Financial Literacy
and Personal Finance
Research Network

G53 Network Working Paper Series

Working Paper 2024-2

Assessing Financial Literacy Among the Young

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JUNE 2024

www.g53network.org

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June 24, 2024

Abstract

Since 2012, the Programme for International Student Assessment (PISA), an initiative of the Organisation for Economic Co-operation and Development (OECD), conducted triennial tests to evaluate the financial literacy of 15-year-old students in various countries. These data provide an opportunity to study the determinants of financial literacy among the young and how it evolves over time. This article examines the data collected so far (2012, 2015, 2018), documents stylized facts across waves, and provides guidance on using the test scores estimated from psychometric models.

JEL Codes: G53

Keywords: financial literacy, PISA, assessment

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1 Introduction

Financial literacy, which encompasses the ability to make informed and effective decisions regarding the use and management of money, is an essential skill. The Organisation for Economic Co-operation and Development (OECD)' s Programme for International Student Assessment (PISA), which measures the knowledge and skill young people need to have to be successful in the labor market, added financial literacy to its set of measurements starting in 2012. The financial literacy component of PISA evaluates students' ability to apply their knowledge and understanding of financial concepts in real-life contexts, aiming to measure their preparedness to make informed financial decisions, manage personal finances effectively, and navigate financial challenges they might encounter (Lusardi 2015).

This assessment provides a unique opportunity to explore financial literacy among the young. To our surprise, the data has been rarely used in economic research on financial literacy. Existing studies focus mostly on single countries (Bottazzi and Lusardi 2020, Cordero and Pedraja 2019, Pesando 2018, Riitsalu and Põder 2016, Silinskas et al. 2021) or on single iterations of the assessment (Cordero et al. 2022, Gramaṭki 2017, Moreno-Herrero et al. 2018, Pulk and Riitsalu 2024, Salas-Velaso et al. 2021). This article makes use of all the financial literacy assessments conducted so far in 2012, 2015, and 2018 PISA waves[1]. The data collected from these assessments offer invaluable insights into the financial literacy levels of adolescents across different countries and socio-economic backgrounds. This article details the assessment's conceptual framework and methodology and provides guidance on using the test scores estimated from psychometric models. By pooling data across the three waves, we document stylized facts and trends, shedding light on the correlates of financial literacy among the young. The PISA financial literacy data is an ideal resource for comparative research on financial literacy and financial education for several reasons:

[1] The data from the most recent 2022 assessment will be released in June 2024.

(i) *Extensive and validated set of test items*: The rigorous psychometric design allows researchers to measure financial literacy reliably across a wide spectrum of ability levels. This is crucial to minimize measurement error and to be able to precisely estimate the level of financial literacy among the young.

(ii) *Comparability of repeated cross-sections*: The methodology and standardized testing framework used in the PISA assessments ensure that the data is comparable across countries and, to some extent, over time. While there have been changes to the conceptual measurement model and assessment protocols over the years, the underlying constructs are closely correlated, and the design ensures measurement invariance across countries and over time. This allows for meaningful comparisons and benchmarking of financial literacy levels globally.

(iii) *Comprehensive student-level covariates*: The data include a rich set of student-level covariates. This data allows for in-depth analyses of the correlates of financial literacy within and across countries and over time.

This article is organized as follows: Section 2 describes the conceptual model underlying the PISA financial literacy assessment. Section 3 discusses the datasets and how to use the student-level test score data (plausible values) and the student-level covariates included in the datasets. Section 4 presents selected descriptive results highlighting the heterogeneity in financial literacy among the young. Section 5 concludes with a discussion of possible future avenues for research.

2 The Assessment of Financial Literacy in PISA

The OECD fielded PISA in 2000 with the goal to evaluate and compare educational systems around the globe (Hanushek and Woeßmann 2023). The assessment was initially focused on assessing adolescents' reading, mathematics, and science proficiency. In 2012, it incorporated a financial literacy assessment in response to the growing importance of financial

skills in the globalized economy and rapidly changing financial landscapes. . In essence, the primary goal of the financial literacy assessment is to evaluate adolescents' capacity to make informed financial decisions, manage money effectively, and navigate financial challenges they may encounter in their lives (OECD 2013). This section describes the conceptual framework, provides information about the assessment procedures, protocols, and psychometric models and methods.

2.1 Conceptual Framework

The conceptual model for assessing financial literacy is built on a framework that incorporates knowledge and skills necessary for individuals to make informed and effective financial decisions. The definition that the OECD (2013, p. 144) came up with is a follows:

"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 underscores the importance of knowledge but also the practical application of this knowledge to make sound financial decisions (see Lusardi 2015 for a detailed discussion of this definition).

The PISA 2012 framework assesses financial literacy through three main dimensions: content, processes, and contexts.

The *content* dimension refers to specific areas of financial knowledge, including understanding money and transactions; planning and managing finances; recognizing risks and rewards; and comprehending the broader financial landscape. This dimension encompasses everyday financial activities such as making payments, managing a bank account, budgeting, saving, understanding credit and insurance, and being aware of consumer rights and economic activities.

In terms of *processes*, the PISA assessment looks at the cognitive approaches students use to interact with financial information. This includes identifying financial information; analyzing information within a financial context; evaluating financial issues; and applying financial knowledge to real-life situations. These processes are crucial for making informed decisions, interpreting financial data, assessing the reliability and relevance of financial information, and solving financial problems.

The *contexts* dimension examines the various situations in which financial knowledge and skills are applied, ranging from personal and household financial scenarios to broader societal and economic contexts. This includes financial decisions related to education and work; household management of personal expenses and savings and understanding the financial systems and institutions at a societal level (OECD 2019).

To interpret the varying degrees of financial literacy among students, PISA defines five proficiency levels. These levels range from basic to complex, describing the extent to which students can perform financial tasks. At the most basic level, students can identify common financial products and terms and handle simple financial tasks, such as distinguishing between needs and wants. At higher levels, students can apply their financial knowledge to make financial decisions, create simple budgets, make basic financial plans, interpret a range of financial documents, and understand long-term financial implications. The highest proficiency level involves a sophisticated understanding of financial concepts, solving complex financial problems, and making informed and long-term financial decisions.

While the core principles have remained unchanged since the inaugural wave, the 2015 and 2018 frameworks have incorporated new elements to provide a more comprehensive assessment of students' financial literacy. For example, the 2015 framework emphasized the importance of financial education and included additional items to capture the nuances of financial behavior and attitudes. Moreover, the shift from a paper-and-pencil format to a computer-based delivery platform allowed for more interactive and realistic assessment tasks,

such as those requiring students to seek additional information or manipulate data to test different financial scenarios.

2.2 Methods and Test Administration

Test development. PISA employs a rigorous method to ensure the validity, reliability, and comparability of financial literacy data across participating countries. The assessment items are developed based on the conceptual framework described in 2.1. These items were piloted, reviewed, and refined through extensive international collaboration involving experts from various disciplines, educators, and policymakers.[2] Test items for PISA are created to reflect a wide range of contexts and cognitive processes. The item development process involved multiple stages, including drafting, reviewing, piloting, and finalizing items. Items were designed to be culturally neutral and are subjected to rigorous review to ensure that they are fair and unbiased. The items included a mix of multiple-choice questions, constructed-response questions, and interactive tasks, especially in the computer-based assessments introduced in the 2015 and 2018 waves.

Sampling. PISA used a stratified sampling method to select a representative sample of 15-year-old students from each participating country. This method ensures that the sample reflects the diversity of the student population, including various socioeconomic backgrounds, geographic regions, and school types. The sampling process is carefully managed to meet the statistical requirements for ensuring the validity of the comparisons across countries.

Test Administration. The test administration is standardized across all participating countries to ensure consistency. The assessment is conducted over a two-hour period, with students completing various clusters of items that assess different domains. Each student typically completes a combination of reading, mathematics, science, and financial literacy

[2] One of the authors, Annamaria Lusardi, led the group of experts who designed the financial literacy assessment.

tasks, depending on the specific focus of the assessment cycle. The test also includes questionnaires completed by students, teachers, and school principals to gather contextual information about the learning environment, teaching practices, and student backgrounds.

Scaling and Scoring. Test scores in PISA are estimated in an Item Response Theory (IRT) framework. IRT models and methods aim to infer latent (unobserved) proficiency scores from observed (manifest) item responses (i.e., answers to test questions). The IRT models employed in most educational assessments require local independence of the items, i.e., the probability of solving an item being solely based on students' proficiency and not on responses given to other items on the test, and one-dimensionality, i.e., one single latent construct being inferred from item responses. In the PISA assessments, these requirements have been met and item parameters as well as proficiency scores have been estimated for each individual domain (see OECD 2018 for details). The analyses rely on a two-parameter logistic IRT model (Birnbaum 1968) for dichotomous item responses (e.g., right or wrong answer). When items contain more than two response categories, they are referred to as polytomous items each worth a different number of points. For these ordered polytomous item responses, the PISA assessments rely on the Generalized Partial Credit Model (GPCM) (Muraki 1992).

The IRT models described offer several possibilities for estimating person ability scores θ_v, i.e., the student-level estimate of financial literacy. The most traditional way is Maximum Likelihood Estimation (MLE), which finds the value of θ that maximizes the likelihood of observing the given set of responses. However, MLE can be biased and result in undefined estimates, when responses are at the extremes (e.g., all responses are correct). Thus, Warm (1989) introduced Weighted Likelihood Estimation (WLE) modifying the traditional likelihood function by assigning higher weights to items that are more informative (i.e., items that provide more information about the respondent's ability).

While the scoring methods described above make it possible to extracta single point estimate for each respondent's ability, recent literature has suggested that these approaches do

not adequately capture the uncertainty and variability in these measurements (see Wu 2005).As a result,, most standardized educational assessments rely on a method called “plausible values” (PV) providing a more accurate estimation of the uncertainty around of student-level proficiency scores (OECD 2018, Martin et al. 2020, Kaplan & Su, 2018, Wu 2005). Instead of extracting just one single proficiency estimate (i.e., financial literacy score), this method aims to obtain several different scores which are all reasonable estimates of the student’s latent ability. Plausible values are not individual test scores but are random draws from the posterior distribution of the latent trait, given the item responses and background variables. These plausible values thus reflect the range of possible financial literacy levels the student might have, considering the limited number of test items and the inherent uncertainty in educational measurement (Mislevy et al. 1992). In addition, the estimation procedures in educational large-scale assessments typically combine information from test scores with key background variables such as gender, migrant status, or socio-economic status (latent regression modelling) to enhance measurement accuracy and prevent bias when estimating relationships between proficiency and student-level covariates (see Davier et al. 2019 or Mislevy et al. 1992 for more elaborate explanations). Therefore, PVs are often preferred for their ability to provide more robust and comprehensive insights into educational data (e.g., Mislevy 1991, Wu 2005).

3 Data

The OECD provides data repositories for each wave of the PISA assessment. The repositories include the questionnaires, codebooks and compendia, as well as the datasets in SAS and SPSS formats. The questionnaire section covers student-level questionnaires (e.g., demographics or the assessment), parent-, teacher- and school questionnaires, and questionnaires specific to a certain years of the assessment (e.g., questionnaires on well-being or digital media usage in 2018).

The dataset section within the repositories includes main datasets with triennial test score data for the domains of math, reading, and science as well as data from the student- and parent questionnaires. Additionally, the repositories include separate financial literacy datasets for each wave which can be merged with the main dataset via the student and country identifier.

Additional datasets are available for variables captured via the school and teacher questionnaires. In addition, two data sets contain recorded response times, i.e., one dataset containing the total time of spent on the background questionnaire, and the other dataset containing the response times and total number of attempts for each test item in the assessment. The latter can be used, for example, to calculate test motivation metrics (e.g., Wise and Kong 2005, Wise 2015).

3.1 Test scores: IRT framework and plausible values (PV)

The PISA datasets provide student proficiency scores obtained from an IRT model as discussed in section 2.2. The PISA data files contain five (wave 2012) or ten (waves 2015 and 2018) plausible values for each participant and are standardized to have a mean of 500 and a standard deviation of 100. Plausible values are multiple imputations of the latent variable (e.g., financial literacy). Each plausible value is a random draw from the posterior distribution of the latent trait given the observed data. Thus, to account for the complexities in this design, we estimate all regressions in a multiple imputation framework (i.e., imputing five (or ten) plausible values for the latent trait) and reporting pooled estimates based on the multiply imputed regression models.

3.2 Covariates

The variables available in the main data set and the financial literacy dataset contain a wide range of demographic, socioeconomic, and educational factors, as well as measures

related to financial literacy variables from the auxiliary datasets, such as the parent or school dataset, can be easily merged with the main dataset via the country and the student indicator.

Demographic variables include age, gender, immigrant background, family wealth (i.e., an index based on the number and type of home possessions), and language spoken at home, providing insight into the composition of the student population under study. Socioeconomic variables, such as parents' level of education, occupation, income, and family structure, offer crucial information about the socioeconomic background of the students. Educational variables capture details about students' academic performance, school type, and educational resources available to them, providing context for their financial literacy outcomes.

The datasets also contain several indices combining information from multiple variables. With regard to financial literacy, the 2018 wave provides new indices on confidence in dealing with financial matters or digital financial services, exposure to school-based financial education , and parental involvement in matters related to financial decision-making. In addition, the OECD provides several new indices in the 2018 wave, such as exposure to bullying, attitudes towards competition, fear of failing, or self-efficacy. Indices provided in all waves include parents' emotional support, teacher support, or perceived value of schooling. In addition, the OECD provides their self-developed PISA index of economic, social and cultural status (ESCS) across all three waves, which is derived from parents' highest level of education parents' highest occupational status and home possessions.

4 An Overview of Results across Waves

The inclusion of financial literacy into PISA has generated critical insights into the state of financial proficiency of the young around the globe. By benchmarking students' performance across countries, PISA enables policymakers, educators, and researchers to identify best practices, highlight areas for improvement, and develop evidence-based interventions to enhance adolescents' financial literacy levels. In this section, we report stylized results from

the three waves in which the OECD administered the financial literacy questionnaires (2012, 2015 and 2018).

4.1 Participation

The PISA financial literacy assessment was first fielded in 2012 with 18 participating countries (see Table 1).[3]

<Table 1 about here >

Since then, the number of participating countries has fluctuated. In 2015, 15 countries took part in the assessment, followed by 20 countries in 2018. In total, more than a quarter million students have participated in the assessments. Figure 1 shows a map with the participating countries and the number of participations in the last three waves. A total of six countries participated in all three surveys (USA, Russia, Spain, Italy, Poland, and Slovakia).

< Figure 1 about here >

4.2 The variation of financial literacy scores between countries and waves

We start by exploring the variation of financial literacy scores at the country-level and over time, with results shown in Figure 2. We first highlight the results from the most recent wave of PISA financial literacy (2018) and then move to a discussion of those countries participating in multiple waves of the PISA financial literacy assessment.

< Figure 2 about here >

[3] Note that in some cases only a part of the country was tested, such as Shanghai in China in the 2012 assessment or Beijing, Shanghai, Jiangsu, and Guangdong in China in the 2015 assessment.

In 2018, the average score across all participating economies is 478.3 points, whereas the mean score across OECD countries is 508.1 points, i.e., about 8 points higher than in the inaugural assessment. The Netherlands is the highest-performing country (558 points)[4], followed by Estonia (547.5 points), Finland (536.9 points), Canada (532.3 points), and Poland (519.6 points), all of which performing significantly above the OECD average. Countries close to the OECD average or slightly below are the US, Portugal, Latvia, and Lithuania, whereas participants outside the OECD, such as Indonesia, Georgia, Peru, or Brazil significantly scored both well below the OECD average and the total average. The difference between the highest-performing country (Netherlands) and the lowest-performing country (Indonesia) is 169.5 points (i.e., about 1.7 standard deviations), which is over 60 percent larger than in previous PISA assessments and therefore reflects marked differences in the ability to cope with financial life situations among the young (OECD 2020).

Turning to the countries participating in multiple waves, we highlight results for selected countries: While some of the OECD countries score remarkably similar between the waves (e.g., Belgium, Canada, Latvia), other countries show some variation over time (e.g., Spain, Italy, Portugal, Slovakia, the U.S.) with several countries improving their scores in 2018 relative to the 2012 or 2015 assessments. Yet, these differences are usually in the order of magnitude of about ten points or less. Countries with some of the more drastic improvements in country-level financial literacy are Lithuania with an increase of 49 points (i.e., half a standard deviation) from 2015 to 2018, Brazil which improved by close to 27 points from 2015 to 2018, Estonia, which improved by 18 points from 2012 to 2018, and the U.S. which improved by about 17 points from 2015 to 2018. Several of these countries have dedicated substantial resources to school-based financial education and the promotion of national strategies supporting the implementation of financial education interventions for youth.

[4] Note that data from the Netherlands have been excluded from the official volume on the 2018 assessment due to errors in the sample selection process (see OECD 2020. *PISA 2018 Results (Volume IV): Are Students Smart about Money?* OECD Publishing, Paris).

4.3 Proficiency gaps by countries and waves

We now turn to a descriptive analysis of the differences in financial literacy by student subgroups between countries and over time. Regarding individual differences across observable student-characteristics, a relevant factor associated with financial literacy levels is gender. While most of the literature documents a gender gap in financial literacy among adults (Bucher-Koenen et al., 2017, Bucher-Koenen & Lusardi, 2011, Lusardi et al. 2010), the evidence coming from the PISA assessments is mixed. In fact, if the gender gap is analyzed using data including all countries, no significant difference is detected (OECD 2020).

< Figure 3 about here >

However, as shown in Panel A in Figure 2, looking at data in each country, the PISA assessments reveal substantial gender gaps in Italy, the United States, Peru, and Canada, whereas some countries show a reversed gender gap in favor of female participants, such as in Bulgaria, Poland or Slovakia. A migration background of students is another important factor associated with financial literacy, with differences shown in Panel B of Figure 2. While most countries exhibit substantial financial literacy differences by migration background, some countries, such as Canada, Israel, or Latvia, show no differences.

As shown in Panel C in Figure 2, one of the most significant factors associated with financial literacy scores in the PISA assessments is students' socioeconomic status. Students from higher socioeconomic backgrounds tend to perform much better in the financial literacy assessments across all countries compared to their counterparts from mid- or lower-class families: The order of magnitude of this gap is often well above 50 points, i.e., much larger than much of the variation between countries or within countries over time. This suggests strong socio-economic disparities in financial literacy and underscores the importance of including financial education in school curricula to mitigate with resulting inequalities.

4.4 Pooled correlates of financial literacy by wave

We now jointly consider the correlates of financial literacy in a regression model with country fixed effects and study their importance by wave (see Table 2).

< Table 2 about here >

Starting with the first model including key demographic indicators, we find that migration, socio-economic status, and family wealth are significantly associated with financial literacy scores in all three waves as shown in Figure 2. Math and reading capabilities also appear to be relevant predictors of financial literacy. An increase in both math or reading proficiency by one unit is associated with an increase in financial literacy levels by almost half of one unit. When adjusting for differences in math or reading scores, the gender gap in financial literacy becomes significant with an order of magnitude of about 5 to 6 points in the pooled analysis. Thus, it seems advisable to adjust for differences in math and reading comprehension when analyzing the correlates of financial literacy.

From the first model that includes relevant socio-demographic factors, we find that socio-economic status, migration status, and wealth are significantly associated with financial literacy in all three waves. However, when controlling for educational resources as well as social and cultural status (ESCS), all three predictors lose economic and statistical significance. Therefore, the results in the first models may simply reflect that students have a better access to educational resources at home. This finding requires further investigation and has policy implications for introducing educational resources on personal finance in schools.

5 Discussion

The comprehensive dataset provided by the PISA financial literacy assessments offers a unique resource for researchers interested in examining the financial literacy of adolescents globally. Since its inception in 2012, the financial literacy component of PISA has provided invaluable insights into the capabilities of 15-year-old students to navigate the financial

landscape. This article has provided an overview of the data collected so far (2012, 2015, 2018), detailed the conceptual framework and methodology, and provided guidance on using the test scores estimated from psychometric models. We have also documented some stylized facts that illuminate the correlates of financial literacy among youth.

The findings from the PISA assessments underscore the significant role of socioeconomic status, migration background, and gender in shaping financial literacy outcomes. High socioeconomic status and household wealth are consistently associated with higher financial literacy scores, reflecting better access to educational resources and support. Migration status and gender also influence financial literacy, although the patterns vary across countries. For example, some countries exhibit gender gaps favoring male students, while others show higher financial literacy among females. These results suggest that financial literacy is correlated with demographic, socioeconomic, and educational factors.

Given the robust data and the insights the PISA financial literacy assessments offer, several avenues for future research are apparent. Researchers can leverage the variation within and between countries, as well as over time, to study the determinants of financial literacy more deeply. Researchers can explore the relationship between financial literacy and non-cognitive skills, such as risk-taking and patience, which are critical traits steering financial decisions (Falk et al. 2018, Hanushek et al. 2022). Investigating how different educational reforms are correlated with financial literacy outcomes over time may also provide valuable policy insights. By exploring these data further, researchers can uncover the underlying causes of disparities among the young and identify effective interventions to improve financial literacy. Policymakers can use these insights to design and implement targeted educational programs that equip young people with the necessary skills to manage their finances effectively, thereby enhancing their financial well-being and contributing to a more financially literate society.

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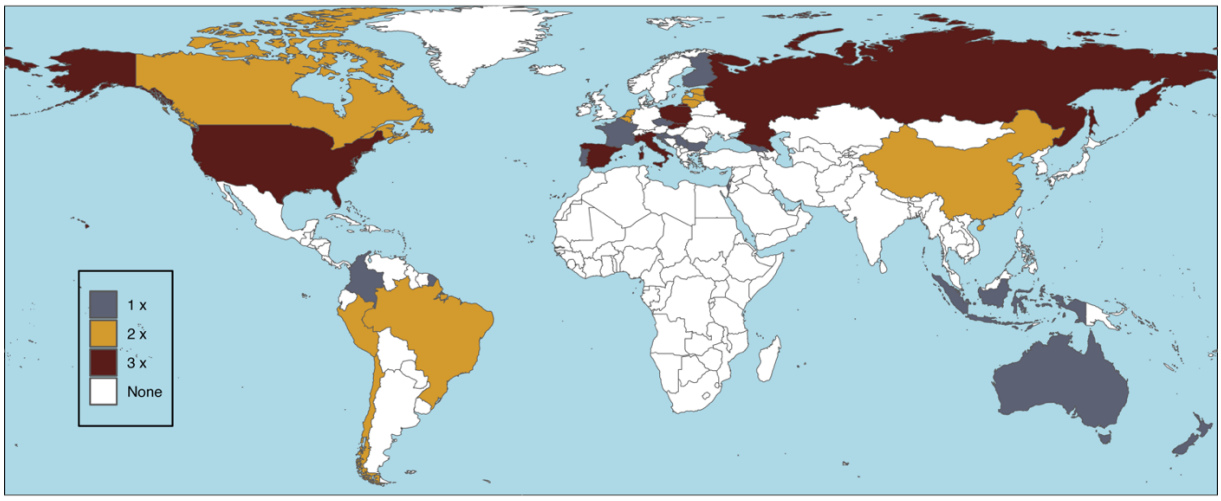
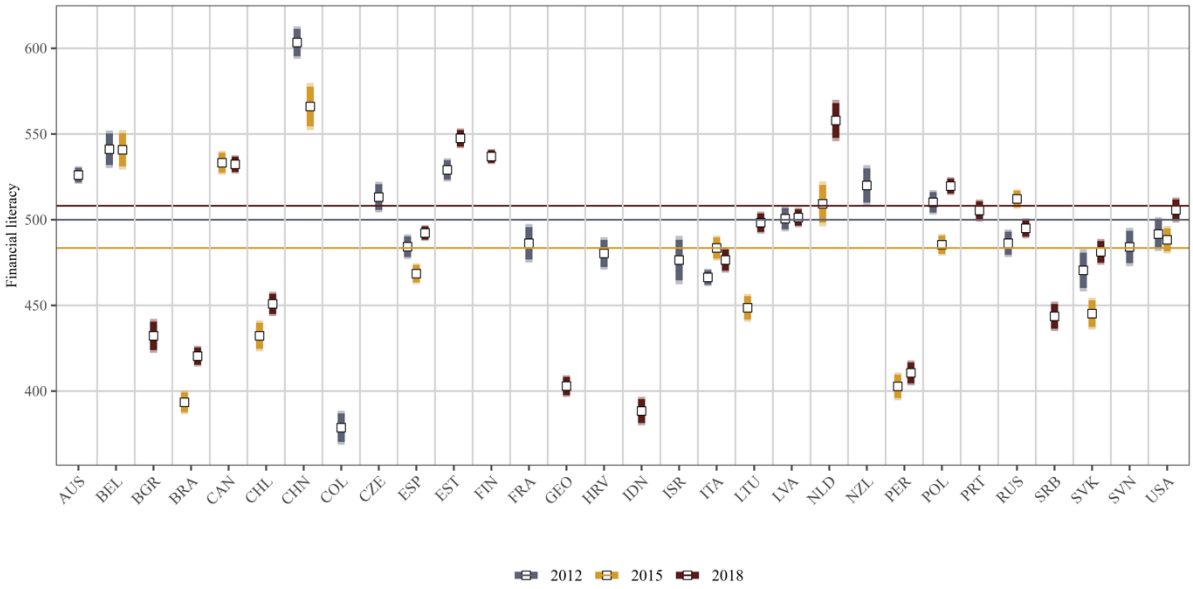
Figure 1: Number of participations across waves



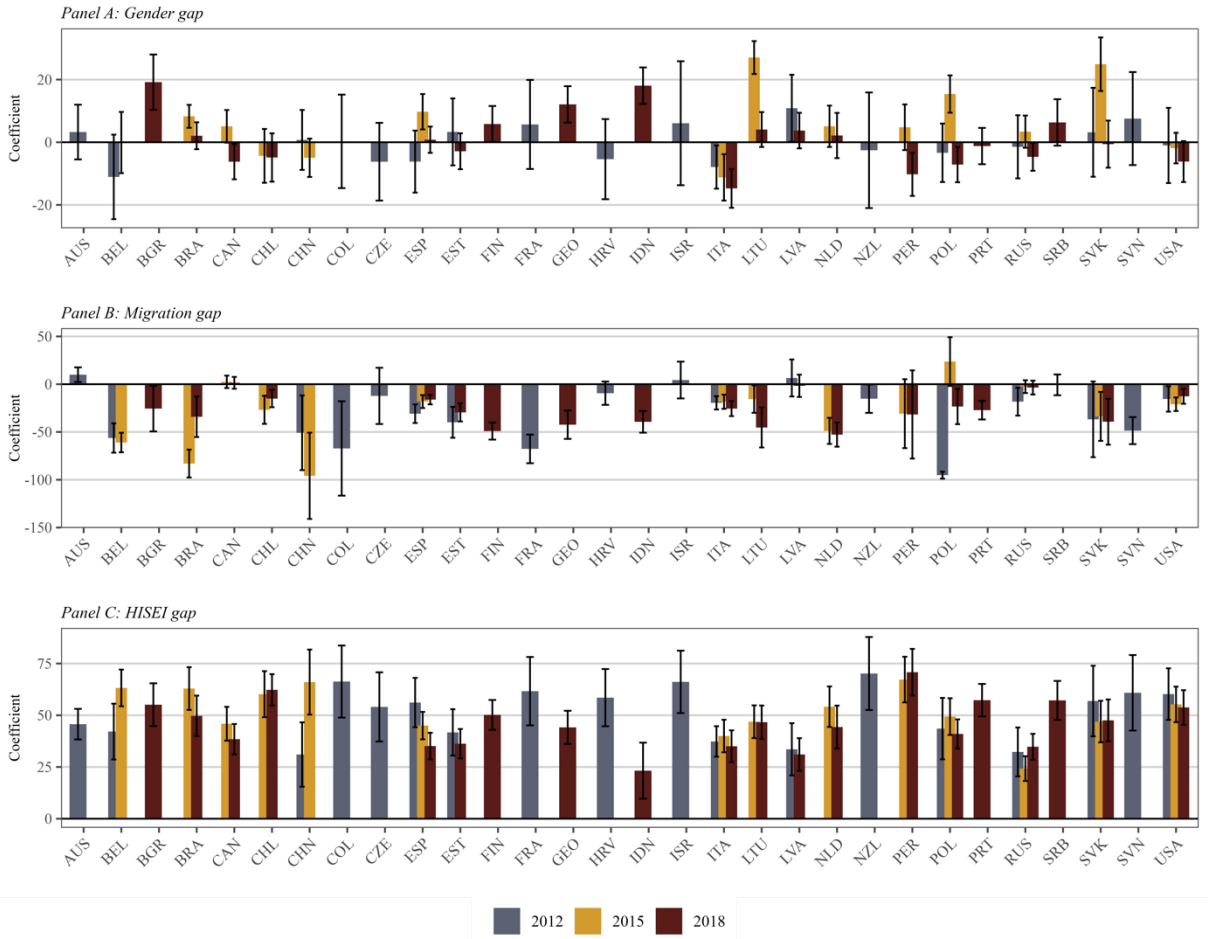
Notes: This figure shows the number of participations at the country level. Note that in some cases only a part of the country was tested, such as Shanghai in China in the 2012 assessment or Beijing, Shanghai, Jiangsu, and Guangdong in China in the 2015 assessment.

Figure 2: Financial literacy between countries and waves



Notes: This figure shows average in financial literacy scores at the country level as well as 90 and 95 % confidence intervals based on standard errors clustered at the school level. The horizontal lines represent the average score in OECD countries for each wave.

Figure 3: Financial literacy gaps by country and wave



Notes: This figure shows performance differences (and 95% CIs) in financial literacy (multiply imputed through plausible values) across the indicators gender (1=female, 0=male), migration status (1=migrant, 0=non-migrant), and socio-economic background (HISEI). The indicator for socio-economic status (HISEI) takes the value 1 if the participant is in the highest quartile of the distribution, 0 otherwise. Differences are calculated with the indicator as single predictor in a linear regression, with standard errors clustered at the school level. Note that separate assessments in country regions were combined with the respective country, such as Moscow and Tatarstan with Russia (RUS).

Table 1: Participating Economies

Wave	Participating economies	Non-OECD countries	Observations	Test items
2012	18	5	29,041	40
2015	15	5	123,041	43
2018	20	7	107,174	43

Notes: This table shows wave-specific characteristics regarding participation. Column 4 refers to the available plausible values (PV) in the domain of financial literacy. As in figure 1, separate assessments in country regions were combined with the respective economy.

Table 2: Correlates of financial literacy

	2012			2015			2018		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female (1/0)	-4.109 [2.861]	-6.872*** [1.881]	-5.381** [2.242]	1.836 [1.217]	-4.273*** [0.841]	-4.522*** [0.856]	1.913 [1.380]	-2.998*** [0.747]	-2.943** [0.766]
Migrant (1/0)	-13.936*** [3.992]	-0.762 [2.603]	-0.860 [3.109]	-10.521*** [2.403]	0.044 [1.305]	-0.629 [1.369]	-7.013*** [2.367]	-2.871** [1.156]	-3.181** [1.239]
High HISEI (1/0)	43.054*** [3.322]	2.991 [1.934]	2.514 [3.428]	39.464*** [2.02]	-0.378 [1.064]	1.284 [1.219]	33.73*** [2.022]	-2.757** [0.859]	-2.201** [1.000]
Wealth (std.)	17.642*** [1.743]	4.748*** [1.068]	1.173 [1.601]	23.968*** [1.145]	1.439** [0.601]	2.523** [0.716]	24.593*** [1.457]	3.076*** [0.478]	3.309*** [0.620]
Math		0.478*** [0.017]	0.482*** [0.019]		0.502*** [0.014]	0.505*** [0.014]		0.636*** [0.011]	0.637*** [0.012]
Reading		0.419*** [0.019]	0.400*** [0.022]		0.538*** [0.013]	0.537*** [0.013]		0.357*** [0.01]	0.357*** [0.010]
Edu. resources (home)			2.246 * [1.139]			0.902 * [0.464]			0.351 [0.430]
ESCS			1.851 [2.136]			-2.031 [0.748]			-0.697 [0.600]
Teacher support			1.143 [1.068]			-0.397 [0.459]			0.597 [0.390]
N (students)	27,243	27,243	17,950	104,870	104,870	90,450	96,291	96,291	88,598
N (schools)	1,178	1,178	1,164	4,381	4,381	4,317	6,589	6,589	6,106
Adj. R^2	0.199	0.707	0.705	0.268	0.724	0.713	0.330	0.831	0.828
Country FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: This table shows multiple regressions with financial literacy scores (multiply imputed by plausible values) as the dependent variable for each wave separately. The dependent variables are standardized to have a mean of 500 and a standard deviation of 100. Socio-economic status (High HISEI) takes the value 1, if the participant is the highest quarter of the distribution, 0 otherwise. Standard errors are clustered at the school level. All regression models include country-fixed effects. *p<0.01, **p<0.05, ***p<0.01.