



GFLEC

GLOBAL FINANCIAL LITERACY
EXCELLENCE CENTER

Millennials and Financial Literacy: A Global Perspective

May 2017

Authors:

Annamaria Lusardi

Noemi Oggero

Global Financial Literacy
Excellence Center,
The George Washington
University School of Business

Research support was
provided by the Global
Thinking Foundation.



Business

www.gflec.org

Contents

Introduction	2
The importance of financial literacy for Millennials	2
Measuring financial literacy around the world	3
Financial literacy and GDP per capita	6
Financial literacy among Millennials	7
Financial literacy among Millennials and economic indicators	9
Case study: Italy	13
Conclusion	14
Appendix	
References	

Introduction

Every generation influences the economy, but Millennials, also known as Generation Y, have grown up in a time of rapid economic change, which gave them higher career expectations than previous generations. Millennials are, in fact, poised to reshape the economy: They have entered the workforce at a time of economic instability and are approaching critical points of their financial decision making.

Millennials are often referred to as the “instant-gratification generation,” with high expectations for their professional and personal lives (Bishop, 2006). The supreme confidence and high optimism characteristic of this generation have, indeed, informed its attitudes about professional achievement. With very high—and perhaps unrealistic—aspirations, Millennials are also prone to higher-than-average levels of disappointment. A study conducted in the United States found that Millennials are the most dissatisfied with their current earnings with regard to their ability to lead desirable lifestyles (Taylor and Keeter, 2010).

Millennials are also the first truly digital generation, raised amid laptop computers, cell phones, and rapidly advancing technology that is changing the way individuals interact and conduct business. Among other things, technology is altering where and how Millennials get their information, with the Internet displacing newspapers and television as the source for news (National Chamber Foundation, 2012). Global interconnectedness has also left Millennials increasingly reliant on peers for information and motivation.

Millennials will soon make up the largest share of the labor market: It is projected that by 2025, three out of every four workers globally will be Millennials (Schawbel, 2012). Their financial behavior will more greatly affect the global economy than the financial behavior of the generations that preceded them. To understand how prepared Millennials are to handle financial decision making, this paper examines the level of financial literacy of young people around the world, as well as factors associated with Millennials’ financial knowledge.

The importance of financial literacy for Millennials

In recent decades, governments and employers have increasingly transferred the responsibility for saving and investing onto individuals. For example, the reduction of state-supported pensions in some countries means individuals must save in order to provide for their own financial security after retirement. Decreasing generosity of welfare systems and increasing life expectancy have contributed to an environment in which it is more difficult to achieve financial security in retirement. Life expectancy is high and continues to increase, meaning that young people today will need to be able to support themselves for much longer than did past generations. Moreover, financial services and products have become more complex and more widely accessible due to globalization and digital technologies.

Financial literacy is an important element of economic and financial stability both for the individual and the economy. Wide-ranging developments in the financial marketplace have contributed to growing concerns about the level of financial literacy of citizens of many countries. Moreover, the recent financial crisis demonstrated that ill-informed financial decisions—often caused by a lack of financial literacy—can have tremendous negative consequences (OECD, 2009a; OECD, 2009b).

Financial literacy is essential for Millennials, as they face financial decisions that can have important consequences throughout their life. The financial choices that younger generations face are far more challenging than those faced by past generations. Individuals today must take on greater responsibility for decisions like investing in additional education and planning for retirement. When facing major decisions such as these, financial literacy is critical.

Financial ignorance carries significant costs. Consumers who fail to understand the concept of interest compounding incur more transaction fees, run up bigger debts, and engage in loans with higher interest rates (Lusardi and Tufano, 2015; Lusardi and de Bassa Scheresberg, 2013). They also end up borrowing more and saving less money (Stango and Zinman, 2009). Meanwhile, the potential benefits of financial literacy are manifold. People with strong financial skills do a better job planning and saving for retirement (Behrman et al., 2012; Lusardi and Mitchell, 2014). Financially savvy investors are more likely to diversify risk (Van Rooj, Lusardi, and Alessie, 2011).

Given the many ways financial literacy affects financial behavior (Lusardi and Mitchell, 2014), it is important to know the extent of people's understanding of basic financial concepts as well as the degree to which financial skills fall short, especially among Millennials. The 2014 Standard & Poor's Ratings Services Global Financial Literacy Survey (S&P Global FinLit Survey) provides this information across a wide array of countries. It builds on early initiatives by the International Network on Financial Education (INFE) of the Organization for Economic Co-operation and Development (OECD), the World Bank's Financial Capability and Household Surveys, the Financial Literacy around the World (FLAT World) project, and numerous national survey initiatives that collect information on financial literacy.

Measuring financial literacy around the world

The S&P Global FinLit Survey delivers the most comprehensive global gauge of financial literacy to date. More than 150,000 nationally representative and randomly selected adults in more than 140 economies were interviewed.¹ By showing where financial skills are strong and where they are lacking, the S&P Global FinLit can help stakeholders design policies and programs to improve the financial well-being of individuals around the world.

Financial literacy was measured using questions assessing basic knowledge of four fundamental concepts in financial decision making: numeracy (interest), compound interest, inflation, and risk diversification. The wording of the questions is as follows (the answer options are in brackets, with the correct answer in bold.)

- **Numeracy (Interest)**

Suppose you need to borrow 100 US dollars. Which is the lower amount to pay back: 105 US dollars or 100 US dollars plus three percent? [105 US dollars; **100 US dollars plus three percent**; don't know; refuse to answer]

- **Compound Interest**

Suppose you put money in the bank for two years and the bank agrees to add 15 percent per year to your account. Will the bank add more money to your account the second year than it did the first year,

¹ For more information see Klapper, Lusardi, and van Oudheusden (2015).

or will it add the same amount of money both years? [**more**; the same; don't know; refuse to answer]

Suppose you had 100 US dollars in a savings account and the bank adds 10 percent per year to the account. How much money would you have in the account after five years if you did not remove any money from the account? [**more than 150 dollars**; exactly 150 dollars; less than 150 dollars; don't know; refuse to answer]

• **Inflation**

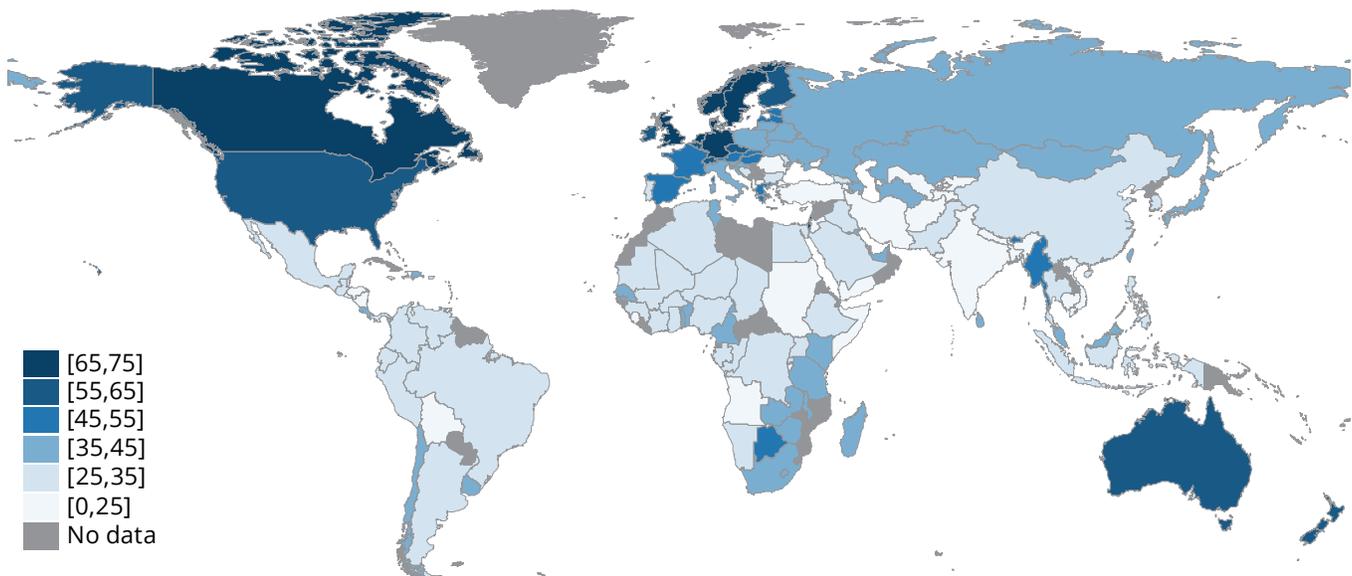
Suppose over the next 10 years the prices of the things you buy double. If your income also doubles, will you be able to buy less than you can buy today, the same as you can buy today, or more than you can buy today? [less; **the same**; more; don't know; refuse to answer]

• **Risk Diversification**

Suppose you have some money. Is it safer to put your money into one business or investment, or to put your money into multiple businesses or investments? [one business or investment; **multiple businesses or investments**; don't know; refuse to answer]

A person is defined as financially literate when he or she correctly answers at least three out of the four financial concepts described above. This definition was chosen because the concepts are basic and this is what would correspond to a passing grade. Based on this definition, 33 percent of adults worldwide are financially literate. In other words, roughly 3.5 billion adults globally, most of them in developing economies, lack an understanding of basic financial concepts. These global figures highlight deep disparities around the world (Figure 1).

Figure 1: Percentage of financially literate adults



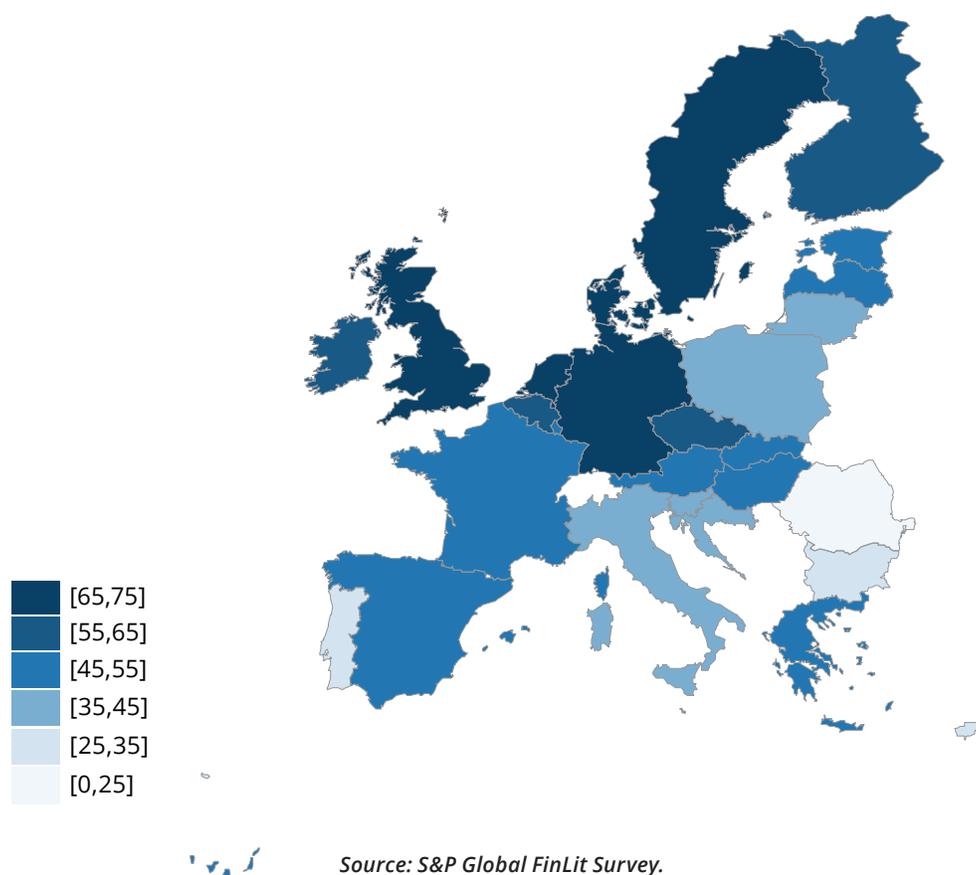
Source: S&P Global FinLit Survey.

The countries with the highest financial literacy rates are Australia, Canada, Denmark, Finland, Germany, Israel, the Netherlands, Norway, Sweden, and the United Kingdom, where about 65 percent or more of

adults are financially literate. Some of the countries with the lowest financial literacy scores are in South Asia, where only a quarter of adults—or fewer—are financially literate.

Disparities in financial literacy rates emerge within the European Union as well (Figure 2). On average, 52 percent of adults are financially literate, with the understanding of financial concepts being highest in northern Europe. Denmark, Germany, the Netherlands, and Sweden have the highest literacy rates in the European Union: at least 65 percent of adults in those countries are financially literate. Rates are much lower in southern Europe. Italy and Portugal, for example, have some of the lowest literacy rates in that region. Financial literacy rates are also low among countries such as Bulgaria, Cyprus, and Romania, that joined the European Union in 2004.

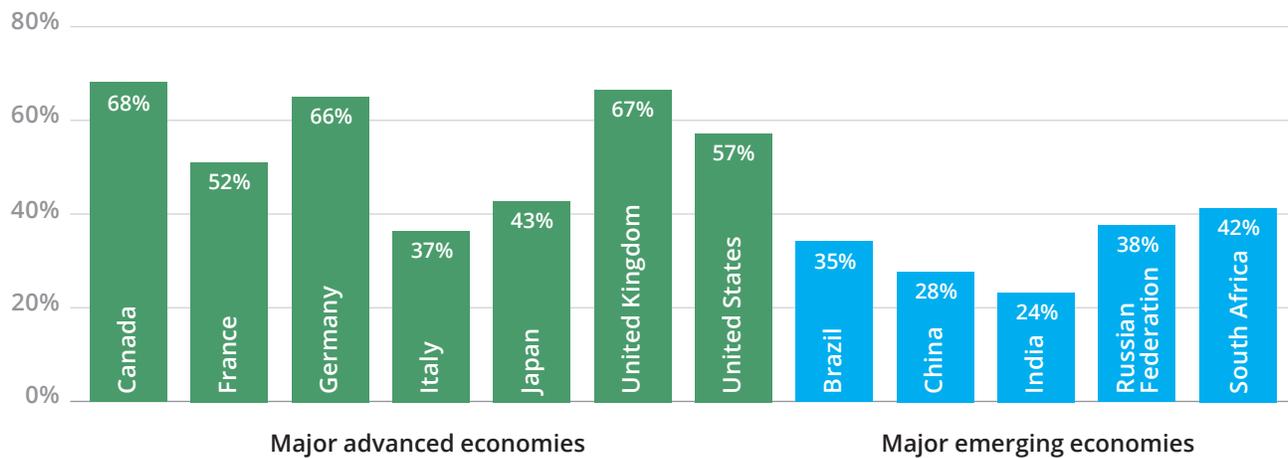
Figure 2: Percentage of financially literate adults across the European Union



Financial literacy rates differ substantially between the major advanced and emerging economies in the world. On average, 55 percent of adults in the major advanced economies—Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States—are financially literate (Figure 3). Yet even among these countries, financial literacy rates range widely, from 37 percent in Italy to 68 percent in Canada.

In contrast, in the major emerging economies—the so-called BRICS (Brazil, the Russian Federation, India, China, and South Africa)—on average, 28 percent of adults are financially literate. Disparities exist among these countries, too, with rates ranging from 24 percent in India to 42 percent in South Africa.

Figure 3: Percentage of financially literate adults in major advanced and emerging economies

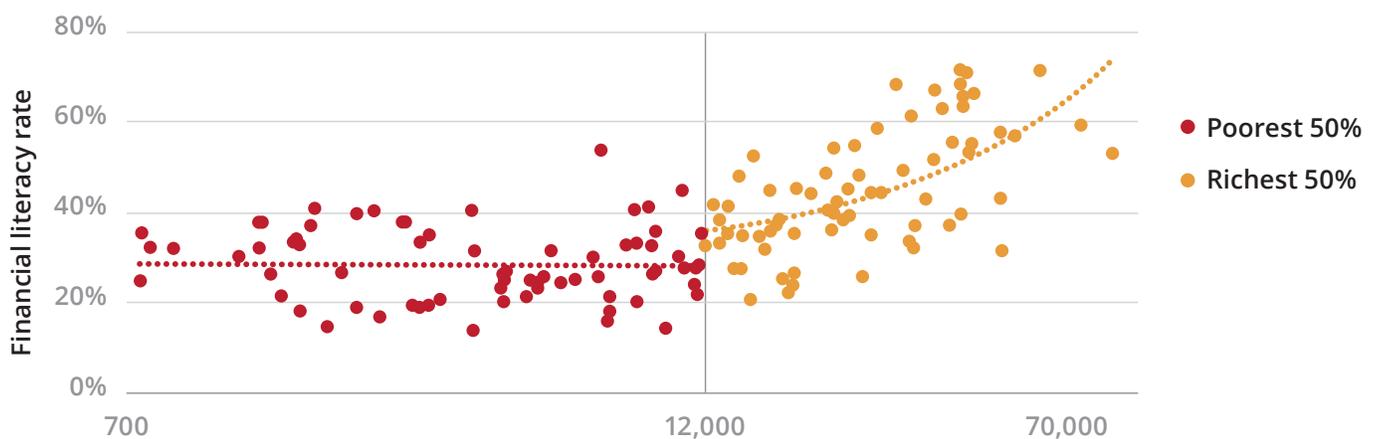


Source: S&P Global FinLit Survey.

Financial literacy and GDP per capita

As mentioned earlier, there are large differences in financial literacy levels across countries. Income explains only a small fraction of those differences. Figure 4 shows financial literacy rates by income, proxied by GDP per capita. As displayed in the figure, financial literacy rates tend to be highest in the higher income economies. However, the relationship only holds when looking at the richest 50 percent of economies. In these economies, about 38 percent of the variation in financial literacy rates can be explained by differences in income across countries. For the poorest 50 percent of economies, with a GDP per capita of \$12,000 or less, there is no evidence that income is associated with financial literacy. This likely means that national policies related to education shape financial literacy in these economies more than any other factor.

Figure 4: Financial literacy and GDP per capita

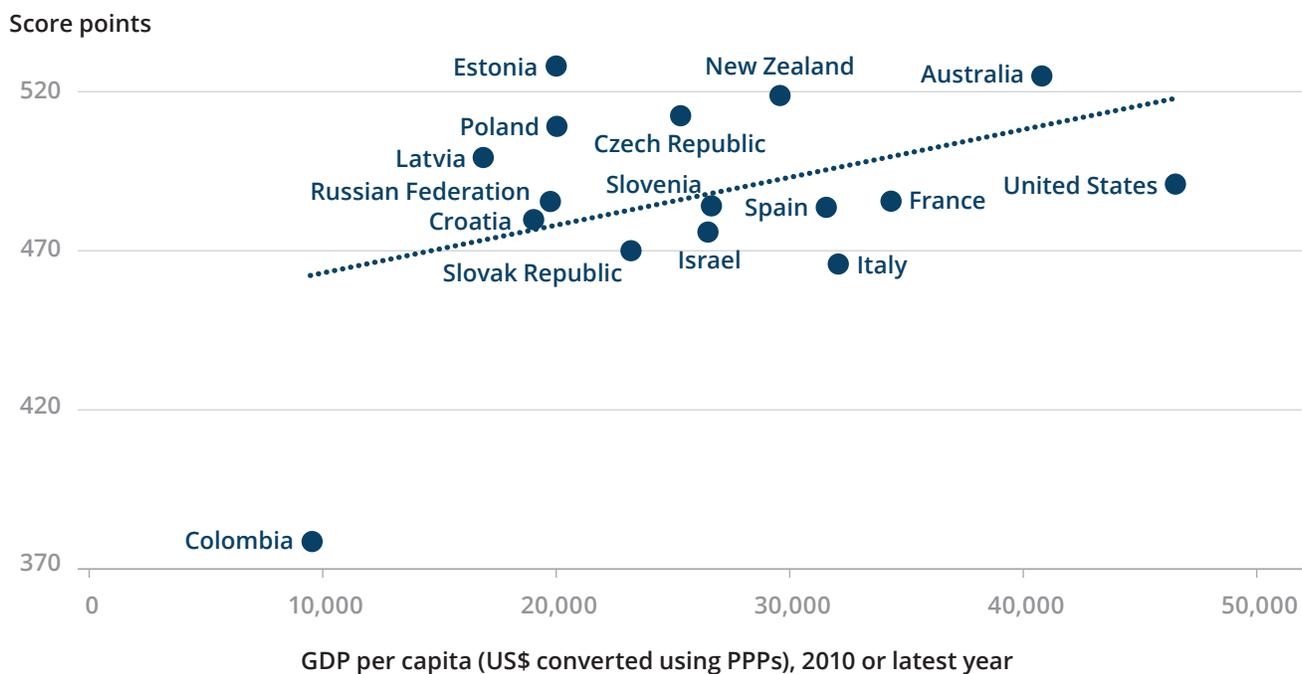


Source: S&P Global FinLit Survey and Global Findex Database 2014.

We encounter similar findings when looking at financial knowledge among the young. Data from the OECD's 2012 Programme for International Student Assessment (PISA) show that living in a rich country has a modest

impact on the financial literacy scores of 15-year-olds (OECD, 2014a).² Figure 5 shows the relationship between per capita GDP and students' mean scores on the financial literacy assessment. While higher per capita GDP is associated with higher mean scores, some countries with lower per capita GDP perform better on financial literacy measures than higher income countries. For example, the mean scores of the Czech Republic, Estonia, and Poland are higher than those of Italy and the United States, both of which have higher per capita GDP (OECD, 2014a). Overall, per capita GDP only explains 16 percent of the variation in mean financial literacy scores among the 16 countries participating in the PISA financial literacy assessment.³ The fact that students in advanced economies do not score higher than students in less rich countries underscores the importance of having a well-functioning education system: Financial knowledge should be offered in a rigorous format in school curricula.

Figure 5: Financial literacy among 15-year-olds and GDP per capita



Source: PISA 2012 Results: Students and Money: Financial Literacy Skills for the 21st Century (Volume VI). OECD (2014).

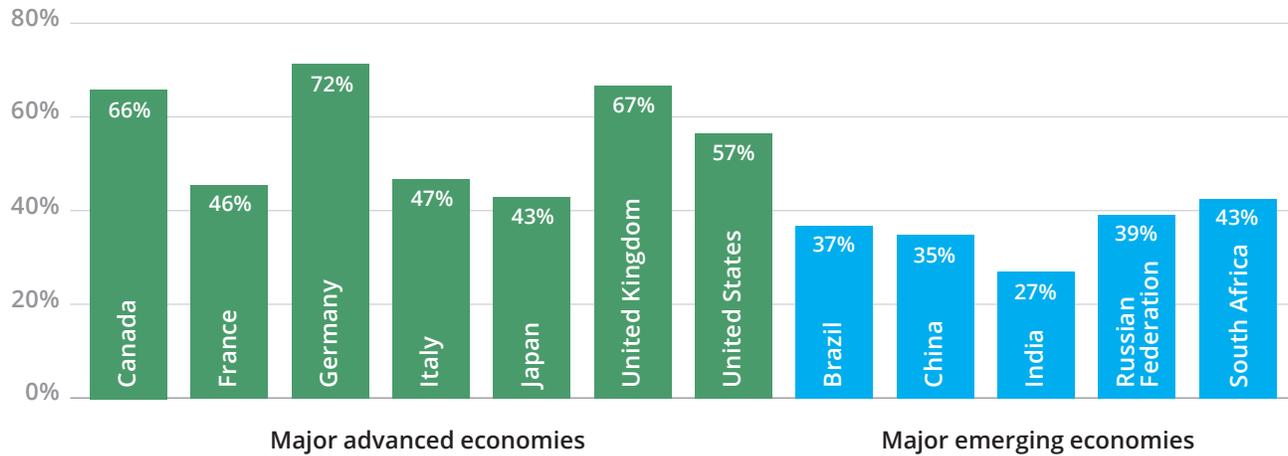
Financial literacy among Millennials

Financial literacy rates differ considerably between the major advanced and emerging economies even among people age 15–34. On average, Millennials in the major advanced economies are much more financially literate compared to their counterparts in emerging economies (Figure 6). Yet even within these two groups of countries, financial literacy rates vary widely, from 43 percent in Japan to 72 percent in Germany among advanced economies, and from 27 percent in India to 43 percent in South Africa among developing countries.

² In 2012, PISA introduced the first optional financial literacy assessment, which measures the proficiency of 15-year-olds in demonstrating and applying financial knowledge and skills. A sample of students were selected from the same schools that completed PISA's core assessments in mathematics, reading, and science. The optional assessment was conducted in a total of 18 countries and economies. In two cases the assessment was performed only in a part of the country.

³ The two participating economies that represent specific subsets of their respective countries, i.e., the Flemish Community of Belgium and Shanghai-China of the People's Republic of China, are not included in the regression.

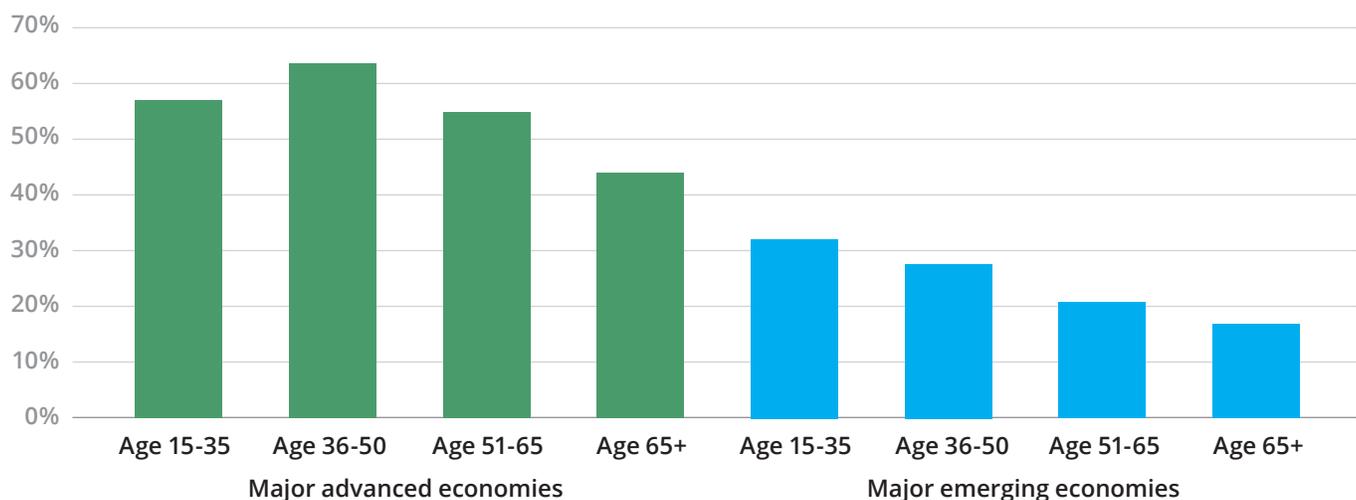
Figure 6: Percentage of financially literate Millennials in major advanced and emerging economies



Source: S&P Global FinLit Survey.

In the major advanced economies, financial literacy rates display an inverse U-shaped profile; they increase initially with age but decline later in life, i.e., older people or older generations are less financially literate than middle-age ones (Figure 7). On average, 56 percent of adults age 35 or younger are financially literate, compared with 63 percent of those age 36 to 50. Financial literacy rates are even lower for adults older than 50, and rates are lowest among those older than 65. The pattern is different for the major emerging economies. In the BRICS, individuals age 15–35 have the highest financial literacy rates (32 percent), and adults age 65 plus have the lowest financial literacy rates (17 percent) of any age group.

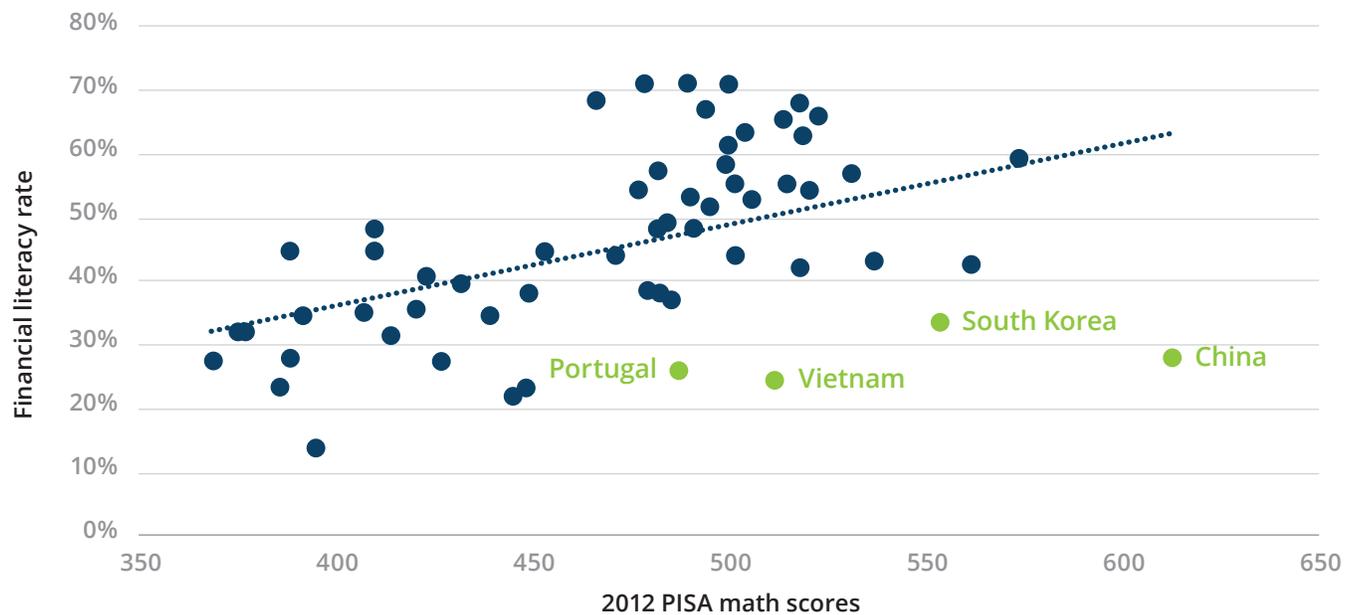
Figure 7: Percentage of financially literate adults by age



Source: S&P Global FinLit Survey.

Financial literacy sharply increases with educational attainment—which is strongly associated with math skills. Overall understanding of financial concepts tends to be high in countries where 15-year-old students performed well on the OECD’s 2012 PISA math test (OECD, 2014b). While there is generally a positive relationship between math scores among 15-years-olds and financial literacy rates (as shown in Figure 8), China, South Korea, Portugal, and Vietnam are notable outliers. In these countries, financial literacy rates (proxied by math) are much higher among young adults than older adults. These findings suggest that a general proficiency in math may be beneficial for understanding financial concepts. In some countries, young people have acquired a high math knowledge that may translate into much higher financial literacy in adulthood.

Figure 8: Relationship between S&P Global FinLit Survey and PISA 2012 scores



Source: S&P Global FinLit Survey and OECD PISA data (2014).

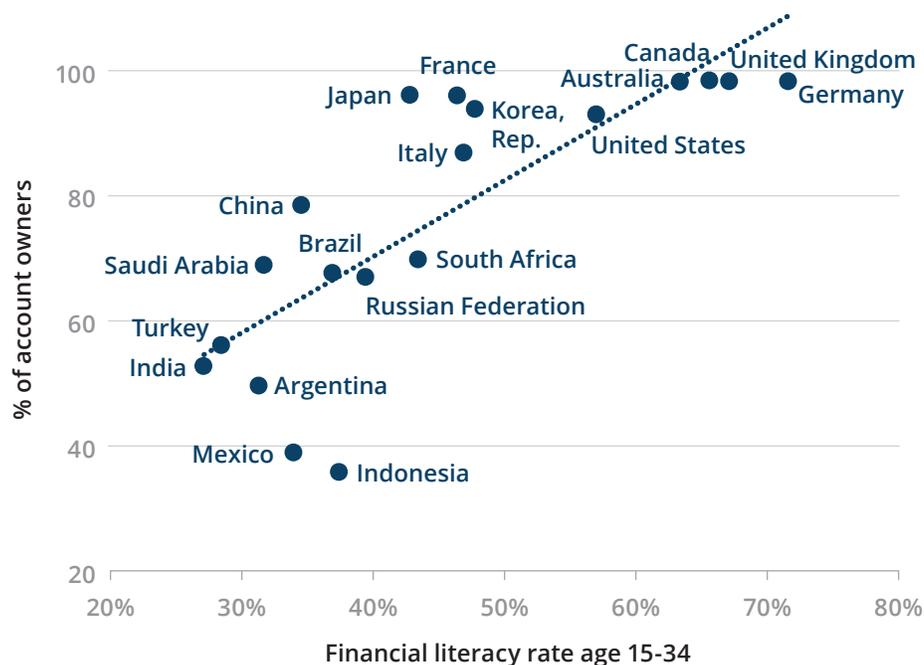
Financial literacy among Millennials and economic indicators

Analysis of the S&P Global FinLit Survey data sheds light on economic indicators that are associated with worldwide differences in financial literacy among Millennials. In particular, we will focus on the relationship between financial literacy among the young and factors such as formal and informal saving mechanisms, the use of the Internet, and the ability to come up with emergency funds among the G20.

Figure 9 shows that there is a strong correlation between financial literacy among Millennials and the percentage of people age 15 and above who have their own or a joint account at a bank, or another type of formal financial institution. The association between performance in financial literacy and holding a bank account is related, in part, to socio-economic status. However, controlling for socio-economic status across OECD countries, research found that students with bank accounts score higher on average than students

without an account (OECD, 2014a). The positive relationship between financial literacy and holding a financial product may be interpreted in different ways. On the one hand, having greater financial knowledge and skills may motivate the young to become engaged with formal financial products, as suggested by Otto (2013). On the other hand, it may be that using a bank account is one way for Millennials to learn about money (Sherraden et al., 2011). Some studies have suggested bank account ownership 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 and Bernheim, 2001).

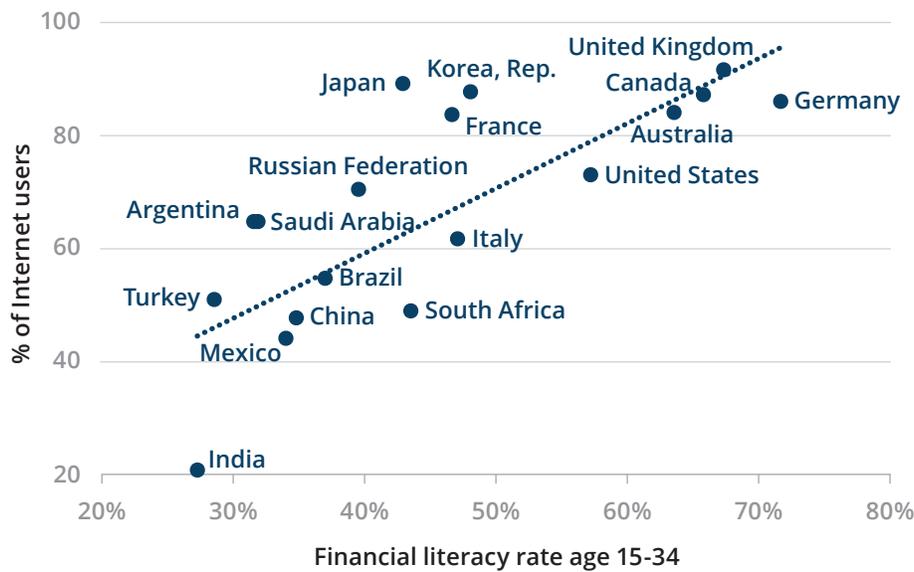
Figure 9: Financial literacy among Millennials and percentage of people 15+ with an account



Source: S&P Global Fin Lit Survey and Global Findex Database 2014.

Financial literacy among Millennials is also positively correlated with the percentage of Internet users in the population. Figure 10 shows that financial literacy rates age 15–34 increase as the percentage of individuals who have used the Internet in the last 12 months rises. Generation Y accounts for the largest share of Internet users: Millennials in the United States are 2.5 times more likely to be early adopters of technology than are older generations. With the Internet and social media, the number of sources for information has increased dramatically. When gathering information and making buying decisions, Millennials tend to rely on recommendations from peers and friends more than from experts. Having grown up with mobile and digital technology as part of their everyday lives, they are more likely to use the Internet, broadcast thoughts, and contribute content (National Chamber Foundation, 2012).

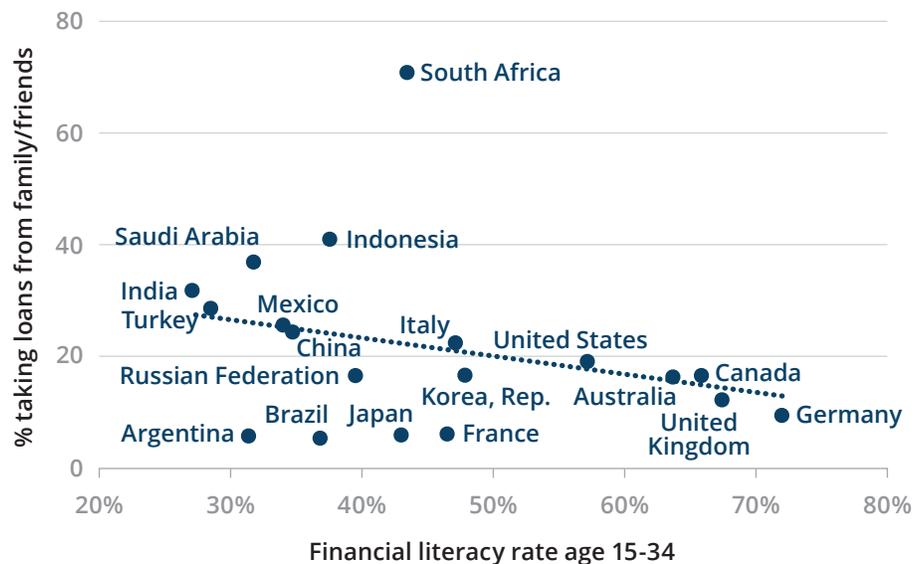
Figure 10: Financial literacy among Millennials and percentage of Internet users



Source: S&P Global FinLit Survey 2014 and World Development Indicators 2014.

Financial knowledge is also correlated with the use of credit from formal institutions or informal networks of family and friends. The use of informal networks decreases with financial literacy: Countries with higher financial literacy among the young have a lower percentage of people who took loans from family or friends in the past year (Figure 11).

Figure 11: Financial literacy among Millennials and loans from family/friends

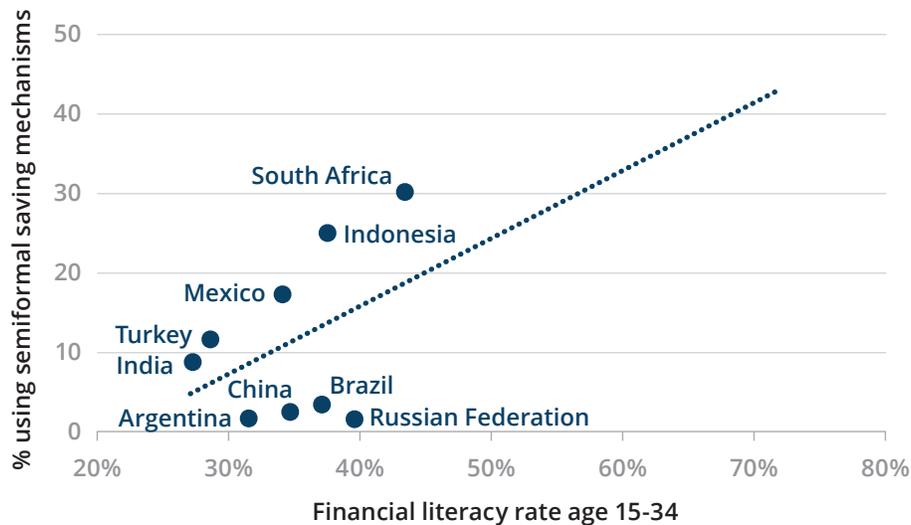


Source: S&P Global FinLit Survey and Global Financial Development Database 2014.

When looking at developing countries among the G20, we notice that financial literacy among Millennials is positively correlated with the percentage of people age 15 and above who save using savings clubs or a

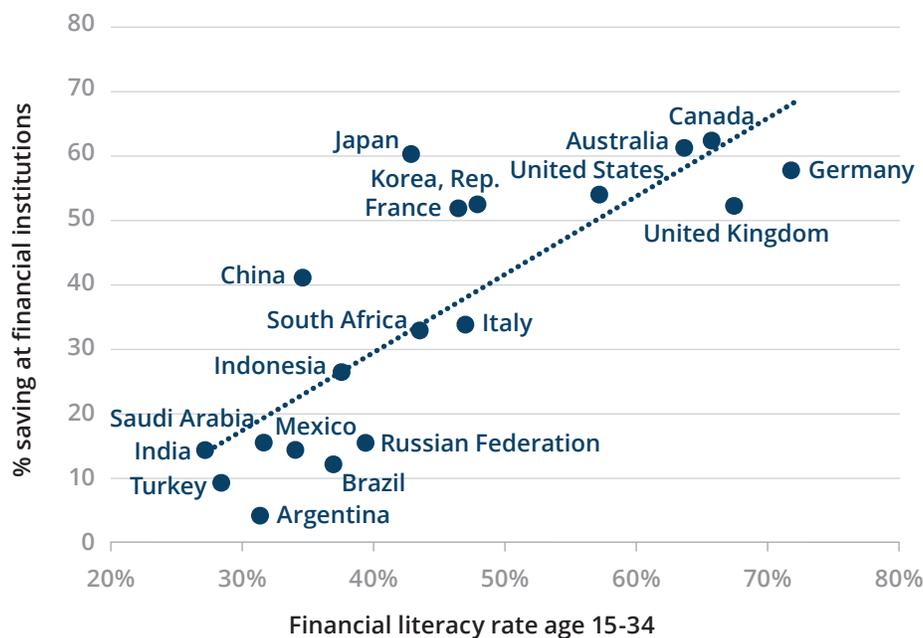
person outside the family (Figure 12). In other words, those with higher financial literacy use semiformal mechanisms to save. Similarly, financial knowledge is positively associated with the likelihood that an individual will resort to formal saving mechanisms, e.g., saving or setting aside money at a bank or another type of financial institution (Figure 13).

Figure 12: Financial literacy among Millennials and percentage of people 15+ saving using a savings club or a person outside the family



Source: S&P Global FinLit Survey and Global Findex Database 2014.

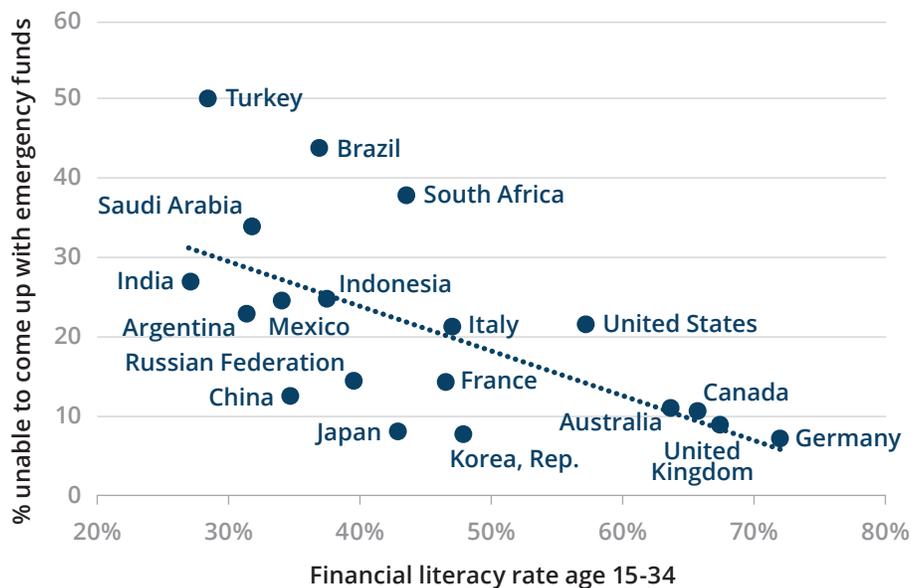
Figure 13: Financial literacy among Millennials and percentage of people 15+ saving at financial institutions



Source: S&P Global FinLit Survey 2014 and Global Findex Database 2014.

Finally, financial literacy is a key factor in explaining financial fragility. Research shows that being more financially knowledgeable is associated with a higher probability of being able to handle an unexpected expense. Financial literacy has an independent effect on reducing financial fragility, above and beyond the impact of education (Lusardi, Mitchell, and Oggero, 2016). Similarly, the S&P Global FinLit Survey data show that the percentage of people who cannot come up with emergency funds is negatively correlated with financial literacy among Millennials (Figure 14). In this case, the indicator denotes the percentage of respondents age 15 and above who reported that it would not be possible for them to come up with funds to cover an emergency within the following month—with the emergency amount indicated on the survey equal to 1/20 of Gross National Income (GNI) per capita in local currency.

Figure 14: Financial literacy among Millennials and percentage of people 15+ unable to come up with emergency funds



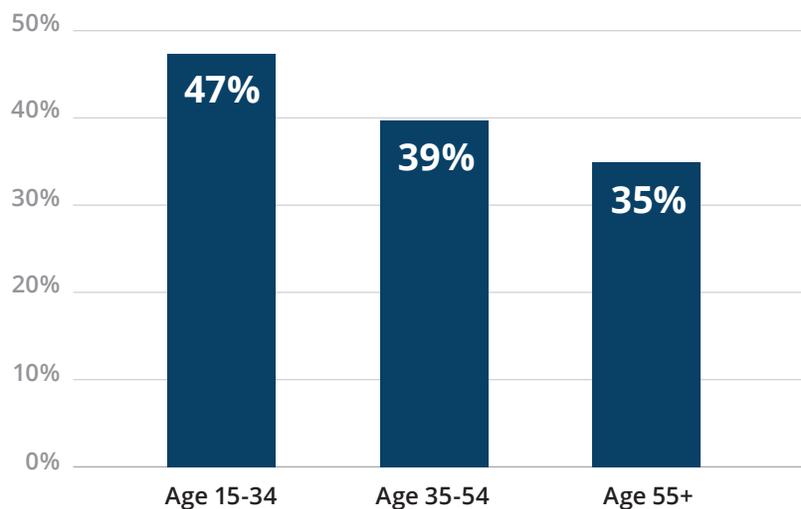
Source: S&P Global FinLit Survey 2014 and Global Findex Database 2014.

Case study: Italy

Among the major advanced economies, Italy is the country with the lowest percentage of financially literate people. Only 37 percent of Italians are able to correctly answer at least three out of four basic financial concepts. Not only does Italy have the lowest level of financial literacy among major developed countries, it also performs worse than some emerging economies such as South Africa and the Russian Federation, whose financial literacy rates are 42 percent and 38 percent, respectively.

Young adults generally have a lower level of financial literacy than middle-age respondents in major advanced economies, while young adults have the highest level of financial literacy in major emerging economies. Strikingly, in Italy Millennials have the highest levels of financial literacy (Figure 15). Similar to the major developing countries, financial literacy rates in Italy decline with age: 47 percent of people age 15–34 can be considered financially literate versus 39 percent of people age 35–54 and 35 percent of people age 55 and above.

Figure 15: Percentage of financially literate adults by age in Italy



Source: S&P Global FinLit Survey.

Low levels of financial literacy in Italy are confirmed by data from the 2012 PISA financial literacy assessment. The average performance of Italian 15-year-olds in financial literacy ranked second to last. Moreover, in most countries and economies that participated in the PISA study, there were no gender differences in the average scores in financial literacy. Italy was the sole exception, with boys performing better than girls on average. Thus, financial literacy is not only low among Millennials in Italy, but is also low among high school students, showing that the generation on the cusp of adulthood may not fare any better than current young adults.

Conclusion

Worldwide, just one in three adults show an understanding of basic financial concepts, making it clear that billions of people are unprepared to deal with rapid changes in the financial landscape. Credit products, many of which carry high interest rates and complex terms, are becoming more readily available. Governments are pushing to increase financial inclusion by boosting access to bank accounts and other financial services, but unless people have the necessary financial skills, these opportunities can easily lead to high debt, mortgage defaults, or insolvency. This is especially true for young people who suffer from low financial literacy.

Financial literacy challenges confront both developing and advanced economies. A retirement crisis looms in Europe as governments slash public pensions and individuals are asked to take a bigger role in retirement planning. People do not seem to be prepared, as they lack the financial skills needed to deal with the economic challenges of retirement. Among the major advanced economies, Italy has the lowest percentage of financially literate people, and is performing worse than some emerging economies.

Research has found that financially savvy adults are, in general, less likely to have problems with debt and more likely to save for retirement and other reasons (Lusardi and Mitchell, 2014). As a result, policy makers should consider stepping up the effort for financial education. Given the importance of financial literacy in today's economy, helping Millennials acquire financial knowledge in school and the workplace can prove

particularly successful. Research has shown that targeted financial literacy programs that are focused on specific behaviors and populations can lead to smarter financial decisions (Miller et al., 2014).

Our findings indicating that Millennials lack the basic skills needed to make savvy financial decisions suggest that there is a great need to promote financial capability among the young. Programs aimed at improving financial literacy could help Millennials minimize the costs incurred in managing their financial products, improve their financial safety net in the event of emergencies, and strengthen their financial security. The gap between the amount of financial responsibility given to the young and their demonstrated ability to manage financial decisions and take advantage of financial opportunities, is rapidly widening. Unless significant action is taken to alter this, financial illiteracy will remain an obstacle to Millennials' financial security.

APPENDIX

Financial Literacy: An Economy-by-Economy Breakdown

Economy	Financially literate adults (%)	Economy	Financially literate adults (%)	Economy	Financially literate adults (%)	Economy	Financially literate adults (%)
Afghanistan	14	Côte d'Ivoire	35	Kyrgyz Republic	19	Saudi Arabia	31
Albania	14	Denmark	71	Latvia	48	Senegal	40
Algeria	33	Dominican Republic	35	Lebanon	44	Serbia	38
Angola	15	Ecuador	30	Lithuania	39	Sierra Leone	21
Argentina	28	Egypt, Arab Rep.	27	Luxembourg	53	Singapore	59
Armenia	18	El Salvador	21	Macedonia, FYR	21	Slovak Republic	48
Australia	64	Estonia	54	Madagascar	38	Slovenia	44
Austria	53	Ethiopia	32	Malawi	35	Somalia	15
Azerbaijan	36	Finland	63	Malaysia	36	South Africa	42
Bahrain	40	France	52	Mali	33	Spain	49
Bangladesh	19	Gabon	35	Malta	44	Sri Lanka	35
Belarus	38	Georgia	30	Mauritania	33	Sudan	21
Belgium	55	Germany	66	Mauritius	39	Sweden	71
Belize	33	Ghana	32	Mexico	32	Switzerland	57
Benin	37	Greece	45	Moldova	27	Taiwan, China	37
Bhutan	54	Guatemala	26	Mongolia	41	Tajikistan	17
Bolivia	24	Guinea	30	Montenegro	48	Tanzania	40
Bosnia and Herzegovina	27	Haiti	18	Myanmar	52	Thailand	27
Botswana	52	Honduras	23	Namibia	27	Togo	38
Brazil	35	Hong Kong SAR, China	43	Nepal	18	Tunisia	45
Bulgaria	35	Hungary	54	Netherlands	66	Turkey	24
Burkina Faso	33	India	24	New Zealand	61	Turkmenistan	41
Burundi	24	Indonesia	32	Nicaragua	20	Uganda	34
Cambodia	18	Iran, Islamic Rep.	20	Niger	31	Ukraine	40
Cameroon	38	Iraq	27	Nigeria	26	United Arab Emirates	38
Canada	68	Ireland	55	Norway	71	United Kingdom	67
Chad	26	Israel	68	Pakistan	26	United States	57
Chile	41	Italy	37	Panama	27	Uruguay	45
China	28	Jamaica	33	Peru	28	Uzbekistan	21
Colombia	32	Japan	43	Philippines	25	Venezuela, RB	25
Congo, Dem. Rep.	32	Jordan	24	Poland	42	Vietnam	24
Congo, Rep.	31	Kazakhstan	40	Portugal	26	West Bank and Gaza	25
Costa Rica	35	Kenya	38	Puerto Rico	32	Yemen, Rep.	13
Croatia	44	Korea, Rep.	33	Romania	22	Zambia	40
Cyprus	35	Kosovo	20	Russian Federation	38	Zimbabwe	41
Czech Republic	58	Kuwait	44	Rwanda	26		

Source: S&P Global FinLit Survey.

Financial Literacy Among Millennials (Age 15-34): An Economy-by-Economy Breakdown

Economy	Financially literate Millennials (%)	Economy	Financially literate Millennials (%)	Economy	Financially literate Millennials (%)	Economy	Financially literate Millennials (%)
Afghanistan	14%	Côte d'Ivoire	37%	Kyrgyz Republic	19%	Saudi Arabia	32%
Albania	19%	Denmark	76%	Latvia	59%	Senegal	41%
Algeria	36%	Dominican Republic	38%	Lebanon	50%	Serbia	43%
Angola	16%	Ecuador	32%	Lithuania	44%	Sierra Leone	20%
Argentina	31%	Egypt, Arab Rep.	31%	Luxembourg	58%	Singapore	66%
Armenia	20%	El Salvador	25%	Macedonia, FYR	27%	Slovak Republic	45%
Australia	64%	Estonia	59%	Madagascar	36%	Slovenia	62%
Austria	56%	Ethiopia	35%	Malawi	36%	Somalia	15%
Azerbaijan	41%	Finland	80%	Malaysia	36%	South Africa	43%
Bahrain	39%	France	46%	Mali	37%	Spain	47%
Bangladesh	21%	Gabon	35%	Malta	51%	Sri Lanka	43%
Belarus	45%	Georgia	39%	Mauritania	35%	Sudan	24%
Belgium	63%	Germany	72%	Mauritius	45%	Sweden	71%
Belize	36%	Ghana	33%	Mexico	34%	Switzerland	56%
Benin	37%	Greece	56%	Moldova	29%	Taiwan, China	47%
Bhutan	56%	Guatemala	29%	Mongolia	42%	Tajikistan	16%
Bolivia	28%	Guinea	30%	Montenegro	52%	Tanzania	46%
Bosnia and Herzegovina	37%	Haiti	16%	Myanmar	51%	Thailand	32%
Botswana	53%	Honduras	27%	Namibia	31%	Togo	42%
Brazil	37%	Hong Kong SAR, China	58%	Nepal	21%	Tunisia	48%
Bulgaria	39%	Hungary	63%	Netherlands	71%	Turkey	28%
Burkina Faso	32%	India	27%	New Zealand	59%	Turkmenistan	42%
Burundi	24%	Indonesia	38%	Nicaragua	21%	Uganda	36%
Cambodia	18%	Iran, Islamic Rep.	25%	Niger	34%	Ukraine	52%
Cameroon	39%	Iraq	31%	Nigeria	24%	United Arab Emirates	39%
Canada	66%	Ireland	57%	Norway	76%	United Kingdom	67%
Chad	29%	Israel	68%	Pakistan	28%	United States	57%
Chile	47%	Italy	47%	Panama	31%	Uruguay	49%
China	35%	Jamaica	37%	Peru	30%	Uzbekistan	22%
Colombia	36%	Japan	43%	Philippines	22%	Venezuela, RB	27%
Congo, Dem. Rep.	32%	Jordan	28%	Poland	50%	Vietnam	33%
Congo, Rep.	29%	Kazakhstan	47%	Portugal	38%	West Bank and Gaza	27%
Costa Rica	38%	Kenya	42%	Puerto Rico	36%	Yemen, Rep.	16%
Croatia	50%	Korea, Rep.	48%	Romania	30%	Zambia	42%
Cyprus	40%	Kosovo	22%	Russian Federation	39%	Zimbabwe	43%
Czech Republic	59%	Kuwait	45%	Rwanda	27%		

Source: S&P Global FinLit Survey.

Survey methodology

Surveys are conducted face-to-face in economies where telephone coverage represents less than 80 percent of the population or is the customary methodology. In most economies the fieldwork is completed in two to four weeks. In economies where face-to-face surveys are conducted, the first stage of sampling is the identification of primary sampling units. These units are stratified by population size, geography, or both, and clustering is achieved through one or more stages of sampling. Where population information is available, sample selection is based on probabilities proportional to population size. Otherwise, simple random sampling is used. Random route procedures are used to select sampled households. Unless an outright refusal occurs, interviewers make up to three attempts to survey the sampled household. To increase the probability of contact and completion, attempts are made at different times of the day and, where possible, on different days. If an interview cannot be obtained at the initial sampled household, a simple substitution method is used. Respondents are randomly selected within the selected households by means of the Kish grid. In economies where cultural restrictions dictate gender matching, respondents are randomly selected through the Kish grid from among all eligible adults of the interviewer's gender.

In economies where telephone interviewing is employed, random digit dialing or a nationally representative list of phone numbers is used. In most economies where cell phone penetration is high, a dual sampling frame is used. Random selection of respondents is achieved by using either the latest birthday or Kish grid method. At least three attempts are made to reach a person in each household, spread over different days and times of day.

Data weighting is used to ensure a nationally representative sample for each economy. Final weights consist of the base sampling weight, which corrects for unequal probability of selection based on household size, and the post-stratification weight, which corrects for sampling and nonresponse error. Post-stratification weights use economy-level population statistics on gender and age and, where reliable data are available, education or socioeconomic status. More information on the data collection period, number of interviews, approximate design effect, and margin of error, as well as sampling details for each economy, can be found in Demirguc-Kunt et al. (2015).

References

- Behrman, Jere R., Olivia S. Mitchell, Cindy K. Soo, and David Bravo. 2012. "The Effects of Financial Education and Financial Literacy: How Financial Literacy Affects Household Wealth Accumulation." *American Economic Review: Papers & Proceedings* 102 (3): 300-304.
- Bishop, Ian. 2006. "Hill Scolds Lazy Millennials – 'They Have to Do Their Part.'" *New York Post*. March 12. <http://nypost.com/2006/05/12/hill-scolds-lazy-Millennials-they-have-to-do-their-part/>.
- Demirguc-Kunt, Asli, Leora Klapper, Dorothe Singer, and Peter Van Oudheusden. 2015. "The Global Findex Database 2014: Measuring Financial Inclusion around the World." World Bank Policy Research Working Paper 7255.
- Friedline, Terri L., William Elliott and Ilsung Nam. 2011. "Predicting Savings from Adolescence to Young Adulthood: A Propensity Score Approach." *Journal of the Society for Social Work and Research* 2: 1-22.
- Klapper, Leora, Annamaria Lusardi, and Peter van Oudheusden. 2015. "Financial Literacy Around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey." http://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf.
- Kotlikoff, Laurence J., and Douglas B. Bernheim. 2001. "Household Financial Planning and Financial Literacy: The Need for New Tools." In *Essays on Saving, Bequests, Altruism and Life-Cycle Planning*, edited by L.J. Kotlikoff, 427-478. MIT Press: Cambridge.
- Lusardi, Annamaria, and Carlo de Bassa Scheresberg. 2013. "Financial Literacy and High-Cost Borrowing in the United States." NBER Working Paper 18969.
- Lusardi, Annamaria, and Olivia S. Mitchell. 2014. "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature* 52 (1): 5-44.
- Lusardi, Annamaria, Olivia S. Mitchell, and Noemi Oggero. 2016. "Debt and Financial Vulnerability on the Verge of Retirement." GFLEC Working Paper n. 2016-5, December.
- Lusardi, Annamaria, and Peter Tufano. 2015. "Debt Literacy, Financial Experiences, and Over Indebtedness." *Journal of Pension Economics and Finance* 14 (4): 332-328.
- Miller, Margaret, Julia Reichelstein, Christian Salas, and Bilal Zia. 2014. "Can You Help Someone Become Financially Capable? A Meta-Analysis of the Literature." World Bank Policy Research Working Paper 6745.
- National Chamber Foundation. 2012. "The Millennial Generation: Research Review." U.S. Chamber of Commerce. <https://www.uschamberfoundation.org/sites/default/files/article/foundation/MillennialGeneration.pdf>.
- OECD. 2009a. "Financial Education and the Crisis: Policy Paper and Guidance." International Network on Financial Education. June 2009. <http://www.oecd.org/finance/financial-education/50264221.pdf>.

- OECD. 2009b. "Financial Literacy and Consumer Protection: Overlooked Aspects of the Crisis." <http://www.oecd.org/finance/financial-markets/43138294.pdf>.
- OECD. 2014a. "PISA 2012 Results: Students and Money: Financial Literacy Skills for the 21st Century (Volume VI)." *OECD Publishing*. <http://dx.doi.org/10.1787/9789264208094-en>.
- OECD. 2014b. "PISA 2012 Results in Focus: What 15-year-olds know and what they can do with what they know." *OECD Publishing*. <https://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>.
- Otto, Annette. 2013. "Saving in Childhood and Adolescence: Insights from Developmental Psychology." *Economics of Education Review* 33: 8-18.
- Schawbel, Dan. 2012. "Millennials vs. Baby Boomers: Who Would You Rather Hire?" *Time Magazine*. March 29. <http://business.time.com/2012/03/29/Millennials-vs-baby-boomers-who-would-you-rather-hire/>.
- Sherraden, Margaret S., Lissa Johnson, Baorong Guo, and William Elliot. 2011. "Financial Capability in Children: Effects of Participation in School-Based Financial Education and Savings Program." *Journal of Family & Economic Issues* 32: 385-399.
- Stango, Victor, and Jonathan Zinman. 2009. "Exponential Growth Bias and Household Finance." *The Journal of Finance* 64 (6): 2807-2849.
- Taylor, Paul, and Scott Keeter. 2010. "Millennials: Confident. Connected. Open to Change." Pew Research Center. <http://www.pewsocialtrends.org/files/2010/10/Millennials-confident-connected-open-to-change.pdf>.
- Van Rooj, Maarten, Annamaria Lusardi, and Rob Alessie. 2011. "Financial Literacy and Stock Market Participation." *Journal of Financial Economics*. 101 (2): 449-472.