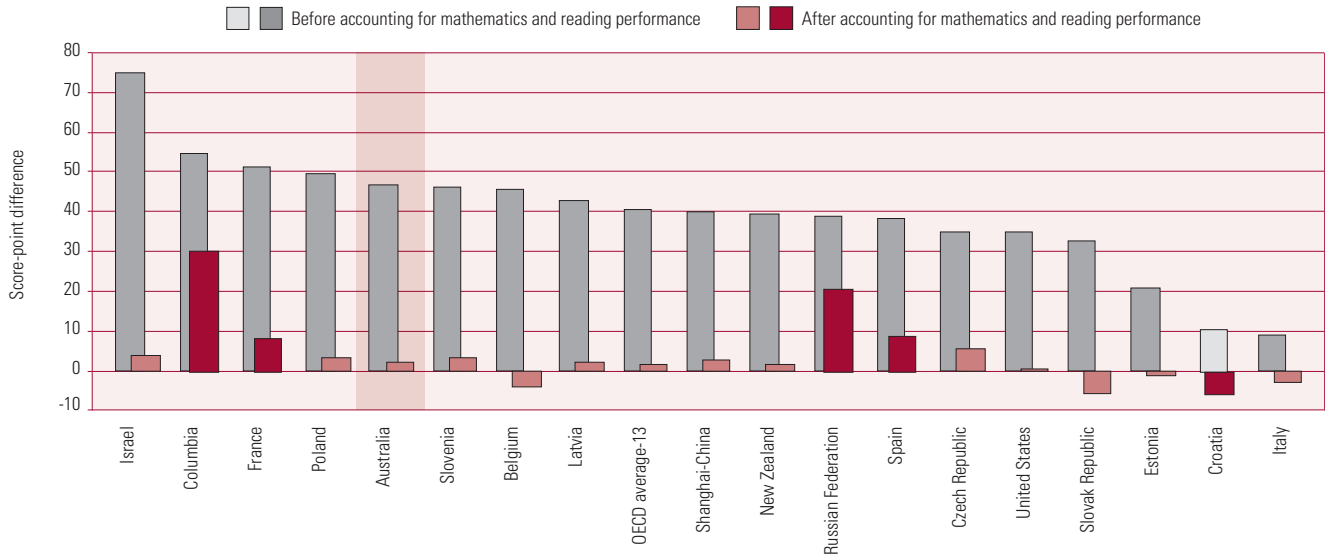
Note: Statistically significant differences are marked in a darker tone. From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century

Figure 4.18 Relative performance in financial literacy related to parents' highest educational status, among students with similar performance in mathematics and reading

Students' financial literacy is also strongly related to the occupation of their parents. Parents' occupational status classifies students according to the highest occupational status of their father or mother. The higher-status group includes the children of managers, professionals, technicians and associate professionals, such as teachers (within ISCO major groups 1, 2 and 3). On average across OECD countries, 54 per cent of students are in this higher-status group; 46 per cent are in the lower-status group, with their parents in semi-skilled or elementary occupations (ISCO 4 to 9). In Australia, 67 per cent of students report that their parents are in the higher-status group, and 33 per cent in the lower status group.

Figure 4.19 shows that on average across OECD countries and economies, the performance gap related to parents' highest occupational status is very similar across financial literacy, mathematics and reading performance. In individual countries and economies, the performance difference related to parents' highest occupational status is larger in financial literacy than in mathematics in Colombia and is larger in financial literacy than in reading in New Zealand and Spain; it is larger in reading than in financial literacy in Australia, Belgium, Italy and the Russian Federation.

Notes: All values are statistically significant. From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century

Figure 4.19 Difference related to parents' highest occupational status in financial literacy, mathematics and reading performance
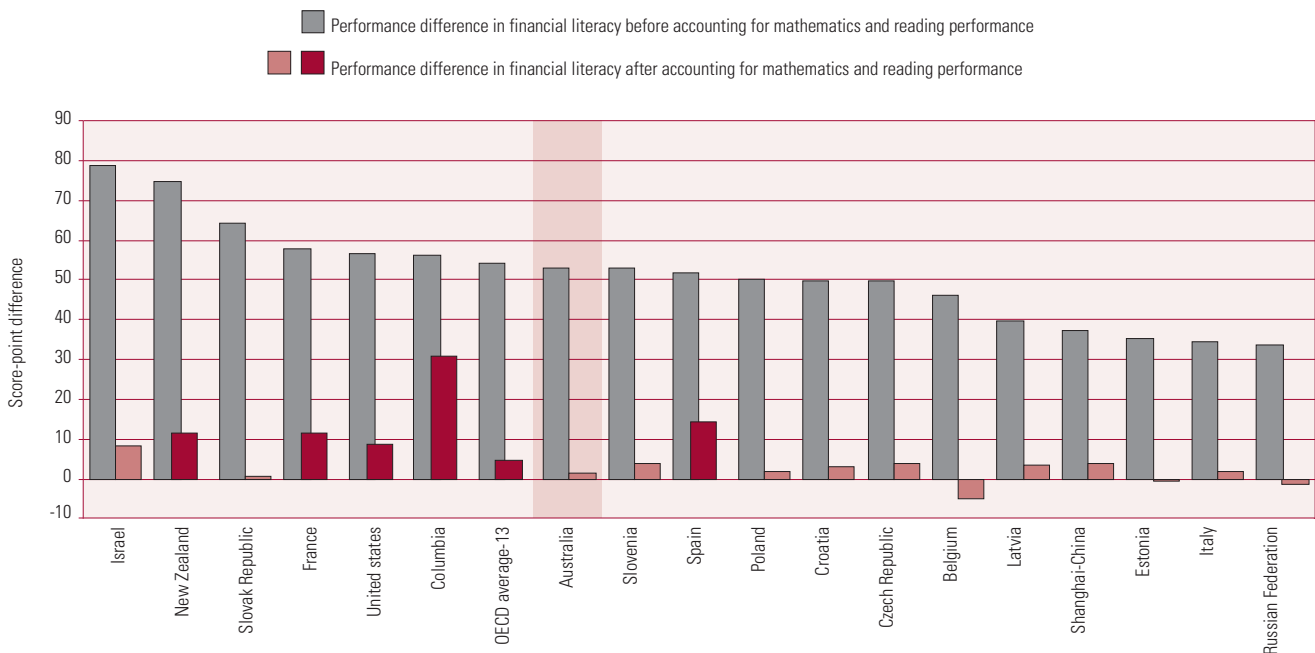

Note: Statistically significant differences are marked in a darker tone. All differences in financial literacy before accounting for mathematics and reading performance are statistically significant. From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century

Figure 4.20 Relative performance in financial literacy related to parents' highest occupational status, among students with similar performance in mathematics and reading

Data gathered for financial literacy in PISA 2012 also provides evidence about students' performance in financial literacy and how frequently they discuss money matters, such as spending, saving, banking and investment, with their parents/guardians. Across OECD countries and economies, on average, 16 per cent of students report that they never discuss money matters with their parents, 69 per cent discuss money matters with parents weekly or monthly, and 15 per cent discuss such matters every day.

Across OECD countries the relationship between performance in financial literacy and discussing money matters with parents is not entirely straightforward. Generally, it appears that talking about money almost every day or never is associated with poorer performance in financial literacy than discussing the subject every week or every month (Figure 4.21).

In Australia, as also can be seen in Figure 4.21, the pattern is slightly different. Comparing students of similar socioeconomic status, students in Australia scored higher in financial literacy if they discuss money matters weekly, monthly or never than if they discuss the subject every day. This suggests that, at least in some countries, discussing money matters very often is associated with poorer performance, even after accounting for socioeconomic status, possibly suggesting that students with weaker financial skills lack confidence and seek more advice, or that daily discussion of financial matters reflects being in some form of financial distress.
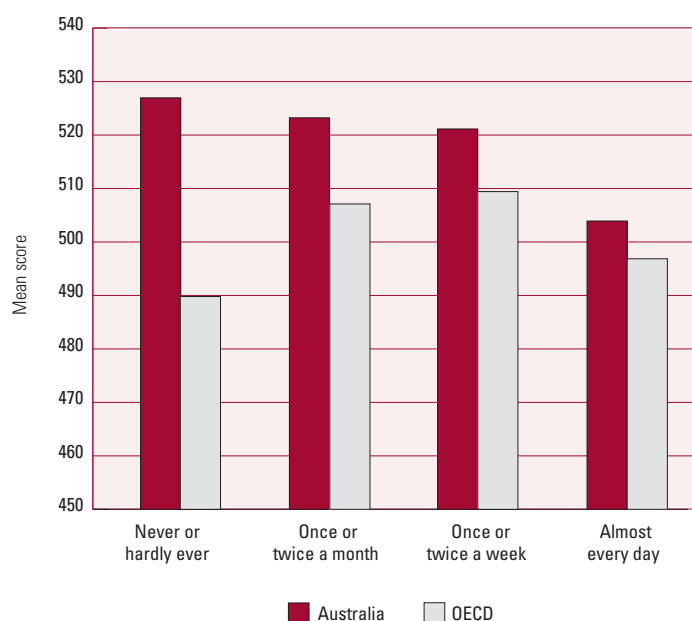

Note: Discussing money matters refers to, for example, talking about spending, saving, banking and investment
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.21 Financial literacy performance, by frequency of discussing money matters with parents, after accounting for socioeconomic status, OECD countries

Within and between-school variance

Figure 4.22 shows how much of the variation in student performance lies *between* schools (i.e. the performance variation attributable to differences in student results in different schools) in each country, and the amount of variation that occurs *within* schools (the performance variation attributable to the range of student results that cannot be attributed to differences between schools). On average across OECD countries and economies, 37 per cent of the overall performance differences are observed between schools and 61 per cent within schools. The proportion of financial literacy performance variation between schools is lower than the OECD average in Australia (where it is 25%), Colombia, Estonia, Latvia, New Zealand, Poland, Russian Federation, Spain and the United States.

In most countries and economies that participated in the larger PISA assessment, the between–school variation is much larger in student outcome measures – such as reading, mathematics, or indeed financial literacy – than in student background factors that influence performance, such as the PISA index of *economic, social and cultural status* (ESCS). Only 25 per cent of the socioeconomic variation lies between schools, on average across OECD countries. This means that in most countries, students within the same school tend to be more diverse in their socioeconomic status than in their performance.
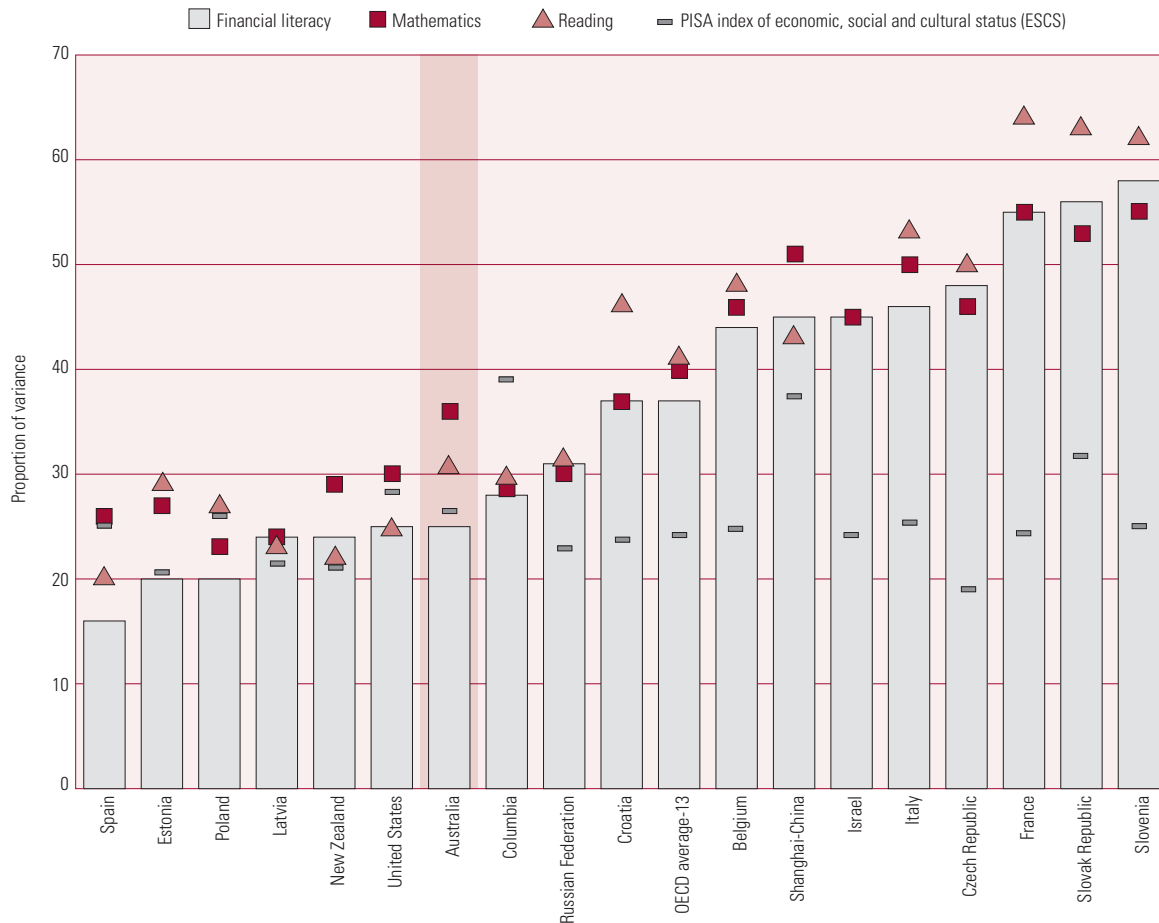
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.22 Between-school differences in financial literacy, mathematics and reading performance

The between-school and within-school variations in financial literacy proficiency can be split into two components – one that is unique to financial literacy and one that is also observed in mathematics. Figure 4.23 shows that less than one-tenth of between school and more than one-quarter of within school variance is unique to financial literacy, while more than one-quarter of between and more than one-third within is shared with mathematics. This suggests that a relatively large proportion of the between-school variation in performance is unique to financial literacy, and that the differences in financial literacy performance between schools do not stem solely from differences in mathematics performance.
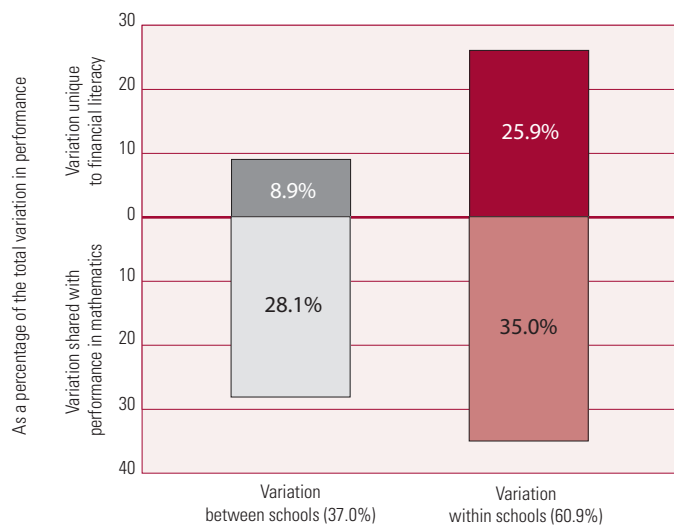
From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 4.23 Performance variation unique to financial literacy and shared with mathematics performance

Students' experiences, attitudes and behaviour and their performance in financial literacy

This chapter explores the relationship between students' experiences with money (through holding bank accounts and through their sources of money), and their performance in the financial literacy assessment, with data derived from student responses to questions added to the financial literacy assessment. The chapter also analyses the relationship between students' attitudes and their performance in the assessment and the influences on their spending. Data are presented both internationally and, for those items for which they are available, for particular groups of Australian students.

As the definition of financial literacy used in this assessment highlights, financial literacy involves not only the knowledge, understanding and skills to deal with financial issues, but also non-cognitive elements, such as attitudes, motivation and confidence. These elements are applied in conjunction with financial knowledge and understanding to make the kinds of decisions about finances that can improve financial well-being and result in greater participation in the economy and society.

Students' experiences with money and financial literacy

Do 15-year-olds in different countries hold basic financial products such as bank accounts? Is experience with having a bank account related to a student's performance in financial literacy? One of the questions students were asked was whether they had a bank account. Their responses indicate that there is a large variation in the proportion of 15-year-old students with bank accounts across the participating countries and economies with available data[14] from PISA (Figure 5.1). In Australia, Belgium, Estonia, France, New Zealand and Slovenia, more than 70 per cent of students hold a bank account, but in Israel, Poland and the Slovak Republic, fewer than 30 per cent do. In Australia 82 per cent of students reported having a bank account.

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14   In Colombia and the Russian Federation there was more than 15% missing data and thus the results for these
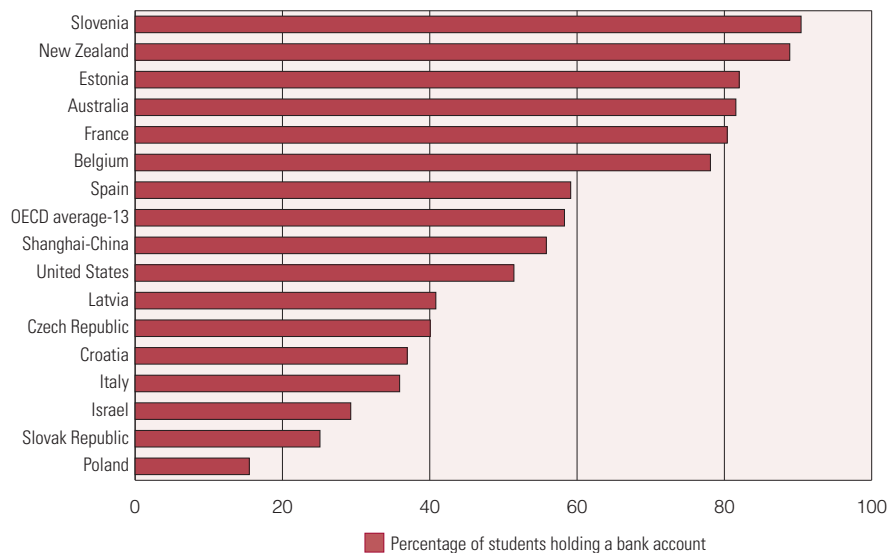   countries are not reported.

Figure 5.1 Percentage of students holding a bank account

Students' experiences with money, by sex

In Australia, a significantly higher proportion of females than males reported having a bank account. Interestingly, while there was a significant difference in financial literacy scores for females who did and did not have a bank account (34 score points), no such difference was evident for males (20 score points), as can be seen in Table 5.1.

Table 5.1 Australian students holding a bank account, by sex

	Have a bank account			Do not have a bank account		
	% of students	Mean	SE	% of students	Mean	SE
Females	85	539	4.3	15	505	10.1
Males	77	540	5.0	23	520	9.7

The positive relationship between financial literacy and holding a financial product, such as a bank account, may be interpreted in different ways, and any causal link may go either direction. On the one hand, having greater financial knowledge and skills may motivate students to become engaged with formal financial products (instead of, for instance, asking their parents to look after any money they have), as suggested by Otto (2013). On the other hand, it may be that using a bank account is one way for students to learn about money (Sherraden et al., 2011) and develop their financial understanding. Some studies have suggested that using a bank account to make deposits could foster the development of a saving habit, based on evidence showing that having a savings account as an adolescent (age 12-17) is related to saving in young adulthood (age 17-23) (Friedline, Elliott, and Nam, 2011) and adulthood (Kotlikoff & Bernheim, 2001). Examining cross-country historical evidence of public policies to promote saving, Garon (2013) suggests that countries that fostered saving habits among children in the past tend to display higher saving in recent decades.

Figure 5.2 shows a positive relationship between holding a bank account and socioeconomic status. In Australia, Belgium, Croatia, Estonia, France, Israel, Italy, Latvia, Poland, Shanghai–China and the United States, more advantaged students than disadvantaged students (students in the top and bottom quartiles of the *PISA index of economic, social and cultural status*, respectively) hold a bank account. In Australia, 75 per cent of disadvantaged students and 89 per cent of advantaged students reported having a bank account, compared with 50 per cent of disadvantaged students and 67 per cent of advantaged students on average across the OECD.

The difference in financial literacy achievement scores between advantaged and disadvantaged students in whether or not they hold a bank account is especially large in the United States (39 percentage points), Latvia (38 percentage points) and Croatia (26 percentage points). In Australia the difference was 18 percentage points.
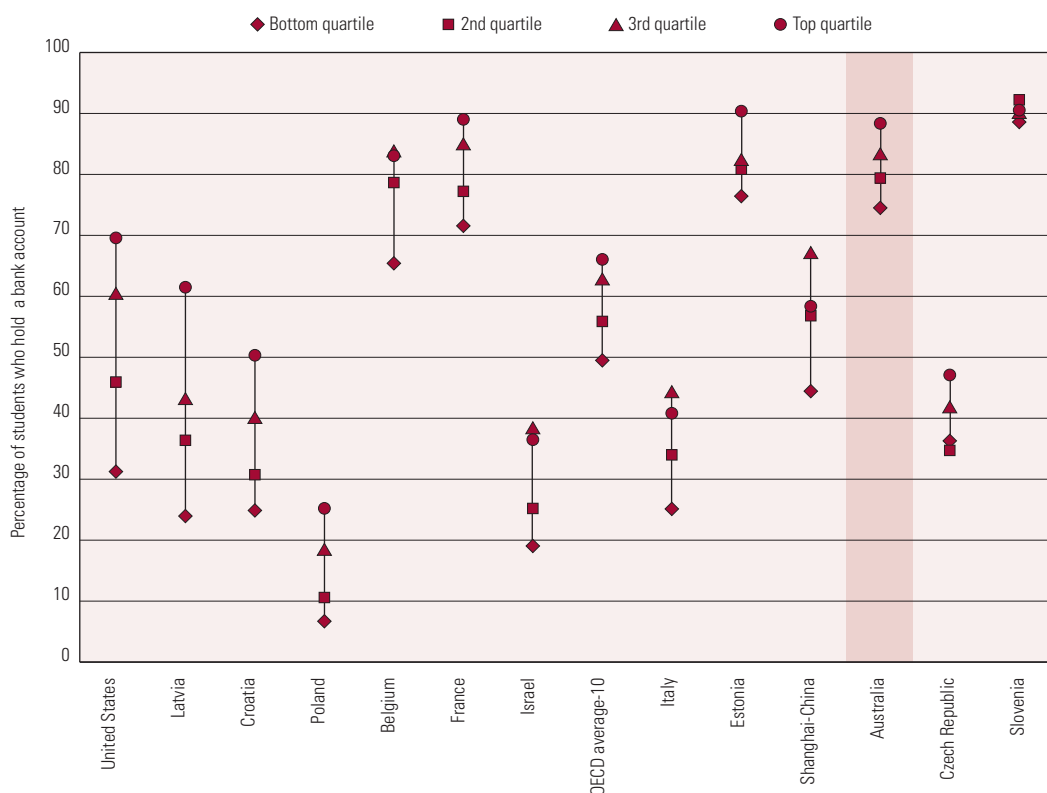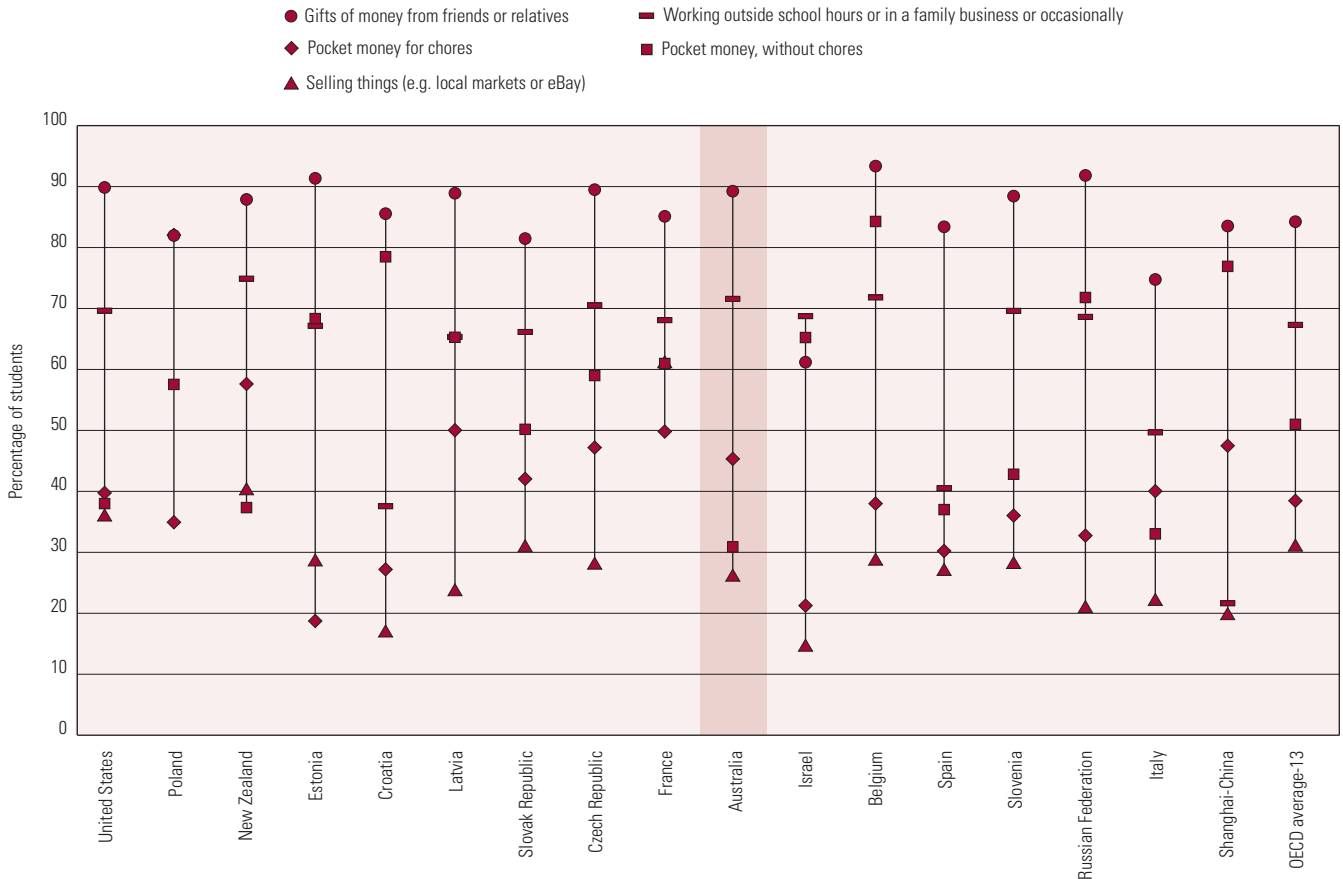

From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century..

Figure 5.2 Percentage of students holding a bank account, by socioeconomic status

Students′ sources of money and financial literacy

Whether students are using financial products, such as a bank account, also depends on whether they have access to money. "Money and transactions" is one of the key content areas of the PISA financial literacy assessment and almost all financial decisions relate to money in some way or another. It is therefore relevant to investigate where students get their money from and how their different sources of money relate to financial literacy performance.

Figure 5.3 shows the extent to which students in each country and economy receive money from a number of different sources. The most frequent source of money in all countries and economies is gifts from friends or relatives: over 80 per cent of students in all countries and economies, except Israel and Italy, receive money in the form of gifts. Being given allowances and pocket money without having to do jobs around the home is also very common in some countries and economies: more than 70 per cent of students in Belgium, Croatia, Russian Federation and Shanghai–China receive money this way. In 13 countries, including Australia, more than 65 per cent of students receive money from working outside school hours or in the family business. In Australia 73 per cent of students earn money working. The extent to which students receive pocket money for doing jobs around the home or receive money from work (regularly or occasionally) is similar across countries. Fewer than 20 per cent of students in most countries receive money from selling things.
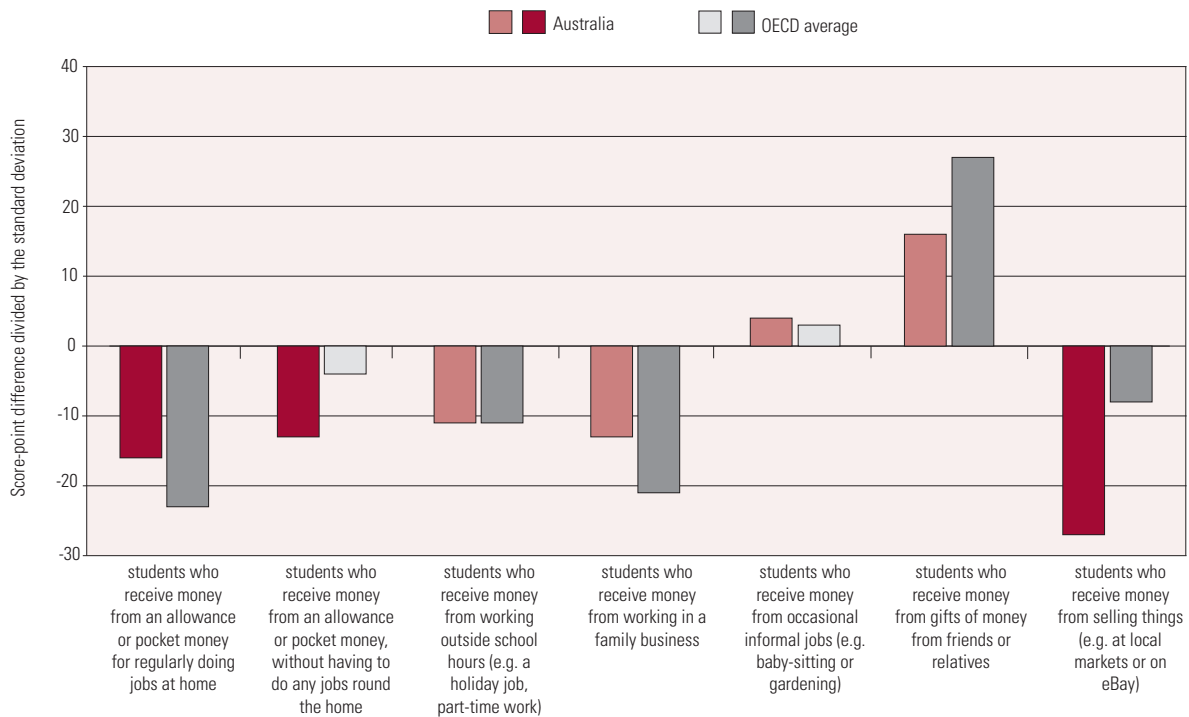
Legend:
- Gifts of money from friends or relatives
- Pocket money for chores
- Selling things (e.g. local markets or eBay)
- Working outside school hours or in a family business or occasionally
- Pocket money, without chores

From PISA 2012 Results: Students and Money (Volume VI): Financial Literacy Skills for the 21st Century.

Figure 5.3 Students' sources of money

Figure 5.4 shows how financial literacy varies between students who receive money from various sources and those who do not, after accounting for socioeconomic status (meaning looking at students with similar levels of socioeconomic background. This is shown for the average across OECD countries and economies and for Australia separately. Across OECD countries students who receive gifts of money perform 26 score points higher than students who do not receive such gifts, after taking socioeconomic status into account. Students who receive pocket money for regularly doing jobs at home and those who work in a family business score about 20 points lower than students who do not receive money from these sources, after accounting for socioeconomic status. Students who receive money from an allowance without having to do chores, from working outside of school hours, and from selling things score slightly lower in financial literacy (a difference of less than 10 score points) than students of similar socioeconomic status who do not receive money from these sources.

Overall, these results show that earning money from work (either doing jobs around the home or working outside the home) is not associated with greater financial literacy. The results should be interpreted with caution, as the data do not say how much money students get from these sources, how much time they spend working, or for how long they have been receiving money from the various sources.

Figure 5.4 Students' sources of money and financial literacy, after accounting for socioeconomic status, OECD countries and economies and Australia
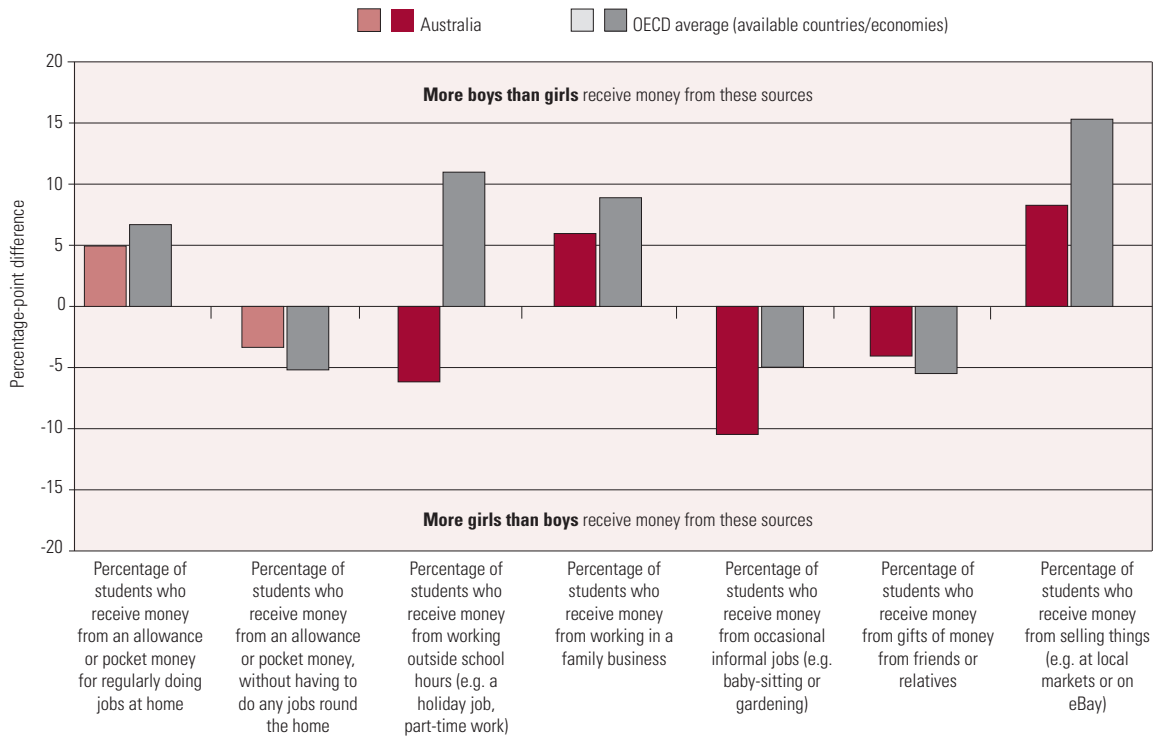
Differences in sources of money by gender

Figure 5.5 shows how students' sources of money vary by gender on average across OECD countries and economies[15] and for Australia separately. In Australia, and across the OECD on average, more females than males receive gifts of money from friends or relatives. Across the OECD on average more males than females receive money for doing jobs around the home, and more females than males receive pocket money without having to do such jobs. In Australia there were no gender differences in receiving pocket money, whether conditional on doing jobs around the home or not. On average across the OECD, but with some exceptions, more males than females receive money from working outside school hours (e.g. a holiday job, part-time work).

In Australia there was a significant difference in the reverse direction: more females than males receive money in such a manner. In Australia and on average across the OECD, more males than females receive money from working in a family business, and more females than males receive money from occasional jobs (such as baby-sitting or gardening). In all but two countries with available data, including Australia, more males than females get money from selling things.

Overall, these results suggest that in general, more males than females are involved in regular working activities, and receive money in exchange for work inside and outside the household, while more females than males seem to receive money without working (pocket money and gifts). This could indicate that males begin to seek ways of becoming less dependent financially at an earlier age than females, or that opportunities for earning money at this age are more readily available to males than females. To the extent that these gender differences reflect the way in which today's adults were socialised when they were younger, these results might help explain differences in labour market participation today between men and women (OECD, 2012b). At the same time, gender differences observed among 15-year-olds today may translate into gender differences that will be observed for the same cohorts in the future.

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15   Data are not available for all OECD countries and economies on this and some other items. These are annotated with "OECD average (available countries/economies)", and the OECD average calculated only over those OECD countries for which data are available.
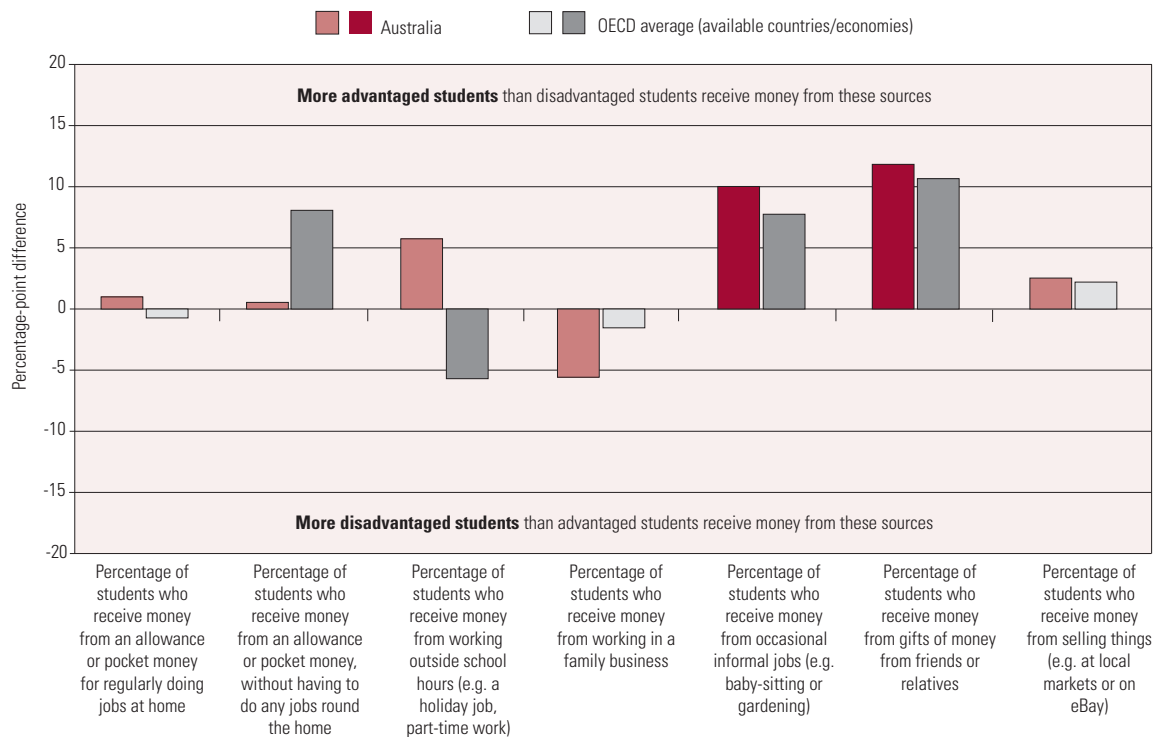
Note: All OECD score-point differences are statistically significant

Darker shades indicate significant differences

Figure 5.5 Students' sources of money – OECD and Australia, by gender

Differences in sources of money by socioeconomic status

Across the 18 countries and economies that participated in the financial literacy assessment, sources of money also differ by students' socioeconomic status (Figure 5.6). In Australia, as well as on average across the participating OECD countries and economies, more advantaged than disadvantaged students receive money in the form of gifts, and from occasional informal jobs. Over OECD countries, more advantaged than disadvantaged students also received money from an allowance or pocket money, without having to do any jobs.

By contrast, on average over the OECD, more disadvantaged students than advantaged students reported working outside of school hours. This was not the case in Australia.

Note: Darker shades indicate significant differences

Figure 5.6 Students' sources of money – OECD and Australia, by socioeconomic background

In none of the other international items on experiences of financial matters was the response rate high enough to report on for Australian students.

Influences on spending money

Australian students only were asked a series of questions to elicit their views about who influences their spending behaviour. Table 5.2 presents a summary of their responses.

Almost three-quarters of Australian students said that the need to 'fit in' was an influence on them spending money; however there was not a significant difference in the financial literacy scores between those who responded positively and negatively to this question.

Advertising plays an important part of students' spending habits, with 72 per cent of students saying that they were influenced by commercials on TV or radio, and 61 per cent that they were influenced by other advertising. For each of these potential influences, the students who said that it had an influence on them spending money scored higher on the financial literacy assessment than those who said that it was not an influence.

Table 5.2 Influences on spending money

What influences you to spend money?	Yes		No	
	% of students	Financial Literacy Score (SE)	% of students	Financial Literacy Score (SE)
My friends	36	528 (3.4)	64	535 (2.7)
Commercials on TV/radio	72	536 (2.6)	28	525 (4.5) *
Advertising in magazines/flyers/newspapers	61	536 (2.9)	39	527 (3.3) *
Advertising on the internet	59	536 (3.0)	41	528 (3.6)
The need to 'fit in'	74	532 (2.6)	26	533 (3.9)

* Indicates that the difference between the yes/no groups is significant

Table 5.3 presents students' responses to the same questions, by sex. Notable is that while for both males and females the need to 'fit in' was the influence most strongly identified by both males and females, more males identified it as the reason than females. Similarly significantly more males than females said that their friends or advertising in magazines, flyers or newspapers influenced their spending.

Table 5.3 Influences on spending money, by sex

What influences you to spend money?	% of students	
	Females	Males
My friends	34 (1.6)	39 (1.6)*
Commercials on TV/radio	70 (1.3)	73 (1.3)
Advertising in magazines/flyers/newspapers	54 (1.5)	69 (1.3)*
Advertising on the internet	58 (1.6)	61 (1.4)
The need to 'fit in'	70 (1.4)	79 (1.1)*

* Indicates that the difference between males and females is significant

Figure 5.4 presents students responses to these questions by socioeconomic background. A greater proportion of students from a disadvantaged background than students from an advantaged background responded that they were influenced by advertising in magazines, flyers and newspapers, and by the need to 'fit in'.

Table 5.4 Influences on spending money, by socioeconomic background

What influences you to spend money?	% of students	
	Disadvantaged students	Advantaged students
My friends	38 (2.1)	33 (2.4)
Commercials on TV/radio	72 (1.4)	70 (2.0)
Advertising in magazines/flyers/newspapers	66 (2.1)	57 (2.4) *
Advertising on the internet	62 (2.2)	58 (2.4)
The need to 'fit in'	78 (1.7)	71 (2.1) *

* Indicates that the difference between advantaged and disadvantaged students is significant

As indicated by the results in the above three tables, Australian students report overwhelmingly that their need to 'fit in' influences their spending choices, but only one-third reported that their friends influence their spending. This suggests that what matters in the spending choices of young Australians is the wider social group of peers, rather than the, presumably smaller, circle of friends.

Students were asked to respond on a four point Likert scale whether they agreed or disagreed with five statements about money matters. The responses to these items are grouped into Strongly Agree/ Agree as "Agree" and Strongly Disagree/Disagree as "Disagree". Table 5.5 provides the percentages in each of these two categories for Australian students.

Almost all students think that knowing about money is important. However, while three-quarters would like to learn more about money and just over 60 per cent (62%) of students said that they enjoyed learning about money matters, over two-thirds of students believe that they know enough about money for their future lives. This potential discrepancy, between wanting to learn more but believing that they already know enough, raises questions about educating young people about more complex financial issues, particularly if those issues do not have a direct bearing on their current, or at least near future, lives.

Table 5.5 Money matters

How much do you agree or disagree with these statements?	% of students	
	Agree	Disagree
I think knowing about money is important	98 (0.2)	2 (0.2)
I know enough about money for my future life	67 (1.0)	33 (1.0)
I would like to learn more about money	76 (0.8)	24 (0.8)
I like playing games that involve money	41 (1.1)	59 (1.1)
I enjoy learning about money matters	62 (1.0)	38 (1.0)

Table 5.6 shows the percentage of male and female students agreeing or strongly agreeing with this group of statements.

Male students were more likely than female students to believe that they know enough about money for their future lives, and were also more likely to enjoy learning about money matters, and enjoy playing games that involved money.

Table 5.6 Money matters, by sex

How much do you agree or disagree with these statements?	% of students who agree	
	Females	Males
I think knowing about money is important	98 (0.3)	98 (0.4)
I know enough about money for my future life	62 (1.4)	72 (1.4)
I would like to learn more about money	76 (1.2)	75 (1.2)
I like playing games that involve money	34 (1.5)	48 (1.5)
I enjoy learning about money matters	56 (1.4)	68 (1.3)

Table 5.7 presents the proportion of students agreeing or disagreeing with these statements for advantaged and disadvantaged students. The percentages of students in these two groups did not differ significantly.

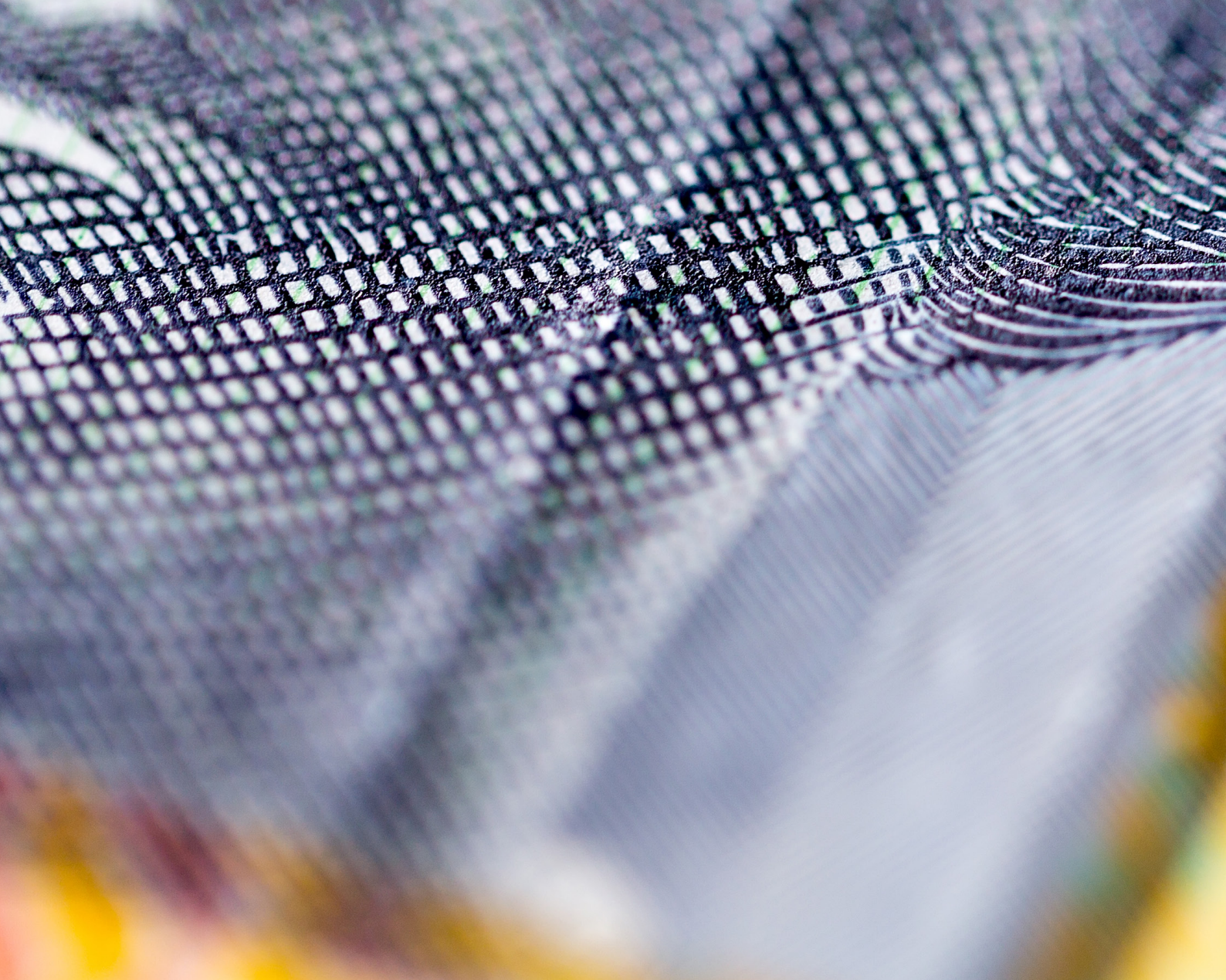**Table 5.7 Money matters, by socioeconomic background**

How much do you agree or disagree with these statements?	% of students who agree	
	Disadvantaged students	Advantaged students
I think knowing about money is important	97 (0.7)	99 (0.3)
I know enough about money for my future life	65 (2.0)	65 (1.8)
I would like to learn more about money	75 (1.8)	78 (1.8)
I like playing games that involve money	41 (2.2)	43 (2.3)
I enjoy learning about money matters	61 (1.9)	62 (2.1)

Students were asked how important they thought it was for them to learn money management skills at school. The vast majority of students (79%) agreed that it was either very important or important for them to learn money management at school, with just four per cent saying that it was of little or no importance. There were no gender differences in responses to this item, nor any differences for students from different socioeconomic backgrounds. Unfortunately, students who achieved at lower levels on the proficiency scale were less likely to believe that learning about money management was important to them, but it is difficult to know which way causal inferences could be drawn – are those who understand less more inclined to dismiss the importance of what they don't understand, perhaps to protect their self-esteem, or are students who do not see the importance of money management less likely to apply themselves to understanding what they don't value?

Finally, students were asked whether they considered friends and/or family might come to them for advice on financial matters. Almost one-half of the students (44%) responded "yes, somewhat" to this item, however 39 per cent responded "no", and just 17 per cent responded "yes, absolutely". A significantly higher percentage of females than males responded "no" to this item, although the percentages only varied from 41 per cent for females to 36 per cent for males.

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