PISA 2012
Students and Money
Financial literacy skills

9 July 2014
Launch

OECD EMPLOYER BRAND

Playbook

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PISA

BETTER POLICIES FOR BETTER LIVES
PISA in brief

• Over half a million students...
  – representing 28 million 15-year-olds in 65 countries/economies

... took an internationally agreed 2-hour test...
  – Goes beyond testing whether students can reproduce what they were taught...
  ... to assess students’ capacity to extrapolate from what they know and creatively apply their knowledge in novel situations
  – Mathematics, reading, science, problem solving (financial literacy)

... and responded to questions on...

...“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 enable participation in economic life”.

29 000 of these students in 18 economies took the PISA test on **financial literacy**
Why is financial literacy relevant for 15-year-old students?

More students are enrolling into higher education.

In the US young adults owed more in 2012 than before the financial crisis.

And they were more likely to be falling into arrears (% of all loans - some of which are not yet in repayment phase).
% of students with a bank account

- Slovenia
- New Zealand
- Estonia
- Australia
- France
- Flemish Community (Belgium)
- Spain
- OECD average-13
- Shanghai-China
- United States
- Latvia
- Czech Republic
- Croatia
- Italy
- Israel
- Slovak Republic
- Poland

Percentage of students with a bank account
Percentage of students with a prepaid debit card

- Czech Republic
- Estonia
- Russian Federation
- Slovenia
- France
- OECD average-10
- Slovak Republic
- Italy
- Croatia
- Flemish Community (Belgium)
- United States
- Latvia
- Israel
- Poland
- Shanghai-China

5\% with a prepaid debit card
PISA financial literacy assessment framework

Content
- Money and transactions
- Planning and managing finances
- Risk and reward
- Financial landscape

Processes
- Identifying financial information
- Analyse information in a financial context
- Evaluate financial issues
- Apply financial knowledge and understanding

Contexts
- Education and work
- Home and family
- Individual
- Societal
Examples of what this might mean for 15 year olds

<table>
<thead>
<tr>
<th>Topic</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance their priority and plan what to spend money on</td>
<td>• ...if they go to the cinema, will they still have enough money for the bus fare home? Or would it be better to buy pizza and invite friends home?</td>
</tr>
<tr>
<td>Remember that some of the purchases have ongoing costs</td>
<td>• ...a games console will need new games, a motorbike will need fuel and tyres and services and so on.</td>
</tr>
<tr>
<td>Being alert to possible fraud</td>
<td>• ...Some emails that look like they came from their bank might not be legitimate, they should know what to do if they are not sure</td>
</tr>
<tr>
<td>Knowing what risk is and what insurance is meant for</td>
<td>• ...If their phone gets stolen, they should ask their parents if it is covered by their household insurance</td>
</tr>
<tr>
<td>Make an informed decision about credit</td>
<td>• ...they should know that if they buy a computer on credit they will have to pay interest on the loan as well as paying the advertised price for the computer • ...and they will realise that the less they repay of that loan each month, the more they will pay in interest</td>
</tr>
</tbody>
</table>
How well prepared are 15-year-olds to make financial decisions?
Strong performance in financial literacy

- Shanghai-China

Average performance of 15-year-olds in financial literacy

- Flemish Community (Belgium)
- Australia
- Estonia
- New Zealand
- Poland
- Latvia
- Russian Federation
- France
- Croatia

Low performance in financial literacy

- United States
- Slovenia
- Spain
- Israel
- Slovak Republic
- Colombia
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.

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.
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.

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.

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.

Students can only 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.
Sample Question: INVOICE

Sara receives this invoice in the mail

Breezy Clothing

Sarah Johanson
29 Worthill Rd
Kensington
Zedland 3122

In order to determine the correct answer, let's analyze the invoice:

- **Breezy Clothing**
  - Invoice Number: 2034
  - Date issued: 28 February

The invoice contains items:

- **T-shirt**
  - Product code: T011
  - Quantity: 3
  - Unit cost: 20
  - Total (excluding tax): 60 zeds

- **jeans**
  - Product code: J023
  - Quantity: 1
  - Unit cost: 60
  - Total (excluding tax): 60 zeds

- **scarf**
  - Product code: S002
  - Quantity: 1
  - Unit cost: 10
  - Total (excluding tax): 10 zeds

**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.

The correct answer is A. Because Sarah needs to pay the money to Breezy Clothing.
Sample Question: INVOICE

Sara receives this invoice in the mail

Breezy Clothing

Sarah Johnson
29 Worthing Rd
Kensington
Zedland 3122

<table>
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<th>Description</th>
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<th>Unit cost</th>
<th>Total (excluding tax)</th>
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<td>scarf</td>
<td>1</td>
<td>10</td>
<td>10 zeds</td>
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</table>

Question 2: How much has Breezy Clothing charged for delivering the clothes?

Delivery charge in zeds:

10 zeds
### Question 3:

Sara notices that Breezy Clothing made a mistake in the invoice. Sara ordered and received two T-shirts, not three. The postage fee is a fixed charged.

What will be the total of the new invoice?

```markdown
**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 due:** 153 zeds
Date due: 31 March
```
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 for 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. She will be paying lower interests
2. She will have more money available
9.7% of students are top performers in financial literacy (OECD average): they can solve problems such as sample task NEW OFFER— and possibly harder problems as well.

Boys are more likely to be top performers than girls, particularly in New Zealand, Israel, Poland, France and the Flemish Community (Belgium).

Percentage of top performers in financial literacy and at least in one other domain.
### Percentage of low-performing students in financial literacy

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of Low Performers</th>
<th>Boys among boys</th>
<th>Girls among girls</th>
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<tbody>
<tr>
<td>Shanghai-China</td>
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<tr>
<td>Estonia</td>
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**Across the OECD on average, 15% of students do not reach the baseline level of financial literacy** – meaning that they can solve only simple tasks such as sample task INVOICE (if any).

**Boys are more likely to be low performers than girls**, particularly in France, Israel, Slovenia and the Slovak Republic.
Skill gaps within countries

Countries ranked by 10th percentile of financial literacy performance
How does financial literacy relate to other skills?
Patterns of relative performance in financial literacy

Financial literacy performance relative to mathematics performance

Australia performs better-than-expected in financial literacy. The difference between observed and expected performance is larger among strong performers in mathematics.

The Czech Republic perform better-than-expected in financial literacy. The difference between observed and expected performance is larger among low achievers in mathematics.

France’s performance is lower-than-expected in financial literacy. The gap between observed and expected performance is similar at all levels of mathematics performance.

Italy’s performance is lower-than-expected in financial literacy. The gap between observed and expected performance is wider among high achievers in mathematics.

Students in Israel perform as expected in financial literacy at all levels of mathematics performance.
Students' performance in financial literacy is **lower** than their expected performance.
How are learning opportunities distributed?
Relationship between socio-economic status and performance in financial literacy, mathematics and reading

Figure VI.3.6

Percentage of variation in performance explained by socio-economic status

Estonia, Italy, Croatia, Australian, Poland, Shanghai-China, Colombia, Latvia, Czech Republic, OECD average-13, Israel, Spain, France, Slovenia, United States, Slovak Republic, New Zealand.
What can be done to enhance financial literacy

Improving the quantity/quality of teaching of...
...financial literacy as a cross-curricular domain?
...financial literacy education as a separate subject?
...conceptual foundations of math?
...applied math?
...other types of education?
...or is it all about out-of-school experiences?
On average across OECD countries and economies, students who hold a bank account score 21 points higher than students with similar socio-economic status who do not.
School curriculum

Financial education taught as a cross-curricular subject

- Poland
- Spain
- Estonia
- Latvia
- Croatia
- Slovenia
- Slovakia
- Italy
- Slovak Republic
- Israel
- OECD average-13
- Shanghai-China
- France
- Czech Republic
- Colombia
- Russian Federation
- Australia
- Flemish Community
- New Zealand
- Australia

Financial literacy taught as a separate subject

- Not at all
- 1-4 hours a year
- 5-19 hours a year
- 20-49 hours a year
- 50 or more hours a year

% of students in schools where...
Exposure and financial literacy

Performance in financial literacy vs. % of students in schools where the principal reports that financial literacy is available for at least 2 years.

- Shanghai-China
- Poland
- OECD average-13
- United States
- Russian Federation
- Latvia
- Flemish Community (Belgium)
- New Zealand
- Czech Republic
- Slovak Republic
- Colombia

OECD average - 13
Exposure and relative performance

Students' performance in financial is **higher** than their expected performance.

Students' performance in financial literacy is **lower** than their expected performance.

Relative performance in financial literacy, taking performance in mathematics and reading into account.

% of students in schools where the principal reports that financial literacy is available for at least 2 years.

Australia, Colombia, Croatia, Czech Republic, Estonia, France, Israel, Italy, Latvia, New Zealand, OECD average, Poland, Russian Federation, Slovak Republic, Slovenia, Spain, Shanghai-China, United States, Flemish Community (Belgium), Slovak Republic.
50% OR MORE OF TEACHERS attended professional development in financial education

UP TO 50% OF TEACHERS attended professional development in financial education

NO TEACHERS attended professional development in financial education

Comparison of professional development participation for various countries and regions.
Find out more about PISA at www.pisa.oecd.org

- All national and international publications
- The complete micro-level database

Thank you!

Email: Andreas.Schleicher@oecd.org