

TECHNICAL NOTE

Investigating the Financial Capabilities of SMEs

Lessons from a 24-Country Survey

JUNE 2018

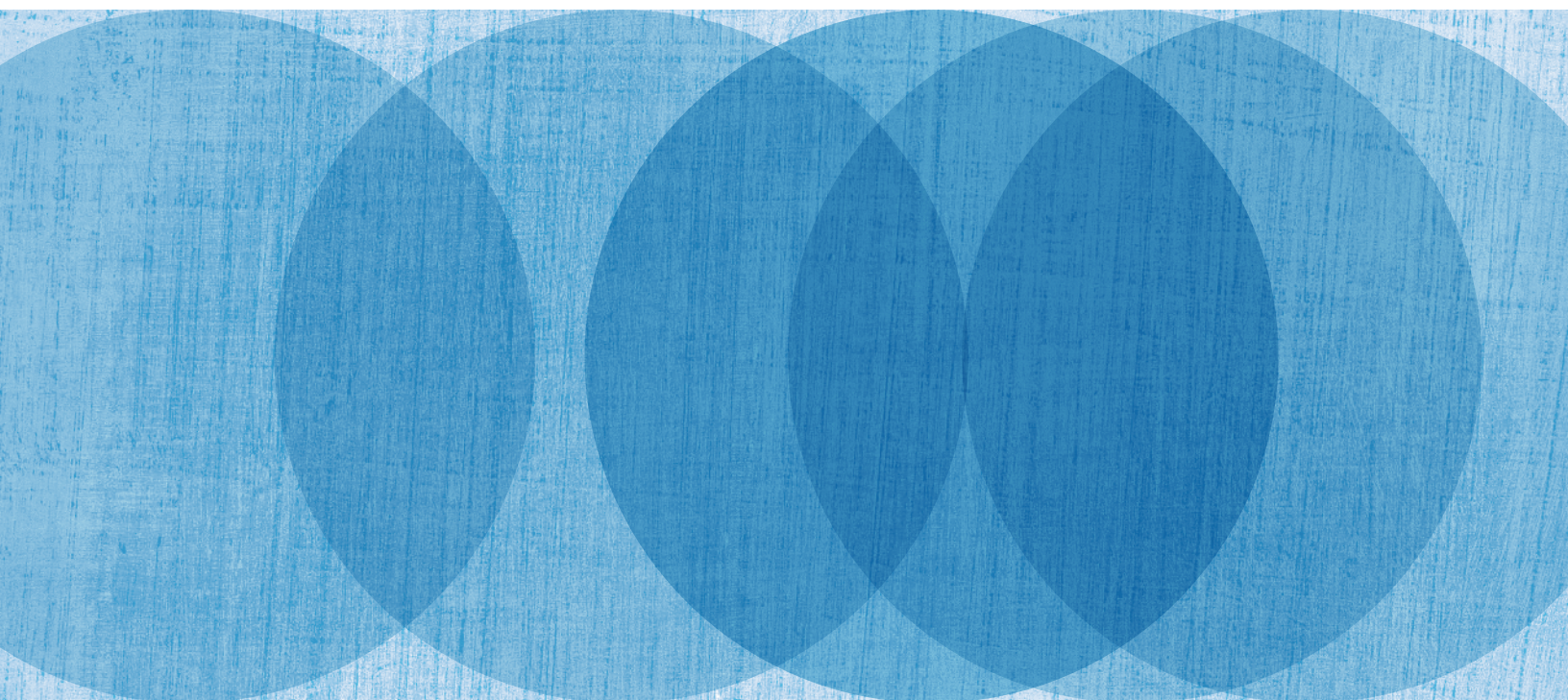


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Lessons from a 24-Country Survey

JUNE 2018



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ABBREVIATIONS AND ACRONYMS

EEC	Étude Économique Conseil
FGD	Focus-group discussions
PCA	Principal component analysis
SME	Small and medium enterprise
VRC	Variance ratio criterion
WBG	The World Bank Group



EXECUTIVE SUMMARY

WHY MEASURE SME FINANCIAL CAPABILITY?

Financial capability is increasingly becoming a principal concern for policy makers worldwide, as it promotes financial inclusion, financial stability, and effective financial markets. The recent financial crisis has reinforced the view that individuals need to be better equipped with knowledge and skills to be able to make informed financial decisions. Owners of small and medium enterprises (SMEs) require a breadth of financial capabilities that are distinct from those needed by individuals and microenterprises in order to manage their business finances and grow their businesses sustainably. Improving the financial capability of SME owners or decision makers can stimulate SME growth. SME growth, in turn, plays an important role in triggering sustainable economic development in areas with large informal job sectors common in low- and middle-income countries.

Financial capability goes beyond the knowledge of financial concepts to include a combination of behaviors, skills, and attitudes that enable effective and responsible financial decision making. The overall objective of this project was to develop a survey instrument that would measure financial capability and be both comparable across countries and independent of socioeconomic and other characteristics. Using the positive/agnostic approach, which prescribes identifying financial-capability characteristics through peer judgment, a survey module was developed to evaluate overall financial-capability levels among SMEs. This assessment methodology has enabled rich and detailed discussions to determine which set of skills, knowledge, attitudes, motivations, and behaviors SME owners associate with a financially capable entrepreneur.

Qualitative research techniques, in the form of focus-group discussions (FGDs) and expert interviews, revealed the range of attributes that can be associated with financially capable SME owners.

OBJECTIVES AND ADDED VALUE

The Financial Capability Survey of SMEs targeted two main objectives. First, the initial stage of the project aimed to develop a survey instrument that measured the financial capability of SME owners or managers. The original instrument design was based on the results of FGDs with SME owners and interviews with SME experts in Georgia. Second, the instrument was tested on SME owners or managers in 24 countries to see if it served to measure their financial capability properly.

A financial-capability instrument that combines self-assessment and direct testing to measure effective financial capabilities can be understood as an asset for public policy. The core elements of financial capability covered in the questionnaire aren't solely recorded by qualitative questions, where SMEs self-report their financial-capability level. Rather, the instrument also contains multiple questions that effectively measure the understanding or knowledge of financial concepts in theory and practice. This combination of self-assessment and direct testing, together with behavioral questions, yields a comprehensive assessment of SMEs' financial capability, unlike any other instrument available in the world. It is most certainly an asset from a public-policy perspective, as it provides with clarity areas of intervention and support to develop and deliver extension services targeting SME owners and

managers. In particular, while SME bankers have an overview of financial capability based on SMEs' past performance, the financial-capability instrument is a tool that allows the identification of strengths, underperformance, or gaps at earlier stages of the business-development cycle, allowing for improved performance and productivity. This means that targeted policies can be conceived and implemented in advance to improve SME performance over time. Not only is the improvement of entrepreneurs' financial capability positive for the enterprises themselves, but it also influences the way that they are perceived in the market—for example, attracting investors or affording access to technical/support programs.

DEVELOPING THE FINANCIAL CAPABILITY SURVEY OF SMES

Survey questionnaire and piloting in 24 countries

The survey questionnaire was developed and organized in seven sections. The seven sections are (SC) screening, (A) accounting, (B) cash and cash management, (C) expansion, (D) choosing and using financial products and services, (E) financial literacy, and (F) financial attitudes. The seven sections cover three primary topics: (1) categorization of respondents, (2) financial capability, and (3) financial inclusion. Additionally, the survey instrument considers the core elements of financial capability as (i) attitudes, (ii) behaviors, (iii) skills, (iv) financial knowledge, and (v) financial-product awareness.

Between March and June 2017, the pilot Financial Capability Survey of SMEs was implemented on 600 SMEs in 24 countries across different regions and income levels. In each country, 25 enterprises were randomly selected from current and validated enterprise sample frames that were in use for other on-going enterprise surveys. The main selection criterion was the size of enterprises in terms of the number of employees. The Financial Capability Survey of SMEs recorded different financial attitudes, motivations, and behaviors through diverse qualitative questions with various measurement levels (nominal and ordinal).

The following sections outline the key findings from the survey pilot, takeaways utilized to refine the survey questionnaire, and proposed next steps.

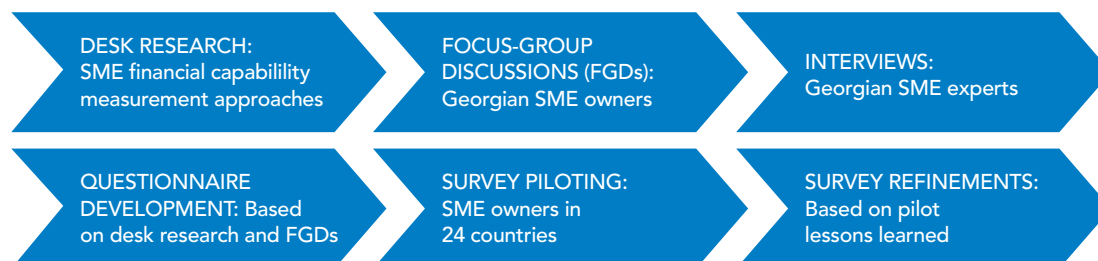
SME FINANCIAL CAPABILITY FINDINGS FROM THE SURVEY PILOT

The aggregation of core elements conducted in the pilot survey analysis revealed differences in SMEs' financial-capability levels. A principal component analysis (PCA) was applied to the SME pilot data set, identifying 13 primary, uncorrelated components of financial capability, principally involving attitudes, motivations, and behaviors. Aggregated indicators were put together to illustrate general differences in financial-capability levels.

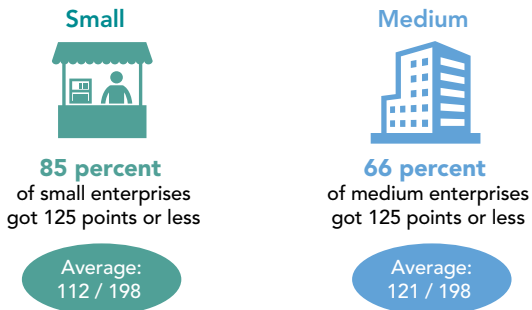
Survey participants showed relative strengths in "keeping separate business expenses," "being responsible and diligent," and "controlling and keeping cash provisions," while demonstrating relative weaknesses in "attracting investors," "diversifying cash strategies," "planning from the beginning with continuous owner's support," and "controlled budgeting." Regression results indicate a significant relationship exists between financial-capability components and level of sales, type of enterprise, location of enterprise by income level of the country, financial-product awareness, financial knowledge, ownership of transactional accounts, having access to finance, and years of operation of firms. Meanwhile, a weaker relationship exists between financial capability and the main economic activity of SME owners' enterprises.

Survey development and piloting helped establish a generalizable conception of SME financial capability, which can be defined as a composite of knowledge, skills, attitudes, and behaviors of SME owners with respect to the financial management of their businesses. This term encompasses comprehending basic financial knowledge and implementing sound business practices that promote the financial health of SME owners' enterprises. In analyzing survey pilot results, two underlying domains of SME financial capability, comprising different attitudes, behav-

Survey development steps in brief



Differentiation on financial-capability level emerged: Medium enterprises had comparatively higher levels in "behavioral/skills" variables.

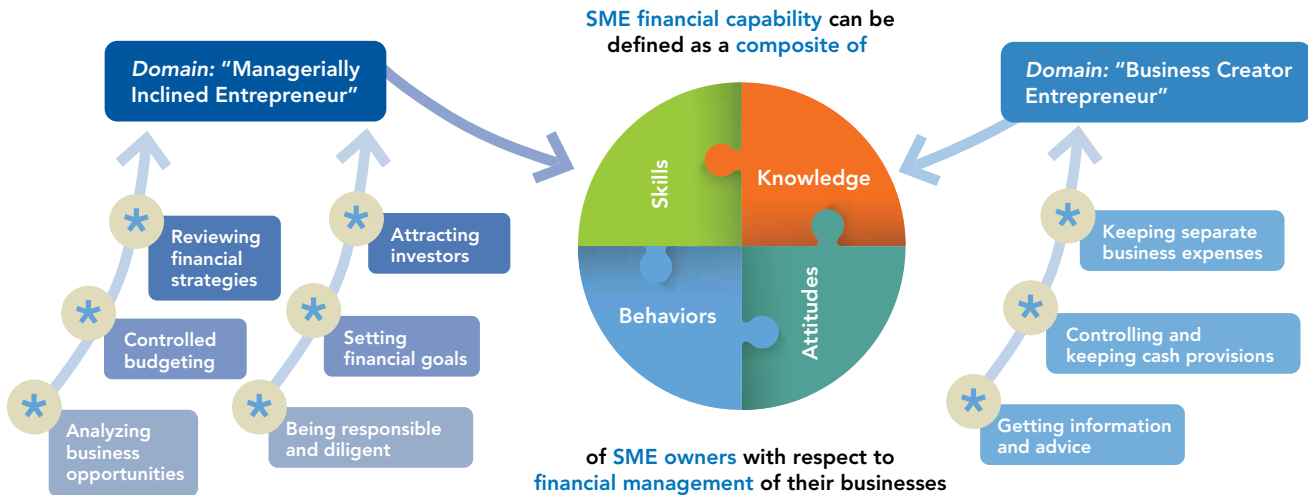


SME respondents scored low in behaviors related to diversifying cash strategies and attracting investors but showed strengths in other areas:

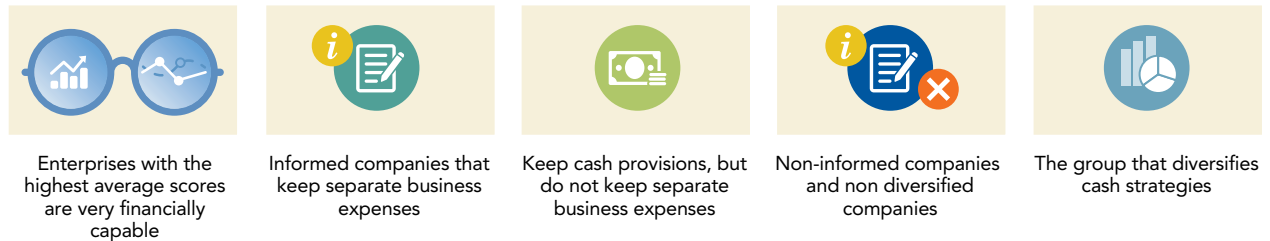
- ✓ Keeping separate business expenses (58)
- Being responsible and diligent (51)
- Controlling and keeping cash provisions (49)
- Getting information and advice (45)
- Reviewing financial strategies (44)
- Controlled accounting (41)
- Risk taking (34)

- ✗ Setting detailed financial goals (32)
- Analyzing and developing business opportunities (27)
- Controlled budgeting (21)
- Planning from the beginning with continuous owner's support (21)
- Diversifying cash strategies (17)
- Attracting investors (3)

Two underlying domains emerged:



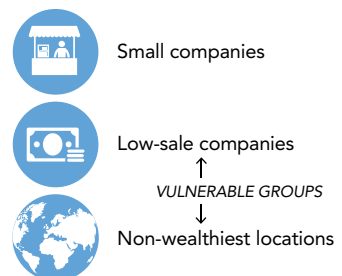
Five groups of participants in terms of financial-capability components:



It is possible to say that companies in one cluster were on average more financially capable **in one component** than enterprises in the other cluster

It is not possible to say whether one cluster is more capable than another

The segmentation suggests the most vulnerable groups in terms of financial capability are:



ior, and skill characteristics, emerged. Specifically, an SME entrepreneur who “sets and reviews financial goals and strategies,” “controls the budget,” “analyzes and develops business opportunities,” and “tries to attract investors” can be viewed as a “Managerially Inclined Entrepreneur.” On the other hand, an SME entrepreneur who “gets information and financial advice,” “controls and keeps cash provisions to ensure operability,” and in a responsible manner “keeps business expenses separated from personal or household expenses” can be perceived as a “Business Creator Entrepreneur.”

Enterprise segmentation identified five groups of pilot participants, based on common component characteristics of financial capability. To complete the SME financial-capability evaluation, a cluster analysis was employed to segment the pilot population according to the range of 13 component scores. This process identified five distinct groups or clusters of enterprises. It was not possible to conclude whether one cluster was more capable than another. The characterization of groups, however, suggested that smaller enterprises with relatively lower levels of sales located in comparatively non-wealthy countries are more vulnerable in terms of financial capability than medium-size companies with a high level of sales located in wealthier countries. These results yield powerful insights for future risk-based financial capability enhancing efforts.

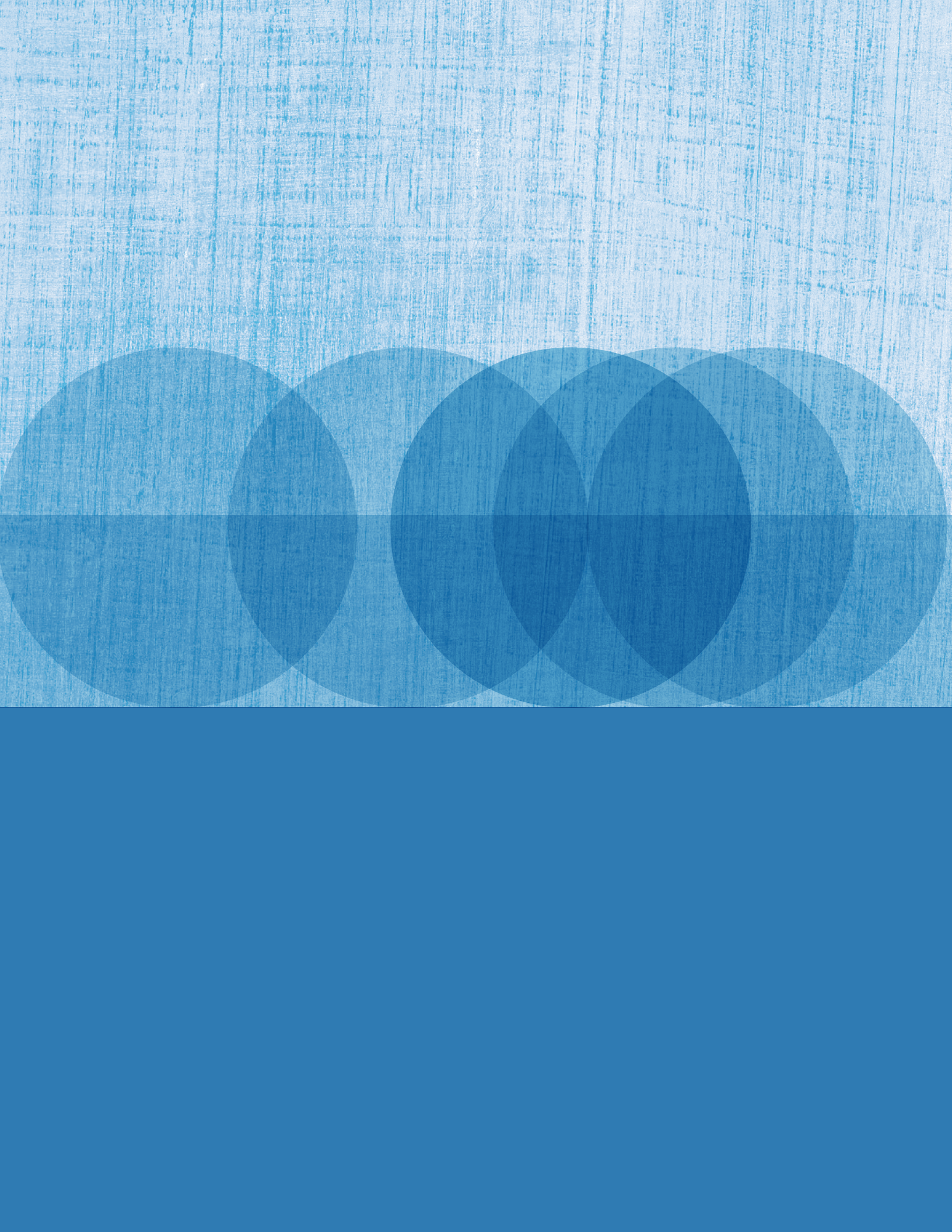
RESULTS, REFINEMENTS, AND NEXT STEPS

The two primary goals of the survey development and piloting process—designing a clear, generalizable survey tool and successfully analyzing SME financial capability from the survey results—were achieved. The SME Financial Capability Questionnaire, designed from thorough desk research and extensive FGDs and interviews with Georgian SME owners and experts, was successfully tested on 600 enterprises across 24 countries. Critically, the participants recognized the relevance of this instrument and understood the questions. Furthermore, it

was possible to analyze participants’ answers, and, most importantly, determine the meaning and components of SME financial capability. In general, the testing and answer-evaluation process revealed that the SME Financial Capability Questionnaire can be applied to SMEs worldwide and is useful for discerning manifestations of financial capability. Indeed, differences in financial capability clearly emerged across SMEs, and enterprises were successfully segmented into groups based on their financial-capability component levels.

The experiences and findings from the pilot survey have been utilized to refine the final survey questionnaire, which is contained in annex E of this report. A primary objective of the Financial Capability Survey of SMEs was to capture attitudes, behaviors, skills, and knowledge to determine what financial capability means for SMEs. Parallel to this analysis of financial capability, a second critically important objective of the exercise was to test the instrument itself. Based on implementation and user experience, the survey designers have made important adjustments to enhance the clarity and usefulness of the questionnaire. The final questionnaire contained in annex E reflects these adjustments. A significant improvement of the questionnaire facilitates data collection by refining the measurement of financial knowledge of SMEs using a combination of declared knowledge and actual knowledge questions.

Analysis of the SME financial-capability instrument is a starting point for wider evaluation of SME financial capability. The testing phase of the survey has ended, and the exploratory analysis highlights the instrument’s potential to capture and understand SME financial capability, as well as to identify vulnerable groups. The cluster analysis employed on results of the pilot survey underscores the types of vulnerable SMEs that should be targeted in the World Bank Group’s future strategies and interventions to increase SME financial capability. Finally, to obtain a global view of SME financial capability, this assessment recommends deploying the survey on a larger scale.



WHY MEASURE THE FINANCIAL CAPABILITY OF SMEs?

Financial capability is increasingly becoming a principal concern for policy makers worldwide, as it promotes financial inclusion, financial stability, and effective financial markets. The financial crisis of 2007/08 has reinforced the view that individuals need to be better equipped with knowledge and skills to be able to make informed financial decisions. As such, interest is growing in developing interventions and strategies to raise levels of financial capability. In June 2012, G20 leaders recognized the importance of financial capability and education by endorsing the OECD International Network on Financial Education's High-Level Principles on National Strategies for Financial Education. As of 2017, 71 jurisdictions had already established or are in the process of designing a national strategy of financial education (World Bank 2017).

However, much of the available empirical research on financial capability has focused on individuals, households, and microenterprises, while small and medium enterprises (SMEs) have largely been overlooked (Kempson et al. 2013, Perotti et al. 2013). The existing definition of financial capability by the World Bank—the internal capacity to act in one's best financial interest, given socioeconomic and environmental conditions—applies solely to, and does not extend beyond, individuals to encompass SMEs. SMEs are important, especially in low- and middle-income countries, as they play a fundamental role in job creation and innovation. Furthermore, a vibrant SME sector can help to diversify economic activity geographically, it can support women and young entrepreneurs, and it can help to achieve other development goals, such as food security or health and education.

SME owners require a breadth of financial capabilities that are distinct from those needed by individuals, households, and microenterprises to manage their business finances and grow their businesses sustainably. It is a well-accepted hypothesis that missing human capital, specifically management skills, may hinder the growth potential and health of SMEs. Multiple studies measure the effect of business skills training on sales and profits, accounting, recordkeeping, and planning (e.g. Karlan and Valdivia 2011; Giné and Mansuri 2011; Bjorvatn and Tungodden 2010; De Mel et al. 2012; Drexler et al. 2010, and Calderon et al. 2011). Another critical impediment to SME growth is lack of access to finance. Enterprise Survey data for 120 countries shows that among SMEs, 44 percent in low-income countries, 28 percent in middle-income countries, and 20 percent in high-income countries were involuntarily excluded from applying for a loan (World Bank 2014). However, field experiments on the impact of financial access in the form of grants (De Mel et al. 2012; Berge et al. 2011) or microcredit (Giné and Mansuri 2011) show that SME growth also depends on other dimensions, such as entrepreneurs' educational background, business, and mindset, for which very little empirical evidence exists.

There is a dearth of data measuring financial-capability concepts among SME owners or decision makers. These concepts include SME owners' understanding of accounting concepts, making business plans, using and calculating financial ratios, setting financial goals, and making quick decisions. SME owners who do not have adequate

accounts and records to document their firm's performance, or who are unable to submit a sound business plan to assess future growth prospects, are more likely to face constraints in accessing finance. Unaware of the broad range of providers and products potentially available to them beyond working capital loans from banks, SME owners may also rely more on internal funds.

Addressing this gap in measuring financial capability at the SME level is crucial to strengthening SMEs' creditworthiness and promoting prudent accounting and borrowing practices that are critical to maintaining a sound business and stimulating SME growth. SME growth is important because expansion can trigger sustainable economic development in areas with a large informal job sector, which is typical to low- and middle-income countries. Additionally, SME growth leads to increased household spending, especially in areas such as healthcare and education, and social benefits. Intensive data collection and analytic rigor are needed to gather empirical evidence on existing levels of financial capability among SMEs and to identify target areas that need policy attention. An instrument that can measure SMEs' financial capability can provide policy makers with a range of important inputs on how to enable SME growth. Such an instrument would allow countries to identify target areas that could most benefit from policy interventions and specific programs. Such a survey could also be used to measure progress toward specific objectives on building financial capability among SMEs.

1.1: LESSONS LEARNED FROM EXISTING MEASUREMENT APPROACHES

A thorough desk review of academic articles and existing surveys on financial capability in the context of SMEs was conducted. A total of 15 relevant articles and surveys were screened for frequently used concepts that are relevant to SME entrepreneurs' financial capabilities, categorized into behavior, knowledge and skills, and attitudes. Numerous studies, including those by Giné and Mansuri (2011), Karlan and Valdivia (2011), Mano et al. (2011), McKenzie and Woodruff (2012), and others, distinguish accounting and recordkeeping as one behavior that is closely associated with financial capability. These articles, as well as others by McKenzie and Woodruff (2015), Drexler et al. (2010), and Calderon et al. (2011), also classify cash-flow management as a behavior that is relevant to SME entrepreneurs who are financially capable. Lastly, creating a business plan has been identified by Berge et al. (2011) and the World Bank Kaizen Study (2011), to name a few, as another behavior strongly affiliated with a financially capable SME entrepreneur.

This research revealed certain knowledge and skills as well as attitudes that were related to business owners' financial capability. Among the 15 articles and surveys examined, five articles—including those from Berge et al. (2011), De Mel et al. (2012), Karlan and Valdivia (2011), McKenzie and Woodruff (2015), and the World Bank Kaizen study (2011)—identified numeracy or literacy skills as abilities that were closely related to financial capability. In addition, analytical skills, or the ability to visualize, critically evaluate, and solve problems given available information, were deemed to be linked to financial capability. In terms of attitudes, the desk review found farsightedness to be the attitude most associated with financial capability among SME owners, as studied by Karlan and Valdivia (2011), McKenzie and Woodruff (2012), McKenzie and Woodruff (2015), Bruhn and Zia (2011), and Drexler et al. (2010).

The desk review, however, also outlined the existing gaps in measuring key financial-capability concepts important to SME owners. Several scholarly articles and firm-level surveys to date have measured select concepts applicable to entrepreneurs' financial capabilities. Yet many of the existing studies merely focus on microenterprises, rather than SMEs. As mentioned previously, SMEs require financial capabilities that are unique to SME business owners and dissimilar from those needed by individuals or microenterprises. At the time of writing, no single source comprehensively measured all the relevant SME-related financial capabilities across countries. This desk review clearly illustrates the need to conduct empirical research and gather data concerning financial capabilities specific to SME owners.

This project aims to address this knowledge gap by broadening the scope of existing efforts to measure financial capability to include SME owners. It is designed to provide guidance to policy makers, practitioners, financial service providers, and researchers on how to measure financial capability among SMEs in low- and middle-income countries using a new survey instrument that was developed and tested, from start to finish, in Georgia and 23 other countries. This report presents the considerations, choices, selections, and implementation issues surrounding the measurement of SME financial capability in low- and middle-income countries. It draws out the thought and implementation process around the development of the financial-capability instrument to allow for replication.

1.2: HOW TO READ THIS REPORT

The report is an effort to provide a methodology and process for developing a proper set of tools to measure the financial capability of SMEs. As such, it presents the

process; methodological as well as qualitative and quantitative results coming from research, development, and implementation of the pilot questionnaire designed to capture information from SMEs; and, finally, an analysis of results obtained. A detailed explanation of the process and analysis has been included for readers interested in replicating the work. Key findings and interpretations are included for policy makers, practitioners, or researchers, who can learn from the results of

the survey. Finally, the survey tool is included for those interested in implementing the World Bank's new Financial Capability Survey of SMEs. Sections 2.5 (Financial Capability Analysis) and 2.6 (SME Financial Capability) can be overlooked by readers without a statistical background. Table 1 outlines various questions pertaining to the financial capability of SMEs as well as the sections that seek to answer them.

TABLE 1: Report Structure

Why measure the financial capability of SMEs?	
Why is SME financial capability important?	Chapter 1
What lessons can we learn from existing surveys?	Chapter 1
SME Financial Capability Survey	
How can we develop a survey instrument to measure financial capability for SMEs?	Chapter 2, Section 1 Chapter 2, Section 2 Chapter 2, Section 3
What were the results from pilot surveys?	Chapter 2, Section 4 Chapter 2, Section 5
How can the results be used to define SME financial capability?	Chapter 2, Section 6
Which SMEs need to be targeted?	Chapter 2, Section 6.2
How well does the questionnaire work?	Chapter 2, Section 7
Lessons learned and suggestions for next steps	
What did we learn about financial capability?	Chapter 3
What are the next steps to expand SME financial-capability knowledge base?	Chapter 3

FINANCIAL-CAPABILITY SURVEY OF SMEs

2.1: CONCEPTUAL APPROACH TO MEASURING FINANCIAL CAPABILITY

Financial capability goes beyond the knowledge of financial concepts to include a combination of behaviors, skills, and attitudes that enable effective and responsible financial decision making. The overall objective of this project was to develop a survey instrument that could be used to measure financial capability and would be both comparable across countries and independent of socioeconomic and other characteristics.

One of the conceptual issues that existed while developing the survey instrument was identifying the concepts that should be included in the questionnaire. Two main conceptual approaches determine which skills, attitudes, and behaviors should be considered part of financial capability. The first approach relies on standard economic theory. It is “cognitive-based” and assumes that the decision-making process is guided purely by knowledge. This approach is defined as “normative” because the researcher designing a financial-capability survey knows in advance what topics should be covered and can proceed directly to identify the best questions to measure the selected concepts.

An alternative option uses peer judgment to identify manifestations of financial capability. This approach relies on a relevant peer group—in this case, Georgian SME owners and managers—to decide which traits denote a financially capable person. This “positive” or “agnostic” approach, developed by the United Kingdom’s Financial Services Authority, recognizes that financial capability is a broad

concept and makes no assumption about how the outcome can be achieved; rather, it determines this through research. This methodology was selected for application because it seemed better able to account for the imperfect market conditions in which SMEs in low- and middle-income countries operate. Furthermore, the World Bank Group had implemented this approach to develop various financial-capability instruments for individuals—namely, the Financial Capability and Consumer Protection survey instrument for the Finance and Markets Global Practice. Applying this conceptual and empirical peer-judgment-based methodology required a long and structured process to develop a questionnaire that could capture the operational definition of financial capability.

Using the positive/agnostic approach, a survey module was developed to evaluate overall financial-capability levels among SMEs. This assessment methodology enabled rich and detailed discussions that disentangled which set of skills, knowledge, attitudes, motivations, and behaviors SME owners associate with a financially capable entrepreneur. This qualitative research technique, in the form of focus-group discussions (FGDs) and expert interviews, revealed the range of attributes that can be associated with financially capable SME owners. With these attributes, an operational definition of financial capability was developed, along with appropriate questions for each of the defined concepts of financial capability. To ensure that all of the designed questions were properly understood by the respondents, they were tested through cognitive interviews. Furthermore, the survey module was piloted in both urban and rural environments.

2.2: IMPLEMENTING THE SELECTED APPROACH

The following section presents a detailed overview of the process and steps taken to implement the selected measurement approach. Following an initial desk review of scholarly articles and surveys to identify frequently used concepts of financial capability, the first phase of the selected methodological approach involved FGDs with SME owners. The discussions served as an important empirical methodological tool for refining the concepts identified during the desk review. The focus groups were particularly useful, as they provided bottom-up perspectives in the design of the survey, allowing SME owners themselves to identify key concepts and issues relevant to their first-hand experience. Subsequently, SME finance specialists and/or bank executives were interviewed. These expert interviews complemented the outcomes of the FGDs by helping ensure that the survey module covered all financial-capability aspects considered to be important, as well as those that may have been overlooked during previous phases. Figure 1 outlines this methodological approach as well as the related sections.

2.2.1: Step 1: Focus-Group Discussions

The main objective of the FGDs was to understand the perceptions of SME owners and financial decision makers concerning the concept of financial capability. In particular, the FGDs were intended to gather a detailed and conceptual definition of a financially capable individual in the context of Georgian SMEs based on concrete experiences of the FGD participants, rather than on theory.

A total of 18 FGDs involving 133 male and female adults were conducted in Georgia.² To ensure a nationally representative sample, the FGDs were held in four regions: the capital, Tbilisi; the second largest city and former capital, Kutaisi, in the Imereti region; the Autonomous Republic of Adjara or Adjara region; and the Kakheti region. FGD participants were selected according to various defining characteristics, including geography, gender, level of education,

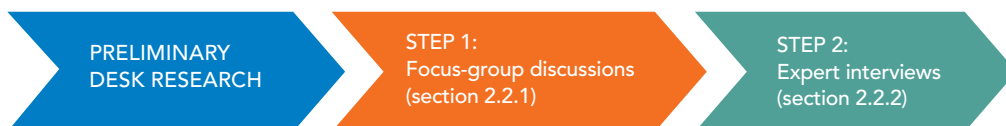
and the length of business operations. The following six characteristics were common among all FGDs: (1) All participants were decision makers in forms of company founders, general directors, or both. In some cases, the chairmen of companies participated in the discussions. (2) All participants were responsible for making major financial decisions within the companies they represented. (3) All of the companies represented were formally registered. (4) None of the participants represented nonprofit companies. (5) None of the participants had previously participated in a FGD. And (6) an overwhelming majority of respondents claimed to innovate. The most common industries in which the participants operated were construction and tourism.

A FGD guide was used by moderators to orient participants and direct discussions. (See annex A.) FGDs were conducted in three parts in accordance with the guide, which was divided into an introduction, a financial-capability discussion, and a validation. The introduction section served as a priming session for the participants to reflect on their own definition and concept of financial capability based on personal experiences. The participants shared both positive and negatives experiences with bank products, any major financial decisions they had made, and the factors they had taken into account during their decision-making process. In doing so, participants unconsciously shaped a set of positive and negative characteristics of financial capability.

Once the participants were perceived to be ready, the moderator transitioned to the financial-capability section by directly asking participants about the concept. Participants were asked what they thought financial capability meant, its importance, and what they believed made a financially capable entrepreneur. The default definition of financial capability, in the event that the participants were not able to formulate one, was that of the World Bank.

Finally, the validation section of the FGD was used to clarify concepts that were not mentioned in the first two sections of the discussion. It prompted participants to

FIGURE 1: Outline of Methodological Approach



elaborate on specific topics, such as recordkeeping, cash-flow management, creating and analyzing financial statements, planning for business expansion, financing a business, and getting and using advice and information.

Several revisions were made to the FGD guide after the pilot exercise. One of the difficulties encountered during the FGDs was focusing the introduction session to prime participants for the subsequent financial-capability discussion. Participants were eager to discuss at length their negative experience with financial institutions, so it was difficult to proceed to the topic of financial capability. Therefore, following the pilot exercise, the introduction session was revised to eliminate discussions on financial institutions and products, opting instead to start with financial decision making. The validation section of the FGD was also supplemented with an exercise for participants. Each was given a printed list of attitudes and asked to rank the three that were most important. This provided additional insight into participants' perceptions regarding financial capability.

FGDs revealed that most participants perceived their experience with financial institutions negatively. This negative perception stemmed from two primary reasons: being rejected for a loan application, and being offered loan conditions deemed unacceptable by participants. These unfavorable loan conditions varied between requests for high levels of collateral, the need for guarantors, and high interest rates. Nevertheless, participants still recognized business credit as an important source of funding; most had tried to acquire a line of credit or a short-term loan for any contingency. Several participants, however, recognized that submitting unstructured business plans, inaccurate cash-flow predictions, or inadequate investment proposals were probable reasons for the negative interactions they experienced with financial institutions. As such, participants acknowledged the importance of financial education as well as consulting with banks and professionals for their business endeavors. Another common behavior among participants was to research new ways of receiving funding, including searching for potential investors over the Internet and through social networks.

Participants ranked "consulting financial institutions and professionals" as the most important decision contributing to the improvement of business capabilities. Participants considered "being part of a social network" to obtain advice given by "friends" who had experience in finance as the second most important decision. "Receiving help from family members and friends," especially when additional funds were needed, and "involving a new business partner to serve as a guarantor or provide additional collateral for a new loan" were the next most important decisions.

FGD participants identified key attitudes and behaviors that defined the concept of financial capability. These attitudes, skills, and behaviors were ranked by how frequently participants mentioned them during the FGDs. The five most important attitudes were (1) adaptability/flexibility, (2) disciplined/hard-working, (3) farsightedness/long-term vision, (4) self-confidence, and (5) risk taking. These attitudes (especially adaptability and flexibility) highlight the significantly decreased demand from consumers and increased competition among businesses in the current Georgian business environment.

FGD participants also identified various skills and behaviors a financially capable entrepreneur was thought to possess. The five most important skills for financially capable entrepreneurs were (1) analytical ability, (2) risk assessment, (3) understanding financial products, (4) basic understanding of accounting concepts, and (5) innovation/creativity. Analytical ability and risk assessment were the most commonly mentioned skills; participants recognized the need to evaluate business risks and for business owners to be able to carry out such an evaluation. Moreover, participants most frequently cited the following key behaviors as being necessary for financially capable business owners: (1) creating a business plan, (2) budgeting, (3) relying on/tapping into a team of experts, (4) keeping cash provisions, and (5) minimizing spending. Table 3 summarizes the findings from the FGDs. The numbers in parentheses refer to the number of participants who mentioned each attitude, skill, or behavior.

TABLE 2: Findings from Focus-Group Discussions

ATTITUDES		SKILLS		BEHAVIORS	
Analytical	(16)	Risk assessment	(16)	Creating a business plan	(17)
Adaptable/flexible	(15)	Innovation/creativity	(13)	Understanding financial products	(16)
Disciplined/hard-working	(13)	(Quick) decision making	(13)	Basic understanding of accounting concepts	(15)
Farsighted/long-term vision	(12)	Planning	(12)	Budgeting	(14)
Self-confident/intuitive	(10)	Identify priorities	(11)	Having access to a team of experts	(12)
Risk taker	(10)	Sharing information and best practices	(10)	Keeping cash provisions	(12)
Persistent/perseverant	(9)	Communication	(9)	Minimizing spending	(12)
Result-oriented	(7)	Problem solving	(9)	Computerized accounting system	(11)
Honest/Modest	(6)	Leadership	(7)	Marketing strategies	(11)
Motivated	(6)	Delegation	(6)	To be aware of all aspects of the business	(11)
Appetite for learning	(5)	Negotiation	(5)	Up-to-date financial reports	(11)
Delegator	(4)	Learning from mistakes	(3)	Use short-term credit for turnover	(11)
Extroverted	(3)			Knowledge of regulations (legal and fiscal)	(10)
Ambitious	(3)			Projecting sales, costs	(10)
Rational	(2)			Setting financial goals	(10)
Responsible	(2)			Using self-generated resources	(10)
Being a role model	(2)			Using financial ratios to make decisions	(10)
Detailed-oriented	(2)			Assessing the risk and exposure of the company	(9)
Trustworthy	(2)			Marketing analysis, competitive analysis	(9)
Competitive	(1)			Monitoring receivables	(9)
Diligent	(1)			Offering discount and low price	(9)
Patient	(1)			Reporting taxes on time, complying with government requirements	(9)
Careful	(1)			Action plan, timeline	(8)
Self-critical	(1)			Analyzing and developing business opportunities	(8)
Resourceful	(1)			Attracting investors	(7)
				Long-term financial planning	(7)
				Access to owner's personal funds	(6)
				Increasing sales	(6)
				Payment facilities for early payers	(6)
				Frequent calculations of ratios	(5)
				Knowledge of payment instruments and cash-flow management tools	(5)
				Deep understanding of accounting concepts	(4)
				Researching new technologies	(3)
				Strict, documented internal procedures	(3)
				Diversifying the financial risk	(1)
				Keeping family and business expenses separate	(1)
				Keeping technical data on production	(1)
				Proceeding with legal documents for contracts (avoiding informality)	(1)
				Starting very small	(1)

Source: WBG Focus Group Discussions, Georgia 2016.

2.2.2: Step 2: Expert Interviews

Following the FGDs, interviews were conducted with 12 experts on Georgian SMEs. These professionals included bankers, lending companies, and university professors who were selected based on their knowledge of SMEs and their financial issues, particularly in the context of Georgia. The expert interviews had two purposes: The first was to gain a deeper understanding of important financial-capability behaviors by corroborating findings from the FGDs. The second was ensure that no important concepts were overlooked. Expert interviews were conducted with the interview guide that can be found in annex B. This guide was similar to the final FGD guide, though it asked questions more suited to the perspective and reality of a financial service provider than that of a user. During expert interviews, no difficulties arose that required modifying the guide.

The expert interviews also revealed several traits that hinder, and others that enhance, financial capability. Among issues thought to detract from financial capability, the three most frequently mentioned were bad/no business plans, poor financial training, and insufficient financial education. The most oft-cited personal traits of a financially capable business owner were good planning skills, analytical skills, and farsightedness, in addition to behaviors of understanding financial products, cash-flow management, and early payer discounts. Table 3 summarizes the findings from expert interviews. The numbers in

parentheses refer to the number of experts who mentioned each issue, personal trait, or behavior.

2.2.3: Key Results and Lessons Learned

Based on findings from the FGDs, concepts were selected to be evaluated through a questionnaire. These strongly connected concepts gave insight into financial knowledge, and were categorized into attitudes, skills, and behaviors. Furthermore, findings revealed the importance of certain personal traits, skills, and attitudes, such as being analytical and possessing risk-assessment skills, as opposed to simple knowledge of financial concepts and products. It is important to note that skills and attitudes concerning financial capability need to be understood in tandem; one explains the other, and both lead to a series of specific behaviors. Hence, by measuring behaviors, the survey tool inherently measured attitudes and skills while avoiding response bias that might have been caused by asking participants to assess their own attitudes and skills directly. Behaviors, on the other hand, were categorized into “general” (for instance, having access to experts, being aware of all business aspects, and so forth), “choosing and using financial products and services,” “cash management,” “accounting,” and “expansion and planning.”

Although there were many similarities among findings from the FGDs and expert interviews, several differences arose, especially with regard to factors that impede financial capability. Among issues that negatively affect financial

TABLE 3: Findings from Expert Interviews

MAIN ISSUES		PERSONAL TRAITS		BEHAVIORS	
Bad (no) business plans	(7)	Planner	(6)	Seeking to understand financial products	(8)
Poor financial training	(6)	Analytical	(6)	Cash-flow management	(7)
Education problems	(5)	Farsighted	(5)	Early-payer discounts	(3)
Insufficient collaterals	(4)	Adaptive	(4)	Minimizing spending	(3)
No ratio calculations	(3)	Innovative	(3)	Accounting	(7)
Not understanding tax system, avoiding paying taxes, filing late	(2)	Risk taker	(3)	Cost benefit calculations	(2)
		Detail-oriented	(3)	Break-even analysis	
		Disciplined	(3)	Budgeting	
		Analyzes mistakes	(3)	Cost-volume-profit analysis	
		Quick decision maker	(2)	Formal up-to-date bookkeeping	
		Leader	(2)	Seeking professionals' advice	(6)
				Knowing their business inside out	(5)
				Financial management: stocks, account payables, ratios turnover, income statements, and balance sheet	(4)
				Risk assessment	(4)
				Seeking to understand contracts and laws	(2)
				Social media marketing	(1)

Source: WBG Expert Interviews, Georgia 2016.

capability, the one reported most frequently by experts was “submitting a poor business plan to a financial institution, or not having one at all.” Many FGD participants, however, lacked the financial capability to distinguish a good financial plan from a bad one, although they did recognize the importance of having an effective business plan. Some FGD participants disclosed that they did not have the necessary expertise to prepare business plans and turned to professionals for assistance instead. In a similar manner, whereas experts stated that lack of knowledge and understanding of financial ratios, and not understanding the Georgian tax system, were two major deterrents to financial capability, these were not mentioned by FGD participants. This disparity indicates the need to educate business owners about basic financial concepts that are essential to operate a business successfully.

The overwhelming majority of characteristics used to describe the financially capable individual during expert interviews were also mentioned during FGDs. However, there were differences in their ranking of importance. For instance, experts deemed planning the most important personal trait, whereas FGD participants placed more importance on the individual’s ability to assess risk and creativity.

2.3: KEY FEATURES OF THE FINALIZED QUESTIONNAIRE

Once a list of findings was identified through FGDs and expert interviews, the next step was to design appropriate questions to measure them. Available questions from existing surveys of financial capability were reviewed, building on previous survey stocktaking. New questions for concepts not adequately covered by the existing surveys were subsequently designed.

2.3.1: Organization of the Finalized Questionnaire

The survey questionnaire was organized in seven sections. As section 2.2.3 indicates, the SME Financial Capability Questionnaire was elaborated based on the findings from FGDs and expert interviews. The fully developed questionnaire includes 62 core questions, the majority of which lead to subquestions. In total, the questionnaire has 294 variables. The questionnaire was divided in seven sections: (SC) screener section, (A) accounting, (B) cash and cash management, (C) expansion, (D) choosing and using financial products and services, (E) financial literacy, and (F) financial attitudes. Table 4 outlines the purpose of each section

2.3.2: Concepts Covered

The seven questionnaire sections outlined in table 4 cover three main topics: (1) categorization of respondents, (2) financial capability, and (3) financial inclusion. The survey instrument considers the core elements of financial capability to be (i) attitudes, (ii) behaviors, (iii) skills, (iv) financial knowledge, and (v) financial-product awareness. These elements were cross-referenced to questions or subquestions.

2.4: SELECTION OF TEST PARTICIPANTS AND PILOT IMPLEMENTATION

Between March and June 2017, the pilot Financial Capability Survey of SMEs was implemented on 600 SMEs in 24 countries³ across different regions and income levels by an international consulting firm headquartered in Canada.⁴ Once the pilot questionnaire was finalized (see section 2.3), it was sent to the firm’s country teams for testing. In each country, 25 enterprises were randomly selected from current and validated enterprise sample frames that were in use for other ongoing enterprise surveys. Enterprise size, measured by number of employees, was the main criterion for this selection; only small⁵ and medium-size enterprises⁶ were considered. The 600 selected companies were then interviewed face to face. The participants in the pilot survey (see section 2.5) had the following key characteristics (see annex C): 47 percent of SMEs were classified as medium-size enterprises, while the remaining 53 percent were small. (See figure 19.) Slightly less than half of the interviewed main financial decision makers were male (49 percent, see figure 17.) More than 50 percent of the main financial decision makers had completed tertiary education, including university or other higher education, 28 percent either had some or had completed vocational or technical schooling, while around 15 percent had completed only senior secondary schooling. (See figure 18.) Ranking all companies by their reported annual sales in 2016 and dividing them into four groups, 25 percent of SMEs fell in the lowest segment (up to \$7,000), 25 percent fell in the second-lowest quartile (between \$7,001 and \$27,000), 25 percent were in the second highest segment (between \$27,001 and \$99,750), and 25 percent were in the highest quartile (more than \$99,750, see figure 23). Twenty-nine percent of companies were located in low-income countries, 33 percent in lower middle-income countries, 21 percent in upper middle-income countries, and 17 percent in high-income countries. (See figure 22.) Most of the SMEs were registered (85 percent), and almost two-thirds of companies used formal financial products. (See figure 21 and figure 24.) Fifty-four percent of enterprises used their own funds or retained earnings as their main

TABLE 4: Content of the Questionnaire

	SECTION	PURPOSE	NUMBER OF QUESTIONS
SC	Screener section	<ul style="list-style-type: none"> Provide information on the types of enterprises interviewed. This data will allow establishment of various topologies based on SME size, main economic activities, level of sales, type of location (country income classification), main source of financing, maturity of the company, registration status, managing of business and household finances, and characterization of the main financial decision maker. 	16
A	Accounting	<ul style="list-style-type: none"> Understand SMEs' knowledge of accounting concepts (including assets, liabilities, and profits) and business aspects, including financial management, marketing management, and business strategies. Obtain a broad indication of the preparation of and adherence to a written budget, the setting and revision of specific goals in terms of gross profit margins, debt relative to equity, or other financial aspects. Collect information on the preparation, content, update, and computerization of financial statements and capture the usage of records in order to evaluate cash-flow and/or sales variation. 	10
B	Cash and cash management	<ul style="list-style-type: none"> Understand SMEs' global cash-flow situation in the last fiscal year and if the companies keep cash reserves beyond what is needed for their regular operations. Obtain indication of the strategies used by SMEs when they are in need of cash flow. Understand how the companies assess risks or reasons that prevent them from doing so. 	6
C	Expansion	<ul style="list-style-type: none"> Understand if the companies have expanded the size or scope of their business. This includes capturing business aspects (plan creation, competitive analysis, budget, research of new technologies, analysis of new or alternative opportunities) considered for the expansion or new project. Identify companies that started with a business plan and establishments that have a structured financial plan (term and aspects included in this plan). 	4
D	Choosing and using financial products and services	<ul style="list-style-type: none"> Understand whether enterprises typically seek financial advice. This includes questions to determine the type of financial advisors, the frequency, the circumstances for seeking advice, and the reasons for not asking advice. Obtain a broad indication of the current and historical levels of financial-product usage and the satisfaction level with these products. Identify the methods typically used by the companies when they make payments to suppliers and receive payments from customers. Obtain information on the preferred method (internal versus external financing) used to finance fixed assets and working capital. Understand to what degree access to finance is an obstacle to the operations of the company, the frequency of collateral requirements, and the possibility to negotiate the term or conditions for these requirements. 	8
E	Financial knowledge	<ul style="list-style-type: none"> Obtain a broad indication of companies' level of financial knowledge by asking the main interviewed decision makers to solve a quiz covering basic computation and financial concepts. Understand companies' willingness to learn financial-management skills. 	13
F	Financial attitudes	<ul style="list-style-type: none"> Capture underlying attitudes toward risk, making investments, making decisions, action orientation, learning from mistakes, and reviewing goals. 	5

Source: WBG SME Financial Capability Questionnaire, 2017.

source of financing, 28 percent borrowed from financial institutions or the government, while the remaining 18 percent obtained goods and services from suppliers as a source of financing. (See figure 25.) Less than 50 percent of the companies developed their activities in services or trade sectors, 39 percent in manufacturing or construction, and 12 percent in agriculture, forestry, and fishing. (See figure 26.)

2.5: FINANCIAL-CAPABILITY ANALYSIS

2.5.1: Methodological Overview

How can SME financial capability be defined? How can vulnerable groups be identified? These questions were answered in four steps. The Financial Capability Survey of SMEs recorded different financial attitudes, motivations,

and behaviors through diverse qualitative questions with various measurement levels (nominal and ordinal), as section 2.3.2 illustrates. A number of questions emerge from exploring these variables: Is there some differentiation across enterprises? Are SME financial attitudes related? How are they related? Could groups of enterprises be identified based on these relationships? All of these questions pointed toward a single subject: SME financial capability. To understand this topic, the following four-step analysis was conducted: (1) aggregation of financial-capability core elements; (2) factor analysis: constructing components; (3) factor analysis: constructing domains; and (4) cluster analysis: identifying vulnerable groups. Table 5 summarizes the purpose of each step, and annex D presents their methodological particularities.

The following subsections (2.5.2, 2.5.3, 2.6.1, 2.6.2, 2.6.3) present the results of the SME financial-capability analysis.

TABLE 5: Summary of Steps to Analyze SME Financial Capability

STEP TO ANALYZE SME FINANCIAL CAPABILITY AND THEIR KEY QUESTION	PURPOSE
<p>1. Aggregation of financial capabilities core elements</p> <p><i>Is there some differentiation across the enterprises?</i></p>	<ul style="list-style-type: none"> Estimate an aggregated exploratory indicator based on the core elements of financial capability (attitudes, behaviors, skills, financial knowledge, and financial-product awareness) in order to observe differences across enterprises as the first step to understand SME financial capability.
<p>2. Factor analysis: constructing components</p> <p><i>Are SME financial attitudes related? How are they related?</i></p>	<ul style="list-style-type: none"> Explore the relations between the different behavioral variables recorded by the instrument through a factor analysis known as principal component analysis (PCA). The main aim of this analysis is to determine the underlying dimensions of SME financial attitudes.
<p>3. Factor analysis: constructing domains</p> <p><i>How are SME financial components related? Is there one single domain?</i></p>	<ul style="list-style-type: none"> Establish if the SMEs' main dimensions of financial capability could be combined in a single domain or a small number of domains through a "second factor analysis."
<p>4. Cluster analysis: identifying vulnerable groups</p> <p><i>Can groups of enterprises be identified based on financial capability relationships? Are there vulnerable groups?</i></p>	<ul style="list-style-type: none"> Determine subgroups among pilot participants that exhibited particular strengths or weaknesses with regard to financial capability.

Source: WBG SME Financial Capability Survey, 2017.

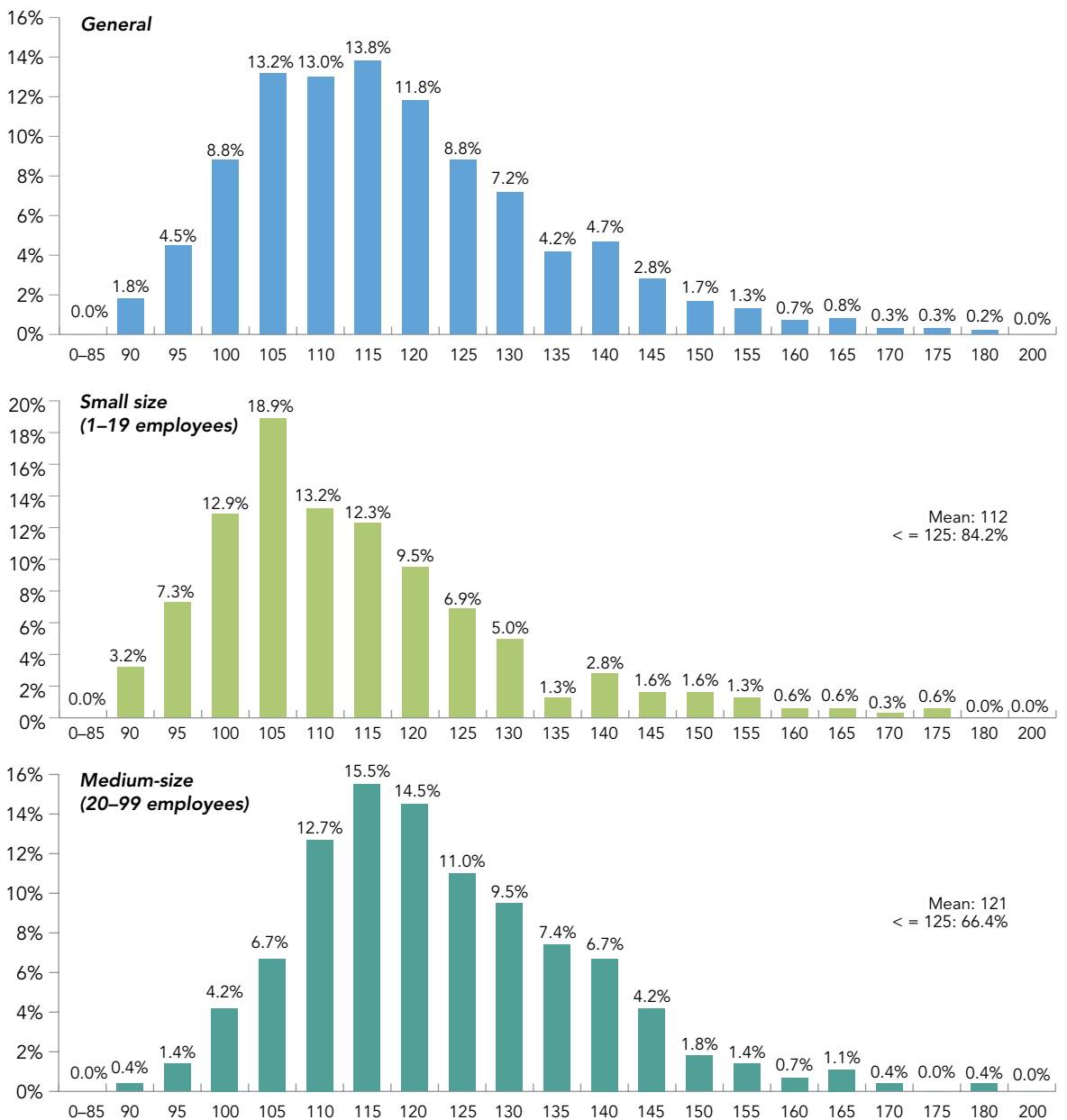
2.5.2: Aggregation of Financial-Capability Core Elements

The aggregation of the financial-capability core elements reveals differences among SME financial-capability levels. The estimation of the exploratory indicator of “behavioral” variables, as detailed in section 2.5.1 and annex D, reveals that pilot participant enterprises are not all at the same level in terms of financial capability. In fact, as figure 2 illustrates, companies scored 116 points on average, and none obtained fewer than 85 points. There are differences between small and medium-size enterprises (see figure 2): while almost 85 percent of small enterprises scored 125 points or less (112 points on average), only 66 percent of medium-size companies attained 125 points or less (121 points on average). These results indicate that medium-size enterprises have comparatively higher levels in “behavioral” variables.

1. Aggregation of financial capabilities core elements

Is there some differentiation across the enterprises?

FIGURE 2: Density of the “Aggregation of the Financial-Capability Core Elements” Indicator



Source: WBG SME Financial Capability Survey, 2017.

2.5.3: Factor Analysis: Constructing Components

In the SME pilot data set, 13 main components of financial capability were identified, some of which referred to behaviors and others to attitudes or motivations. Once the aggregated indicator illustrated the general differences in financial-capability levels, a PCA was conducted. (See annex D for methodological detail.) This analysis highlighted 13 uncorrelated components with different financial attitudes, motivations, and behaviors. Table 6 presents the relationships across SME financial attitudes. These represent the relevant attitudes (“behavioral” variables) that define each dimension.

1. Aggregation of financial capabilities core elements

2. Factor analysis: constructing components

Are SME financial attitudes related? How are they related?

TABLE 6: Main Identified Financial Components from PCA

COMPONENT OR DIMENSION	TOPIC (BEHAVIORAL VARIABLE)	FACTOR LOADING FROM PCA \
1 Risk taking	Assessing the risk and exposure of the company	0.62
	Do not play	0.84
	Gamble for low stakes	0.85
	Play but never beyond the limit	0.84
	Play for high stakes, beyond the limit	0.83
	Do not play, hate losing	-0.85
	When playing, I sometimes stake my all	0.84
	Do not play on principle	0.86
2 Analyzing and developing business opportunities	Expand scope of business and research new technology	0.94
	Expand scope of business and create business plan	0.98
	Expand scope of business and marketing analysis	0.99
	Expand scope of business and budget sales and cost	0.99
	Expand scope of business and analyze new alternatives	0.92
3 Getting information and advice	Getting information and advice	0.95
	Advice when faced with financial losses or troubles	0.96
	Preference for team of experts	0.85
	Appetite for learning more about accounting from experts	0.94
	Responsible	-0.97
4 Controlled accounting	Prepare financial statement (content)	0.92
	Prepare financial statement (certified)	0.86
	Have a computerized accounting system	0.61
	Use records to see how much cash is available	0.61
	Use records to know about sales	0.44
	Use short-term credit for turnover	0.53
5 Controlled budgeting	Have a written budget (length of time)	0.98
	Stick to the budget	0.92
6 Controlling and keeping cash provisions	Keep cash provisions (establishment)	0.92
	Cash flow status	0.83
	Keep cash provisions (personal)	0.90
7 Reviewing financial strategies	To be aware of business-strategy aspect of the business	0.88
	Revise goals periodically	0.86
8 Being responsible and diligent	To be aware of financial-management aspect of the business	0.80
	Learning from mistakes	0.65
	Deals well with financial matters	0.87
9 Diversifying cash strategies	Minimize spending	-0.95
	Offering discount and low price	0.92
10 Keeping separate business expenses	Keep family and business expenses separate	0.88
	Access to owner's credit funds	-0.92
11 Setting detailed financial goals	To be aware of accounting aspects of the business	0.70
	Set specific financial goals	0.78
12 Planning from the beginning with continuous owners' support	Started with a business plan	0.88
	Access to owner's personal funds for cash flow	0.44
13 Attracting investors	Historically financed by venture capital funds/other equity investors	0.67
	Investment by venture capital funds, angel investors, private equity funds	0.84

Source: WBG SME Financial Capability Survey, 2017.

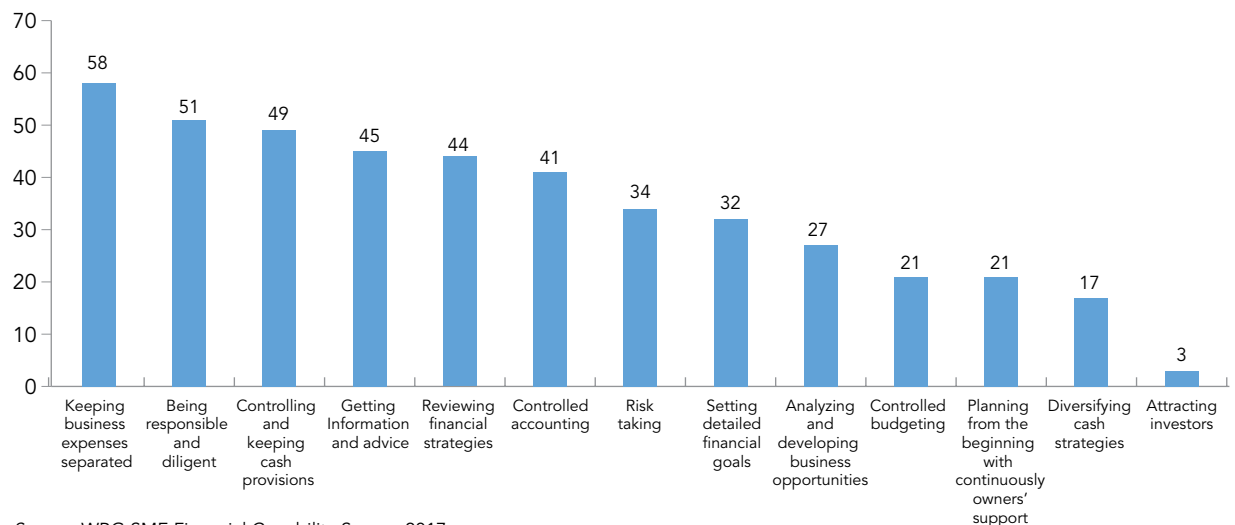
Survey participants showed relative strengths in “keeping business expenses,” “being responsible and diligent,” “controlling and keeping cash provisions,” “getting information and advice,” “reviewing financial strategies,” and “controlled accounting.” As depicted in figure 3, enterprises scored highest on “keeping business expenses separate” (58), “being responsible and diligent” (51), “controlling and keeping cash provisions” (49), “getting information and advice” (45), “reviewing financial strategies” (44), and “controlled accounting” (41). In general, these high scores reflect the fact that almost two-thirds of respondents keep their finances separate from household expenses, and around half of surveyed enterprises keep cash provisions, are conscious of the financial management of the business, are good at dealing with financial matters, and get information and advice, in particular when they face financial losses or troubles. More than 60 percent of companies learned from their own mistakes, and they prepare a financial statement at least annually. However, only 49 percent of enterprises include balance, cash, and income and equity statements. In addition to the global overview of financial-capability scores, the survey went into greater depth by analyzing “behavioral” variables that compose each dimension where the participants showed strengths. Box 1 details the statistical description of the variables that went into the scores.

On the other hand, pilot participants identified the following areas of financial-capability weakness: “attracting investors,” “diversifying cash strategies,” “planning from the beginning with continuous owner’s support,” “controlled budgeting,” “analyzing and developing business opportunities,” “setting detailed financial goals,” and “risk taking.” As shown in figure 3, enterprises scored lowest for

“attracting investors” (3), “diversifying cash strategies” (17), “planning from the beginning with continuous owner’s support” (21), “controlled budgeting” (27), “setting detailed financial goals” (32), and “risk taking” (34). These low scores are associated to the fact that less than 4 percent of SME participants have or ever had investments from angel investors, venture capital funds, or private equity funds. In addition, only between 17 and 26 percent of companies offer discounts to their clients as part of strategies to diversify cash, began their operations with a structured business plan, receive owner’s support (personal funds), set specific financial goals on a regular basis, evaluate the risk of their companies, and avoid gambling practices. Finally, in the same way in which the “behavioral” variables linked to high scores were analyzed, box 2 exposes the statistical description of those associated to low financial-capability scores.

Components were ordered according to the cumulative frequency of enterprises possessing them, with the highest scores meaning the particular component was present in more companies. Figure 5 and figure 6 present a comparison of component scores by country income classification. The cumulative figure indicates that the higher the concentration in the high scores, the more financially capable the group of SMEs is. The displayed cumulative financial-capability results underlined locational differences among enterprises. Specifically, companies situated in the upper middle-income and high-income locations tended to obtain higher financial-capability scores than those located in low-income countries. Although this tendency is generally true, the specific scores vary slightly across components. To highlight some of the differences presented in figures 5 and 6, figure 4 isolates the cumu-

FIGURE 3: Average Financial-Capability Scores



Source: WBG SME Financial Capability Survey, 2017.

BOX 1

Topics Associated with Components Where Participants Showed “Strengths”

Keeping business expenses separate. Almost two-thirds of pilot participants keep household and business expenses separate, and slightly more than half of respondents have access to the owner’s credit funds.

Being responsible and diligent. Around 46 percent of pilot SMEs consider that they deal well with financial matters and are aware of financial-management aspects of the business. Moreover, over 69 percent declare that they learn from their mistakes.

Controlling and keeping cash provisions. According to the survey results, 53 percent of SMEs keep cash provisions. In particular, around 40 percent of respondents have a good or very good cash flow.

Getting information and advice. Around 49 percent of pilot participants get information and advice (33 percent regularly and 16 percent sometimes). In particular, 44 percent of SMEs look for advice when they face financial losses or troubles, and 19 percent ask for advice from teams of experts. On the other hand, 58 percent of enterprises are interested in learning more about accounting: 25 percent from colleagues or social circles, 19 percent from experts or experts and other sources, 10 per-

cent from media, and 4 percent from other sources. Finally, almost half of interviewed managers make the main financial decisions alone.

Reviewing financial strategies. Around 38 percent of pilot respondents are aware of business-strategy aspects of the business. Moreover, 42 percent of SMEs revise their goals periodically.

Controlled accounting. About 72 percent of participants prepare a financial statement at least annually: 49 percent of respondents include a balance sheet, an income statement, a statement of change in equity, and a cash flow, and 23 percent of financial statements don’t contain these four reports (one, two, or three). Only 14 percent of SMEs have an external auditor prepare, check, and certify their financial statements. Around 55 percent of SMEs have a computerized accounting system: 36 percent (have it and) update their financial statements, and 19 percent (have them but) do not update them.

On the other hand, 29 percent of enterprises use records to know their sales, and 36 percent use them to see how much cash is available. Finally, 28 percent of SMEs use short-term credit for turnover.

BOX 2

Topics Associated with Components Where Participants Showed “Weaknesses”

Risk taking. Only 17 percent of pilot respondents assess the risk and exposure of the company: 8 percent research how many competitors, 6 percent compare the establishment to similar ones, 2 percent analyze sale progress, and less than 1 percent evaluate market/political evolution. With regard to gambling, between 23 and 26 percent of respondents avoid it (or do not play), and they don’t exceed their limits: 24 percent don’t play games of chance. If playing games of chance, they gamble for low stakes (23 percent) but never beyond the limit of their means (26 percent), and they don’t stake their all (25 percent).

Setting detailed financial goals. Around 29 percent of respondents set/review specific financial goals: 11 percent regularly, 13 sometimes, and 5 rarely. Forty-one percent of SMEs are aware of accounting aspects of the business at an expert (7 percent) and advanced level (34 percent).

Analyzing and developing business opportunities. Almost 43 expand the size or scope of their business. However, only 16 percent project or budget sales/costs, 14 percent conduct marketing or competitive analysis, 11 percent create a business plan, 7 percent analyze new or alternative opportunities, and 6 percent research new technologies.

Controlled budgeting. Around 29 percent of SME participants have a written budget: 20 percent for 1–3 months, 5 percent for 6 months, and 5 percent for 12 months. Only 5 percent always stick to the budget, 10 percent often do, 12 percent sometimes do, and 2 percent never do.

Planning from the beginning with continuous owner’s support. Only 22 percent of enterprises had a business plan when they started their business. Around 20 percent of participants have access to the owner’s personal funds.

Diversifying cash strategies. While only 21 percent of SME participants use the strategy of offering discounts to clients that pay early to encourage them to pay faster, about 86 percent minimize their spending as part of cash strategies.

Attracting investors. Less than 4 percent of pilot participants have ever been financed by venture capital funds or other equity investors. A mere 3 percent currently have investments from angel investors, venture capital funds, or private equity funds.

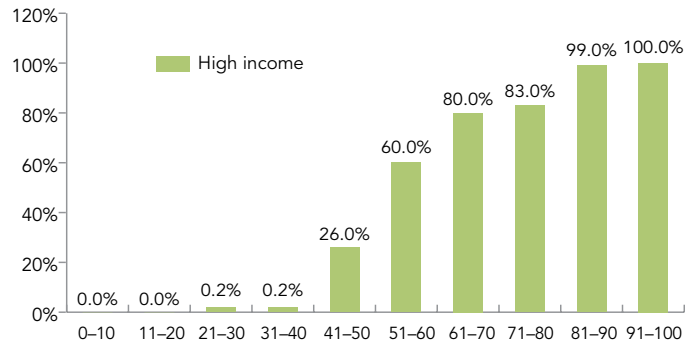
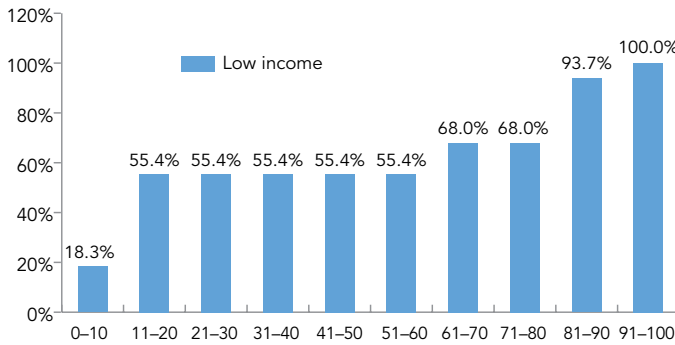
lative distribution of companies situated in low-income and high-income countries with regard to “controlling and keeping cash provisions,” “setting detailed financial goals,” and “getting information and advice.” Regional comparisons indicate that while more than a half (55 percent) of SMEs in low-income countries get scores between 0 and 20 (18 percent scored 0–10, and 37 percent scored 11–20), in terms of “controlling and keeping cash provisions,” only 2 percent of those in high-income countries obtain scores between 21 and 30. In particular, 58 percent of SMEs in the wealthiest locations have scores in a range of 41 to 60 (24 percent scored 41–50, and 34 percent scored 51–60).

The score distribution with regard to “setting detailed financial goals” shows that around 51 percent of companies in high-income locations get 50 points or less. The proportion is 92 percent for those in low-income locations.

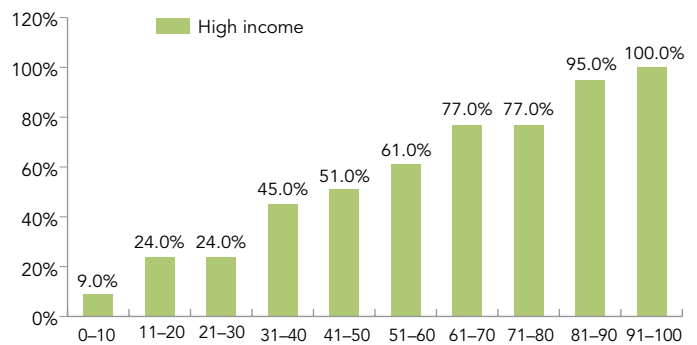
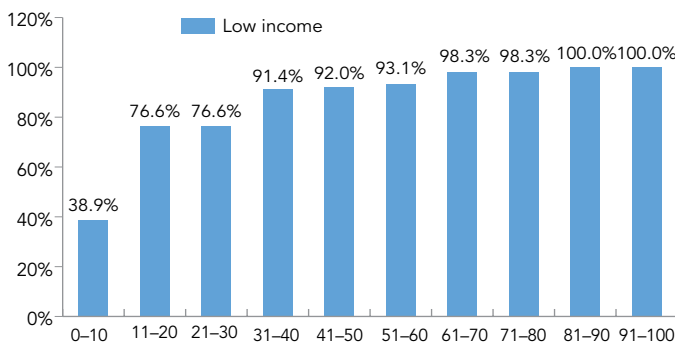
On the other hand, score distributions are similar when considering “getting information and advice.” Almost 41 percent of SMEs in low-income locations obtain fewer than 10 points in this financial capability. This proportion is around 49 percent for those in the wealthiest countries. In addition, while 59 percent of companies situated in low-income countries get scores between 71 and 100 (40 percent scored 81–90), this index is 51 percent for SMEs in high-income locations.

FIGURE 4: Comparison of Cumulative Distribution of Selected Component Scores (Low-Income versus High-Income Countries)

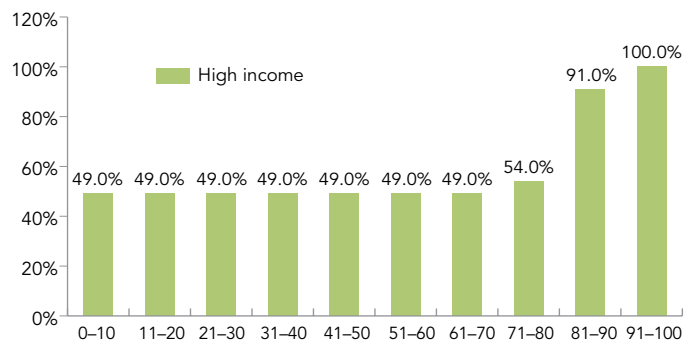
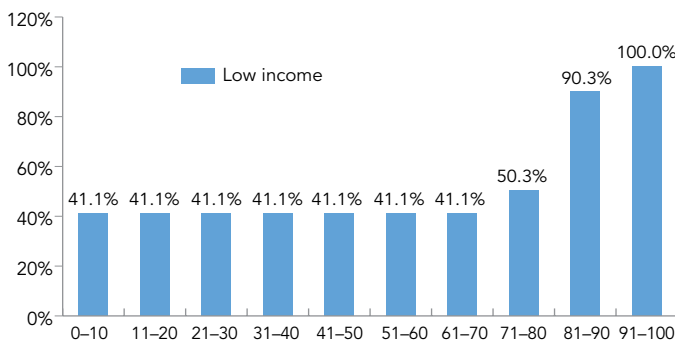
Controlling and keeping cash provisions



Setting detailed financial goals

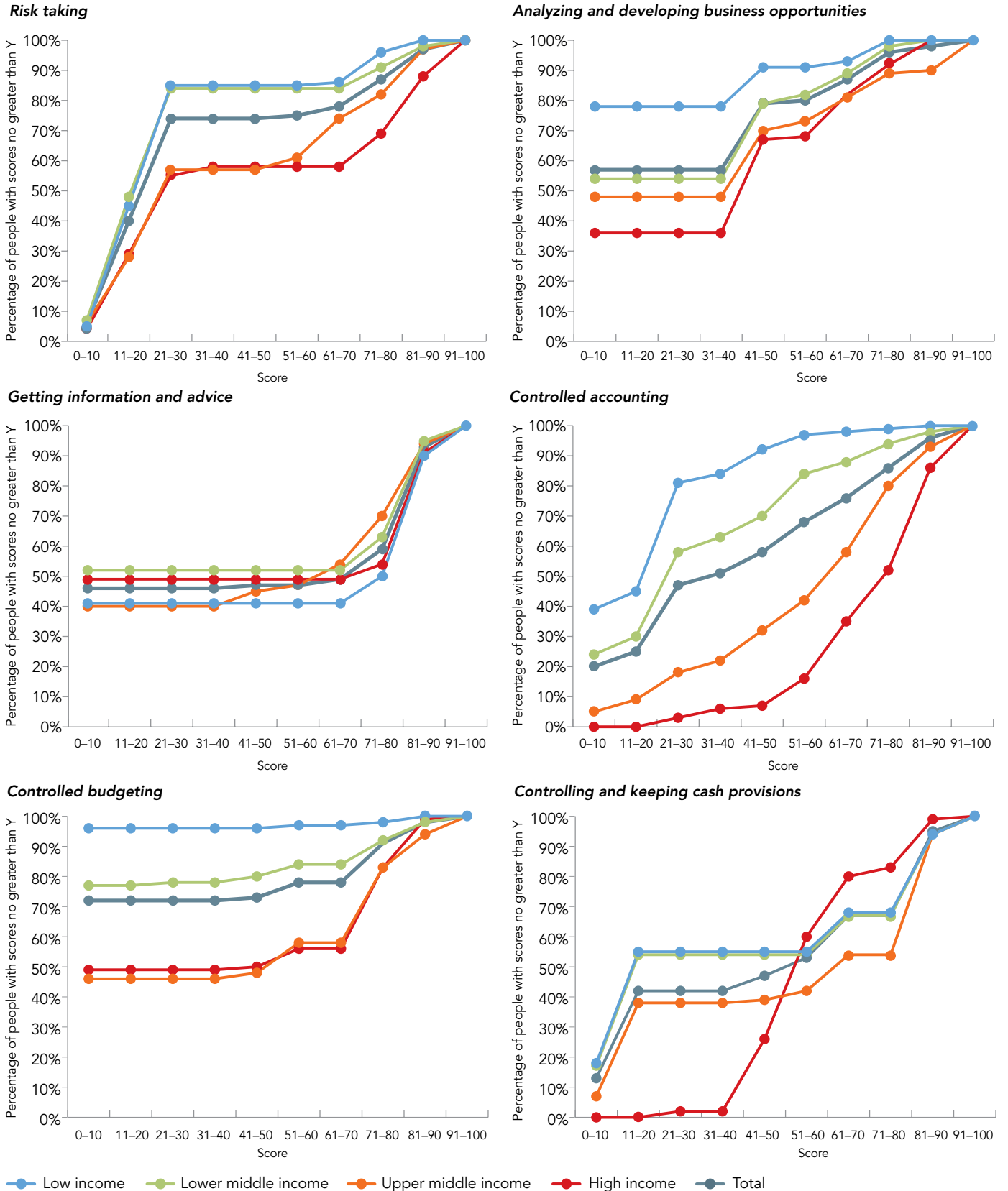


Getting information and advice



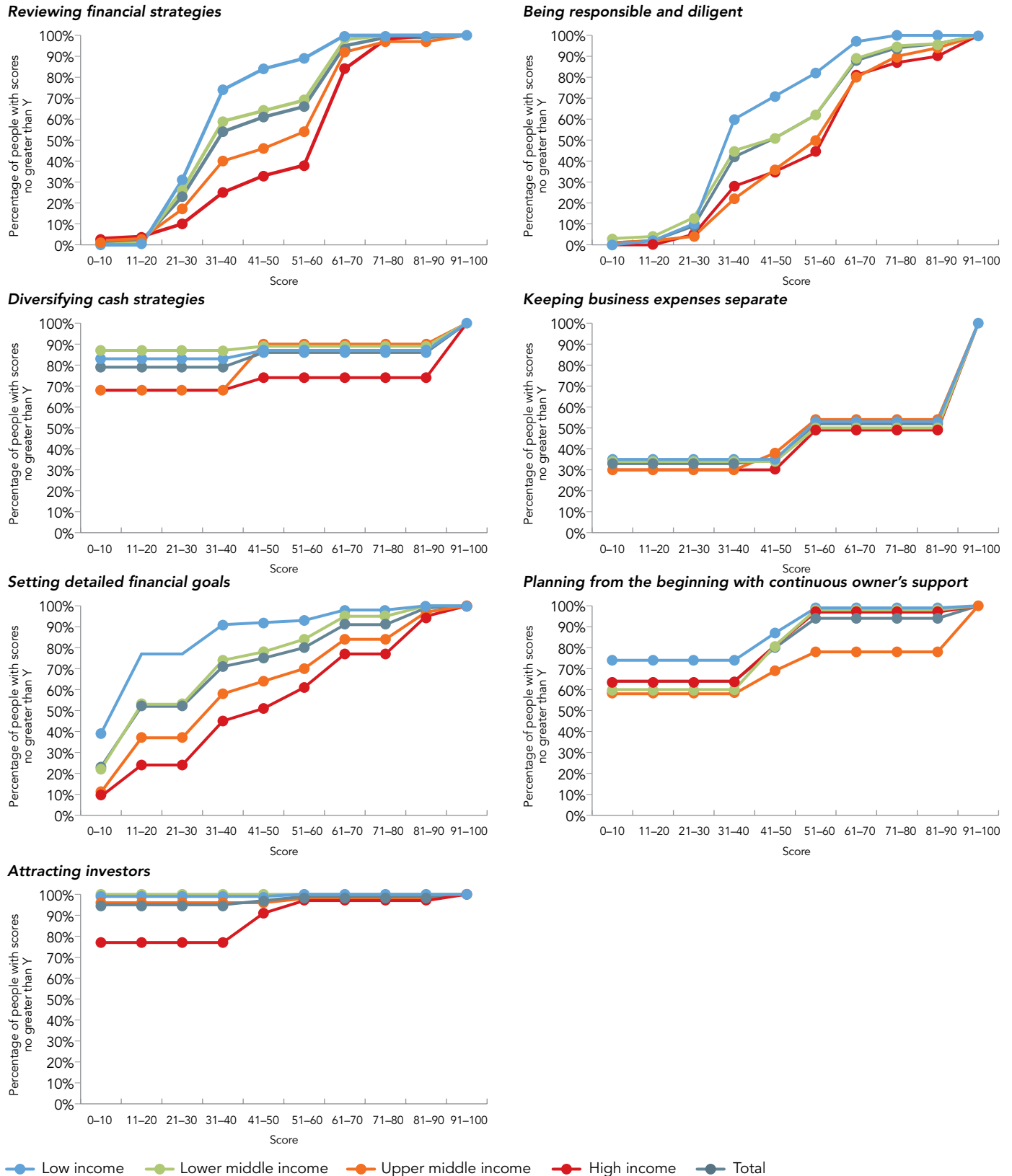
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 5: Cumulative Distribution of Component Scores across Pilot Countries Grouped by Country Income Classification (I)



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 6 Cumulative Distribution of Component Scores across Pilot Countries Grouped by Country Income Classification (II)



Source: WBG SME Financial Capability Survey, 2017.

2.6: SME FINANCIAL CAPABILITY

2.6.1: Defining SME Financial Capability

SME financial capability can be defined as a composite of the knowledge, skills, attitudes, and behaviors of SME owners with respect to the financial management of their businesses. Rather than a single concept, this term encompasses comprehending basic financial knowledge and implementing sound business practices that promote the financial health of the owners' enterprises. As section 2.5.1 outlines, it is important to evaluate whether the main components of SME financial capability can be combined into one domain and defined as a single whole, or divided into several dimensions and defined as a combination of knowledge, skills, attitudes, and behaviors. The second PCA (conducted as detailed in section 2.5.3 and annex D) revealed that it is not possible to group all the components in a single domain with a single score. However, two underlying domains emerged that regrouped diverse attitudes, behaviors, and skills.

Table 7 presents how components are related to one another. The identification of domains was based on the meaning of these relationships for SMEs. More precisely, an SME that "sets and reviews financial goals and strategies," "controls its budget," "analyzes and develops business opportunities," and "tries to attract investors" can be viewed as a *Managerially Inclined Entrepreneur who organizes the activities of the business in a manner that will be understandable by third parties, such as banks or potential financial investors*. On the other hand, an SME that "gets information and financial advice," "controls and keeps cash provisions to ensure its proper operability," and in a responsible manner "keeps its business expenses separated from personal or household expenses" can be perceived as a *Business Creator Entrepreneur who is outward looking, keeps business affairs distinct from personal finances, and keeps his or her eyes set on the cash situation of the enterprise*.

1. Aggregation of financial capabilities core elements

2. Factor analysis: constructing components

3. Factor analysis: constructing domains

*How are SME financial components related?
Is there one single domain?*

TABLE 7: Underlying Financial Domains from Factor Analysis

DOMAIN	COMPONENT ⁷
Managerially Inclined Entrepreneur	Analyzing and developing business opportunities Controlled budgeting Reviewing financial strategies Being responsible and diligent Setting detailed financial goals Attracting investors
Business Creator Entrepreneur	Getting information and advice Controlling and keeping cash provisions Keeping separate business expenses

Source: WBG SME Financial Capability Survey, 2017.

2.6.2: Factors Associated with Higher SME Financial Capability

Regression results and intracategory comparison suggest a significant relationship between financial-capability components and level of sales, type of enterprise, location of enterprise by income level of the country, financial-product awareness, financial knowledge, ownership of transactional accounts, access to finance, years of operation, and a weaker relationship with the main economic activity. Regression analysis was conducted to identify the type of enterprises most strongly associated with high scores for each component. Regression results show differences with the overall fit and the number of significant parameters. (See tables 10, 11, and 12.) In fact, it was possible to identify three sets of components according to their overall fit (measured by the adjusted R² and the number of significant parameters). Table 8 presents these sets in decreasing overall fit order. On the other hand, in terms of explanatory variables, sales level, type of enterprise, income level of the country, financial-product awareness, financial knowledge, and main economic activity were meaningful characteristics leading to higher scores. To observe the differences between these categories of enterprises, figures 7, 8, and 9 illustrate average financial-capability scores. The following paragraphs expose the main deviations between the various categorizations of companies.

- **Sales levels.** This characteristic was significantly associated with “getting information and advice,” “con-

trolled accounting,” “setting detailed financial goals,” “reviewing financial strategies,” and “analyzing and developing business opportunities.” Companies in the highest level of sales achieved higher component scores than those in the lowest level. The most important differences were in terms of “controlled accounting” (82 versus 14), “analyzing and developing business opportunities” (43 versus 15), and “controlled budgeting” (40 versus 12). The balance was positive or almost zero for companies in the lowest segment with regard to “getting information and advice” (55 versus 66) and “planning from the beginning with continuous owner’s support” (22 versus 21).

- **Country income classification.** The location of enterprises was meaningfully related to “controlled accounting,” “controlled budgeting,” “setting detailed financial goals,” “being responsible and diligent,” “reviewing financial strategies,” “analyzing and developing business opportunities,” and “attracting investors.” As confirmed by the regressions and depicted in figure 5 and figure 6, high scores are linked to the wealthiest locations. Financial-capability components that vary most compared to companies located in low-income countries were “controlled accounting” (Δ 57), “setting detailed financial goals” (Δ 36), “analyzing and developing business opportunities” (Δ 27), and “controlled budgeting” (Δ 17). Enterprises in low-income countries score higher than those in high-income countries on “getting information and advice” (Δ 10).

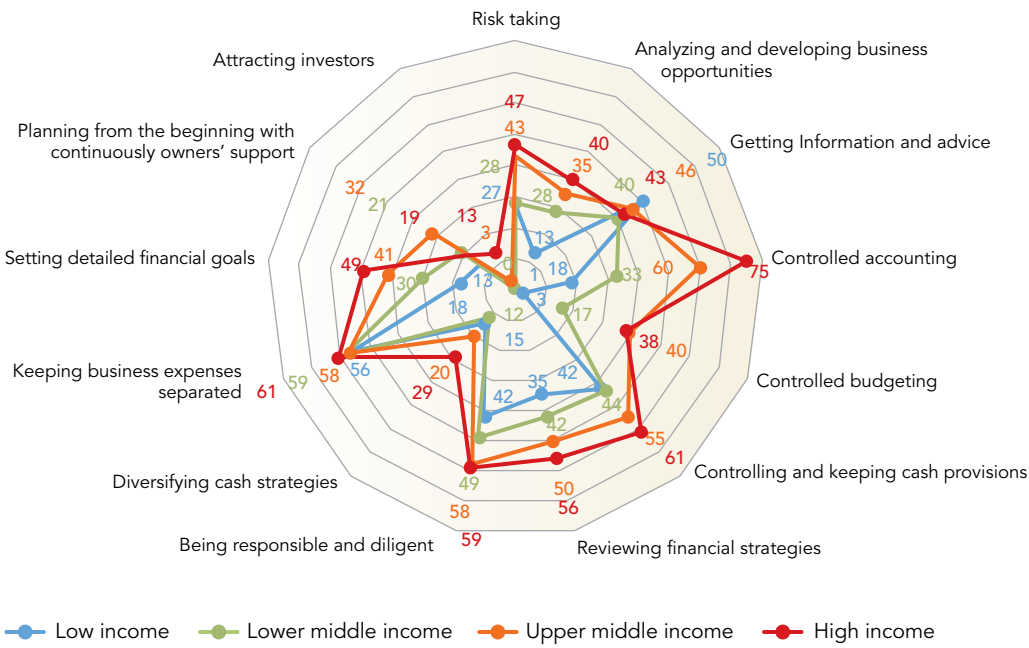
TABLE 8: Set of Components According to Their Overall Fit

SET	R ²	COMPONENTS
A	0.210–0.744	<ul style="list-style-type: none"> • Analyzing and developing business opportunities • Getting information and advice • Controlled accounting • Controlled budgeting • Planning from the beginning with continuous owner’s support
B	0.123–0.179	<ul style="list-style-type: none"> • Risk taking • Reviewing financial strategies • Keeping separate business expenses • Setting detailed financial goals • Attracting investors
C	0.023–0.097	<ul style="list-style-type: none"> • Controlling and keeping cash provisions • Being responsible and diligent • Diversifying cash strategies

Source: WBG SME Financial Capability Survey, 2017.

FIGURE 7: Average Financial-Capability Scores by SME Relevant Characteristic (I)

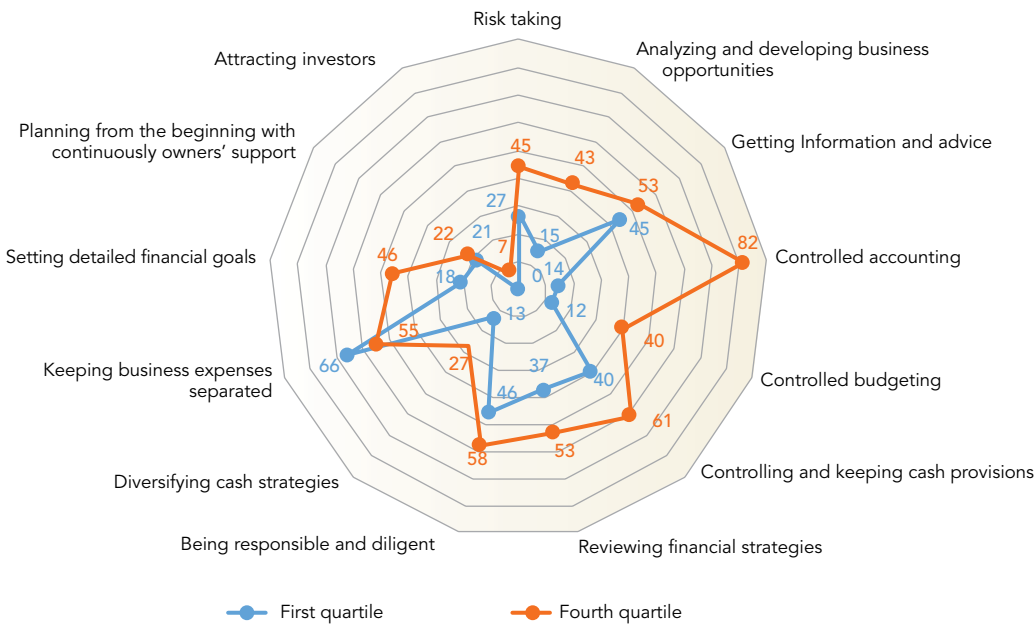
Country income classification



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 8: Average Financial-Capability Scores by SME Relevant Characteristic (II)

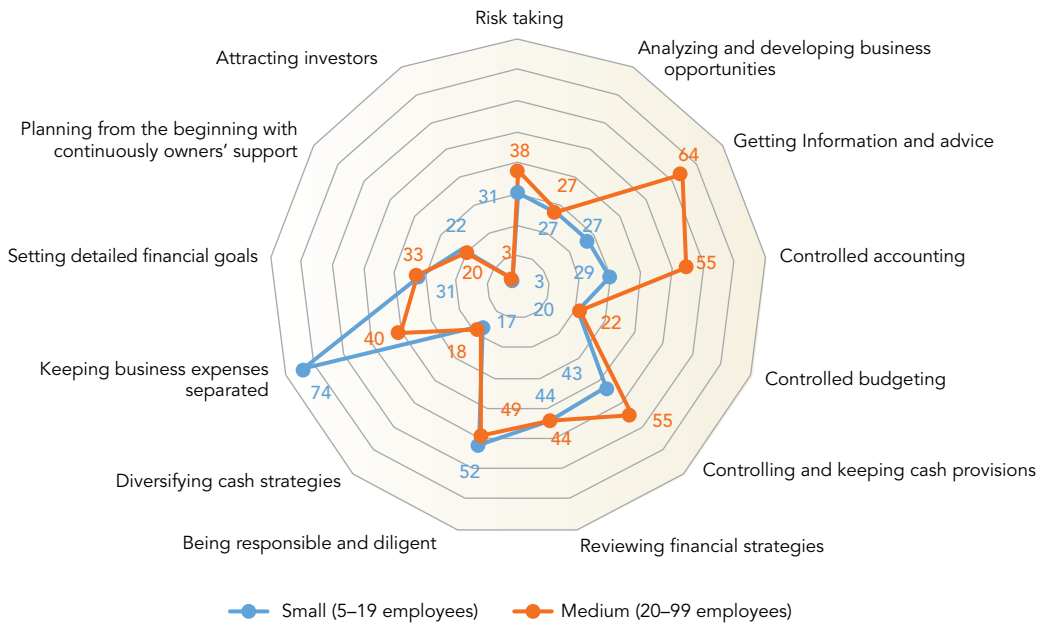
Sales level (first quartile vs. fourth quartile)



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 8, continued

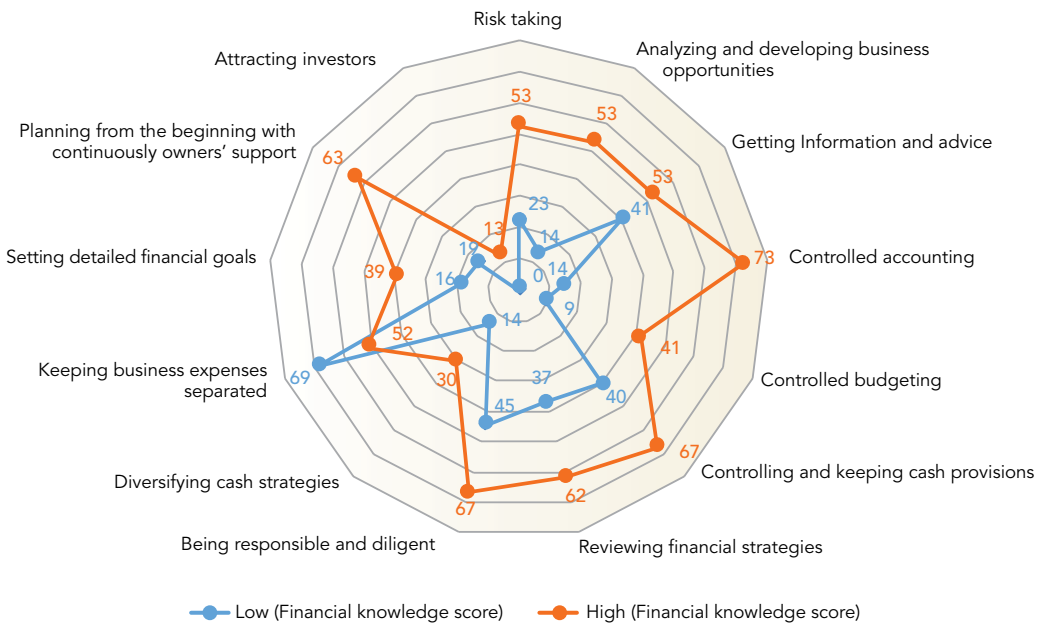
Type of enterprise



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 8, continued

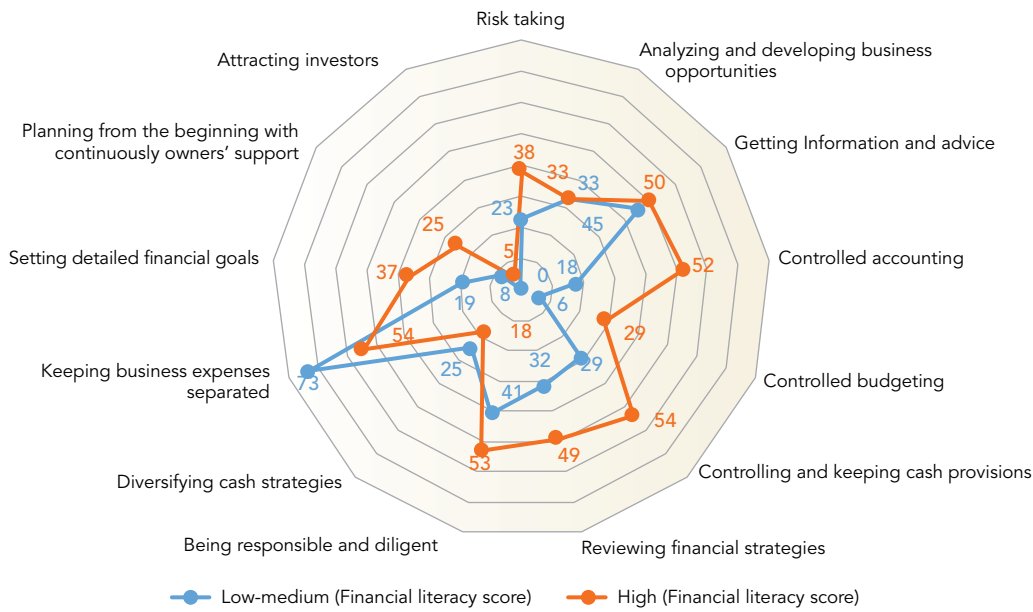
Financial-knowledge score



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 8, continued

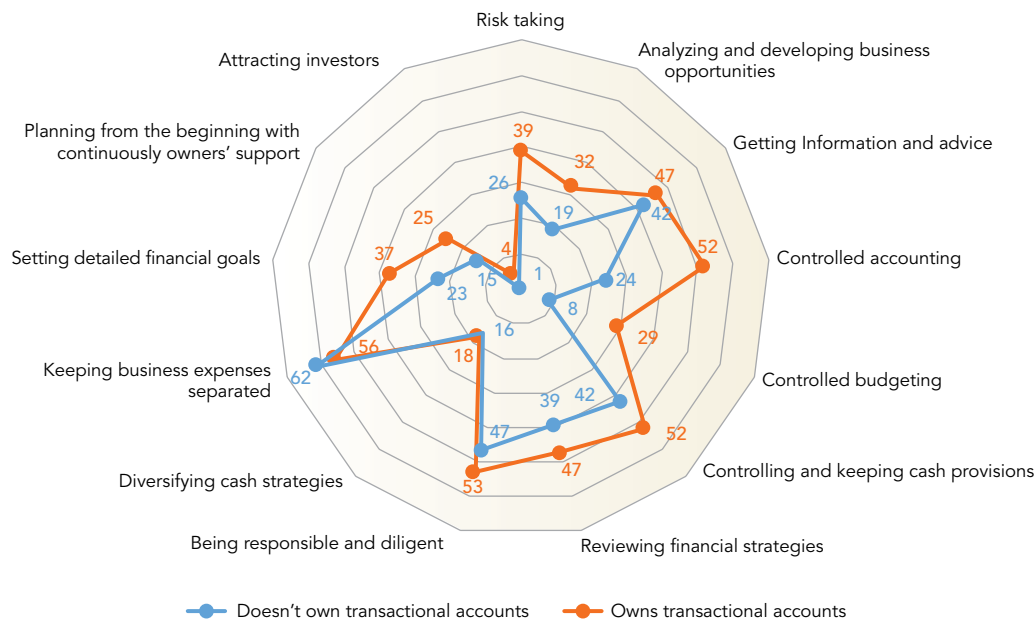
Financial-literacy score



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 9: Average Financial-Capability Scores by SME Relevant Characteristic (III)

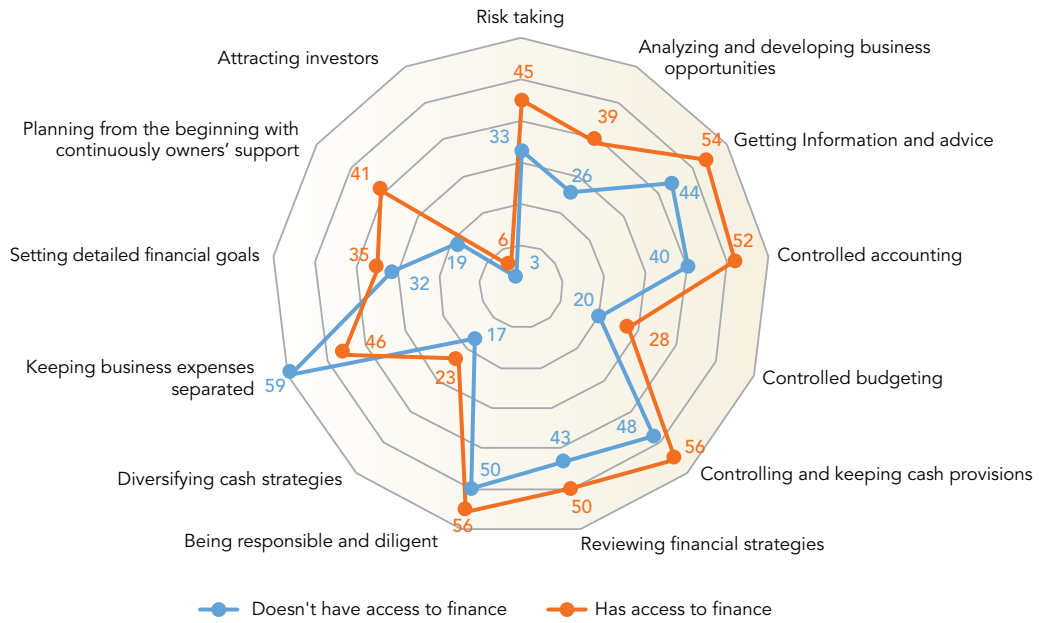
Ownership of transactional accounts



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 9, continued

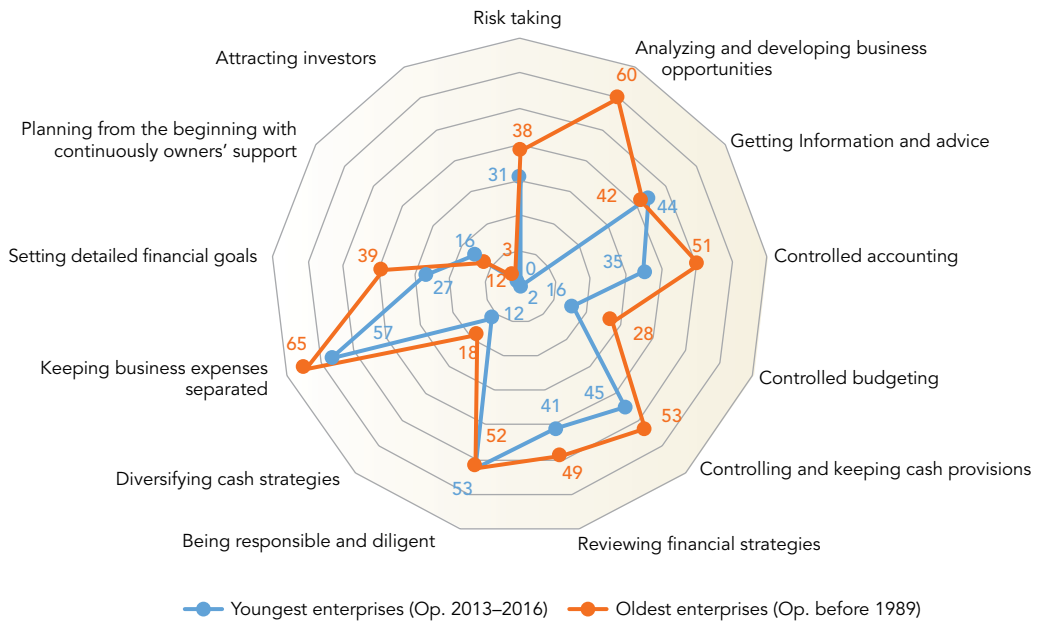
Access to finance



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 9, continued

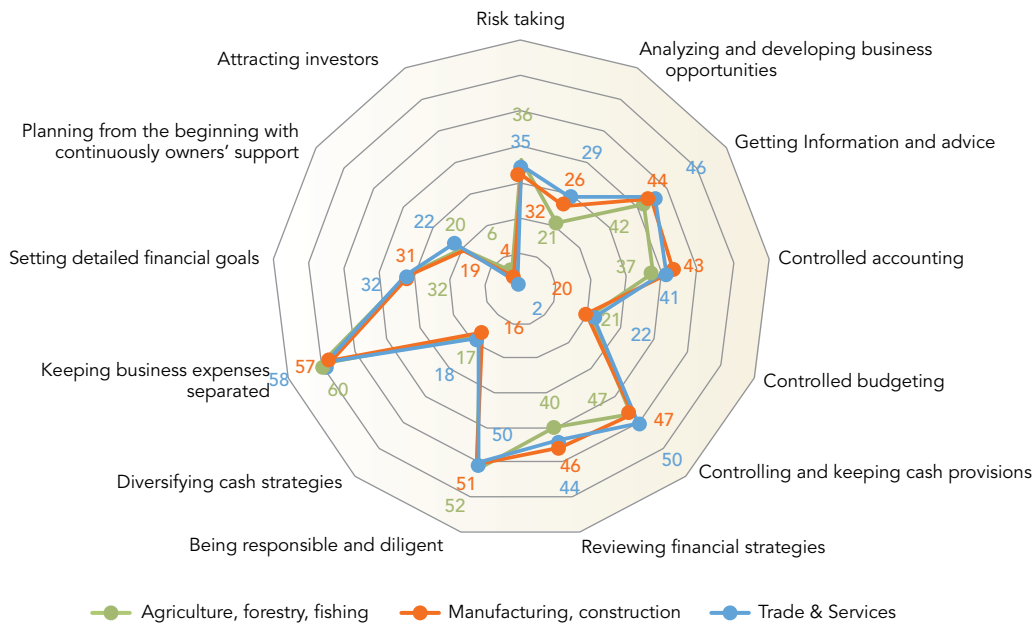
Years of operation



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 9, continued

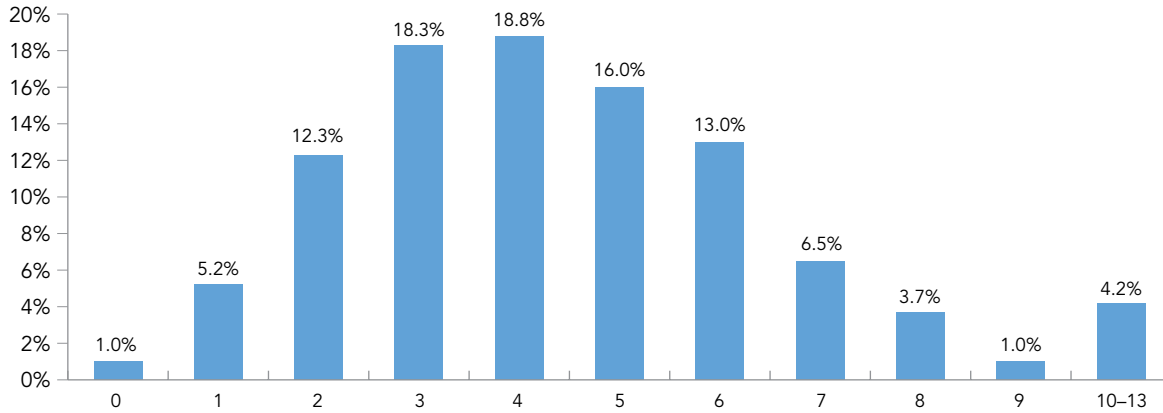
Main economic activity



Source: WBG SME Financial Capability Survey, 2017.

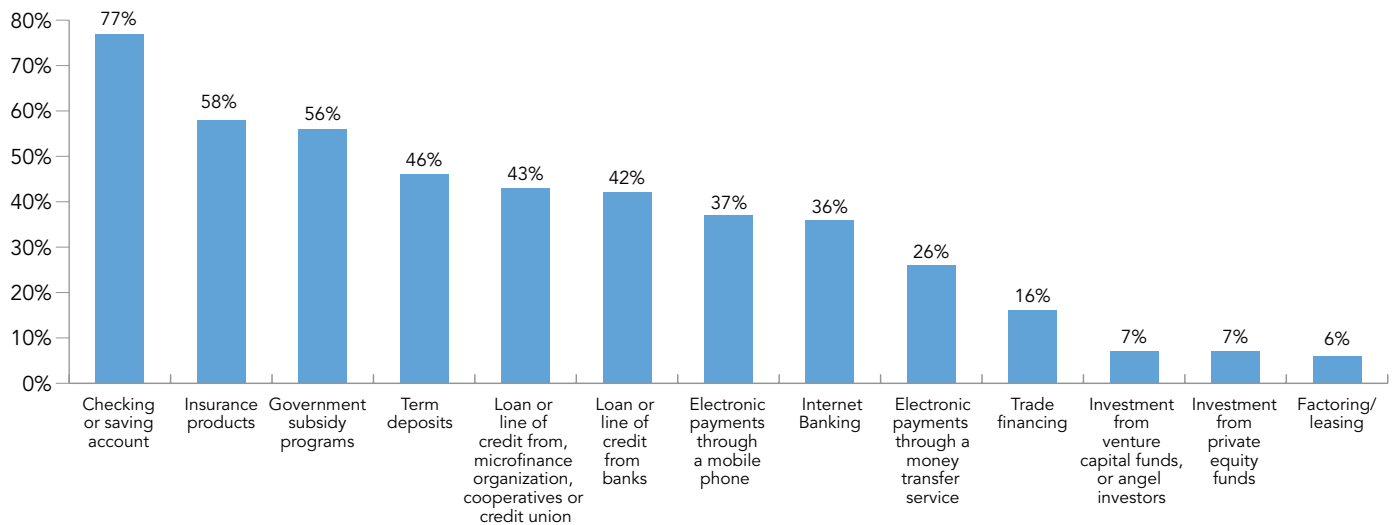
- Type of enterprise.** This characteristic was significantly associated with 9 of 13 capability components. “Controlled accounting,” “diversifying cash strategies,” “controlled budgeting,” “setting detailed financial goals,” and “attracting investors” were the components that did not show a strong correlation with this explanatory variable. Medium-size enterprises showed better results than their small counterparts with regard to average scores. There were small differences (0–7) with “risk taking,” “planning from the beginning with continuous owner’s support,” “setting detailed financial goals,” “controlled budgeting,” “reviewing financial strategies,” and “attracting investors.” However, score variations increased (12–37) when “getting information and advice,” “controlled accounting,” and “controlling and keeping cash provisions” were analyzed. “Keeping separate business expenses” was part of this last group of components, but the difference was in favor of small enterprises.
- Financial-product awareness.** Financial-product knowledge was closely and positively linked to 11 of 13 capability components. In particular, financial-product awareness had little to do with “being responsible and diligent” or “setting detailed financial goals.” The score comparison between enterprises with a high level of awareness of financial products and those with a low level of awareness revealed that the former obtained better results, with deviations from 13 points to 58 points. On the other hand, as described in section 2.3.2, financial-product awareness⁸ is one of the core elements of financial capability. Upon further exploration, the survey results indicate that SME participants are familiar with 4.6 different products (see figure 10), mainly with checking and savings accounts, as can be seen in figure 11. Small enterprises located in low-income and low middle-income countries were furthermore less likely to know about financial products, as figure 12 presents.

FIGURE 10: Distribution of Financial-Product Awareness Scores



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 11: Overview of Financial-Product Awareness by Type of Products



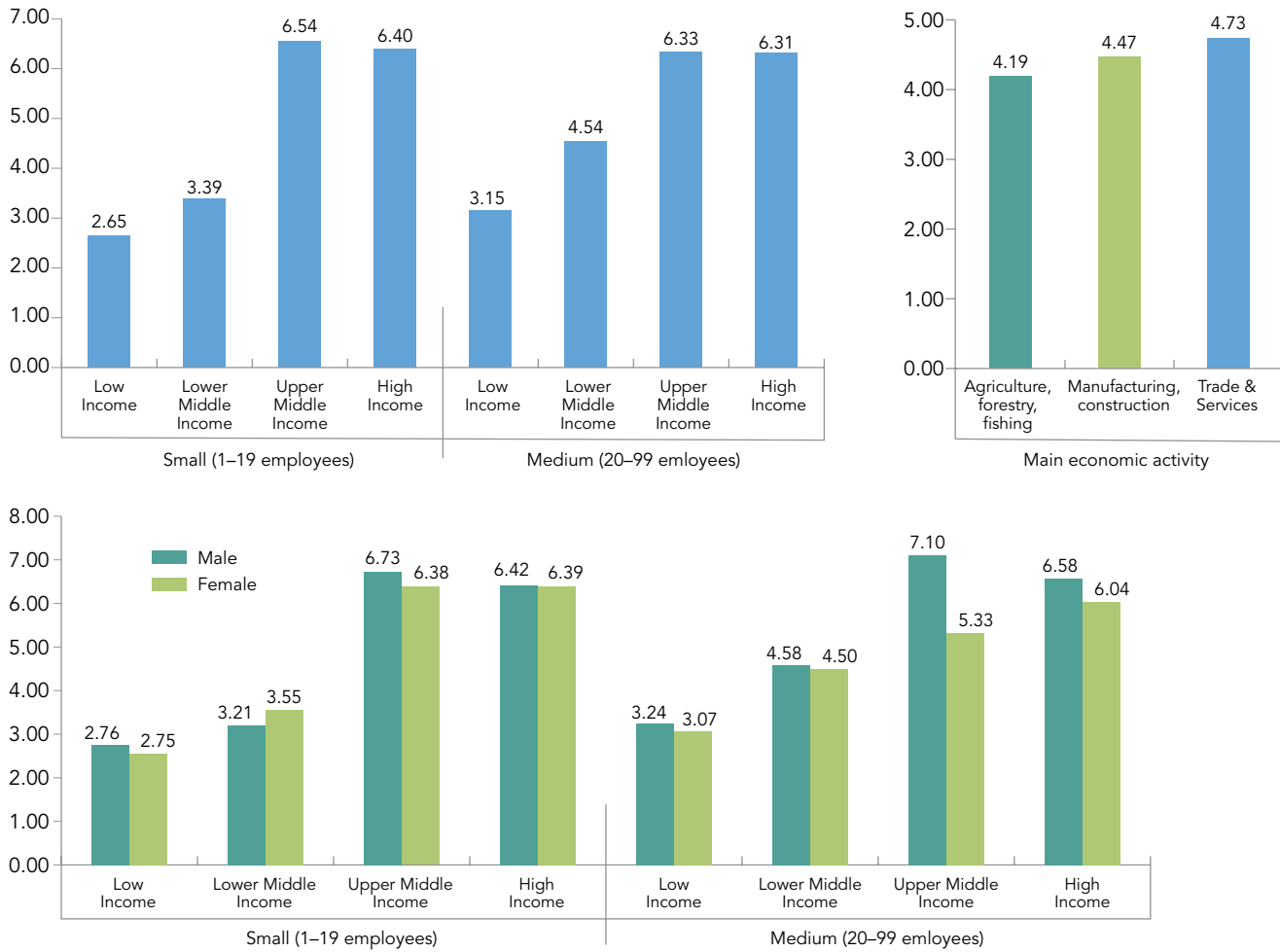
Source: WBG SME Financial Capability Survey, 2017.

- Financial knowledge.** Regression results suggest a relationship between planning components and financial literacy.⁹ (See tables 10, 11, and 12.) In fact, this characteristic is linked to “analyzing and developing business opportunities,” “reviewing financial strategies,” and “planning from the beginning with continuous owner’s support.” Companies that show a low financial-literacy level obtained lower component scores than those that have high financial knowledge. The score deviation between these two groups varied from 4 points to 35 points. The balance was positive or zero for enterprises with a low financial-literacy level regarding “analyzing and developing business opportunities,” “diversifying cash strategies,” and “keeping business expenses separate.” Similar to financial-product awareness, financial knowledge is one part of the

core elements of financial capability. A deeper exploration indicated that SME participants are able to answer 7.6 of 10 questions correctly. (See figure 13.) In particular, more than two-thirds of SMEs were able to perform simple divisions, estimate simple and compound interest, compare bargains, and understand inflation, as can be seen in figure 14. Medium enterprises that have a high level of sales, are managed by men, and are located in upper middle-income and high-income countries were more likely to know about financial concepts, as figure 15 presents.

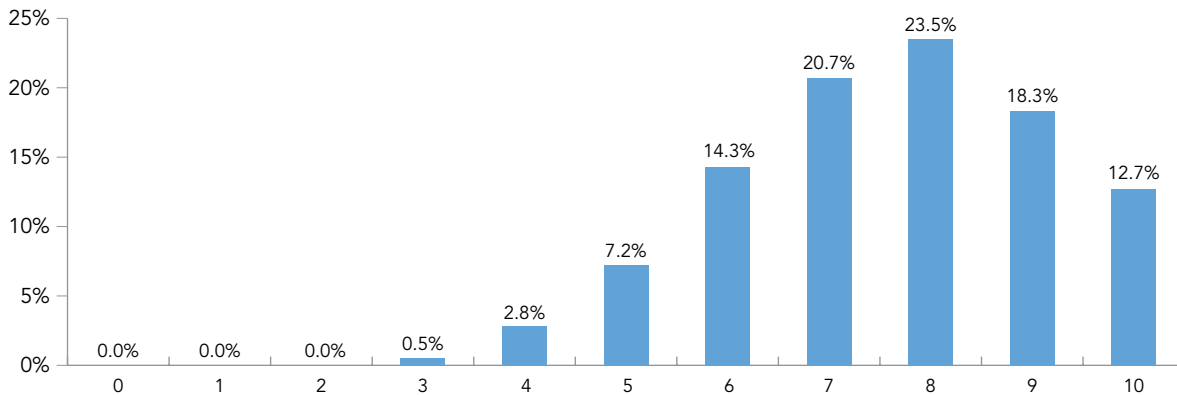
- Main economic activity.** Regression results indicate that the sector where enterprises develop their activities was linked to three capability components: “reviewing financial strategies,” “risk taking,” and

FIGURE 12: Average Financial-Product Knowledge by Type of Enterprise, Country Income Classification, Gender, and Main Economic Activity



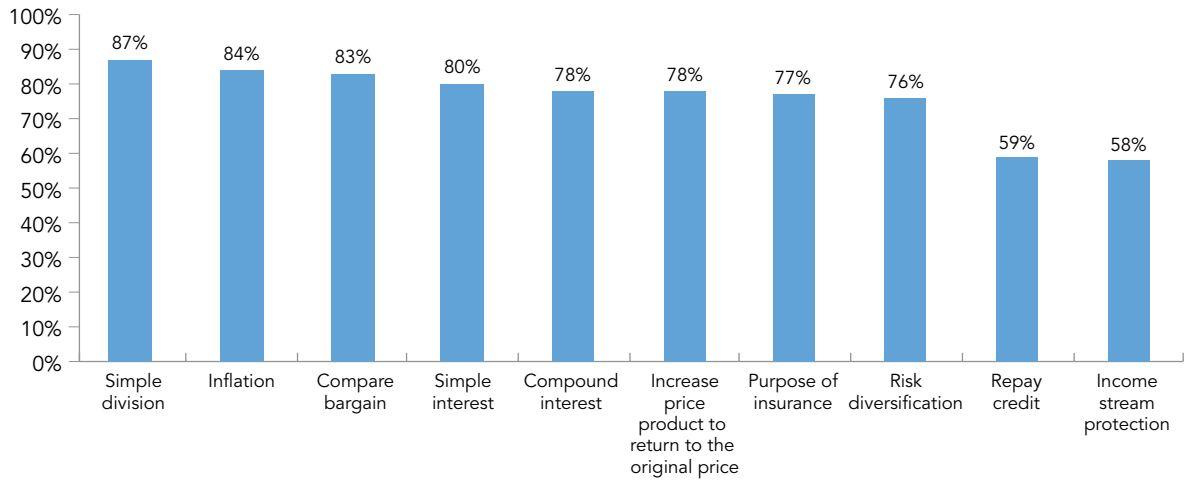
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 13: Financial-Literacy Distribution



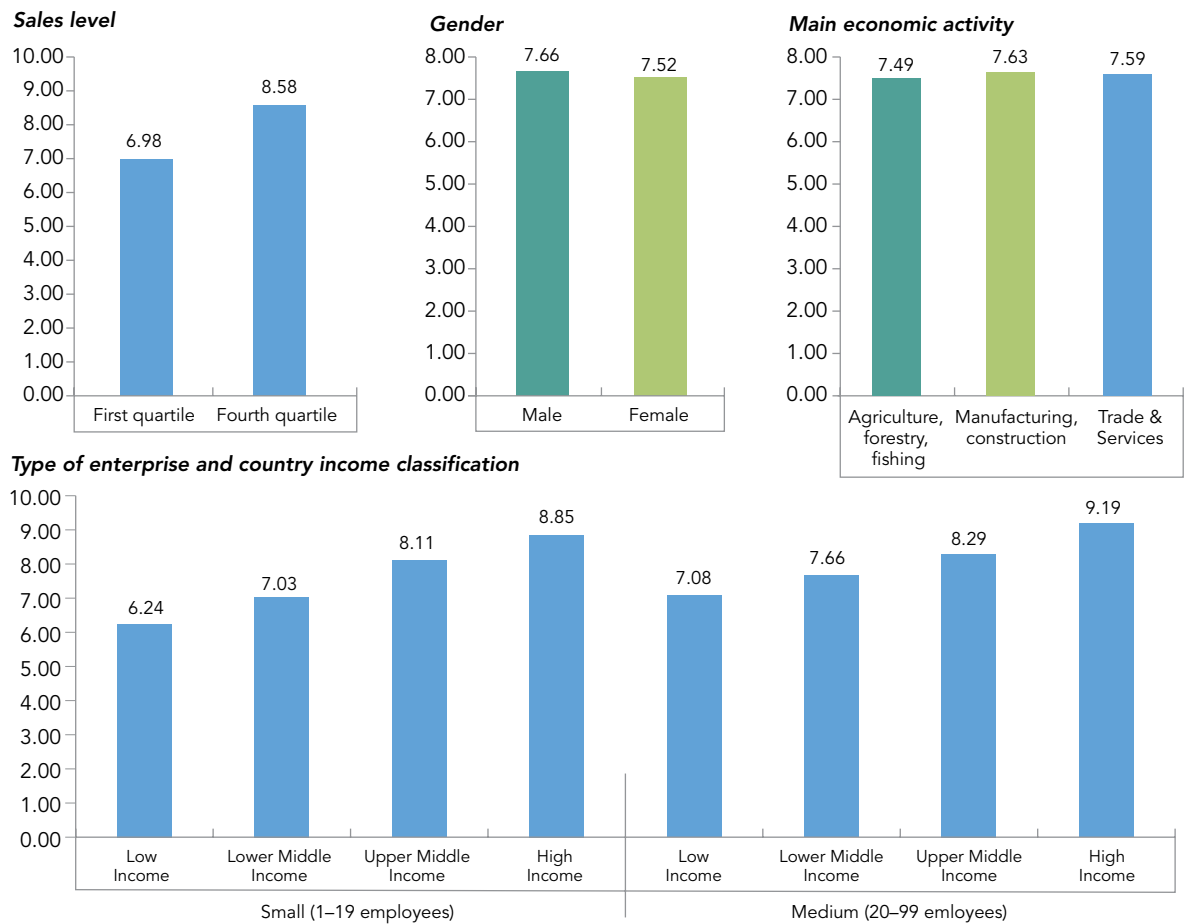
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 14: Financial-Literacy Quiz Overview (Percentage of Correct Answers)



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 15: Average Financial-Literacy Score by Sales Level (First Quartile versus Fourth Quartile), Country Income Classification, Type of Enterprise, and Gender



“attracting investors.” (See tables 10, 11, and 12.) In terms of average scores, the biggest differences were seen with enterprises operating in the trade and services sector and agriculture, fishing, and forestry sector with regard to “analyzing and developing business opportunities” (29 versus 21). Agriculture, fishing, and forestry enterprises scored 37 points on “controlled accounting,” while manufacturing enterprises scored 43 points on this component.

- **Ownership of transactional accounts and access to finance.** Results show important differences in terms of financial capabilities between enterprises with and without transactional accounts. (See figure 9 and tables 10, 11, and 12.) These differences are also pronounced between SMEs that have access to finance¹⁰ and those that don’t have this type of access. As table 9 exposes, enterprises with transactional accounts or companies with access to finance obtain higher average scores for 12 financial capabilities. (“Keeping business and household expenses separate” was the only exception.) In particular, “controlled accounting,” “controlled budgeting,” “setting detailed financial goals,” “risk taking,” and “analyzing and developing business opportunities” are in the top of disparities among

companies with and without transactional accounts. On the other hand, “planning from the beginning with continuous owner’s support,” “risk taking,” “analyzing and developing business opportunities,” “controlled accounting,” and “getting information and advice” are the biggest variations between SMEs with access to finance and those without it.

- **Years of operation.** Results also suggest that number of years in operation matters in terms of financial capabilities. (See figure 9 and tables 10, 11, and 12.) Comparison between the youngest enterprises (3 years and less) and oldest enterprises (27 years of operation or more) indicates that the latter group outperformed their youngest counterparts in 10 financial capabilities. (See table 9.) The most important difference is in terms of “analyzing and developing business opportunities” (Δ 60), followed by “controlled accounting” (Δ 16), “controlled budgeting,” and “setting detailed financial goals” (Δ 12). There is no difference in “being responsible and diligent,” and the youngest companies got better scores with regard to “planning from the beginning with continuous owner’s support” (Δ 4) and “getting information and advice” (Δ 2).

TABLE 9: Differences of Component Scores by Ownership of Transactional Accounts, Financial Access, and Years of Operation

COMPONENT	DIFFERENCES (AVERAGE SCORES)		
	Has transactional accounts vs. doesn't have transactional accounts	Has access to finance vs. doesn't have access to finance	Oldest enterprises vs. youngest enterprises
Controlled accounting	28	11	16
Controlled budgeting	21	7	12
Setting detailed financial goals	14	3	12
Risk taking	13	13	7
Analyzing and developing business opportunities	13	13	60
Planning from the beginning with continuous owner's support	10	23	-4
Controlling and keeping cash provisions	10	8	8
Reviewing financial strategies	8	7	8
Being responsible and diligent	6	6	0
Getting Information and advice	5	10	-2
Attracting investors	4	3	1
Diversifying cash strategies	2	6	6
Keeping separate business expenses	-6	-13	8

Source: WBG SME Financial Capability Survey, 2017.

TABLE 10: Regression Results of Component Scores across Pilot Countries (I)

VARIABLE	RISK TAKING	ANALYZING AND DEVELOPING BUSINESS OPPORTUNITIES	GETTING INFORMATION AND ADVICE	CONTROLLED ACCOUNTING	CONTROLLED BUDGETING
Financial-knowledge score	2.1496 ***	3.3218 ***	1.8161 **	1.7131 ***	1.7658
Financial-literacy score	-0.1463	1.5812 **	0.2931	0.7506	0.8959
Main decision maker is a man	-4.6694 **	2.6508	0.2674	0.3893	2.8462
Small (5–19 employees)	(baseline)				
Medium (20–99 employees)	4.9390 *	-6.7407 ***	42.3579 ***	12.5444 ***	-2.3550
Years of operation	0.0527	1.1471 ***	0.0648	-0.0249	0.0617
Registered	(baseline)				
Not registered	1.5472	2.0533	-1.4062	-0.1526	2.1667
Low-income	(baseline)				
Lower middle-income	-3.4077	-2.6527	-5.6323	5.5341 ***	10.0593
Upper middle-income	4.3880	-7.7262 **	0.8969	16.3774 ***	25.1364
High-income	7.3956	-14.9011 ***	-2.2525	17.2481 ***	18.3771
First quartile	(baseline)				
Second quartile	-3.0499	4.5048	-14.9445 ***	7.2516 ***	-2.5029
Third quartile	4.8799	2.7078	-24.5535 ***	14.6737 ***	-6.9924
Fourth quartile	2.5364	15.9284 ***	-22.1825 ***	42.9304 ***	5.7148
Has formal financial products	2.5233	-2.2640	1.9019	0.7815	4.6823
Own funds or retained earnings	(baseline)				
Borrowed (from financial institutions or government)	-0.2655	-1.3332	4.5343	-1.4364	4.4663
Obtaining goods and services from suppliers	2.0578	-4.3708 *	1.0578	0.4151	2.7186
Agriculture, forestry, fishing	(baseline)				
Manufacturing, construction	-6.9120 **	0.7857	-0.3927	1.4744	-2.6135
Trade and services	-4.6163	3.7088	1.1420	-0.1375	-1.1403
Adj R-squared	0.1359	0.5293	0.2317	0.7444	0.2101

Source: WBG SME Financial Capability Survey, 2017.

TABLE 11: Regression Results of Component Scores across Pilot Countries (II)

VARIABLE	RISK TAKING	ANALYZING AND DEVELOPING BUSINESS OPPORTUNITIES	GETTING INFORMATION AND ADVICE	CONTROLLED ACCOUNTING	CONTROLLED BUDGETING
Financial-knowledge score	1.2074 *	1.2620 ***	0.3266	1.7545 **	-3.9105
Financial-literacy score	1.1012	1.6680 ***	0.3192	-1.3599	-0.5181
Male	-1.2008	0.5930	-0.5087	2.3012	-0.2574
Small (5–19 employees)	(baseline)				
Medium (20–99 employees)	8.6063 **	-3.4643 *	-4.6737 **	-0.4199	-32.2952
Years of operation	0.0075	0.0271	-0.0641	-0.0440	0.1461
Registered	(baseline)				
Not registered	-0.1591	2.2971	-3.2279	-4.4590	3.8028
Low-income					
Lower middle-income	-2.8643	3.3365	5.7168 **	-2.5167	6.1670
Upper middle-income	3.2124	6.3494 **	11.2530 ***	1.8659	12.0113
High-income	5.5515	10.0175 **	9.8452 **	8.5283	12.5736
First quartile	(baseline)				
Second quartile	1.5286	3.7017	2.4666	1.9870	0.4750
Third quartile	4.3181	4.5226 *	3.9080	1.6582	-3.7345
Fourth quartile	7.3343	6.7427 *	7.7833 **	9.0640	8.4922
Has formal financial products	0.5096	-2.1131	-0.5620	-6.1901 *	-0.5673
Own funds or retained earnings	(baseline)				
Borrowed (from financial institutions or government)	2.9974	1.0358	-0.5710	2.1681	-4.8184
Obtaining goods and services From suppliers	-1.6268	-0.5185	-3.5299	2.3861	0.5185
Agriculture, forestry, fishing	(baseline)				
Manufacturing, construction	-1.7554	5.4204 **	-1.8534	-0.7009	-0.8186
Trade and services	1.2964	3.0054	-2.4495	0.9438	1.2171
Adj R-squared	0.0643	0.1653	0.0975	0.0237	0.1658

Source: WBG SME Financial Capability Survey, 2017.

TABLE 12: Regression Results of Component Scores across Pilot Countries (III)

VARIABLE	SETTING DETAILED FINANCIAL GOALS	PLANNING FROM THE BEGINNING WITH CONTINUOUS OWNER'S SUPPORT	ATTRACTING INVESTORS
Financial-knowledge score	0.0493	6.0481 ***	0.6495**
Financial-literacy score	0.4908	1.6171 *	0.0799
Male	2.2192	3.5338	-0.1628
Small (5–19 employees)	(baseline)		
Medium (20–99 employees)	-3.8638	-5.6106 **	0.1609
Years of operation	0.0381	-0.1956 ***	-0.0341
Registered	(baseline)		
Not registered	4.5879	-1.6378	-0.1650
Low-income			
Lower middle-income	7.6883 ***	0.8163	-1.2747
Upper middle-income	14.2485 ***	-5.0910	-0.1776
High-income	19.4896 ***	-16.1574 ***	10.9276***
First quartile	(baseline)		
Second quartile	0.6532	3.9396	1.5155
Third quartile	10.2833 ***	4.7407	3.1682*
Fourth quartile	12.4185 ***	0.3981	-0.2291
Has formal financial products	1.1699	0.6556	-0.1713
Own funds or retained earnings	(baseline)		
Borrowed (from financial institutions or government)	-0.0971	2.6491	-1.9191
Obtaining goods and services from suppliers	2.8123	-0.7744	-2.2486
Agriculture, forestry, fishing	(baseline)		
Manufacturing, construction	-2.3164	-1.2818	-1.9268
Trade and services	-1.0615	0.0989	-3.8789**
Adj R-squared	0.1797	0.2350	0.1235

Source: WBG SME Financial Capability Survey, 2017.

2.6.3: Identifying SMEs to Target

Enterprise segmentation identified five groups of pilot participants in terms of financial-capability components. As section 2.5.1 explains, to complete the evaluation of SME financial capability, a cluster analysis was used to segment the pilot population according to the range of 13 component scores. (See section 2.5.3.) As a result of this process, five groups of enterprises were identified. It was not possible to conclude whether one cluster of companies was overall more capable than another. However, on average, companies in one cluster were more financially capable in one (or more) component than enterprises in another cluster. Table 13 shows the average characteristic of companies that belong to each cluster. The following paragraphs present differences across the five groups.

1. Aggregation of financial capabilities core elements

2. Factor analysis: constructing components

3. Factor analysis: constructing domains

4. Cluster analysis: identifying vulnerable groups

*Can groups of enterprises be identified based on financial capability relationships?
Are there vulnerable groups?*

TABLE 13: Average Characteristic of the Clusters

VARIABLE	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5	TOTAL
Risk taking	30.37	34.83	43.57	30.77	36.87	33.89
Analyzing and developing business opportunities	25.86	23.79	49.70	18.79	27.42	27.07
Getting information and advice	0.39	83.80	78.13	56.87	44.40	44.79
Controlled accounting	34.25	35.00	63.64	37.19	49.87	41.36
Controlled budgeting	23.34	0.46	73.48	2.53	23.77	21.03
Controlling and keeping cash provisions	43.68	41.83	56.76	52.54	51.85	48.62
Reviewing financial strategies	44.92	39.87	52.59	42.14	42.72	44.07
Being responsible and diligent	51.31	48.26	59.67	45.97	51.85	50.64
Diversifying cash strategies	0.50	2.91	14.05	1.19	94.16	17.33
Keeping separate business expenses	83.51	95.85	44.21	11.06	58.78	58.03
Setting detailed financial goals	31.53	27.04	41.52	27.60	36.41	31.88
Planning from the beginning with continuous owner's support	17.84	20.73	44.80	14.65	17.27	20.90
Attracting investors	2.75	0.52	6.41	2.26	4.33	3.00
Financial-knowledge score	4.05	4.03	7.50	4.07	4.44	4.56
Financial-literacy score	7.43	7.32	8.72	7.37	7.58	7.59
Main decision maker is a man	0.46	0.50	0.56	0.46	0.51	0.49
Financial decisions are made by the main decision maker (alone)	1.00	0.00	0.29	0.32	0.47	0.50
Medium (20–99 employees)	0.16	0.52	0.58	0.71	0.54	0.47
Registered	0.85	0.82	0.88	0.82	0.90	0.85
Low-income	0.24	0.41	0.03	0.43	0.26	0.29
Lower middle-income	0.39	0.34	0.22	0.37	0.26	0.33
Upper middle-income	0.20	0.16	0.54	0.12	0.15	0.21
High-income	0.17	0.09	0.22	0.08	0.33	0.17
First quartile	0.26	0.38	0.19	0.25	0.15	0.25
Second quartile	0.29	0.24	0.12	0.27	0.24	0.25
Third quartile	0.26	0.18	0.19	0.33	0.20	0.25
Fourth quartile	0.19	0.19	0.50	0.14	0.41	0.25

continued

TABLE 13, *continued*

VARIABLE	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5	TOTAL
Has formal financial products	0.58	0.56	0.94	0.55	0.60	0.62
Own funds or retained earnings	0.60	0.49	0.62	0.48	0.46	0.54
Borrowed (from financial institutions or government)	0.20	0.29	0.26	0.37	0.32	0.28
Obtaining goods and services from suppliers	0.19	0.22	0.13	0.15	0.22	0.18
Agriculture, forestry, fishing	0.10	0.15	0.10	0.12	0.14	0.12
Manufacturing, construction	0.39	0.36	0.38	0.41	0.38	0.39
Trade and services	0.51	0.49	0.51	0.46	0.48	0.49
Years of operation	18.32	18.06	22.40	14.58	19.71	18.07
Oldest enterprises (Op. before 1989)	0.29	0.21	0.32	0.16	0.30	0.25
Old enterprises (Op. 1989–2005)	0.21	0.28	0.29	0.29	0.19	0.25
Young enterprises (Op. 2006–12)	0.25	0.29	0.29	0.24	0.35	0.28
Youngest enterprises (Op. 2013–16)	0.25	0.22	0.09	0.30	0.15	0.22
Number of observations	182	94	78	153	93	600

Source: WBG SME Financial Capability Survey, 2017.

The group of noninformed and nondiversified companies (cluster 1). Companies in this cluster had the lowest scores on “getting information and advice” and “diversifying cash strategies.” In particular, this cluster never received a top score across the 13 components. However, it achieved the second highest score in terms of “keeping business expenses separate” and “reviewing financial strategies.” This group was mostly composed of small enterprises (84 percent) for which the main decision maker was a woman (54 percent) who decided alone. Fifty-five percent of this group’s enterprises belong in the first quartile (26 percent) or second quartile of sales (29 percent). Around 63 percent of them were located in low-income (24 percent) or lower middle-income countries.

The group of informed companies that keep business expenses separate (cluster 2). Companies in this cluster had the best scores on “keeping business expenses separate” and “getting information and advice.” However, their most significant weaknesses were associated with “controlled budgeting,” “attracting investors,” and “diversifying cash strategies.” Slightly more than half of companies that composed this group were of medium size (52 percent). Men or women who do not make decisions alone equally manage these companies. More than three-quarters of this group were located in low-income (41 percent) or lower middle-income countries (34 percent). Slightly less than two-thirds were enterprises in the low segments of sales: 38 percent were in the first quartile, and 24 percent were in the second quartile.

The group of enterprises with the highest average scores are very financially capable (cluster 3). Enterprises in this

cluster showed far higher scores for “controlled budgeting,” “controlled accounting,” “analyzing and developing business opportunities,” “planning from the beginning with continuous owner’s support,” “risk taking,” and “attracting investors.” They have a high level of financial-product awareness (on average 7.5), a high financial-literacy score (on average 8.72), and a high level of financial inclusion (94 percent). They are also mainly medium-size companies (around 60 percent). Almost two-thirds finance their operations mainly with their own funds (or retained earnings). Around 80 percent of this cluster belongs to the third or fourth quartile in terms of sales, and more than two-thirds were located in upper middle-income or high-income countries. This group also showcased the oldest enterprises, on average having 22 years of operation.

Companies in cluster 4 keep cash provisions but do not keep business expenses separate (cluster 4). Companies in this cluster had one of the best average scores on “controlling and keeping cash provisions,” but they showed the worst results with regard to “keeping business expenses separate.” “Controlled budgeting” and “diversifying cash strategies” are areas that need improvement for companies in cluster 4. This group was composed mainly of medium-size enterprises (71 percent) that are financially managed by women (54 percent) who prefer to make joint decisions. Only 20 percent of the companies are situated in upper middle-income or high-income countries, and less than half belong to the fourth or third quartile with regard to sales. This group was also characterized by having the lowest enterprise maturity, on average 14 years of operation.

The group that diversifies cash strategies (cluster 5). Companies in the fifth cluster scored the best average result on “diversifying cash strategies.” While this group had a score close to 95, other clusters achieved less than 15 points on this component. Companies belonging to cluster 5 also had the second-highest score on “attracting investors,” after cluster 3. In general, this group’s average results for the remaining components were very close to the general average. Fifty-four percent of enterprises that composed this group are of medium size. They had the second-highest level of financial inclusion (after those in cluster 3), use comparatively more options for borrowing (from financial institutions or the government), and obtain goods and services from suppliers as the main source of financing. Around 41 percent of cluster 5 companies are in the highest quartile, and another 20 percent are in the third quartile in terms of sales. They are financially managed by women (54 percent) who prefer to make joint decisions. Slightly less than half of these establishments are situated in upper middle-income (15 percent) or high-income (33 percent) countries. The enterprise maturity is also high, with an average of 19 years of operation.

The characterization of groups suggests that small enterprises, companies established in the non-wealthiest locations, and companies with low levels of sales are more vulnerable in terms of financial capability than medium-size companies that have a high level of sales and are located in the wealthiest countries. The overview of cluster characteristics, previously described, point toward three main categorizations: type of enterprise, level of sales, and location in terms of welfare. More precisely, the analysis reveals that small companies that have low levels of sales and are located in the non-wealthiest countries tend to show comparatively fewer strengths. These results suggest that they should be targeted in the World Bank Group’s future strategies and interventions to increase SME financial capability.

2.7: FINALIZATION OF THE QUESTIONNAIRE

Discrepancies between declared knowledge and actual knowledge suggested that the survey questionnaire originally used could be improved. As section 2.2.3 mentions, the main objective of the Financial Capability Survey of SMEs was to capture attitudes, behaviors, skills, and knowledge to determine what financial capability means for small and medium-size enterprises. (Sections 2.5.3, 2.6.1, 2.6.2, and 2.6.3 answered this question.)

Parallel to analyzing financial capability, the second objective of the survey was to test the developed instrument. Each participant rated the clarity, ease, and relevance of the questions at the end of each section of the questionnaire. In general, enterprises understood the questionnaire and qualified it as relevant, and most did not find problematic questions that needed rephrasing. Data analysis, however, suggested that the questionnaire could be refined to improve how actual financial knowledge was captured. To understand this topic, tables 14, 15, 16, and 17 and figure 16 contrast “declared knowledge” versus “measured knowledge.”

Respondents self-declare candidly their lack of financial knowledge when they see in the questionnaire that they are going to be queried about that knowledge. In effect, all the respondents who declared having little financial knowledge responded “Don’t know” to all questions that required specific definitions be given to the terms assets, liabilities, or profits. (See tables 14, 15, and 16.) This shows the willingness of respondents to admit their lack of knowledge to avoid having to provide obviously incorrect answers and be caught in a lie. This is also generally true of respondents who declared having expert or advanced knowledge, even if in the latter cases their specific answers to knowledge tests are better classification indicators than their self-declarations.

Multiple-choice questions were furthermore created using answers provided by respondents who declared having expert or advanced knowledge. Indeed, when self-declared expert or advanced respondents gave definitions of financial concepts in open-ended questions, their answers tended to be more or less the same as those shown in table 14, allowing the creation of accurate multiple-choice answers to knowledge questions, and thus improving the efficacy of the questionnaire during implementation.

The following lessons on questionnaire design were drawn from these observations: (i) Self-declared knowledge should always be accompanied with effective tests of knowledge, because it invites candid answers from all participants. (ii) Respondents who self-declare little knowledge should not be queried further on their lack of knowledge. (iii) Differentiating between respondents’ knowledge levels requires the administration of specific knowledge questions. (iv) The formulation of choices (right and wrong answers) should take the form of multiple choices, and the choices should be extracted from answers provided by respondents in the pilot survey.

In addition, table 17 presents the assessment of risk against the definition of risk. Figure 16 shows respondents' understanding of financial products versus quiz results about financial concepts, as viewed the following ways: (i) declared knowledge about investment versus inflation; (ii) declared knowledge of products associated with interest (investments, term deposits, loans, or leasing) versus simple interest; (iii) declared knowledge of

products associated with interest (investments, term deposits, loans, or leasing) versus compound interest; (iv) declared knowledge about insurance versus purpose of insurance; and (v) declared knowledge about loans versus repay credit.

The reformulated final version of the questionnaire that considers these results is presented in annex E.

TABLE 14: Description of Accounting Understanding versus Definitions

TOPIC	DEFINITION	Description of understanding about accounting concepts, including assets, liabilities, and profit				
		LITTLE	BASIC	ADVANCED	EXPERT	TOTAL
What does "assets" mean to you?	Don't know	100%	10%	1%		29%
	All utilization of funds that we have		0%	11%	10%	5%
	Buildings and machines		1%			0.3%
	Cash		0.5%	3%		1%
	Elements used for production of our services			1%		1%
	Equipment and other durable goods owned			12%	10%	5%
	Everything on the left-hand side of the balance sheet			1%	3%	1%
	Inventories		2%			1%
	Inventory and cash, plus equipment, plus receivables			6%	15%	3%
	Investments			4%		2%
	Machinery and fixed stocks			1%		1%
	Machines and computers		0.5%			0.2%
	Money			7%		2%
	Money and cash			1%		1%
	Profits			3%		1%
What is owned by the firm			85%	47%	63%	50%
What does "liabilities" mean to you?	Don't know	100%	10%			28%
	Debt		3%	2%		2%
	Money owed to employees and others		8%	1%	3%	3%
	Money owed to suppliers		5%			2%
	Obligations			6%	18%	3%
	Owed to other persons		3%			1%
	Sources of funds				3%	0.2%
	What is owed by the firm			71%	90%	78%

TABLE 14, continued

TOPIC	DEFINITION	Description of understanding about accounting concepts, including assets, liabilities, and profit				
		LITTLE	BASIC	ADVANCED	EXPERT	TOTAL
What does "profits" mean to you?	Don't know	100%	2%	2%		26%
	Cash		2%			1%
	Cash plus money from clients still to come		6%			2%
	Cash available		4%			2%
	Excess cash		7%			2%
	Good sales		0.5%			0.2%
	Left for investing		3%			1%
	Market price increases			1%		1%
	Money for next cycle of acquisitions		9%	1%		3%
	Money left after the year		9%			3%
Revenue minus expenses		57%	96%	100%	59%	

Source: WBG SME Financial Capability Survey, 2017.

TABLE 15: Number of Correct Definitions (Accounting) versus Description of Accounting Understanding by Country Income Classification (I)

TYPE OF ENTERPRISE	NUMBER OF CORRECT DEFINITIONS	COUNTRY INCOME CLASSIFICATION											
		HIGH-INCOME				UPPER MIDDLE-INCOME				LOWER MIDDLE-INCOME			
		Description of understanding about accounting concepts, including assets, liabilities, and profit											
		Little	Basic	Advanced	Expert	Little	Basic	Advanced	Expert	Little	Basic	Advanced	Expert
Small (1–19 employees)	None	100%	38%	0%	0%	100%	19%	0%	0%	100%	0%	0%	0%
	1 of 3	0%	0%	9%	0%	0%	19%	14%	0%	0%	18%	0%	0%
	2 of 3	0%	38%	22%	9%	0%	44%	62%	33%	0%	51%	39%	33%
	3 of 3	0%	23%	70%	91%	0%	19%	24%	67%	0%	31%	61%	67%
Medium (20–99 employees)	None	100%	21%	0%	0%	100%	29%	0%	0%	100%	0%	0%	0%
	1 of 3	0%	0%	11%	0%	0%	6%	9%	0%	0%	10%	0%	0%
	2 of 3	0%	57%	26%	36%	0%	35%	57%	60%	0%	69%	44%	50%
	3 of 3	0%	21%	63%	64%	0%	29%	35%	40%	0%	21%	56%	50%
Total	None	100%	30%	0%	0%	100%	23%	0%	0%	100%	0%	0%	0%
	1 of 3	0%	0%	10%	0%	0%	14%	12%	0%	0%	15%	0%	0%
	2 of 3	0%	48%	24%	23%	0%	41%	60%	50%	0%	59%	42%	44%
	3 of 3	0%	22%	67%	77%	0%	23%	29%	50%	0%	26%	58%	56%

Source: WBG SME Financial Capability Survey, 2017.

TABLE 16: Number of Correct Definitions (Accounting) versus Description of Accounting Understanding by Country Income Classification (II)

TYPE OF ENTERPRISE	NUMBER OF CORRECT DEFINITIONS	COUNTRY INCOME CLASSIFICATION							
		LOW-INCOME				TOTAL			
		Description of understanding about accounting concepts, including assets, liabilities, and profit							
		Little	Basic	Advanced	Expert	Little	Basic	Advanced	Expert
Small (1–19 employees)	None	100%	0%	0%	N.A	100%	9%	0%	0%
	1 of 3	0%	0%	0%	N.A	0%	11%	6%	0%
	2 of 3	0%	34%	33%	N.A	0%	43%	40%	18%
	3 of 3	0%	66%	67%	N.A	0%	38%	54%	82%
Medium (20–99 employees)	None	100%	0%	0%	0%	100%	9%	0%	0%
	1 of 3	0%	0%	0%	0%	0%	4%	4%	0%
	2 of 3	0%	25%	28%	0%	0%	46%	41%	43%
	3 of 3	0%	75%	72%	100%	0%	41%	55%	57%
Total	None	100%	0%	0%	0%	100%	9%	0%	0%
	1 of 3	0%	0%	0%	0%	0%	8%	5%	0%
	2 of 3	0%	30%	31%	0%	0%	44%	40%	33%
	3 of 3	0%	70%	69%	100%	0%	39%	55%	68%

Source: WBG SME Financial Capability Survey, 2017.

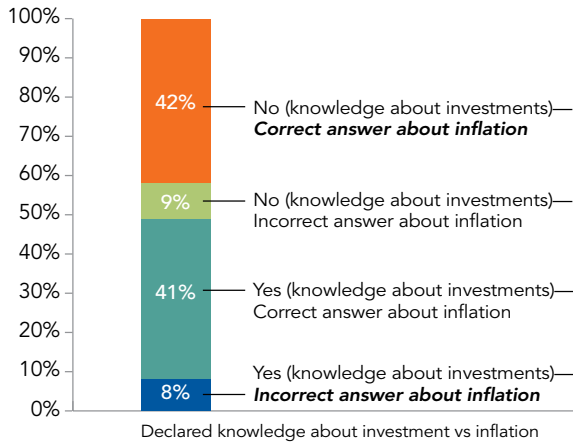
TABLE 17: Risk Assessment versus Risk Meaning

TOPIC	DEFINITION	RISK ASSESSMENT					
		Yes	No, there is no need	No, I do not know how to do it	No, I do not know whom I should turn to for help	No, it is too expensive	No, it is too time-consuming
What does risk mean to you?	Change in client ownership			1%	1%		
	Ebola coming back	1%	13%	9%	3%	8%	22%
	Fluctuating income and fixed costs	4%	4%	5%	5%	10%	11%
	Insolvency of clients	2%	2%	1%	2%	3%	
	Losing clients unexpectedly	5%		2%	1%	2%	
	Losing everything		2%				
	New competitors	2%	6%	5%	3%	3%	
	Not being able to adjust cost	1%					
	Political uncertainty			1%	1%	3%	
	Political uncertainty with trading partners			1%			
	To be nonviable	66%		4%	26%	5%	
	Uncertain income	1%		3%	2%		11%
	Uncertainty	18%	73%	68%	56%	66%	56%
Unexpected taxes and other regulation			1%		2%		

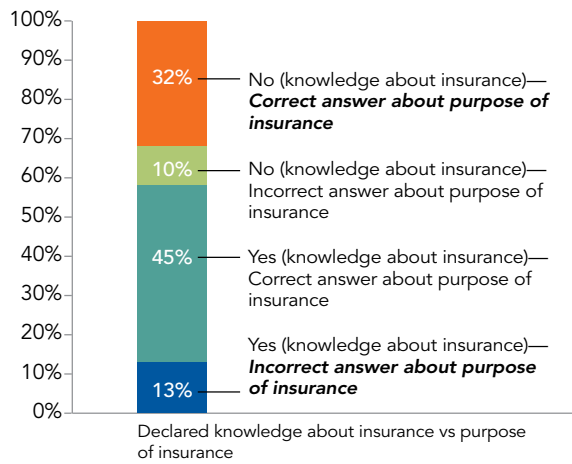
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 16: Understanding of Financial Products versus Financial Concepts

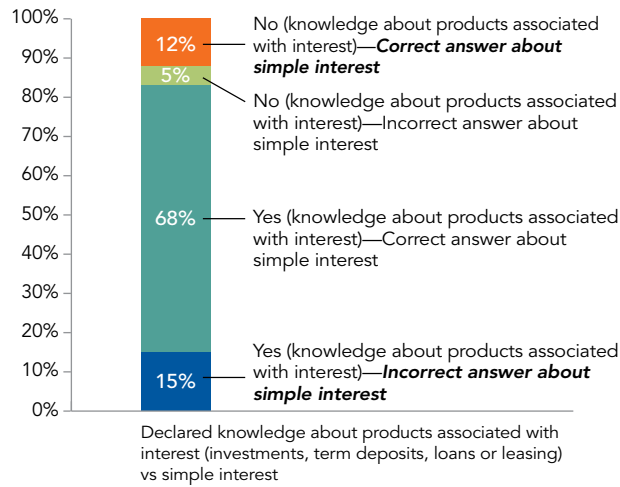
Investment understanding vs. inflation



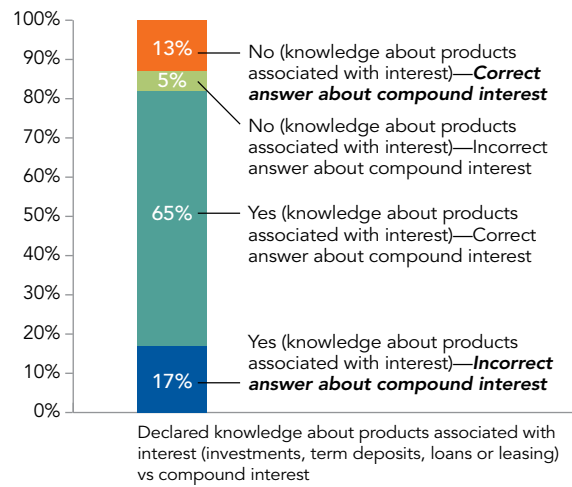
Insurance understanding vs. insurance purpose



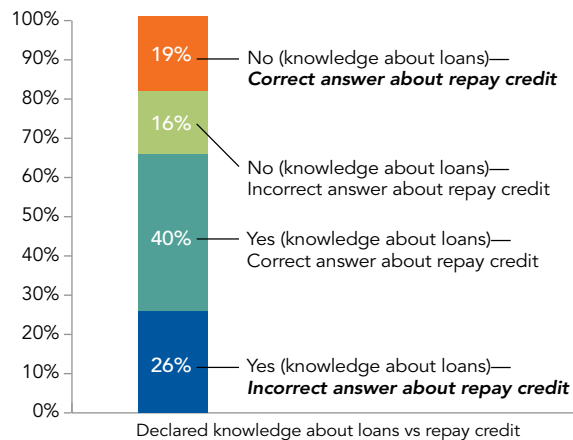
Financial-product understanding vs. simple interest



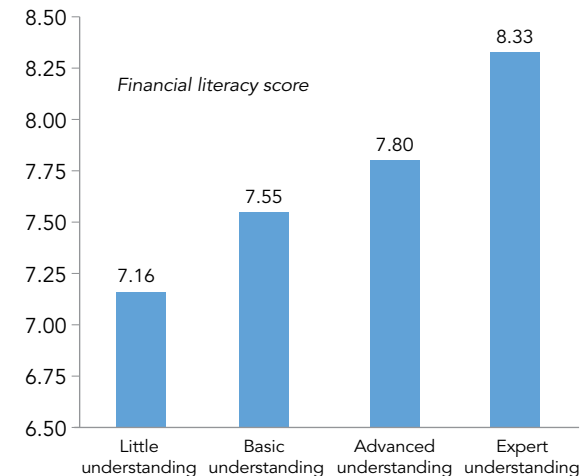
Financial-product understanding vs. compound interest



Loan understanding vs. repay credit



Accounting understanding vs. literacy results



Source: WBG SME Financial Capability Survey, 2017.

NOTES

2. Ideally, this explorative research would have been conducted in a diverse range of countries, but due to budget constraints, it could be done in only one. Georgia was selected mainly due to the authorities' interest in conducting the research, and because SMEs play a significant role in Georgia's economy, accounting for 42.7 percent of employment and 20.6 percent of value added in 2013. Georgia has also made good progress toward economic advancement over the past decade, developing a more favorable environment for businesses. (By the time the study was launched, the World Bank Group ranked Georgia 24th among 189 countries worldwide in its 2016 Doing Business report.)
3. United States, Canada, France, Barbados, Georgia, Jamaica, Botswana, Republic of South Africa, Dominican Republic, Zambia, Kenya, Cote d'Ivoire, India, Pakistan, Philippines, Morocco, Tunisia, Liberia, Sierra Leone, Guinea, Burundi, Tanzania, Senegal, and Haiti.
4. Étude Économique Conseil (EEC Canada), a Montreal-based consulting firm.
5. Small enterprises: between 5 and 19 employees.
6. Medium-size enterprises: between 20 and 99 employees.
7. Risk taking, controlled accounting, and planning from the beginning with continuously owner's support were loaded in different factors. They are not presented in the underlying domains because of this situation.
8. Survey SME participants were asked if they were familiar with checking or savings accounts; term deposits; Internet banking; electronic payments through a mobile phone; electronic payments through a money-transfer service; loans or lines of credit from banks; loans or lines of credit from a microfinance organization, cooperative, or credit union; investment from venture capital funds or angel investors; investment from private equity funds; trade financing; factoring/leasing; insurance products; and government subsidy programs. A financial-products awareness index was constructed based on the number of financial products known to survey participants. This index ranges from 0 to 13, whereby 0 indicates respondents who are not familiar with any of the products offered in the marketplace. Respondents with a score of 13, on the other hand, stated familiarity with all products asked about in the survey.
9. Survey SME participants were asked to take a quiz covering basic computation and financial concepts (simple division, inflation, simple interest, compound interest, compare bargain, purpose of insurance, risk diversification, repay credit, increase price product to return to the original price, and income-stream protection). A financial-literacy index was obtained based on the number of correct responses provided by each survey participant to the 10 financial-literacy questions. This index ranges from 0 to 10, whereby 0 indicates respondents who answered all questions incorrectly, while a score of 10 indicates survey participants with a good understanding of fundamental financial concepts and the ability to perform simple mathematical calculations.
10. SMEs that have loans or lines of credit from banks, microfinance organizations, cooperatives, or credit unions, or grants.

LESSONS LEARNED AND SUGGESTIONS FOR NEXT STEPS

The results of the financial-capability analysis (sections 2.5 and 2.6) revealed that the two main purposes of the SME survey had been accomplished. First, the SME questionnaire based on the findings of the FGDs and expert interviews were tested in 600 enterprises from 24 countries. The participants recognized the relevance of this instrument, and they understood the questions. Second, it was possible to analyze answers, and, most importantly, it was possible to discern the meaning and components of SME financial capability. The complete process of testing and answer evaluation underlines some important lessons/results:

- The designed SME questionnaire is applicable across the world, and it is useful to identify manifestations of financial capability. The pilot analysis indicates that the main Financial Capability Survey of SMEs accurately records different financial attitudes, motivations, and behaviors through diverse qualitative questions with various measurement levels (nominal and ordinal). These manifestations of financial capability came from different countries, levels of sales, wealth regions, sizes of enterprises, economic sectors, business maturity levels, and business cultures.
- There are differences across enterprises in terms of financial capability. It was possible to derive “behavioral” variables from the different financial attitudes recorded by the survey instrument. The aggregation of these core elements highlights the evident disparities among SME financial-capability levels. Medium-size enterprises achieved the highest levels in the group of “behavioral” variables. A second complementary analysis allowed main components (13) of SME financial capability to be identified from these “behavioral”

variables. It was possible to create scores for these meaningful components and analyze the most important differences across various categorizations. In particular, survey participants showed relative strengths in “keeping business expenses,” “being responsible and diligent,” and “controlling and keeping cash provisions,” but areas of weakness were identified in “attracting investors,” “diversifying cash strategies,” “planning from the beginning with continuous owner’s support,” and “controlled budgeting.” The analysis suggests a significant positive relationship between financial-capability components and level of sales (high sales level), type of enterprise (medium-size), location of enterprises by income level of the country (wealth locations), financial-product awareness (high level), financial knowledge (high level), ownership of transactional accounts, having access to finance, and years of operation.

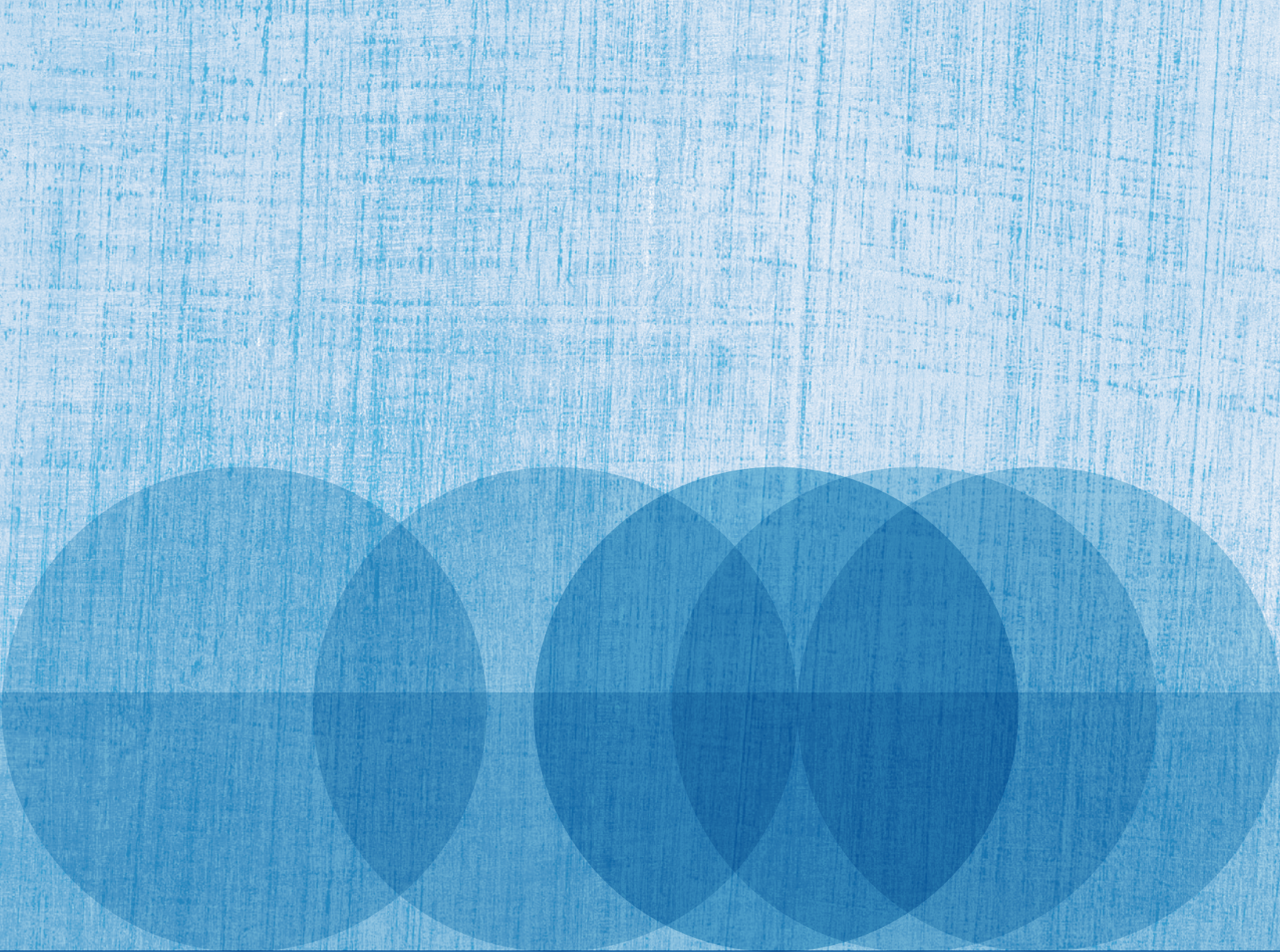
- It is possible to answer the question, “What is SME financial capability?” The third analysis suggests that the main SME components of financial capability cannot be combined in a single domain measured by a single score, but rather in two underlying domains: “*Managerially Inclined Entrepreneur*” and “*Business Creator Entrepreneur*.” The former is an aggregation of five dimensions: “set and review financial goals and strategies,” “control SME budget,” “analyze and develop business opportunities,” “act in a responsible and diligent manner,” and “attract investors.” The latter domain is defined by the components “get information and financial advice,” “control and keep cash provisions,” and “keep business expenses separate from personal or household expenses.” These results suggest that SME financial capability can be

defined as a composite of knowledge, skills, attitudes, and behaviors.

- The set of enterprises can be segmented into groups considering their financial-capability component levels. Every segment or group could be characterized in terms of the strengths and weaknesses of the 13 components as well as the business environment. It was not possible to conclude whether one cluster was overall more capable than another. However, on average, companies in one cluster were more financially capable in one (or more) component than enterprises in another cluster. In particular, segment characterization suggested that small enterprises, companies established in the non-wealthiest locations, and companies with low levels of sales were more vulnerable in terms of financial capability than medium-size companies that had a high level of sales and were located in the wealthiest countries.
- The designed SME instrument, which combines self-assessment and direct testing to measure effective financial capabilities, can be understood as an asset for public policy. The core elements of financial capability covered in the questionnaire aren't recorded solely by qualitative questions, where SMEs self-report their financial capability level. Rather, the instrument also contains multiple questions that effectively measure the understanding or knowledge of financial concepts in theory and practice. This combination of self-assessment and direct testing, together with behavioral

questions, yields a comprehensive assessment of SME financial capability, unlike any other instrument available in the world. The survey is most certainly an asset from a public-policy perspective, as it provides with clarity areas of intervention and support to develop and deliver extension services targeting SME owners and managers. In particular, while SME bankers have an overview of financial capability based on SMEs' past performance, the financial-capability instrument is a tool that allows the identification of strengths, underperformance, or gaps at earlier stages of the business-development cycle, allowing for improved performance and productivity. This means that targeted policies can be conceived and implemented in advance to improve SMEs' performance over time. Not only is the improvement of entrepreneurs' financial capability positive for the enterprises themselves, but it also influences the way they are perceived in the market—for example, attracting investors or affording access to technical/support programs.

- Analysis of the SME instrument is a starting point for wider evaluation of SME financial capability. The testing phase of the survey has ended, and the exploratory analysis highlights the instrument's potential to capture and understand SME financial capability as well as to identify vulnerable groups. To have a global view of SME financial capability, we recommend deploying the survey at a larger scale.



ANNEXES

FOCUS-GROUP DISCUSSION GUIDE

PREAMBLE (APPROXIMATELY FIVE MINUTES)

- Welcome the group, and thank participants for coming.
- Introduce yourself and your team members:
 - “My name is... (or other names..., working as an economist with EEC Canada, which is completing a mandate for the World Bank). I will be the moderator for this session.”
 - “I am today present with..., a senior economist from EEC Canada and a financial economist with about 10 years of experience, most of which working on financing issues.
 - We are here today with a representative from the World Bank. He is the main researcher on the project.
 - We have with us... and..., who will help us through the session by taking notes and conducting some simultaneous translations.
- EXPLAIN THE PROCESS OF THE SESSION. Tell them that you will have time allotments for the topics to be discussed and that you are inviting them all to talk in turn, but that they are welcome to discuss with or engage one another. Tell them that your role is not to decide who is right or wrong but simply to ensure that everybody stays on topic. If you have refreshments available during the session, invite participants simply to serve themselves, as in all likelihood, the two-hour session will be conducted without a formal break.
- Introduce the purpose of the discussion: “We would like to learn a bit about how entrepreneurs such as you use financial products, and your personal experiences with financial products. *There are no right or wrong answers*; we are just interested in learning your opinions on a range of topics. Everything that is said here will remain 100 percent anonymous, and we are interested not as much in your individual story as with the

general experience of entrepreneurs in this community. We are going to be taking notes, but that is only to help us not forget any of the opinions or experiences you share.” IF WE USE A RECORDER DURING THE SESSIONS, WE WILL GET THE AUTHORIZATION OF PARTICIPANTS FIRST.

1. INTRODUCTION/WARM-UP SESSION

(Approximately 10–20 minutes, about one to two minutes per participant)

- Ask participants to introduce themselves, including their educational background, their type of business, when their business started operation, and the types of financial services they use to manage their business finances (including informal or formal services, as appropriate). It is better to have a chart or table prepared beforehand on which you can write down presentation elements. This should first list short IDs of the participants (nicknames are fine to create a dynamic atmosphere), then the identifying sector and number of years in business, and then the type of financial products they use, and the names or categories of providers. In this manner, participants can recognize at a glance what they said and what others said, and the session can start in an orderly and dynamic manner. Using a large flipchart for would be ideal (so that the papers can be used later during the session, or after the session to prepare the summaries).

2. GENERAL FINANCIAL-MANAGEMENT ISSUES

(Approximately 20 minutes, OR TWO MINUTES PER PARTICIPANTS. BE SURE TO ALLOW EVERYONE A SAY; IF REQUIRED, PROBE THE SILENT PARTICIPANTS.)

PLEASE KEEP IN MIND THAT THE FOCUS GROUPS SHOULD HAVE MINIMAL FRAMING AND MINIMAL INTERVENTION FROM THE FACILITATOR IN ORDER TO ALLOW THE FREE FLOW OF IDEAS AND DISCUSSION AMONG THE PARTICIPANTS.

- Let's talk a bit more about the financial services you mentioned using. What do you use these financial services for? (Talk them through the different types: savings, loans, insurance, etc.) How have they helped you manage your business? What have been your positive and/or negative experiences using these products? Are there any financial services you would like to have access to but have not been able to obtain?
- What are the most important financial issues/challenges that you experience as business owners? What have you done to overcome these challenges?
- Now I want to hear your opinion on what we call "financially capable." Can anyone guess what we might mean by this term? If participants provide guesses, use this as starting point to share your explanation of financially capable. Otherwise, provide them with the explanation you have prepared. BE PREPARED TO PROVIDE/SUGGEST A DEFINITION OF FINANCIAL CAPABILITY.
- Do you think financial capability is important? Why?
- Thinking about your lives as entrepreneurs and business owners, what do you think makes for a financially capable business owner? Do you know any business owners whom you would describe as financially capable? Why? What behaviors make you describe them as financially capable?
- What do you think makes a business owner less financially capable? What are the main differences you see between a business owner who handles finances well and someone who doesn't?

PROBES:

- What sort of things do/don't financially capable SME owners do?
- What kind of skills and knowledge do financially capable entrepreneurs have/not have?
- What attitudes, motivations, or aspirations do/don't they have?
- Anything else?
- Of all those characteristics mentioned, which do you think are the most important?

PROBE ALL POINTS RAISED FULLY, AND ARRIVE AT A CONSENSUS, IF POSSIBLE; IDENTIFY THE MINORITY VIEW, IF NOT.

3. SPECIFIC FINANCIAL-MANAGEMENT ISSUES

(Approximately 60 minutes. THERE ARE SIX SUBTOPICS. ALLOCATE 10 MINUTES, AND MAKE SURE THAT YOU HAVE A MAXIMUM OF A MINUTE PER PARTICIPANT. OTHERWISE, YOU WILL NOT HAVE ENOUGH TIME.)

- *ONLY IF THE FOLLOWING AREAS HAVE NOT ALREADY BEEN MENTIONED, CHECK IF PARTICIPANTS FEEL THEY ARE RELEVANT, AND, IF SO, DISCUSS THEM IN DETAIL, USING THE FOLLOWING STANDARD PROBES:*
 - What sorts of things do/don't financially capable entrepreneurs do?
 - What kind of skills and knowledge do financially capable entrepreneurs have/not have?
 - What attitudes, motivations or aspirations do/don't they have?
 - Of all those characteristics mentioned, which do you think are the most important?

a. Accounting and recordkeeping

- As a business owner, how do you handle accounting and recordkeeping? What kind of records do you keep (for example, for expenses, sales, and so forth)? What records are you required to keep by law? What documents do you keep voluntarily?
- Probe: Do you separate family and business expenses/accounts? Why or why not? Do you think it's important to separate the two?
- Discuss with the group the case of someone who claims being good at keeping accounts (STANDARD PROBES).
- Then discuss someone who is bad at keeping records and accounts (STANDARD PROBES).

b. Cash-flow management

- What kinds of cash needs do entrepreneurs usually face? Is it easy for entrepreneurs to know when, where, and how cash needs will arise? Why or why not?
- What are some good ways you think entrepreneurs can meet additional cash needs? (Probe if they personally keep a cash cushion.)
- Discuss with the group which strategies financially capable entrepreneurs have to increase cash inflows (such as discounts for cash payments).
- Discuss with the group which strategies financially capable entrepreneurs have to reduce cash outflows (such as eliminating certain costs).
- Discuss with the group the case of someone who claims to be good at managing money/cash flows (STANDARD PROBES).

- Then discuss someone who is bad at managing money/cash flows (STANDARD PROBES).

c. Creating and analyzing financial statements

- What kind of financial statements do you think are important for entrepreneurs to use (for example, balance sheets, income or cash-flow statements)? Why or why not?
- Discuss with the group which business decisions, if any, should be informed by the use of financial statements.
- Discuss with the group the case of someone who claims to be good at creating and analyzing financial statements (STANDARD PROBES).
- Then discuss someone who is bad at creating and analyzing financial statements (STANDARD PROBES).

d. Planning for business expansions

- Ask, Are any of you familiar with the concept of a business plan? If yes, begin a discussion by asking them what it means. If none is familiar with this term, provide a brief description.
- Now that you know what a business plan is, have you ever used something like this in your business? Is it common for entrepreneurs you know to use business plans? Do you think such plans are important for entrepreneurs to use? Why or why not?
- Discuss with the group what is needed to prepare for an expansion (for example, activities related to products, pricing, planning for funding, and so forth).
- Discuss the case of someone who claims to be good at preparing for growing his or her business (STANDARD PROBES).
- Then discuss someone who is bad at preparing for growing a business (STANDARD PROBES).

e. Financing a business

- What sources of funds/types of financial services do entrepreneurs use to fund their businesses?
- As entrepreneurs, where do you go to fund your business? If at a financial institution, what kind of financial services are available to you? Which do you use, and how often?
- Do you know anyone who is good at choosing the right sources of funds/financial services for his or her business needs (STANDARD PROBES)? How does he or she choose these financial services? What behaviors make you say he or she is "good at choosing the right sources of funds" (for example, paying low costs, getting finance quickly, and so forth)?

- And do you know someone who is bad at choosing the right sources of funds/financial services for his or her business needs (STANDARD PROBES)? How does he or she choose these services? What behaviors make you say he or she is "bad at choosing the right sources of funds" (for example, paying high costs, having trouble obtaining finance when needed, and so forth)?

f. Getting and using information and advice on financial-management matters

- What sorts of information and advice about financial products do entrepreneurs need? What information and advice is available to entrepreneurs in this community?
- What information and advice have you found helpful in managing your business? (Probe on both information and advice that is general and information that is product-specific.) Is there anything that you have found confusing about the information or advice you get? Is there any information or advice you wish you could obtain but are not able to?
- Discuss the case of someone who claims to be good at getting information on these issues (STANDARD PROBES). How does that person obtain this information?
- Then discuss someone who is bad at getting information (STANDARD PROBES). What makes the person "bad" at getting financial information?
- Discuss the case of someone who claims to be good at using the information on these issues (STANDARD PROBES). How does he or she use this information effectively?
- Then discuss someone who is bad at using information (STANDARD PROBES). What makes him or her "bad" at using this information?

4. SUMMING UP/CLOSING (APPROXIMATELY 10 MINUTES)

- Is there anything else that relates to money/resources/finances that is important for SME owners?
- Of all the things discussed, which one(s) do participants think are most important for a SME owner to be financially capable?
- Thank the participants for coming and talking about these issues. Remind participants about their anonymity and reassure them that no names will be published in any reports. Provide them with contact details in case they have any further questions or concerns



EXPERT INTERVIEW GUIDE

PREAMBLE

Introduce yourself and the other people present during the interview. Present the purpose of the research, and define the general objectives of the interview. These objectives may change as the focus of the interview may vary from one expert to the other. Introduce those present during the interview. Follow the interview guide, and be ready to translate key answers. Some experts may speak English, in which case the interview can be conducted mostly in English (with key expressions translated for the expert's comfort). Verify with the expert whether you may record the interview for note taking later. You may want to provide interviewees with a generic grid showing questions and answers representing demand-anchored issues and supply-anchored issues. Present a clear definition of financial capability among SMEs, and ask the experts to express an opinion on the definition and elements impacting this capability.

GENERAL FINANCIAL-MANAGEMENT ISSUES

- Let's talk a bit more about the financial services you provide (banks) or know SMEs have (other experts). What financial services do SMEs usually utilize? What have been your positive/negative experiences with these products? Are there any financial services you would like to offer or give access to but have not been able to?
- What are the most important financial issues/challenges that SMEs face?
- What are the biggest constraints that SMEs face in obtaining the right financial products for their needs?
- What is the most valuable financial advice SMEs should be given?

PROBE:

Note to interviewer: Use this probe only if the respondent is having difficulty answering this question. In your experience, what are the most important financial deci-

sions, choices, or actions that SMEs owners or decision makers face?

- In your opinion, what major financial decisions are SMEs prepared to make and which decisions are they less prepared to make? What information or factors might help them make those decisions? How often do your clients or SME owners seek help in making those types of decisions?
- What does the phrase "being financially literate/capable" mean to you? Please take a few minutes and write down the first things that come to mind. If the interviewee provides guesses, use this as a starting point to share your explanation of financially literate/capable. Otherwise, provide the expert with the explanation you have prepared. **BE PREPARED TO PROVIDE OR SUGGEST A DEFINITION OF FINANCIAL CAPABILITY.**
- Do you think financial literacy/capability is important? Why?
- Do you know any business owners (clients or not) whom you would describe as financially capable? Why? What behaviors make you describe them as financially capable?
- What do you think makes a business owner less financially capable? What are the main differences between a business owner who handles finances well and someone who doesn't?
- Do you think that business owners with certain types of personalities are more likely to experience greater financial success? Are entrepreneurs with certain personalities less likely to experience financial success?

PROBES:

- What kinds of things do/don't financially capable SME owners do?
- What kind of skills and knowledge do financially capable entrepreneurs have/not have?
- What attitudes, motivations, or aspirations do/don't they have?

- Anything else?
- Of all those characteristics mentioned, which do you think are most important?

Specific financial-management issues

a. Cash-flow management

- What cash needs do entrepreneurs usually face? Is it easy for entrepreneurs to know when, where, and how cash needs will arise? Why or why not?
- What are some good ways you think entrepreneurs can meet additional cash needs? (Probe if in their experience, entrepreneurs keep a cash cushion.)
- What strategies do financially capable entrepreneurs employ to increase cash inflows (for example, discounts for cash payments)?
- What strategies do financially capable entrepreneurs use to reduce cash outflows (such as eliminating costs)?

b. Creating and analyzing financial statements

- What kind of financial statements are important for entrepreneurs to use (for example, balance sheets, income or cash-flow statements)? Why or why not?
- Which business decisions, if any, should be informed by the use of financial statements?
- What would be the characteristics of someone who is good at creating and analyzing financial statements (STANDARD PROBES)?
- What would be the characteristics of someone who is bad at creating and analyzing financial statements (STANDARD PROBES)?

c. Planning for business expansions

- In your experience, is it common for entrepreneurs you know to use business plans? Do you think such plans are important for entrepreneurs to use? Why or why not?
- What do you think is needed to prepare for an expansion (for example, activities related to products, pricing, planning for funding, and so forth)?
- What would be the characteristics of someone who is good at preparing for growing his or her business (STANDARD PROBES)?
- What would be the characteristics of someone who is bad at preparing for growing his or her business (STANDARD PROBES)?

d. Financing a business

- What sources of funds/types of financial services do entrepreneurs use to fund their businesses?
- In your opinion, where do entrepreneurs go to fund their business? If at a financial institution, what kind of financial services are available to them? In your experience, which services do they typically use, and how often?
- In your experience, how does a financially capable entrepreneur choose financial services? What behaviors make you say he or she is “good at choosing the right sources of funds” (for example, paying low costs, getting finance quickly, and so forth)?
- What are characteristics of someone who is bad at choosing the right sources of funds/financial services for his or her business needs (STANDARD PROBES)? How does he or she choose these financial services? What behaviors make you say he or she is “bad at choosing the right sources of funds” (for example, paying high costs, having trouble obtaining finance when needed, and so forth)?

e. Getting and using information and advice on financial-management matters

- What sorts of information and advice about financial products do entrepreneurs need? What information and advice is available to entrepreneurs in this community?
- What would be the characteristics of someone who is good at getting information on these issues (STANDARD PROBES)? How does she or she obtain this information?
- Discuss someone who is bad at getting information (STANDARD PROBES)? What makes him or her “bad” at getting financial information?
- How about someone who is good at using information on these issues (STANDARD PROBES)? How does he or she use this information effectively?
- How about someone who is bad at using information (STANDARD PROBES)? What makes him or her “bad” at using this information?

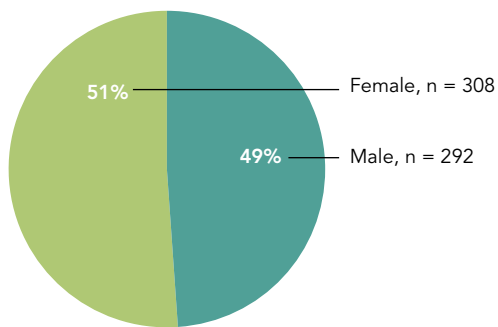
SUMMING UP/CLOSING

- Is there anything else that relates to money/resources/finances that is important for SME owners?
- Of all the things discussed, which one(s) do you think are most important for a SME owner to be financially capable?
- Provide the interviewee with contact details in case he or she has any further questions or concerns.



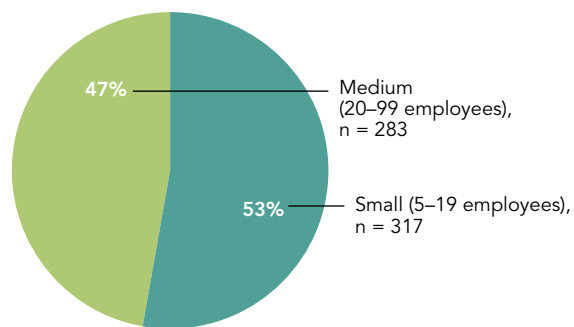
PROFILE OF SURVEYED SMEs

FIGURE 17: Surveyed SME by Gender of Respondent



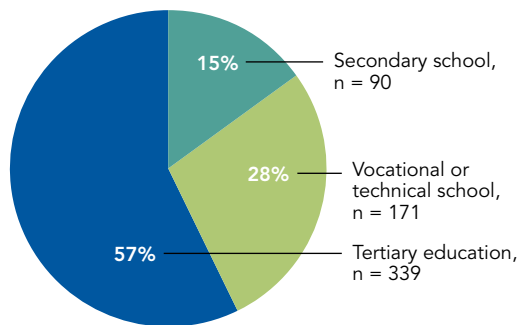
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 19: Surveyed SME by Type of Enterprise



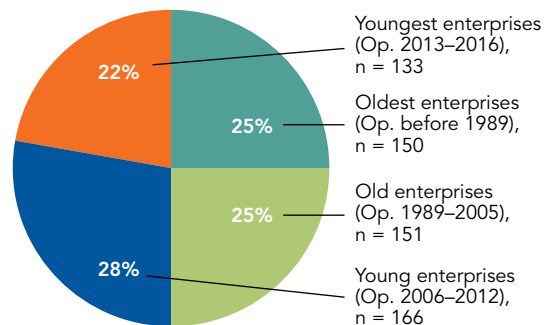
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 18: Surveyed SME by Education of Respondent



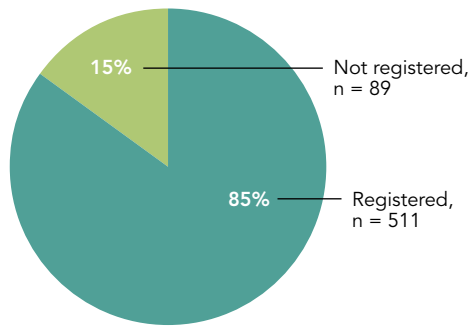
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 20: Surveyed SME by Beginning of Operations



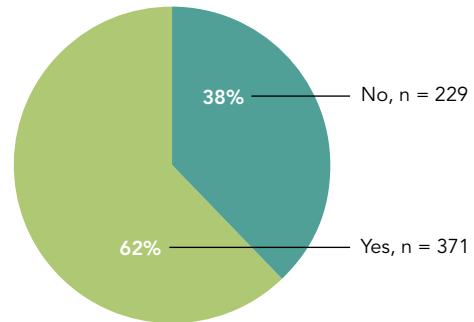
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 21: Surveyed SME by Legal Status



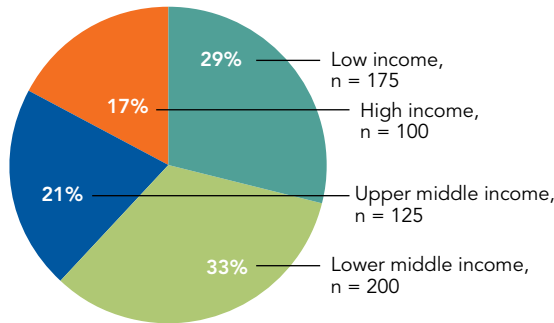
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 24: Surveyed SME by Current Usage of Formal Financial Products



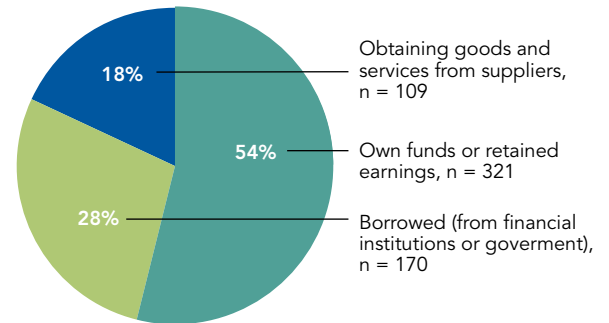
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 22: Surveyed SME by Country Income Classification



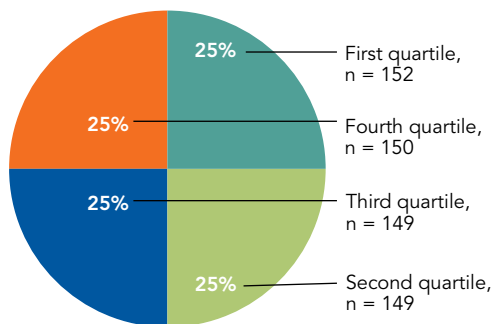
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 25: Surveyed SME by Main Source of Financing



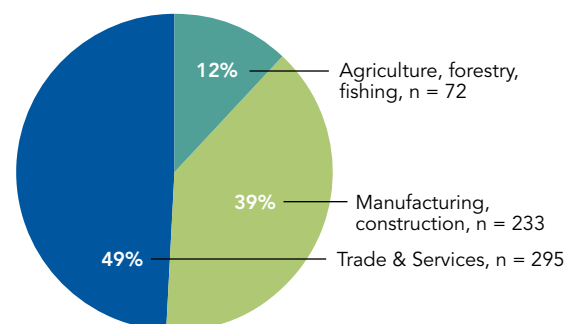
Source: WBG SME Financial Capability Survey, 2017.

FIGURE 23: Surveyed SME by Level of Sales



Source: WBG SME Financial Capability Survey, 2017.

FIGURE 26: Surveyed SME by Main Economic Activity



Source: WBG SME Financial Capability Survey, 2017.



METHODOLOGY FOR FINANCIAL-CAPABILITY ANALYSIS

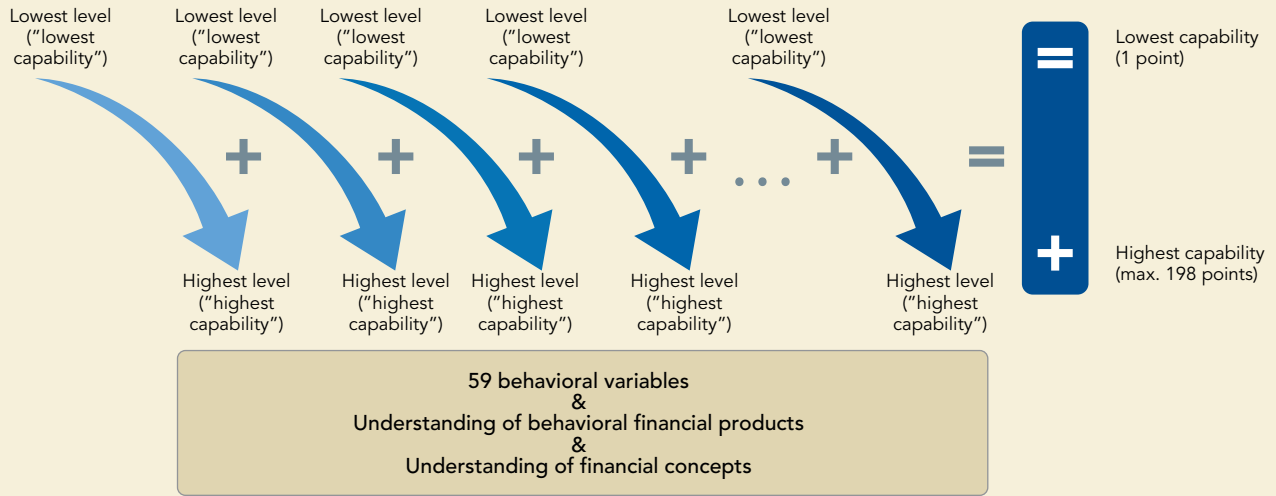
Tables 18, 19, 20, 21, and 22 present the purpose and methodology of each step followed for the SME financial capability analysis—that is, (1) aggregation of financial-capability core elements; (2) factor analysis: constructing components; (3) factor analysis: constructing domains; and (4) cluster analysis: identifying vulnerable groups.

TABLE 18: Steps to Analyze SME Financial Capability (Part I)

		SECTION 2.5.2:
<p>STEP 1</p> <p>Aggregation of financial-capability core elements</p> <p>The core elements of financial capability (attitudes, behaviors, skills, financial knowledge, and financial-product awareness) are covered in the survey instrument by 59 “behavioral” variables and two variables that record SMEs’ understanding of financial products and financial concepts. All of these variables were recoded or reorganized in ascending order, where the lowest level of these derived variables represent the “lowest capability” and the highest level could be interpreted as the “highest capability.” For example, one of the variables that capture the general behavior “getting information and advice” was reorganized into three levels: Enterprises that do not typically ask for financial advice are part of the lowest level. Those that ask for advice but not from a team of experts belong to the moderate level. Those that asked for it from a team of experts had the highest level of financial capability. Table 19 details the particulars of these “behavioral” variables. In this context, “lowest capabilities” are when enterprises are not familiar with financial products or concepts, and “highest capabilities” are when enterprises were familiar with 13 financial products or 10 financial concepts asked by the survey.</p> <p>These transformations were made to estimate an aggregated exploratory indicator in order to observe <i>differences across enterprises as the first step to understand SME financial capability</i>. The aggregation of the transformed variables for each enterprise then formed an individual indicator. An enterprise that was part of the “best situation” for every attitude or behavior gave its indicator 198 points, as figure 27 illustrates.</p>	<ol style="list-style-type: none"> 1. Aggregation of financial capabilities core elements 2. Factor analysis: constructing components 3. Factor analysis: constructing domains 4. Cluster analysis: identifying vulnerable groups 	

STEP 1, continued

FIGURE 27: Aggregated Exploratory Indicator of Financial Capability



Source: WBG SME Financial Capability Questionnaire, 2017.

TABLE 19: "Behavioral" (or Derived) Variables

VARIABLE	MEANING	COMBINATION FROM SECTION	VALUES
REV_N_A1A	Financial-management understanding	A1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_N_A1B	Marketing aspect understanding	A1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_N_A1C	Business strategy aspect understanding	A1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_REC_SEPFAMBUS	Business vs. family budgets	SCR3B	0 Together (business and household finances) 1 Separate (business and household finances)
REV_BEH_NEWTECH	Expand scope of business and research new technology	C2	1 No 2 Expand scope but don't research new technology 3 Expand scope and research new technology
REV_BEH_GETINFO	Getting information and advice (frequency)	D1	1 No 2 Yes, rarely 3 Yes, sometimes 4 Yes, regularly
REV_BEH_GOAL_GETINFO	Getting information and advice (circumstances)	D1	1 No 2 Yes, other (starting or expanding business, accessing finance or bookkeeping) 3 Yes, when faced with financial losses or troubles

TABLE 19, continued

VARIABLE	MEANING	COMBINATION FROM SECTION	VALUES
REV_BEH_TEAM_GETINFO	Getting information and advice (team of experts)	D1	1 No 2 Yes, but not from a team of experts 3 Yes, from a team of experts
REV_BEH_BUDGET	Have a written budget (length of time)	A4	1 No 2 Yes, 12 months 3 Yes, 6 months 4 Yes, 1–3 months
REV_BEH_STICK_BUDGET	Have a written budget (stick to it)	A4	1 No 2 Yes, never 3 Yes, sometimes 4 Yes, often 5 Yes, always
REV_BEH_UPDATE_FINST	Prepare financial statement (content)	A7	1 No 2 Yes, not including the four statements 3 Yes, including balance statement, income statement, changes in equity and cash-flow statements
REV_BEH_CERTIF_FINST	Prepare financial statement (certified)	A7	1 No 2 Yes, not certified by an external auditor 3 Yes, certified by an external auditor
REV_BEH_COMPU_ACCSYS	Have a computerized accounting system	A8	1 No 2 Yes, formal financial statements prepared were not up to date 3 Yes, formal financial statements prepared were up to date
REV_BEH_RISK	Risk assessment	B4	1 No 2 Evaluate market/political evolution 3 Analyze sales progress 4 Research how many competitors 5 Compare the establishment to similar ones
REV_BEH_KEYIND	Track and update project milestones	D2	0 No 1 Yes
REV_BEH_SETFINGOAL	Set or review specific financial goals	A6	1 No 2 Yes, rarely 3 Yes, sometimes 4 Yes, regularly
REV_BEH_LTFINPLAN	Long-term financial planning (five years)	C3	1 No 2 Yes, plan includes only one aspect 3 Yes, plan includes all relevant aspects
REV_BEH_PLANSTART	Business plan when the establishment started the business	C1	0 No 1 Yes
REV_BEH_BUSIPLAN	Expand scope of business and create business plan	C2	1 No 2 Expand scope but don't create a business plan 3 Expand scope and create a business plan
REV_BEH_MARKANAL	Expand scope of business and marketing analysis	C2	1 No 2 Expand scope but don't conduct marketing analysis 3 Expand scope and conduct marketing analysis
REV_BEH_PROJSALES	Expand scope of business and budget sales and cost	C2	1 No 2 Expand scope but don't budget sales and costs 3 Expand scope and budget sales and costs

TABLE 19, continued

VARIABLE	MEANING	COMBINATION FROM SECTION	VALUES
REV_BEH_NEUALTER	Expand scope of business and analyze new alternatives	C2	1 No 2 Expand scope but don't analyze new alternatives 3 Expand scope and analyze new alternatives
REV_BEH_RECORDCASH	Use records to see how much cash the business has at any time	A9	0 No 1 Yes
REV_BEH_RECORDSALES	Use records to know about sales	A9	0 No 1 Yes
REV_BEH_CASHPROV	Keep cash provisions	B1	0 No 1 Yes
REV_BEH_RATECASHFL	Cash-flow rate	B3	1 Bad 2 Average 3 Good 4 Very good
REV_BEH_CASHPROVPERS	Keep cash provisions (personal)	B5	0 No 1 Yes
REV_BEH_MINSPEND	Minimize spending	B2	0 No 1 Yes
REV_BEH_OFFERDIS	Offering discount and low price	B2	0 No 1 Yes
REV_BEH_MONRECEI	Monitoring of receivables	B2	0 No 1 Yes
REV_BEH_PAYFACILI	Payment facilities for early payers	B2	0 No 1 Yes
REV_BEH_INCRESALES	Increasing sales	B2	0 No 1 Yes
REV_BEH_OWNERFUND	Access to owner's personal funds	B2	0 No 1 Yes
REV_BEH_OWNERFUNDCR	Access to owner's personal funds or credit	C7	0 No 1 Yes
REV_BEH_STCREDIT	Use short-term credit for turnover	B2	0 No 1 Yes
REV_BEH_ATTRACKINEVER	Attract investors (ever)	SCR12	1 No 2 Ever been financed by other equity investors 3 Ever been financed by venture capital funds
REV_BEH_ATTRACKINNOW	Attract investors (now)	D4	1 No 2 Only one type of investment 3 Investment from venture capital funds and private equity funds
REV_BEH_INTERFINAN	Own internal financing	D6	1 No 2 Fixed assets or working capital for internal financing 3 Fixed assets and working capital for internal financing
REV_ATT_MANAMONEY	Managing money	B5	1 I know less about managing money than most people I know (or business peers) 2 I know the same about managing money as everyone else (or business peers) 3 I know more about managing money than most business peers

TABLE 19, continued

VARIABLE	MEANING	COMBINATION FROM SECTION	VALUES
REV_ATT_APPLEARN	Willingness to learn (financial-management skills)	E2	1 1 skill to learn or improve 2 2 skills to learn or improve 3 3 skills to learn or improve
REV_ATT_ACCLEARN	Learn more about accounting	A3	1 None 2 Other 3 From media 4 From social circles or colleagues 5 From experts 6 From experts and others
REV_SK_DEEPUnder	Accounting concepts	A2	1 Little understanding 2 Basic understanding 3 Advanced understanding 4 Expert understanding
REV_ATT_RESULTOR	Revise goals periodically	F1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_INNOVA	Like to reflect, play with ideas	F1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_LEARNMISTAK	Learning from mistakes	F1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_GOODFIN	Deals well with financial matters	F1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_IMPROVE	Opportunities to improve	F1	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_RISKASSE	Behavior toward risk	F2	1 None 2 L (low) 3 M (medium) 4 M L 5 H (high) 6 H L 7 H M 8 H M L
REV_ATT_NOGAMES	Do not play	F3	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_GAMLOWSAKE	Gamble for low stakes	F3	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree

TABLE 19, *continued*

VARIABLE	MEANING	COMBINATION FROM SECTION	VALUES
REV_ATT_GAMNEVERLIMIT	Play but never beyond the limit	F3	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_GAMEMORELIMIT	Play for high stakes, beyond the limit	F3	1 Strongly agree 2 Agree 3 Disagree 4 Strongly disagree
REV_ATT_NOGAMELOSE	Do not play, hate losing	F3	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_GAMEALL	When playing, I sometimes stake my all	F3	1 Strongly agree 2 Agree 3 Disagree 4 Strongly disagree
REV_ATT_NOGAMEPRINCI	Do not play on principle	F3	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
REV_ATT_PROFILRISK	Risk profile	E8	1 Invest in the option with high return in the past month 2 Invest in the option with high return in the previous year 3 Invest with low return and low risk 4 Invest a portion of the money in all of them
REV_SK_QUICKDECISION	(Quick) decision making	F4	1 Tend to postpone making a decision 2 Take a long time to think through 3 Base the decision on gut feeling 4 Convinced –s/he is right 5 Makes up his/her mind quickly
REV_SK_MAINFINANDECI	Main financial decision maker	SCR5	1 Not financial decision maker 2 Only investment 3 Only financing 4 Main financial decision maker (invest and financing)
REV_SK_ENTERDECISION	Typically make financial decisions for the establishment	SCR2	0 No 1 Yes

Source: WBG SME Financial Capability Survey, 2017.

TABLE 20: Steps to Analyze SME Financial Capability (Part II)

STEP 2

Factor analysis: Constructing components

The aggregated indicators of the first stage (see table 18) highlighted the general disparities in financial-capability levels. However, they did not indicate how elements and components of financial capability were related to one another or if it was possible to determine financial-capability domains. For these reasons, a second step, a factor analysis known as a principal components analysis (PCA) was conducted to explore the relations between 59 behavioral variables. In particular, this statistical procedure determined the underlying dimensions of SME financial attitudes.

The PCA reduced the original set of variables (59) to a smaller uncorrelated set of variables (principal components or dimensions) that aim to account for as much of the variance in the data as possible. This last condition implies that the final set be composed of dimensions with an important contribution to total variance and have eigenvalues greater than one (as defined by Kaiser's criterion, which was chosen as it best fit the type of data obtained). In other words, PCA can be understood as the solution to the maximization process of the variance of dimensions.

The PCA method attributes a single indicator (or score) to each component. These indicators are a linear combination of the behavioral variables (Kempson, Perotti, and Scott 2013a).

$$S_j = w_{j1} * \frac{BV_1 - \mu_1}{\sigma_1} + w_{j2} * \frac{BV_2 - \mu_2}{\sigma_2} + \dots + w_{j59} * \frac{BV_{59} - \mu_{59}}{\sigma_{59}}$$

Where:

S_j = Score of the dimension j .

j = 1, ..., J. J is the total number of components. J is unknown at the beginning of the analysis. However, as mentioned previously, J will be the total number of final considered components at the end of the PCA process (maximum variance).

BV_i = Behavioral variable i .

i = 1, ..., 59.

μ_i = Mean of the behavioral variable i .

σ_i = Standard deviation of behavioral variable i .

w_{ji} = Weight of the behavioral variable i in the dimension j (D_j). If BV_i is not meaningful for $D_j \rightarrow w_{ji} = 0$.

The weights are also unknown at the beginning of the analysis. However, the PCA method estimates them as part of the solution of the dimensional variance maximization process.

The dimension scores (S_j) have an infinite range of values ($-\infty, +\infty$). They are rescaled using the extreme values (minimum and maximum) of dimensions for interpretation and comparison purposes. The transformed ranges between 0 (lowest score or most incapable enterprise) and 100 (highest score or most capable enterprise).

The rescaled scores are computed as:

$$S_j^{resc} = \frac{100 * (S_j - S_{minj})}{(S_{maxj} - S_{minj})}$$

Where:

S_j^{resc} = Rescale score of the dimension j .

j = 1, ..., J. J is the total number of selected dimensions.

S_j = Original score of the dimension j .

S_{minj} = Minimum original score of the dimension j .

S_{maxj} = Maximum original score of the dimension j .

1. Aggregation of financial capabilities core elements

2. Factor analysis: constructing components

3. Factor analysis: constructing domains

4. Cluster analysis: identifying vulnerable groups

TABLE 21: Steps to Analyze SME Financial Capability (Part III)

STEP 3

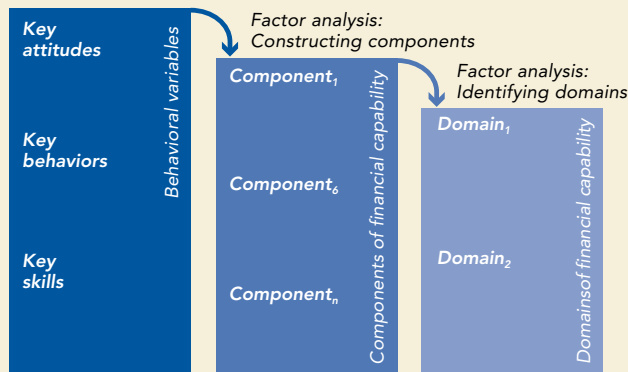
Factor analysis: Constructing domains

Once the second stage (factor analysis: constructing components) identified and quantified through scores the relationships between different behaviors, another question emerged: How are these underlined components related to one another? To answer this question, a third exploratory analysis was conducted to establish if the SMEs’ main dimensions of financial capability could be combined in a single domain or a small number of domains.

To reach this goal, a second factor analysis (PCA) was developed. SME component scores were used instead of the individual behavioral variables. Figure 28 illustrates the logical path of factor analysis to understand SME financial capability. The second PCA reduced the original set of components (J) to a smaller uncorrelated set of domains (unique domain or principal domains) that aim to account for as much of the variance in the data as possible. The final set of domains was composed of components with an important contribution to total variance and with eigenvalues greater than one (Kaiser’s criterion).

1. Aggregation of financial capabilities core elements
2. Factor analysis: constructing components
3. Factor analysis: constructing domains
4. Cluster analysis: identifying vulnerable groups

FIGURE 28: Logical Path of Factor Analysis to Define SME Financial Capability



Source: WBG SME Financial Capability Survey, 2017.

The PCA method gets a single score for each one of domains. These indexes are a linear combination of the dimensional variables

$$SD_k = w_{k1} * \frac{S_1 - \mu_1}{\sigma_1} + w_{k2} * \frac{S_2 - \mu_2}{\sigma_2} + \dots + w_{kj} * \frac{S_j - \mu_j}{\sigma_j}$$

Where:

- SD_k = Score of the domain k .
- k = 1, …, K . K is the total number of domains. K is unknown at the beginning of the analysis. However, K will be the total number of final considered domains at the end of the PCA process (maximum variance).
- S_j = Score of the dimension j .
- j = 1, …, J . J is the total number of components.
- μ_j = Mean of the dimensional variable j (S_j).
- σ_j = Standard deviation of dimensional variable j (S_j).
- w_{kj} = Weight of the dimensional variable j in the domain k ($Domain_k$). If S_j is not meaningful for $Domain_k \rightarrow w_{kj} = 0$.

The weights are also unknown at the beginning of the analysis. However, PCA method estimates them as part of the solution of the domain variance maximization process.

The domain scores (SD_k) have an infinite range of values ($-\infty, +\infty$). They can be rescaled using their extreme values (minimum and maximum) as the second stage previously presented.

Source: WBG SME Financial Capability Survey, 2017.

TABLE 22: Steps to Analyze SME Financial Capability (Part IV)

STEP 4

Cluster analysis: Identifying vulnerable groups

Stages 1, 2, and 3 addressed questions related to the definition of SME financial capability and the inherent interrelationships between behavioral and dimensional variables. However, whether two or more groups of enterprises could be identified based on these relationships was not answered. To focus on this topic, cluster analysis was used (stage 4) to determine subgroups among pilot participants that exhibited particular strengths or weaknesses with regard to financial capability. The clustering process segmented the population of companies according to the range of underlined component scores from step 2.

The hierarchical cluster method was used for this segmentation, which is essentially agglomerative iterative clustering. Each company represented an individual cluster at the beginning of the process. In the first iteration, the two most similar clusters were combined, and they composed a new cluster. In the next step, another two clusters were merged and linked. The process continued with the aggregation of similar clusters. The measure to establish the similarity or dissimilarity across enterprises was the Euclidian distance, the square root of the squared differences of component scores. More precisely,

$$d_{Euclidian}(X, Y) = \sqrt{\sum_{j=1}^J (X_j - Y_j)^2}$$

Where:

- X_j = Score of the dimension j for the enterprise X .
- Y_j = Score of the dimension j for the enterprise Y .
- j = 1, ..., J . J is the total number of components.

Another relevant aspect with regard to the hierarchical cluster method is that its linkage procedure (algorithm) to define or evaluate the distance from a new cluster to another cluster (or others) is based on centroids. The cluster centroids are the average component scores of the enterprises in the cluster. The distance between two clusters is the distance between the two centroids.

Finally, the variance ratio criterion (VRC) is considered to determine the appropriate number of segments in the pilot dataset (Mooi and Sarstedt 2011). This ratio is defined as:

$$VRC_l = \frac{\left(\frac{SS_B}{(l-1)} \right)}{\left(\frac{SS_W}{(n-l)} \right)}$$

Where:

- l = Number of segments.
- n = Number of objects or enterprises.
- SS_B = Sum of the squares between the segments.
- SS_W = Sum of the squares within the segments.

The final number of segments l^* is that one that minimizes the value of $\omega_l = f(VCR_{l+1}, VCR_l, VCR_{l-1})$.

$$l^* \Rightarrow \min[\omega_l = (VCR_{l+1} - VCR_l) - (VCR_l - VCR_{l-1})]$$

1. Aggregation of financial capabilities core elements
2. Factor analysis: constructing components
3. Factor analysis: constructing domains
4. Cluster analysis: identifying vulnerable groups

ANNEX E

Special Codes

Refusal	-9
Don't know	-8
Not applicable	-7

FINANCIAL-CAPABILITY QUESTIONNAIRE OF SMEs

Region name	Region	Code	Regioncode
Country	State		

Name of Enterprise:	Enterprisename	Landline	Mobile/Cell phone
Respondent:	Phone	Phonetype	
			Code
EEC country manager:	Intname		Intcode

SCREENER SECTION

	Male	Female
NOTE TO THE INTERVIEWER: record if respondent is male or female	Scr0	

S1)	Yes	No
Are you the main decision maker on questions pertaining to FINANCE in this establishment?	Scr1	

S2)	Alone	Jointly
Do you typically make financial decisions for this establishment by yourself or jointly with someone else? (please specify with whom if decisions are made with someone else)	Scr2	

S3)	Agree	Disagree
Do you agree or disagree that the following statements describe how you manage your business and household finances?		
I manage my business finances and household finances together, using the same budget and accounts	Scr3a	
I manage my business finances and household finances separately using separate budgets and accounts	Scr3b	

S6)

What is the highest level of schooling you have completed (see table S6 below)	Scr6
--	------

S6. Level of Schooling

No schooling	1	Secondary school incomplete	7
Elementary school complete	2	Vocational secondary education complete	8
Elementary school incomplete	3	Vocational secondary education incomplete	9
Basic school complete	4	Post-Secondary Technical / Vocational education	10
Basic school incomplete	5	University, tertiary education	11
Secondary school complete	6		

S7)

What type of product or service represents the most important portion of the annual sales of this establishment?
Scr7

S8)

How many employees did this establishment employ when it started operations?	Scr8a0		
How many employees does this establishment have including full-time, part-time, and temporary employees?	Scr8a		
	Full-time	Part-time	Temporary
Of which, how many are full-time, part-time or temporary (fixed-term) employees?	Scr8b	Scr8c	Scr8d

S9)

	Increase	Stay the same	Decrease
In the next 12 months, do you expect the number of full-time employees working in your company to increase, decrease, or stay the same?	Scr9		

S10)

In what year did this establishment begin operations?	Scr10
---	-------

S11)

What is the main source of financing your business uses to finance its operations? (see table S11 below)	Scr11
--	-------

S11. Main working capital financing source

Own funds or retained earnings	1
Issued new equity shares to new investors	2
Borrowed from banks	3
Borrowed from microfinance institutions, credit unions, financial cooperatives, leasing companies	4
Borrowed from government special loan programs or international development institutions' loan programs	5
Obtaining goods and services from a supplier on the terms of later payment and advances recovered	6
Other (moneylenders, friends, relatives, pledge, etc.)	7

S12)	Yes	No
Has this establishment ever been financed by venture capital funds?	Scr12a	
If No , did any other equity investor finance this establishment?	Scr12b	

S15)	What was annual turnover/sales of your company (excluding VAT if it applies) in 2016? (see table S15 below)	Scr15
------	---	-------

S15. Annual turnover/sales

Up to 10,000 US\$ equivalent	1
10,001–50,000	2
50,001–50,000	3
150,001–250,000	4
More than 250,001	5

SECTION A1: ACCOUNTING

A1)	To what extent do you agree or disagree with the following statements? (see table A1 below)	
	I fully understand the financial-management aspect of my business	A1a
	I fully understand the marketing aspect of my business	A1b
	I fully understand the business strategy aspect of my business	A1c

A1. Extent of agreement

Strongly disagree	1
Disagree	2
Agree	3
Strongly agree	4

A2)	How would you describe your understanding of accounting concepts including notions such as assets, liabilities, and profits? (see table A2 below)	A2	If Little , GO TO A3
-----	---	----	-----------------------------

A2. Extent of understanding

Little understanding	1
Fair understanding	2
Expert understanding	3

A2A)	Which of the following statements best describes the meaning of the term 'assets' for a company? (See table A2A)	A2a
------	--	-----

Table A2A. Meaning of assets

Investments, machinery and inventory owned by a company	1
All that is owned by a company	2
Money and cash of the company	3

A2B)	Which of the following statements best describes the meaning of the term 'liabilities' for a company? (See table A2B)	A2b
------	---	-----

Table A2B. Meaning of liabilities

Money owed to employees and others	1
Bank debt of the company	2
Sources of external funds of the company	3

A2C)	Which of the following statements best describes the meaning of the term 'profits' for a company? (See table A2C)	A2c
------	---	-----

Table A2C. Meaning of profits

Difference between all revenue and all expenses / costs	1
Money for the next cycle of acquisitions	2
Surplus of cash in the bank from operations	3

A3)

Where do you go to learn more about accounting processes or concepts, or a financial product? (see table A3 below)	A3
--	----

A3. Sources of information

Peer, local business community group	1
Financial advisor / professional accountant	2
Family and friends	3
Government's or non-profit organisation's training program	4
Print media (e.g. newspaper, magazines etc.)	5
The internet	6
Other (specify) A3x	7

A4)

	Yes	No
Do you have a written budget, which tells you how much you have to pay for rent, electricity, equipment maintenance, transport, advertising, and other costs of the business?	A4a	
If Yes , for what length of period do you typically budget for? (in months)	A4b	
If No , why not? (see table A4 below)	A4c	

A4. Reasons for not budgeting

No time	1
It is not useful to my establishment	2
I do not stick to a budget	3
I do not know how to prepare a budget	4
Other (specify) A4x	5

A5)

How often do you stick to your budget? (see table A5 below)	A5
---	----

A5. Frequency

Always	1
Often	2
Sometimes	3
Never	4

A6)	Yes	No
Do you set or review specific goals in terms of gross profit margins, or debt relative to equity or other financial aspects for your enterprise?	A6a	
If Yes , how often do you set or review specific financial goals for your enterprise? (see table A6a below)	A6b	
If No , why not? (see table A6b below)	A6c	

A6a. Frequency**A6b. Reasons for not setting goals**

Daily	1	No time	1
Weekly	2	It is not useful to my establishment	2
Monthly	3	I do not stick to goals	3
Every three months	4	I do not know how to set goals	4
Every six months	5	Other (specify) A6bx	5
Every year	6		
Other (specify) A6ax	7		

A7)	Yes	No
Do you or your accountant prepare a financial statement at least annually?	A7a	
If Yes , what type of financial statement do you prepare (DO NOT READ FOLLOWING OPTIONS)?		
Balance sheet	A7b	
Income Statement	A7c	
Statement of changes in equity	A7d	
Cash-flow statement	A7e	
If Yes, in 2016 , did your establishment have its annual financial statements checked and certified by an external auditor?	A7f	

SECTION B: CASH AND CASH MANAGEMENT

B1)	Yes	No
Does your establishment usually keep cash reserves beyond what is required for daily operation?	B1	

B2)

When in need of cash flow, which of the following strategies do you use?	Yes	No
1. Minimise spending (including any measure taken for cost-cutting of the establishment)	B2a	
2. Offer discounts and lower price to stimulate sales	B2b	
3. Monitor receivables and increase collection efforts	B2c	
4. Offer discounts to clients that pay early to encourage them to pay faster	B2d	
5. Increase sales	B2e	
6. Access owner's personal funds	B2f	
7. Access short term credit	B2g	
8. Other If Other, specify: B2hx	B2h	

B3)

Please rate your cash flow in 2016 (see table B3 below)	B3
---	----

B3. Scale

Very good—I always had plenty of cash after paying expenses and salaries	1
Good—I always had sufficient cash after paying expenses and salaries	2
So so—Sometimes I struggled to pay salaries and expenses	3
Bad—I often was not able to pay salaries and expenses on time	4

B4)

	Yes	No
Do you assess the risk facing your establishment?	B4a	
If Yes , how do you go about assessing risk? (see table B5b below)	B4b	
If No , why not? (see table B5c below)	B4c	

B5b. Risk assessment**B5c. Reasons**

I compare my establishment to similar ones	1	There is no need	1
I research how many competitors I have	2	I don't know how to do it	2
I analyse how my sales progress on a yearly/ monthly basis	3	I do not know who I should turn to for help	3
		It is too expensive	4
I evaluate how the market is evolving	4	It is too time consuming	5
I evaluate how the political situation might affect my establishment	5		
Other (specify) B4bx	6		

B5)	Yes	No
Do you usually keep cash beyond what you need for your regular operations?	B5a	
When it comes to managing money, which of the following statements best describes you? (see table B5 below)	B5b	

B5. Managing money

I know more about managing money than most business peers	1
I know the same as everyone else (or business peers) about managing money	2
I know less about managing money than most people (or business peers) I know	3

SECTION C: EXPANSION

C1)	Yes	No
Did you have a business plan when you started the business?	C1a	
If No , why not? (see table C1 below)	C1b	

C1. Main reason for not having a business plan

There is no need	1
I don't know how to prepare one	2
I don't know who I should turn to for help	3
It is too expensive	4
It is too time consuming	5

C2)	Yes	No
Have you ever expanded the size or scope of your business?	C2a	

	Yes	No	If No, what was the main reason for not having it? (see table C1 above)
If Yes , before planning for an expansion or a new project, did you:			
1. Create a business plan	C2b		C2b1
2. Conduct marketing or competitive analysis	C2c		C2c1
3. Project or budget sales / costs	C2d		C2d1
4. Research new technologies	C2e		C2e1
5. Analyse new or alternative opportunities	C2f		C2f1

C3)	Yes	No
Do you financially plan for the long-term, that is five years or more into the future?	C3a	
If Yes, how many years into the future do you plan for?	C3b	
If Yes, what aspects of your business do you include in this plan? (see table C3c below)	C3c	

C3c. Aspects included in plan

Sales	1
Marketing	2
Financing	3
Investment	4
Business development	5
Operations	6
Human resources	7
Other (specify) C3cx	8

SECTION D: ORGANIZATION AND SKILL

D1)	Yes	No
Do you typically ask for financial advice?	D1a	
If Yes, how often? (see table D1a below)	D1b	
If Yes, under what circumstances (see table D1b below)?	D1c	
If Yes, who of the following people do you ask for financial advice?	Yes	No
1. Financial professionals (e.g. accountant, staff of a financial institution, financial consultant)	D1e	
2. Legal professionals	D1f	
3. Other business owners	D1g	
4. Friend or family member	D1h	
5. Other, specify: D1jx	D1i	
If No, why not? (see table D1c below)	D1k	
Do you ever conduct your own research (online or through books) when you need financial advice?	D1l	

D1a. Frequency**D1b Circumstances****D1c. Reasons for asking advice**

Daily	1	Starting a business	1	There is no need	1
Weekly	2	Expanding a business	2	I don't know how to do it	2
Monthly	3	Accessing finance	3	I do not know who I should turn to for help	3
Every three months	4	When faced with financial losses or troubles	4	It is too expensive	4
Every six months	5	Bookkeeping	5	It is too time consuming	5
Every year	6				
Less than once a year	7				
Other (specify) D1bx	8				

D4)

Have you heard of the following financial services? <div style="border: 1px solid black; padding: 2px; display: inline-block;">Yes: 1 No: 2</div>	Y/N	If Yes,						If No,
		has your establishment ever used it?		If Yes,				your establishment has never used it, what is the main reason for this (see table D4 below)?
				do you currently use it?		are you satisfied with the services offered?		
		Yes	No	Yes	No	Yes	No	
1. Checking or saving account at a commercial bank or other financial institution	D4a	D4a1		D4a2		D4a3		D4a4
2. Term deposits	D4b	D4b1		D4b2		D4b3		D4b4
3. Internet Banking	D4c	D4c1		D4c2		D4c3		D4c4
4. Electronic payments through a mobile phone (e.g. SMS banking)	D4d	D4d1		D4d2		D4d3		D4d4
5. Electronic payments through a money transfer service	D4e	D4e1		D4e2		D4e3		D4e4
6. Loan or line of credit from banks	D4f	D4f1		D4f2		D4f3		D4f4
7. Loan or line of credit from, microfinance organization, cooperatives or credit union,	D4g	D4g1		D4g2		D4g3		D4g4
8. Investment from venture capital funds, or angel investors	D4h	D4h1		D4h2		D4h3		D4h4
9. Investment from private equity funds	D4i	D4i1		D4i2		D4i3		D4i4
10. Trade financing	D4j	D4j1		D4j2		D4j3		D4j4
11. Factoring/leasing	D4k	D4jk		D4k2		D4k3		D4k4
12. Insurance products	D4l	D4l1		D4l2		D4l3		D4l4
13. Government subsidy programs	D4m	D4m1		D4m2		D4m3		D4m4

D4. Main Reason

No need	1	Too expensive	5
I don't trust this type of service	2	My establishment doesn't qualify	6
I don't know enough about	3	Products available don't suit my needs	7
Not easy to use	4	Other	8

D5)	To suppliers		From suppliers	
	Yes	No	Yes	No
Which of the following methods are typically used when making payments to suppliers and receiving payments from customers?				
Credit card	D5a1		D5a2	
Mobile phone	D5b1		D5b2	
Virtual payments (e.g. PayPal, Skrill, etc.)	D5c1		D5c2	
Bank to bank transfer	D5d1		D5d2	
Money transfer via money transfer operators (e.g. Western Union, MoneyGram etc.)	D5e1		D5e2	
Cash	D5f1		D5f2	
Check	D5g1		D5g2	
Money order / Cashier's check	D5h1		D5h2	
Prepaid cards	D5i1		D5i2	
Debit cards	D5j1		D5j2	

D6)	Fixed assets		Working capital	
	Yes	No	Yes	No
For each type of asset, indicate which type of financing you prefer to use.				
1. Internal financing	D6a1		D6a2	
If No , why? (see table D7 below)	D6b1		D6b2	
2. External financing	D6c1		D6c2	

D7. Main reason

Distrust	1
Don't know enough about alternatives	2
Not easy to gain access to external financing	3
Other	4

D7)	Yes	No
At this time, does the owner or owners of this establishment have any outstanding personal loans that are used to finance this establishment's business activities?	D7	

D8)	Yes	No
Did this establishment apply for any loans or lines of credit in 2016?	D8a	
If Yes , did this financing require collateral?	D8b	
If Yes , did you negotiate the requirements and terms and conditions for the collateral and/or requested guarantees?	D8c	

SECTION E: FINANCIAL LITERACY

INTERVIEWER READS: The next section of the questionnaire is more like a quiz. The questions are not designed to trick you so if you think you have the right answer, you probably do. If you don't know the answer, just say so.

E1)

Imagine that five brothers are given a gift of 1,000 (LCU). If the brothers have to divide the money equally, how much does each one get?	E1	LCU
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E2)

Now, imagine that the five brothers have to wait for one year to get their part of the 1,000 (LCU) and inflation stays at 10%. In one year's time will they be able to buy: (See table E2)	E2	
--	----	--

Table E2. Able to buy in one year with the share of today

More with their share of money than they could today	1
The same amount	2
Less than they could buy today	3
It depends on the types of things that they want to buy (do not read out this option)	4

E3)

Suppose you put 1,000 (LCU) into a savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?	E3	LCU
--	----	-----

E4)

How much would be in the account at the end of five years? Would it be: (see table E4) inflation stays at 10%. In one year's time will they be able to buy: (See table E2)	E4	
--	----	--

Table E4. Value of a deposit of 1,000 LCU in 5 years

More than 1,000 LCU	1
Exactly 1,000 LCU	2
Less than 1,000 LCU	3
It is impossible to tell from the information given (do not read out this option)	4

E5)

Let's assume that you saw a TV-set of the same model on sales in two different shops. The initial retail price of it was 1,000 LCU. One shop offered a discount of 150 LCU, while the other one offered a 10% discount. Which one is a better bargain, a discount of 150 LCU or 10%? (see table E5)	E5	
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Table E5. Better Discount

A discount of 150 LCU	1
They are the same	2
A 10% discount	3

E6)

Which of the following statements best describes the primary purpose of insurance products? (See table E6)	E6
--	----

Table E6. Primary purpose of insurance products

To accumulate savings	1
To protect against risks	2
To make payments or send money	3
Other	4
If other specify	E6x

E7

Suppose you have money to invest. Is it safer to buy stocks of just one company or to buy stocks of many companies? (See table E7)	E7
--	----

Table E7. Safest stock investment

Buy stocks of one company	1
Buy stocks of many companies	2

E8

If you have an opportunity to invest 1,000 LCU with one of the following three friends, with whom would you invest? Note the possibility your investment fails and you lose your invested money (See table E8)	E8
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Table E8. Investment options

Friend with an investment with highest return in the past month	1
Friend with an investment with the highest return in the previous year	2
Friend with investment with low return and low risk	3
Invest a portion of money with all of them	4

E9

Suppose you obtained a 1,000 LCU loan. You make a fixed payment of 10 LCU each month. At a nominal annual interest rate of 12% (or 1% per month), how many years would it take to repay the amount you owe? (See table E9)	E9
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Table E9. Investment options

Less than 5 years	1
Between 5 and 10 years	2
Between 10 and 15 years	3
Never, you will continue to be in debt forever	4

E10

In difficult times companies sometimes seek to temporarily lower prices in hope of attracting new customers. They plan to increase prices at a later day when market conditions improve. If price of a product is 100 LCU and is lowered by 30%, how many percentage points does the product price have to be increased by to return to the original price of 100 LCU? (See table E10)	E10
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Table E10. Percentage increase

By 30%	1
Less than 30%	2
More than 30%	3

E11

Suppose you are a farmer facing unpredictable market conditions where prices are fluctuating. In order to best protect your income stream, you should... (See table E11)	E11
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Table E11. Income stream protection

Specialize in one crop	1
Grow multiple crops for which prices have moved historically in the same direction	2
Grow multiple crops for which prices have moved historically in different directions	3

E12)

What kind of financial-management skills do you want to learn most? Code "1" for all that apply, otherwise leave blank. Select up to 3 responses	
1. Minimize spending	E12a
1. Keep cash provisions	E12b
2. Use short term credit for turnover	E12c
3. Use self-generated resources	E12d
4. Offer discount and lower price	E12e
5. Attract investors	E12f
6. Monitoring of receivables	E12g
7. Payment facilities for early payers	E12h
8. Knowledge of payment instruments and cash-flow management tools	E12i
9. Accessing finance	E12j
10. Other (specify) E12kx	E12k

F3)

To what extent do you agree or disagree with the following statements regarding games of chance? (see table F3 below)	
1. I don't play	F3a
2. If playing, I gamble for low stakes	F3b
3. I may play but never beyond the limit of my means	F3c
4. I play for high stakes, sometimes beyond my means	F3d
5. I generally don't play since I hate to lose	F3e
6. When playing, I sometimes stake my all	F3f
7. I don't play on principle	F3g

F3. Scale

Strongly disagree	1
Disagree	2
Agree	3
Strongly agree	4

F4)

When making a decision which of the following best describes you? Code "1" for the answer that best describes you only , leave the rest blank	
1. I typically take a long time to think through and make a decision	F4a
2. I base my decision on gut feeling	F4b
3. I am convinced that I am right	F4c
4. I tend to postpone making a decision	F4d
5. I make up my mind quickly	F4e



REFERENCES

- Berge, Lars Ivar Oppedal, Kjetil Bjorvatn, and Bertil Tungodden. 2011. "Human and Financial Capital for Microenterprise Development: Evidence from a Field and Lab Experiment." CMI Working Paper 2011: 1.
- Bjorvatn, Kjetil and Bertil Tungodden. 2010. "Teaching Business in Tanzania: Evaluating Participating and Performance." *Journal of Economic Perspectives* 24, no. 1: 203–24.
- Bloom, Nicholas, Aprajit Mahajan, David McKenzie, and John Roberts. 2010. "Why Do Firms in Developing Countries Have Low Productivity?" *American Economic Review: Papers & Proceedings* 100, no. 2 (May 2010): 619–23.
- Bruhn, Miriam, Dean Karlan, and Antoinette Schoar. 2010. "What Capital Is Missing in Developing Countries?" *American Economic Review: Papers & Proceedings* 100, no. 2 (May 2010): 629–33.
- Bruhn, Miriam, and Bilal Zia. 2011. "Stimulating Managerial Capital in Emerging Markets: The Impact of Business and Financial Literacy for Young Entrepreneurs." World Bank. Policy Research Working Paper 5642. Washington, DC.
- Calderon, Gabriela, Jesse M. Cunha, and Giacomo De Giorgi. 2011. "Business Literacy and Development: Evidence from a Randomized Control Trial in Rural Mexico."
- Coville, Aidan, Vincenzo Di Maro, Siegfried Zottel, and Felipe Alexander Dunsch. 2013. "The Nollywood Nudge: An Entertaining Approach to Saving." World Bank. Washington, DC. Forthcoming.
- De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2012. "Business Training and Female Enterprise Start-up, Growth, and Dynamics: Experimental Evidence from Sri Lanka." Washington, DC.
- Drexler, Alejandro, Greg Fischer, and Antoinette Schoar. 2010. "Keeping It Simple: Financial Literacy and Rules of Thumb."
- Giné, Xavier, and Ghazala Mansuri. 2011. "Money or Ideas? A Field Experiment on Constraints to Entrepreneurship in Rural Pakistan." World Bank. Washington, DC. Forthcoming.
- Holzmann, Robert, Florentina Mulaj, and Valeria Perotti. 2013. *Financial Capability in Low- and Middle-Income Countries: Measurement and Evaluation*. Financial Literacy and Education. Russia Trust Fund. World Bank. Washington, DC.
- IFC (International Finance Corporation). 2013. "G20 Financial Literacy Curriculum Outline." IFC. Washington, DC.

Karlan, Dean, and Martin Valdivia. 2011. "Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions." *The Review of Economics and Statistics* 93, no. 2 (May 2011): 510–27.

Kempson, Elaine, Valeria Perotti, and Kinnon Scott. 2013. *Measuring Financial Capability: A New Instrument and Results from Low- and Middle-Income Countries*. Financial Literacy and Education. Russia Trust Fund. World Bank. Washington, DC.

Mano, Yukichi, Alhassan Iddrisu, Yutaka Yoshino, and Tetsushi Sonobe. 2011. "How Can Micro and Small Enterprises in Sub-Saharan Africa Become More Productive? The Impacts of Experimental Basic Managerial Training." World Bank. Policy Research Working Paper 5755. Washington, DC.

McKenzie, David, and Christopher Woodruff. 2012. "What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World?" World Bank. Policy Research Working Paper 6202. Washington, DC.

———. 2015. "Business Practices in Small Firms in Developing Countries." World Bank. Policy Research Working Paper 7405. Washington, DC.

Mooi, Erik, and Marko Sarstedt. 2011. *A Concise Guide to Market Research: The Process, Data, and Methods Using IBM SPSS Statistics*. Springer-Verlag Berlin Heidelberg.

Perotti, Valeria, Siegfried Zottel, Giuseppe Iarossi, and Adedayo Bolaji-Adio. 2013. *Making Sense of Financial Capability Surveys around the World: A Review of Existing Financial Capability and Literacy Measurement Instruments*. Financial Literacy and Education. Russia Trust Fund. World Bank. Washington, DC.


World Bank. 2011. "KAIZEN for Managerial Skills Improvement in Small and Medium Enterprises: An Impact Evaluation Study." World Bank. Washington, DC.

———. 2013. "Financial Capability Surveys around the World. Why Financial Capability Is Important and How Surveys Can Help." World Bank. Washington, DC.

———. 2014. *Global Financial Development Report 2014: Financial Inclusion*. World Bank. Washington, DC.

———. 2017. *Global Financial Inclusion and Consumer Protection Survey, 2017 Report*. World Bank. Washington, DC.



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