

FINANCIAL  
LITERACY  
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EDUCATION  
RUSSIA TRUST FUND



**MEASURING** financial capability: a new **instrument** and **results** from low- and middle-income countries

**Summary**



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a new instrument and results  
from low- and middle-income  
countries

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Countries at all levels of development have an interest in measuring financial capability. In high-income countries, individuals need to accept an increased role in saving for old age or financing education and health care to compensate for reductions in public programs. In low- and middle-income countries, the limited scope of social insurance and safety net programs—along with the erosion of traditional family support mechanisms due to urban migration and employment shifts—leave individuals responsible for lifelong income planning and risk management. This responsibility becomes more challenging when the number and complexity of financial products available increases with overall economic development. The low levels of financial inclusion observed in low- and middle-income countries are partly driven by limited financial capability—which in turn limits the ability to effectively utilize financial resources, smooth consumption over a lifetime, and manage risks.

Financial capability, the capacity to manage financial resources and use financial services in a way that best suits individual needs and the prevalent social and economic conditions, can contribute significantly to both the level and efficacy of financial inclusion. Reliable measures of financial capability are needed to support effective policy development and evaluation in this area. The capacity to evaluate the overall levels of financial capability in a population—and to assess how these change in response to programs directed toward enhancement of financial capability or as a result of the development of financial products and markets—provides essential information to policy makers that can inform national policies and strategies. Identifying vulnerable groups toward whom programs can be directed and to tailor interventions that address the particular characteristics, strengths, and weaknesses of different groups relies on the ability to discern the distribution of financial capability across the broad population and to distinguish among subgroups.

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## FINANCIAL LITERACY OR FINANCIAL CAPABILITY?

Financial literacy has often been identified with financial knowledge, typically measured through the understanding of concepts such as compound interest, inflation, and risk diversification. The underlying idea is that these concepts are the crucial pieces of information individuals need to choose the optimal allocation of consumption and savings over their lifetime. A variety of surveys have been developed and used in higher-income countries based on this objective. The evidence from these surveys shows that low levels of financial knowledge are associated with poor financial outcomes. However, there is very little evidence for either low levels of knowledge being the cause of these outcomes or that increasing knowledge by itself improves long-term financial outcomes.

While such financial knowledge may be necessary for making good financial decisions, a broader definition of knowledge may be needed to ensure that the financial behaviors necessary to achieve good outcomes are adopted. **Financial knowledge** itself comprises at least three different aspects: the first is related to **mathematical skills (numeracy)**; the second is the simple **awareness** of the existence of financial issues, products, and institutions; and the third is the **know-how** required to interact with financial service providers (e.g., how to open a bank account, how to use an ATM card). However, the translation of knowledge into behavior may be impeded by a lack of skills, by low levels of motivation, by other behavioral attributes such as poor self-control and procrastination, by attitudes such as trust in financial institutions, and/or by the environment in which decisions are made.

There is a movement toward an extended concept of financial literacy that encompasses behavior and the interaction of knowledge, skills, and attitudes. This concept



takes into account the impact of the surrounding environment on people's ability to achieve positive outcomes. It was originally developed in the United Kingdom in a 2005 effort by the Financial Services Administration (FSA) to develop and undertake a measurement of financial capability that focused on behavior rather than simple knowledge. This effort has since been extended in other higher-income countries. The World Bank's project funded under the Russia Financial Literacy and Education Trust Fund on measuring financial capability was launched to advance this thinking; it specifically aimed to develop empirically based methods to define and measure the broader concept of financial capability in a way that was applicable to the conditions of low- and middle-income countries.

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## A FRAMEWORK FOR MEASURING FINANCIAL CAPABILITY

Measuring financial **capability** is more complex than simply measuring financial **knowledge**. As a first step, it requires that a determination be made concerning which skills, attitudes, and behaviors should be considered as comprising financial capability. One way to address this task is through a cognitive-based approach that assumes that the decision-making process of individuals is guided by knowledge that, in sufficient quantities, translates into behavior that leads to desired outcomes. This approach can also be defined as **normative**, because the types of skills, attitudes, and behaviors that are considered capable are identified in advance through economic theory or previous evidence.

This approach may not be useful in the very different conditions found in low- and middle-income countries. The higher levels of poverty, the greater share of the population living in rural areas where community pressures can affect individual choices, the higher levels of informality, and greater exposure to risk with fewer options for risk mitigation are all features of developing countries that could affect financial capability and how it is manifested.

Results of new work on behavioral economics have begun to show how a number of social, psychological, and emotional factors can affect behavior. Cognitive biases, hyperbolic discounting, procrastination, and self-control, can dramatically affect behavior but are not considered in traditional economic theory.

Taking these developments and concerns into account, an alternative **positivist** approach that makes no assumption about the operational definition of financial capability, but instead relies on determining this through research in the settings of interest, was utilized. This approach is based on the idea that financial capability is a broad concept that may include knowledge as well as skills, attitudes, and behaviors. Two premises underlie the approach:



- Financial capability, like other broad and abstract concepts such as intelligence or personality traits, cannot be measured directly; instead, a key set of manifestations of this underlying capability are measured.
- Financial capability is not limited to one specific area of behavior or knowledge but spans different domains. No assumptions were made, however, as to whether the same domains obtained in the United Kingdom would be relevant for developing countries, or whether there was a set of domains that would apply across low- and middle-income countries.

The multistep process used to develop the methods to measure financial capability in low- and middle-income countries entailed: (1) development of an operational definition of financial capability through identification of its key manifestations (focus groups), (2) development and cognitive testing of survey questions to measure the manifestations (in-depth interviews and cognitive testing), (3) data collection (quantitative survey), (4) identification of the key components and domains of financial capability (factor analysis and assignment of scores), and (5) identification of potential target groups for policy interventions (regression and cluster analysis).

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## DEVELOPING THE FINANCIAL CAPABILITY SURVEY

The process of developing the Financial Capability Survey—from design, choice of survey implementation methods, and data analysis—involved the active participation of World Bank staff, expert consultants, and country-based teams consisting of government officials and researchers from 12 middle- and low-income countries (figure 1). This development effort was financed through the resources provided by the Russia Financial Literacy and Education Trust Fund. A more detailed report on the development of the survey and analysis of the results from its use in seven countries that are summarized below can be found at the Trust Fund website ([www.finlitedu.org](http://www.finlitedu.org)).<sup>1</sup>

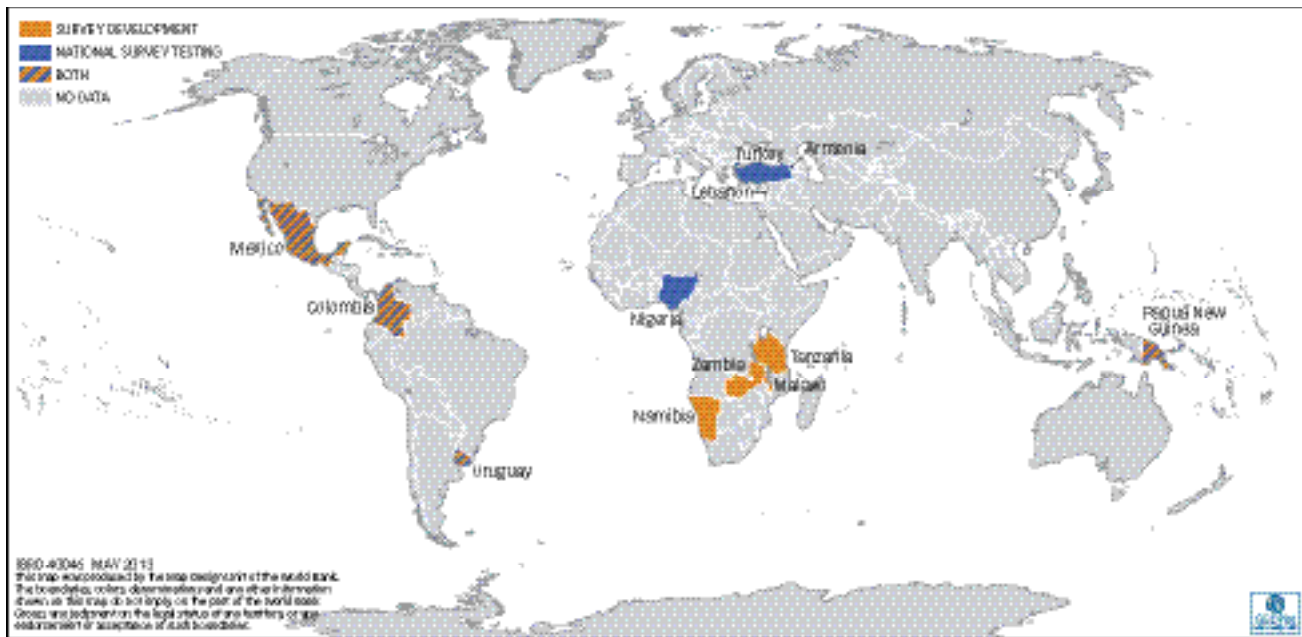
### Focus groups

Qualitative research techniques were used to identify the key manifestations of financial capability. The first phase was to conduct focus groups in the eight countries that participated in the developmental portion of the work: Colombia, Malawi, Mexico, Namibia, Papua New Guinea, Tanzania, Uruguay, and Zambia. Focus groups

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<sup>1</sup> E. Kempson, V. Perotti, and K. Scott, *Measuring Financial Capability: A New Instrument and Results from Low- and Middle-Income Countries* (Washington, DC: World Bank, 2013). Also see *Measuring Financial Capability: Questionnaires and Implementation Guidance for Low- and Middle-Income Countries* by the same authors.

FIGURE 1 FINANCIAL CAPABILITY SURVEY COUNTRIES



were conducted in each country by a local research team. Each focus group was facilitated by one researcher working from a common topic guide.

Between 6 and 13 focus groups were conducted in each of the eight participating countries (for a total of 70 focus groups). All the focus group discussions were recorded, transcribed, and translated to facilitate their analysis. For each country, there was a careful review of the first focus group transcript, and a thematic grid reflecting the main concepts that emerged from the discussion was developed. The local research teams completed the grids with results from the other focus groups. A final review of the focus group transcripts comparing them to the country thematic grids was done, and a master grid was produced that synthesized the results across countries.

A number of different aspects of capability emerged from the focus groups: behaviors, attitudes, and motivations. There was substantial similarity among the focus groups across the eight countries. Interestingly, the focus group findings paralleled many of the findings from lower-income groups in higher-income countries such as the United Kingdom and Ireland. These concepts from the focus groups matched well with two of the four domains identified in the FSA study: day-to-day money management and planning for the future. The most notable difference was that there was very limited mention of use or knowledge of financial products and their relevance in indicating financial capability in the low- and middle-income countries. It also emerged that psychological characteristics such as impulsivity or action orientation were frequently used when describing financially capable (or incapable) people.

## In-depth interviews and cognitive testing

From the manifestations of financial capability emerging from the focus groups, specific questions needed to be developed that could be used to capture these in a quantitative household survey. Available questions from existing capability surveys were reviewed, building on a previous review of work in this area. The project team then designed new questions for concepts that were not adequately covered by existing surveys. Two rounds of in-depth interviews and cognitive testing of questions were carried out by the research teams in each country.

The in-depth interviews were used to test whether questions were well understood, if they provided meaningful information, and if they had the same interpretation across countries. This process also enabled the team to identify questions that allow for distinctions in capability to be made across groups as well as those that needed to be avoided as they were not income- or education-neutral. Detailed feedback was also gathered from the interviewers to detect any problems with specific questions, words, or expressions. The feedback was then compared across countries and necessary adjustments were made—changes in wording, dropping of difficult questions, choosing between alternative versions of the same question—to develop a final draft questionnaire. This draft was then field tested on a pilot basis for a sample of 100–200 individuals in each country.

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## USING THE FINANCIAL CAPABILITY SURVEY

Not all of the countries involved in developing the instrument participated in survey implementation; timing issues precluded the work in one or two countries, and others had only been interested in participating in the developmental work that would define the concepts. An additional group of countries joined the project for the implementation phase (figure 1). The national-level quantitative survey was carried out in seven countries: Armenia, Colombia, Lebanon, Mexico, Nigeria, Turkey, and Uruguay.

The survey collected data on household composition, role in managing money, day-to-day money management, planning, financial products, motivations, and sources of income; and left space for each country to add optional questions as desired. In five countries, the standard financial literacy questions were included in this section. Interviews were conducted in face-to-face settings, largely using paper questionnaires; although a few countries used electronic versions of the questionnaires (computer-assisted personal interviewing).

The sample of respondents was all those aged 18 years and older. The goal of the Financial Capability Survey is to capture information on the manifestations of financial capability through individuals' behavior, skills, and attitudes related to managing the finances for which they are responsible. Because it focuses on behaviors and

actions, the survey instrument cannot be used to assess the financial capability of people who neither manage their own finances nor participate in household financial decisions; thus, only people aged 18 and older were included.

Each of the seven countries carried out the survey at the national level with effective sample sizes ranging from 1,200 in Lebanon to 3,000 in Turkey. Nigeria was an exception, with a much larger sample. There, the Financial Capability Survey was embedded in an ongoing panel survey with a sample of 5,000 households, and all adults were interviewed, not just one randomly selected adult as in the other countries. In all countries, results could be disaggregated between urban and rural areas. In total, just under 20,000 individuals were interviewed in this phase of the project.

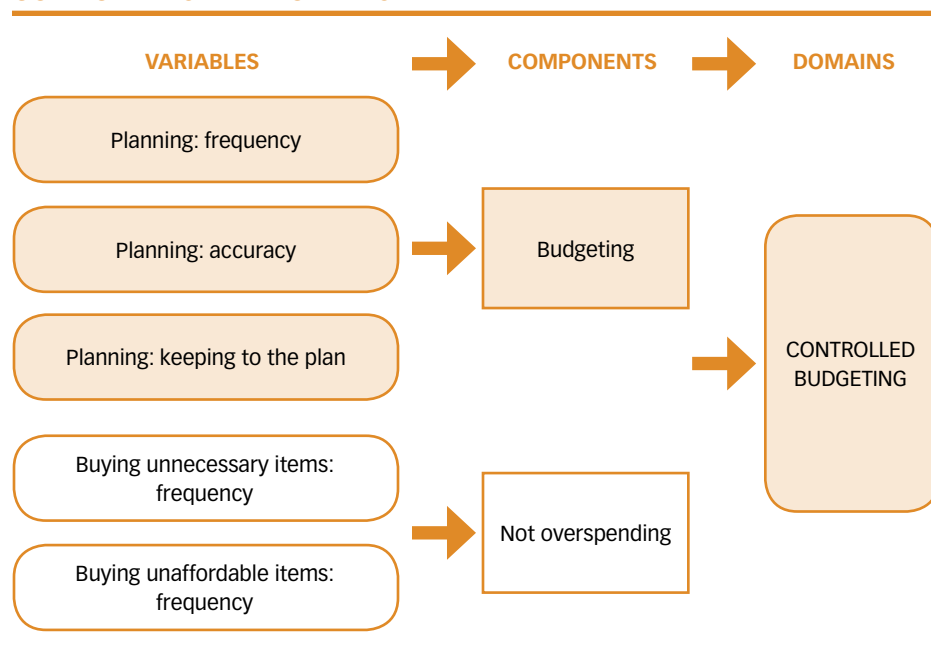
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## FINDINGS AND LESSONS LEARNED

The project is based on the premise that financial capability is an abstract concept that cannot be measured directly, but instead captured through the measurement of its behavioral manifestations. The focus groups helped identify these manifestations, and the questionnaire was designed to capture each of these. The first stage of the analysis was to assess whether the set of questions asked about each manifestation is capturing one underlying concept—in short, how well the questionnaire achieved its purpose. Principal component analysis was used to identify groups of variables that are explained by the same unobserved component. These groups, or components, should be the empirical indicators of the manifestations of financial capability. For example, if all the variables generated from the five questions about planning expenses load on the same component, the resulting component could be used as a measure for budgeting. The output from this analysis was used to create a score for each component; this score can be considered a partial measure of financial capability. Figure 2 illustrates this process.

The survey showed that most individuals 18 and older participate in household financial decisions, and very few people manage only their own funds without any contribution to the household finances or financial decisions. The lowest participation ratio was in Nigeria (74 percent) and the highest in Armenia (97 percent). Lower participation ratios were seen in households with older heads of household, extended families, or with male heads of households, although these findings were not consistent across all countries. Households with a more educated head of household had greater levels of participation. Younger adults were less likely to participate in household financial matters. While men and women stated equally that they were responsible (either individually or jointly) for making decisions in their households in terms of day-to-day spending, women were less likely to make decisions around unexpected expenses.

FIGURE 2 FACTOR ANALYSIS ASSOCIATES VARIABLES WITH COMPONENTS AND DOMAINS



The results of the analysis showed that 10 components could be identified in each country and that their composition was comparable across countries:

- Budgeting
- Living within means
- Monitoring expenses
- Using information
- Not overspending
- Covering unexpected expenses
- Saving
- Attitude toward the future
- Not being impulsive
- Achievement orientation.

The last three components correspond to previously developed and tested psychological scales for motivations.

Overall, the findings in terms of methodology—creating a questionnaire that captures the manifestations of capability identified in the focus groups—are quite reassuring. The components identified in the analysis broadly correspond to the manifestations of financial capability conceptualized from the focus group discussions. The estimated components represent a means of measuring the manifestations of financial capability in a way that is consistent and comparable across countries.

In terms of the financial capability of individuals, the analysis shows that achievement orientation, living within one's means, and using information are the capabilities that score highest across the countries (figure 3). Common weak areas appear to be saving, monitoring expenses, and attitude toward the future. All of the countries showed both strong and weak areas (high and low scores on the individual components). Average capabilities were, however, different across countries: for example, Lebanon had among the highest scores for living within one's means (similar to Uruguay and Nigeria), covering unexpected expenses, attitude toward the future, and not being impulsive, but also showed the lowest score for budgeting. On the other hand, Colombia had the highest score for budgeting, using information, and achievement orientation, but the lowest scores for monitoring expenses.

### Financial capability has multiple domains

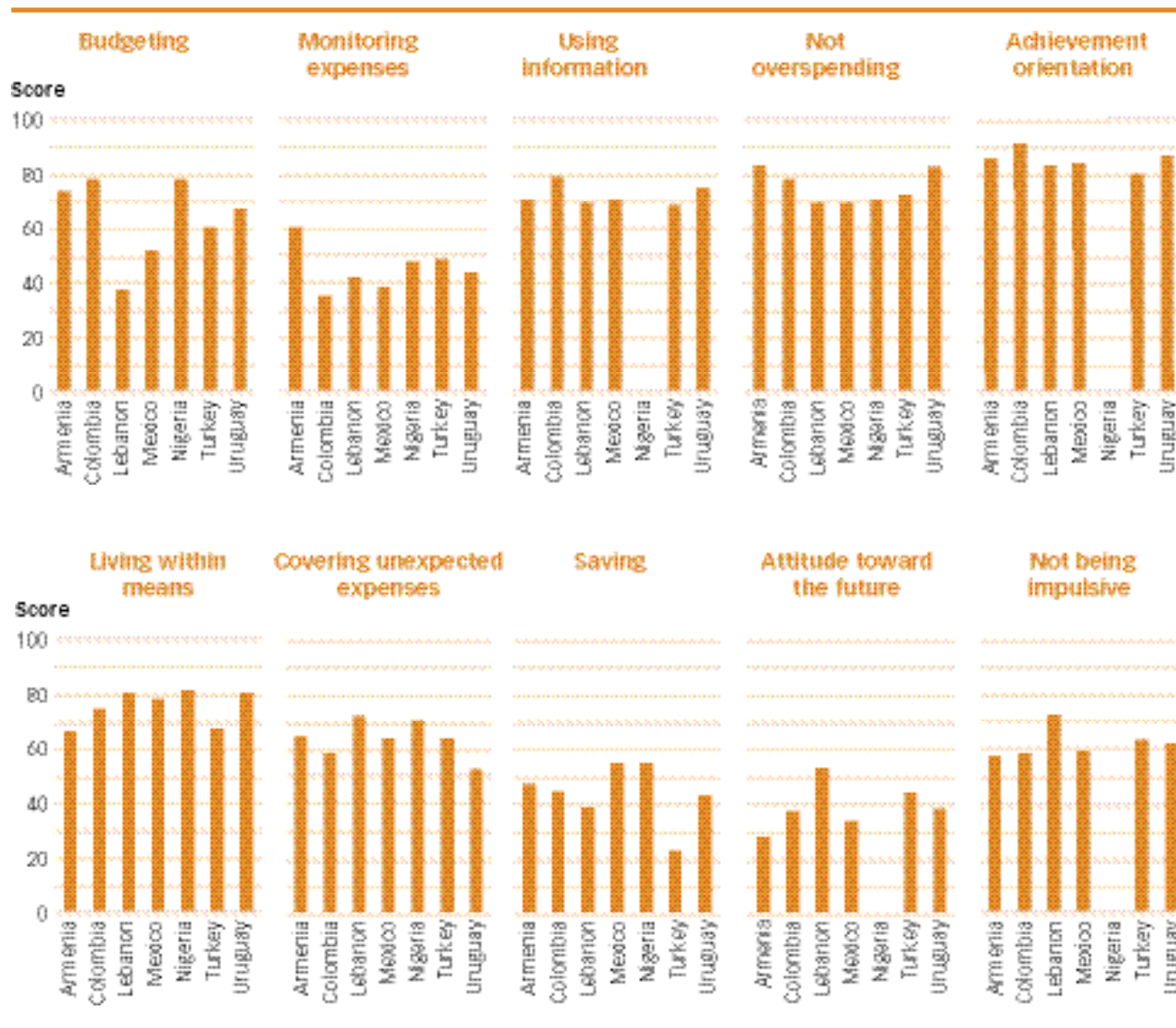
Factor analysis was used to look at how the components are related to each other and whether it is possible to trace these components back to a single underlying ability—in other words, is it possible to construct an overall score for financial capability? If the components are found to be correlated in such a way that they can be combined into a smaller set of meaningful scores, these can be interpreted as domains of financial capability. The number of domains, like the number of components in the previous step, is determined by the analysis of the data and, in particular, the correlation structure among the components. If most of the variation in the components can be explained by a single factor, then a single indicator of financial capability could be constructed.

Previous evidence from studies in high-income countries suggested that finding a single domain of financial capability was unlikely. However, given the different context of low- and middle-income countries, this remained a question to be addressed empirically. The analysis confirmed that it is not possible in any of the countries to combine the 10 components of financial capability into a single domain. In addition, while it was possible to identify a small group of capability domains in each country, these domains tended to differ in terms of their number and composition across the countries. Therefore, the analysis needs to be done using the set of 10 original components both for the cross-country comparisons and to segment the population in each country in terms of financial capability.

### Capability varies by component and respondent characteristics

The analysis of the data from the surveys shows how financial capability is related to both household and personal characteristics. The differences in capability scores associated with key sociodemographic variables are shown in figure 4. In line with the findings of other analyses, women are found to have higher scores on the budgeting and saving components compared to men. Younger adults have lower

FIGURE 3 AVERAGE COMPONENT SCORES ACROSS COUNTRIES



scores across a range of components and are particularly weak in impulse control and not overspending. Education is associated with higher scores on most components but is also linked to overspending. Geographic location, in and of itself, is not strongly correlated with capability. Household composition, however, does matter: people living in larger households have, on average, lower scores across the financial capability components. This is an important finding. In Nigeria, the only country where all household members were interviewed, the correlation in scores within the household was high, from 0.67 for budgeting to 0.82 for not overspending.

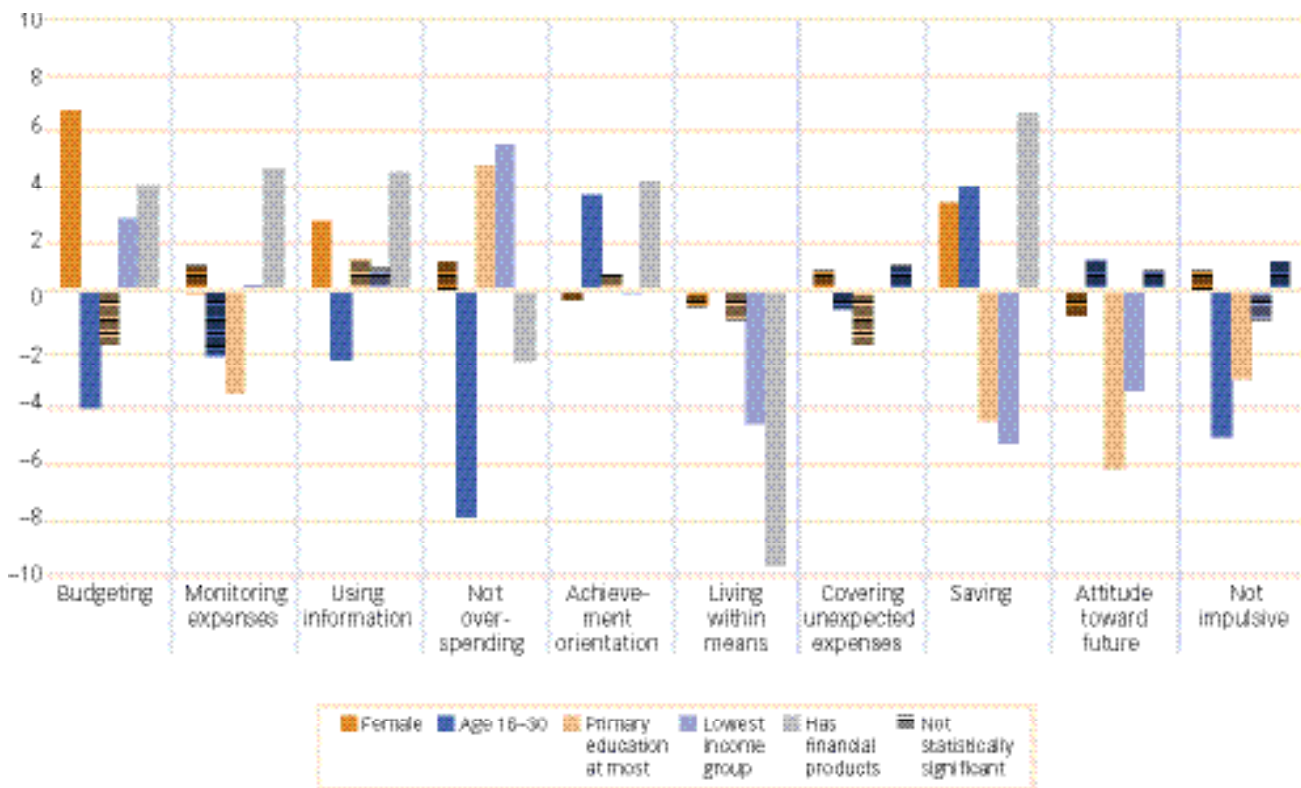
There is evidence that personal and economic circumstances affect some of the scores. Every effort was made to avoid this by constructing indicators that take into account, for example, the reason (lack of income) why people borrow or do not save.



However, it is not possible to remove this effect completely, and care will need to be used in applying the results for policy making. In any given country, further work will be needed to evaluate when circumstances—personal and economic—may be constraining capability.

A positive relationship was found between the components of financial capability and responsibility for money matters in the household. There are indications that having sole or shared responsibility for financial activities in the household is positively associated with higher scores on related components (i.e., the person responsible for day-to-day money management had higher scores on the monitoring expenses and not being impulsive components). However, it is not possible to determine causality: does someone become more capable on these components as a result of assuming responsibility, or do people assume responsibility because they are more capable?

FIGURE 4 DIFFERENCE IN CAPABILITY SCORE ASSOCIATED WITH KEY DEMOGRAPHIC VARIABLES



Note: Baseline = male, age 41-50, with secondary education and middle-low income.

## Segmenting population groups by their financial capability

The population was segmented into subgroups with particular financial capability profiles. Such analysis can be used by policy makers to determine which groups might benefit from specific policy interventions and what targeting strategies might be effective. A cluster analysis was conducted for each country using the financial capability component scores. It was found that a reasonably fine level of detail could be obtained for all countries by segmenting the population into five clusters. (Individual countries will probably prefer an even more fine-tuned analysis.) One caveat on the segmentation analysis is that, while a statistic is needed to compare across 10 components at a time, this is not to be mistaken for a measure of overall financial capability: such a single measure is not possible.

The segmentation highlighted differences and similarities across countries. Key similarities are that the groups of people who were, on average, the least capable included young people with a tendency to overspending. Second, while there is interplay between financial capability and income, many of the countries included a group of people on very low incomes who were very good at managing their money day to day, but either had short-term planning horizons or a low propensity to save (or both). Finally—and of concern for policy makers—is the finding that many people have low capability across a range of components. This is particularly problematic when one of these weaknesses is in the component related to the propensity to seek information about financial matters. Not only do the people in this group have a number of areas of weakness but such people will, in all probability, have low receptivity to attempts to help them increase their financial capability.

## Financial capability and financial literacy are different concepts

A final question that the project was able to address is the extent to which financial capability is associated with the narrower concept of financial literacy. Five of the seven countries in the quantitative phase of the project included a standard set of financial literacy questions in their surveys. The analysis reveals a very complex and somewhat inconsistent picture that varies both across the components of financial capability and across countries. Moreover, while in most instances the correlations between the financial literacy (knowledge) score and the financial capability score were positive, this was not invariably the case, and there were instances of very strong negative correlations. In short, the results tend to lend support to the idea that financial literacy and capability are different concepts—a view that was expressed in the focus groups and cognitive interviews conducted in the developmental phase of the survey.

## CONCLUSIONS AND GOING FORWARD

The Financial Capability Survey project has added to the overall body of knowledge on financial capability in middle- and low-income settings, producing important methodological and substantive findings.

- Perhaps most important, the research has shown that it is possible to identify, through an approach based on definitions of capability derived from the populations of interest (what could be termed as a *vox populi* approach), a range of manifestations of financial capability that apply across very diverse countries ranging from Papua New Guinea to Mexico.
- The work has demonstrated that it is possible to design a questionnaire that functions across different income groups and quite different cultures to capture these manifestations accurately, minimizing income and cultural biases. (Entirely eliminating all income and cultural biases was not possible, and the interpretation of results needs to acknowledge the role that environmental factors can play in affecting an individual's level of financial capability.)
- The analysis shows that it is possible to create scores for individual components of financial capability (mirroring the manifestations identified in focus groups) that are robust and meaningful across different countries. However, it is not statistically meaningful to collapse these into a single score for level of financial capability. Collapsing the components into domains, however, can be conducted at the individual country level, although the number of domains used to capture all the components of financial capability will differ (from two to four domains in the countries studied here). While having a single indicator may be useful for overall comparisons and the inability to develop such a measure is disappointing, for the purpose of developing a national strategy and designing specific interventions, a more disaggregated measure can be, in fact, more informative and more easily interpreted.
- Populations of individual countries can be segmented into groups with varying levels of capability across all components. The strengths and weaknesses of these groups can be determined, as can their characteristics. These groups can be as fine-tuned as required to inform policy approaches to increasing levels of financial capability. Some of the components identified can be tackled through education—for example, learning how to plan spending or to monitor finances. Others will require other types of interventions and policies.

The research identifies some additional questions to be addressed in the area of financial capability, illustrating the complex relationship between financial literacy and capability and highlighting the need for further exploration of this relationship.

Issues related to measuring financial capability and how it may change over time remain to be addressed. Context matters and what may make a person capable today may not in the future. How best to make comparisons from one point in time to another? The study also sheds little light on people who are not financially active. In a household context, it would be useful to know who is inactive and the implications for these individuals. Some of the evidence showed more capable persons as being more likely to be responsible for financial decision making, raising important questions on the direction of causality: are non-financially active people self-selecting based on their own skills, or are there barriers to participation for those with low capability? Finally, the results do not address the issue of the extent that the financial capabilities measured here contribute to individual and household welfare. These questions point to the need to undertake such surveys in a wider range of settings and to repeat them over time to expand the knowledge of financial capability.











The Russia Financial Literacy and Education Trust Fund was established in 2008 at the World Bank with funding provided by the Ministry of Finance of the Russian Federation. The work supported by the Trust Fund is jointly managed by the World Bank and the Organisation for Economic Co-operation and Development (OECD) and is directed toward improving public policies and programs to enhance financial knowledge and capabilities in low- and middle-income countries. This effort has focused on the review of national strategies for financial education, the development of methods for the measurement of financial knowledge and capabilities, methods for evaluating the impact and outcome of programs, and research applying these methods to programs in developing countries. The products of this program of work can be found at the Trust Fund website at:

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