

4th OECD/GFLEC Global policy research symposium to advance financial literacy:  
“Addressing the needs of youth”

## **Financial Literacy and Financial Inclusion: Priorities of the G20 German Presidency<sup>1</sup>**

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Resilience and digitalization are two key themes of the German G20 presidency. Digitalization, and in particular the provision of digital financial services, can contribute to enhanced financial inclusion. But risks also need to be managed appropriately, and financial knowledge is important to manage the risks and returns of financial services. The level of financial literacy tends to be low, however, and financial illiteracy is an issue that particularly affects the young. The young, in turn, are also the most vulnerable with regard to the long-term effects of mistakes in financial decision making. Therefore, public policy in the form of financial education has an important role to play. Evidence on “what works” in financial education is steadily accumulating, but sharing information on financial education programs and analyzing their effectiveness can significantly enhance our knowledge and contribute to better evidence-based policymaking.

### **I. Priorities of the German G20 Presidency**

Financial crises cast long shadows. Almost ten years after the onset of the global financial crisis, its legacies continue to weigh on the world economy. Global growth is below its pre-crisis trends and debt levels remain high, though trends differ across regions and sectors. At the same time, the rapid digitalization of our economies requires the markets, the financial system, and policymakers to adapt.

Resilience and digitalization are, therefore, two key priorities of the German G20 presidency.

Sustained resilience to shocks remains of key importance, for the private and for the public sector. Financial regulatory reforms that enhance the stability of financial systems are one of the main achievements of the post-crisis reform agenda. In this regard, we are gradually moving from policy implementation to ex post impact assessments. Impact assessments are

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needed to demonstrate the long-term benefits of the reforms. We need to look at the effectiveness of individual reforms, the interaction between reforms, and their aggregate effects. The Financial Stability Board (FSB) has started work on a structured framework for policy evaluation. This evaluation will provide the basis for a structured assessment of what we have achieved. It will also safeguard against the weakening of reforms and of resilience.

Reaping the benefits of digitalization, in particular in the financial sector, is the second main theme of the German G20 presidency. Technological innovations potentially contribute to resilience. Unleashing productivity might strengthen the underlying growth dynamics, and the allocation of risks can be improved. But these benefits do not materialize automatically. It thus needs to be explored how innovative digital financial services contribute to well-functioning financial markets. Innovations such as crowdfunding and distributed-ledger technologies are at the center of this debate. “Fintechs” can facilitate access to financial services. These innovations can foster competition, lower transaction costs, and improve risk sharing – thus promote innovation and growth in the real economy.

But the risks of financial innovation must be considered as well. Financial innovations might increase systemic risk through effects on market structure, risk-taking incentives, or procyclicality and common exposures to shocks. Also, the threat of cyber attacks requires very close attention and, possibly, regulatory intervention.

One aspect of this debate is the contribution of financial innovation to financial inclusion. Financial inclusion can promote economic prosperity and help strengthen opportunities for SMEs and individuals. Yet it requires consumers and investors to acquire additional skills and abilities. Wide-spread access to financial markets and a greater variety of products on offer increase the likelihood of financial fraud. A certain level of financial literacy to properly manage risks is therefore required. Financial inclusion and financial literacy are thus two key themes of the German G20 presidency’s priority “shaping digitalization”.

In the following, I would like to discuss the importance of financial literacy, and in particular financial education, focusing on three key questions:

- Why is financial literacy important for individuals, society, and central banks?
- What drives financial literacy and, more specifically, what is the role of financial education?
- What are the implications for policymakers? How can we learn from best practice and evaluate policies that aim at promoting financial literacy?

I will begin by outlining the key facts on financial literacy.

## II. Financial Literacy – the Key Facts

Financial literacy denotes the appropriate skills and knowledge that enable individuals to make sound financial decisions. A related concept is financial capability which includes economic behaviour, such as managing day-to day spending well, looking ahead and planning unanticipated expenditures, selecting and using available products appropriately. The OECD defines financial literacy as a combination of awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing (OECD/INFE 2011: 3).

Measures of financial literacy have not been available in national surveys, but have been added recently. For example, Annamaria Lusardi and Olivia Mitchell (2011a) developed three simple questions to measure the knowledge of fundamental concepts at the basis of financial decision-making. The following questions have been added to national surveys in more than 15 countries:<sup>2</sup>

- (1) *Suppose you had 100 euro(/\$) in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: More than 102 euro, exactly 102 euro, less than 102 euro?*
- (2) *Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?*
- (3) *Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund".*

In the year 2014, a global survey on financial knowledge was carried out in more than 140 countries (Klapper, Lusardi, and van Oudheusden 2015). Based on a toolkit developed by the OECD and the International Network for Financial Education (INFE), in 2015 30 countries carried out financial literacy surveys. These and other national and international studies showed that the level of financial literacy tends to be low.<sup>3</sup> Combining the scores on financial knowledge, behaviour and attitudes, the average score across all participating countries in the OECD/INFE survey is 13.2 out of a possible 21 (Figure 1).

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<sup>2</sup> These questions are also included in the German household wealth survey, the Panel on Household Finances (PHF), carried out by the Deutsche Bundesbank. Summary results are presented in the Appendix. In all three questions, there are two additional options respondents can choose, such as "I do not know," and "I refuse to answer".

<sup>3</sup> The 2015 international survey for 30 countries "International survey of adult financial literacy competencies" was published by the OECD/ International Network on Financial Education (INFE) in October 2016.

Breaking down the overall score yields some interesting facts:

- As regards **financial knowledge**, on average, 56% of adults achieved a score of at least five out of seven, which is considered to be the minimum target score (Figure 2). Only 42% of adults are aware of the additional benefits of compound interest on savings. Only two in three adults are aware that it is possible to reduce investment risk by buying a range of different stocks.
- With respect to **financial behaviour**, one in two (51%) respondents achieved the minimum target score of at least six out of nine. The weakest areas of financial behaviour across these measures are related to budgeting, planning ahead, choosing products, and using independent advice.
- **Financial attitudes** show a tendency towards short-termism. Respondents tend to favour “living for today” and spending money rather than setting financial goals and planning for the future. On average, 50% of adults achieved the minimum target score for financial attitude, which is deemed positive if it shows a tendency to favour saving and financial planning.
- There are **gender differences** in financial knowledge: 61% of men achieve the minimum target score, compared with only 51% of women (Figure 3). This “gender gap” is fairly persistent across countries.
- **Young people** display a low level of financial knowledge. This is the case even in countries with high income per capita or well developed financial markets. The evidence from the Program for International Student Assessment (PISA) financial literacy option documents that, in most countries participating in the exercises in 2012 and 2015, a sizable fraction of secondary school students are not at all proficient in financial literacy (OECD, 2017).<sup>4</sup>

The latter finding is particularly important in the context of work on financial literacy among the young, including the importance of financial education and training. Financial decisions taken early on in life can have a significant impact on future well-being, wealth, and income. Hence, the importance of financial literacy is an issue I turn to next.

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<sup>4</sup> Germany has not participated in the most recent financial literacy survey included in PISA.

### III. Why is Financial Literacy Important?

Financial literacy is of key importance for individuals, for societies, and for central banks.

For **individuals**, decisions on the level and structure of savings can have significant impacts on future income. Households routinely take decisions which affect their exposure to future shocks by saving too little, investing sub-optimally, or by borrowing too much.

Akerlof and Shiller (2009: p. 117) illustrate the power of compound interest and the importance of decision-making at the individual level. They describe a policy by Harvard University to pay interest to assistant professors' retirement accounts *after* the recipients had signed a declaration of where the money would be invested. A senior faculty member advised assistance professors to make this statement soon in order not to forego compound interest on the accounts. Following this advice would generate a substantial increase in wealth.

More generally, the gains from financial literacy – or losses resulting from a lack of financial literacy – have been documented in several studies, which are comprehensively reviewed in Lusardi and Mitchell (2014). Decisions on debt and debt management are important, but individuals often do not display savvy behaviour. Campbell (2006) studies the decisions of households to refinance. Refinancing might be optimal if interest rates decline. Yet many US households fail to refinance even if savings would have been substantial in terms of interest expenses. Less wealthy and less educated households were more likely to make mistakes than wealthier and better educated households. Besides being less likely to make mistakes, those with higher numeracy or financial literacy are more likely to participate in financial markets and invest in stocks (Christelis, Jappelli and Padula, 2010; van Rooij, Lusardi and Alessie (2011), to hold precautionary savings (de Bassa Scheresberg 2013), or to undertake retirement planning (Lusardi and Mitchell, 2011a, 2011b).

Differences in financial literacy across individuals can thus be a relevant factor behind differences in wealth across individuals. Lusardi, Michaud, and Mitchell (2017) estimate that 30-40 % of the inequality in retirement wealth in the US is accounted for by differences in financial literacy.

Given the link between financial literacy and wealth accumulation, age obviously matters. The link between age and financial performance is explicitly picked up in Agarwal, Driscoll, Gabaix and Laibson (2009). They document that financial performance exhibits an inverse U-shape pattern, with performance peaking in middle age. In other words, financial mistakes are more likely to occur among the younger and the older population. The authors examine different financial transactions such as credit card balance transfer offers, mis-estimation of

the value of one's house, and excess interest rate and fee payments. They observe that younger and older consumers tend to pay higher fees and interest rates on their loans. Results seem to be driven by a trade-off between experience and fluid intelligence: Relatively young borrowers tend to have low levels of experience ("crystallized intelligence") but a high degree of fluid intelligence. Older borrowers tend to have high levels of crystallized intelligence but relatively lower levels of "fluid intelligence" in terms of performance on novel tasks.

Financial literacy also matters for **society** as a whole. Voters and policymakers have to decide on the level of public debt, the amount of borrowing, and the level of pensions. All these decisions are likely to be distorted if they are based on incomplete knowledge of key financial accounting concepts.

Citizens are the indirect drivers of the political process because politicians are elected based on the voters' assessment of political programs (Fornero 2014). Economic and financial literacy are thus important when it comes to political decisions taken on issues such as pension reforms. Financial literacy helps citizens clarify the features, options, and costs of pension systems, and to assess the notion of acquired rights. This enhances understanding of the necessity of reforms in countries where pension systems prove unsustainable and where reforms have to be undertaken.

A related issue is analyzed in a laboratory experiment by Fochmann, Sachs, Sadrieh, and Weimann (2016), who analyze intergenerational borrowing decisions. They show that, within a generation, debt is accumulated prudently. As soon as they allow for intergenerational dynamics, participants borrow too much and burden successive generations with high levels of debt. This experiment does not explicitly analyze the role of financial literacy. Its external validity – as with any other experimental setting – might be limited. But results show the importance of individual and collective decision-making for public debt dynamics.

Related evidence is provided by Heinemann, Janeba, Schröder, and Streif (2016) who look at public debt dynamics by analyzing the link between fiscal rules and deficit expectations of policy-makers in Germany. They analyze a survey of members of the 16 German state parliaments. Their survey reveals limited credibility of the debt brakes and an asymmetry in expectations on compliance between insiders and outsiders (in-state versus out-of-state politicians, incumbent government vs. opposition). They attribute this to overconfidence of the incumbents.

Moreover, financial literacy seems to have an impact on the occupational decisions of individuals which, in turn, may affect structural change and productivity growth. Focusing on

individual decisions, Cumurovic and Hyll (2017) use German data and find that financial literacy positively affects the probability of being self-employed.

Finally, **central banks** routinely communicate their policies by referring to concepts such as inflation and interest rates. Interest in the drivers and effects of financial literacy have arguably become even more important for central banks in recent years, as central banks have been mandated with ensuring a higher degree of financial stability. Financial stability is intrinsically linked to the quality of financial decision-making in an economy. Funding or investment decisions that ignore fundamental values and are based on erroneous assessments of future price and interest rate developments, can put the stability of the entire financial system at risk. While macroprudential policy measures are the ultimate backstop mechanisms, financial stability starts at the individual level and with informed financial decision-making.

Financial stability risks emerging from housing markets are a case in point. More than two-thirds of all Europeans own the homes they live in, and residential property typically forms the largest component of their wealth.<sup>5</sup> The majority of households borrow to finance a home purchase. Once they are homeowners, in many countries they can use their property as collateral to access funding (Skudelny 2009, Sousa 2009). Mortgage debt is thus the main financial liability of the household sector in advanced economies.<sup>6</sup> Also, mortgage loans are a major asset of the financial system, particularly for banks.<sup>7</sup> Movements in house prices can thus have a significant impact on the financial positions of banks and households. A surge in house prices, coupled with a strong expansion in mortgage loans and an easing of credit standards, may also pose risks to the stability of the financial system as a whole.<sup>8</sup> In fact, during a house price boom, market participants may form overly positive expectations regarding future developments in debt sustainability. They may largely disregard the possibility that asset prices may fall and interest rates may rise. If house prices fall and default rates increase, banks may not be able to offset the resulting losses from mortgage lending.

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<sup>5</sup> In Germany, rates of homeownership are somewhat lower. In 2015, slightly more than 50% of households owned the houses they lived in (Eurostat 2017).

<sup>6</sup> Mortgage debt amounts, on average, to about two-thirds of household liabilities in Euro Area countries. In Germany, mortgages accounted for about 70% of total household debt in 2016. See OECD Households' Financial Assets and Liabilities, [http://stats.oecd.org/Index.aspx?DataSetCode=QASA\\_7HH](http://stats.oecd.org/Index.aspx?DataSetCode=QASA_7HH).

<sup>7</sup> In Germany, for example, roughly 51% of all outstanding bank loans to domestic enterprises and households were housing loans in the fourth quarter of 2016.

<sup>8</sup> Several empirical contributions show that the damage done to the economy by the bursting of credit-driven real estate price booms is significant and long-lasting, e.g. Brunnermeier and Schnabel (2015) as well as Taylor (2015).

Policy measures aimed at safeguarding against financial stability risks arising from the mortgage markets are thus geared towards maintaining debt sustainability for households and mitigating losses due to financial distress. For this purpose, minimum requirements can be defined with regard to debt levels relative to the income of households, the debt service relative to income, loan-to-value ratios, and amortization requirements. All of these measures may have a disproportionate effect on younger households with lower wealth and income than for older households. Hence, communicating the benefits of these measures for society as a whole while being aware of the distributional consequences is a key challenge for policymakers.<sup>9</sup> Such communication benefits significantly from heightened financial knowledge in a society.

#### IV. What Drives Financial Literacy?

Given the importance of financial literacy over the life cycle of individuals, for society, and for central banks, are there any specific policies that can be used to enhance financial literacy? The level of financial literacy of an individual is closely related to individual characteristics such as the level of education, income, gender and age. Also, country characteristics can play an important role. In countries with a defined-contribution pension system, for instance, individual savings decisions are much more important than in countries with a pay-as-you-go system. This limits the ability of politicians to change the level of financial literacy, particularly in the short-run. John Campbell (2016: 20) thus argues that *“consumer financial illiteracy is a sufficiently serious problem, and hard enough to cure through financial education and disclosures, [such] that some degree of financial regulation can be justified even if it imposes costs on rational households”*.

While the benefits of better financial literacy first and foremost accrue to the individual, society as a whole also has an interest in better financial decision-making. This raises the issue of the role of **public policy** in improving financial literacy levels. Statements about the effectiveness of interventions, however, are plagued by a key identification problem: If individuals are more financially literate after attending an educational program, is this the effect of the program itself? Or might there be selection effects or effects of other, unobservable characteristics that drive the results?

In a recent study, Kaiser and Menkoff (2016) perform a meta-analysis of studies on the effects of financial education programs. The study is based on 115 microeconomic impact evaluation studies (out of a total of 500 studies available), including randomized controlled

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<sup>9</sup> See CGGS Committee on the Global Financial System (2016) for a review of the communication of macroprudential measures.

trials.<sup>10</sup> Their main finding is that financial education and financial literacy impact financial behaviour. At the same time, results are very heterogeneous across studies. The way in which financial education is implemented matters. According to the results, effects of financial education depend on ...

- ... the target group: Teaching low-income *participants* (relative to country means) has a weaker impact, especially in low and lower-middle income *countries*.
- ... the type of financial activity targeted: Behaviour, for example related to borrowing decisions, is difficult to influence.
- ... the time financial education is received: Providing financial education at a “teachable moment”, i.e. when teaching is directly linked to decisions of immediate relevance to the target group, the best results are achieved.
- ... the country’s level of economic development and quality of the educational system: Interventions in low-income *countries* appear to be less successful than those in high-income countries.

The study also shows that some factors which one might consider to be important are actually not relevant for the effects of financial education. These factors are age, gender, or the specific channel of interventions.

Note that improving the measurement of financial literacy can contribute to a better design and evaluation of policies. Answers to the typical financial literacy questions are subject to measurement error. The wording, for example, of the questions matters. This indicates that respondents may sometimes be guessing the answer. For example, respondents are more likely to get the answer right to the investment diversification question when it is structured so that the correct answer is “True” (Lusardi and Mitchell 2009). Another issue that needs to be taken into account is that non-responses might differ systematically across respondents. Recent surveys address these issues, so that better evidence will accumulate over time.

## V. Implications for Policymakers

Adequate financial knowledge is important. It is particularly important for the young. Financial decisions taken at a younger age affect income and wealth over the lifetime and young cohorts have important stakes in policy decisions related to fiscal policy and pension reforms. At the same time, financial knowledge among the young is limited, as is shown by

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<sup>10</sup> Laboratory experiments can help addressing the identification issue but may have limited external validity. Winter, Lührmann and Garcia (2013), for example, conducted an experimental study in German high-schools that teenagers show low interest in financial matters, but financial education increases their interest.

recent evidence from the PISA survey (OECD, 2017). Designing and implementing effective financial education programs is challenging. What can policymakers take away from the large and accumulating set of evidence on financial literacy?

Financial literacy – like any other educational achievement – is grounded in individual capabilities. Given the importance of good and informed financial decision-making for societies as a whole, there is scope for public financial education. But how to design financial education programs such that they are effective? And how to reach parts of the population which do not voluntarily participate in educational programs? The study by Kaiser and Menkoff (2016) suggests that programs that are well implemented deliver promising results.

Educational programs have to account for the specificities of national educational systems. Successful approaches will differ across countries, given the heterogeneity of educational systems and other institutional features affecting financial literacy. At the same time, national policymakers are likely to benefit from drawing lessons across countries. While an increasing number of financial literacy programs are being evaluated and are subject to costs-benefit analysis, many initiatives are not. Evidence on their effectiveness is, therefore, lacking.

The OECD/International Network on Financial Education (INFE) is currently working on creating an international database of evaluation studies related to financial literacy. The database will also allow policy-makers, researchers, and practitioners to identify good practice. The database is expected to cover all types of financial education initiatives, from more traditional classroom-based training and printed material to broad awareness campaigns, events and innovative channels, including online educational games, interactive tools, and film material. Moreover, the envisaged database would contain information on selected indicators of program effectiveness ([financial-education.org](http://financial-education.org)).

The German G20 presidency is contributing to better analyse, share and design financial literacy programs. Therefore it supports the implementation of the "High Level Principles of Digital Financial Inclusion" which had been endorsed at the 2016 G20 Hangzhou summit. The G20 countries agreed to participate in the OECD/INFE financial literacy survey and were encouraged to publish results to establish a comparable database to facilitate evaluating financial literacy programs. The results of the survey will be shared in a report on "Adult Financial Literacy Competencies in G20 Countries" around the summit in Hamburg in July 2017.

Further, a second report from G20/OECD INFE called "Ensuring financial education and consumer protection for all in the digital age" was presented at the FM/CBG Meeting in Washington, D.C. on the margins of the IMF Spring Meetings 2017. It underscores the

significance to consumer protection of developing people's digital literacy skills as a complement to financial education. Finally, the G20 itself promotes financial, political, and economic skills of our youth with the Global Classroom initiative.<sup>11</sup>

In short, understanding “what works” in financial education through structured evaluations can significantly contribute to better, evidence-based policy-making. As new evidence on financial literacy is accumulating and as methodological tools become available to learn from that evidence, comparing results across countries and initiatives and learning from the differences we observe will provide new insights. The benefits can be particularly important for the young.

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<sup>11</sup> For details, see <http://www.bundesfinanzministerium.de/Web/EN/Issues/Featured/G20/classroom/Global-classroom.html>.

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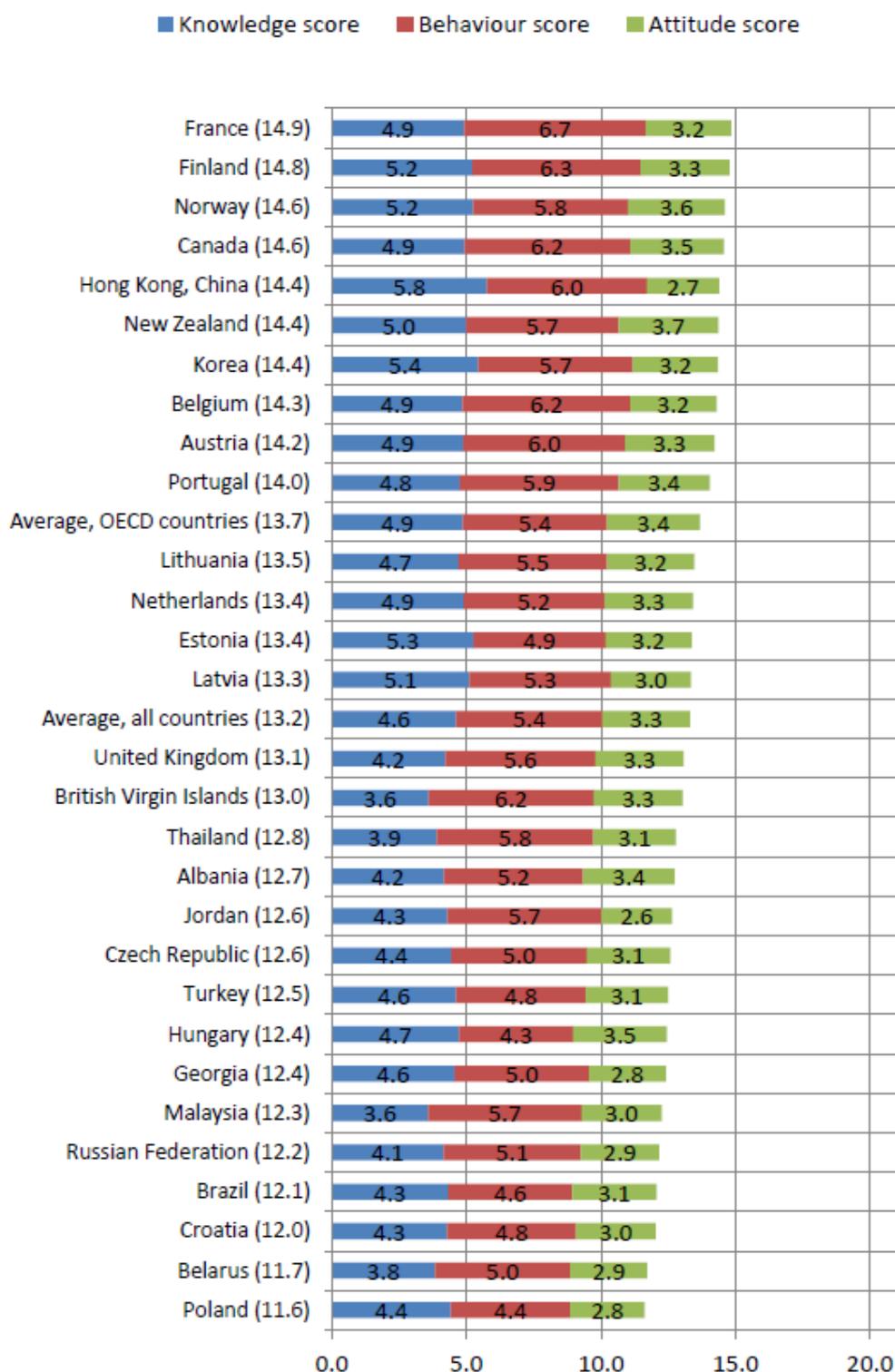
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**Figure 1: Financial Knowledge, Attitudes, and Behaviour in the countries participating in the 2015 OECD/INFE survey**

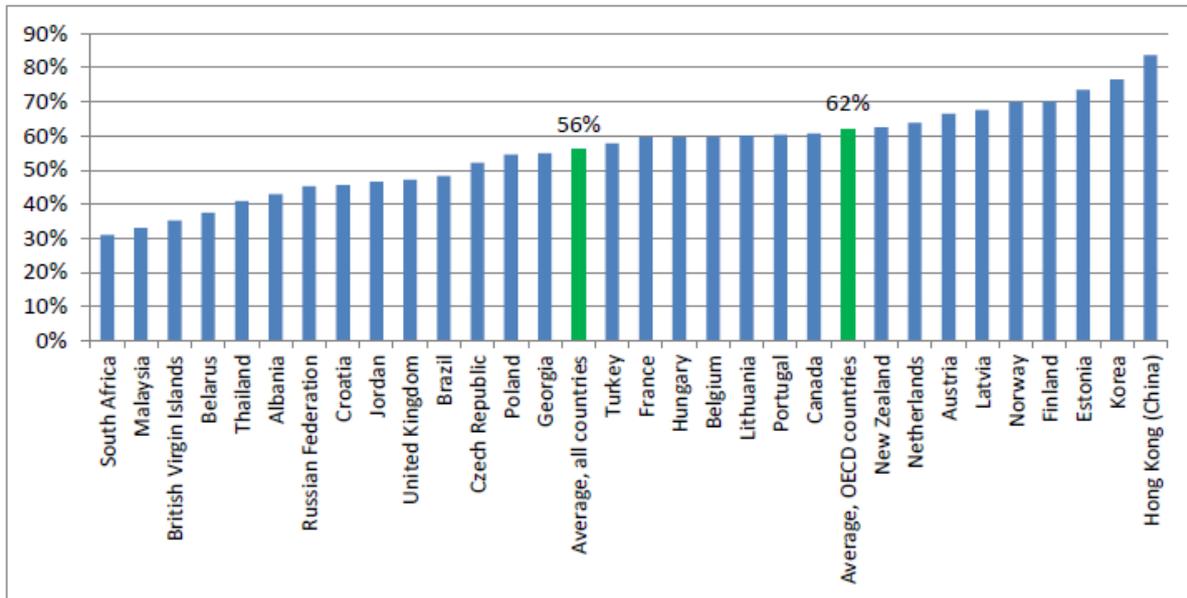
Stacked points (weighted data): all respondents, sorted by overall score (reported in parenthesis). 'Average, all countries' and 'Average, OECD countries' report the mean of the country/economy percentages. Each country/economy is given equal weight.



**Source:** OECD (2016). OECD/ INFE International Survey of Adult Financial Literacy Competencies. Paris.

**Figure 2: Minimum Target Score (5 or more) on Financial Knowledge in the countries participating in the 2015 OECD/INFE survey**

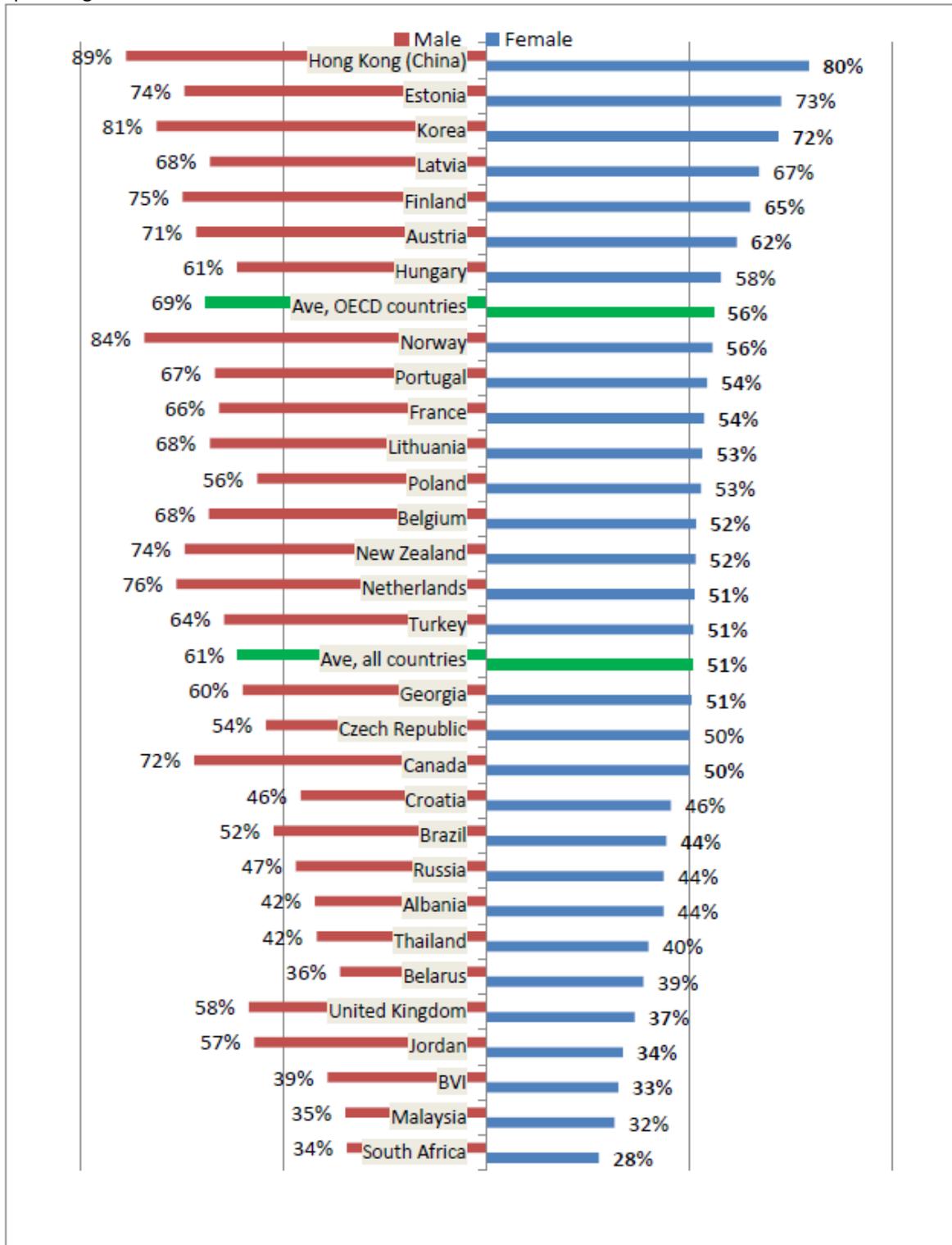
Percentages are weighted data for all respondents. ‘Average, all countries’ and ‘Average, OECD countries’ report the mean of the country/economy percentages. Each country/economy is given equal weight. The knowledge score is computed as the number of correct responses to the seven financial knowledge questions of the OECD/INFE toolkit (page 20, OECD/INFE International Survey of Adult Financial Literacy Competencies, OECD, 2016).



**Source:** OECD (2016). OECD/ INFE International Survey of Adult Financial Literacy Competencies. Paris.

**Figure 3: Minimum Target Score (5 or more) on Financial Knowledge by Gender in the countries participating in the 2015 OECD/INFE survey**

Percentages are weighted data for all respondents. Gender differences significant at 0.05 in bold (the lower of the two values is highlighted). BVI refers to British Virgin Islands. Average, all countries and Average, OECD countries report the mean of the country/economy percentages. Each country/economy is therefore given equal weight.



Source: OECD (2016). OECD/ INFE International Survey of Adult Financial Literacy Competencies. Paris.

## Appendix: Financial Literacy in Germany: Results from the Panel on Household Finances (PHF), 2014

The PHF is a large survey on household finance representative of German households carried out by the Deutsche Bundesbank. The first wave of the PHF was conducted in 2010/11 and the second wave in 2014. The questionnaire focuses on households' financial and non-financial assets and debts. It includes the standard financial literacy questions on interest rate, the effect of inflation, and diversification of securities developed by Lusardi and Mitchell (2011b). These questions, as all the household level variables, are answered by a 'financially knowledgeable person' in the household. The data are available to researchers affiliated with an academic institution.

### a) Financial literacy questions, % of respondents, PHF 2014

			Full sample	Female	Male	West	East
Q1 Interest	Correct		85.9	81.9	89.5	86.5	83.4
	Don't know/No answer		4.1	6.5	1.9	4.5	2.6
Q2 Inflation	Correct		87.7	84.4	90.7	88.2	85.8
	Don't know/No answer		4.5	6.7	2.5	4.8	3.3
Q3 Diversification/risk	Correct		70.8	65.9	75.3	70.0	74.2
	Don't know/No answer		16.8	22.2	11.9	17.6	13.9
None correct			4.0	6.2	2.1	4.4	2.6
All three questions correct			61.7	55.1	67.6	61.9	60.9
At least one "do not know/no answer"			17.8	23.8	12.2	18.3	15.9
All three questions correct, PHF 2010			59.0	54.7	63.1	60.1	55.2

### b) Financial literacy, % of respondents answering correctly all three questions, per income quintile, PHF 2014

Income	% correct
Bottom 20%	48.0
20-40%	55.3
40-60%	60.2
60-80%	66.7
80-100%	78.2

### c) Financial literacy, % of respondents answering correctly all three questions, per age group, PHF 2014

Age (years)	% correct
18 to 34	63.56
35-44	67.12
45-54	67.84
55-64	62.06
65+	52.36

Source: Deutsche Bundesbank (2010, 2014); own calculations.