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CENTRAL BANK OF ARMENIA

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FINANCIAL CAPABILITY BAROMETER

A NEW METHODOLOGY FOR MEASURING THE FINANCIAL CAPABILITY OF A COUNTRY'S POPULATION

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FINANCIAL CAPABILITY BAROMETER

A new methodology for measuring financial capabilities

Elaborated by:

Coordinated and reviewed by:

In cooperation with:

This paper describes in brief the Financial Capability Barometer (FCB) approach, which is a new methodology for measuring financial capability. The FCB was elaborated by Vartan Aghabalyan and Vahe Mambreyan of AM Partners Consulting (www.ampartners.am) under the supervision of the Central Bank of Armenia (CBA) and in cooperation with the Alliance for Financial Inclusion (AFI).

This paper was prepared by Arthur Pokrikyan, Sona Lalayan and Armenuhi Mkrtchyan of the Consumer Rights Protection and Financial Literacy Center, Central Bank of Armenia. It is based on the more detailed report, "Financial Capability Barometer: Methodology of Measuring Financial Capabilities of Armenian Population" (2014) by Vartan Aghbalyan and Vahe Mambreyan. The latter includes the FCB framework and full methodology, a survey toolkit, a module for calculating the Financial Capability Index and sub-indexes and all necessary guidelines.

In 2014, a survey was conducted in the Republic of Armenia using the FCB approach and the results were used to create a baseline for the country's National Strategy on Financial Education. This work was conducted as part of a policy grant provided by the Alliance for Financial Inclusion (AFI).

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Any mistakes and errors are those of the authors.

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ACRONYMS

NSFE	National Strategy on Financial Education
FCB	Financial Capability Barometer
OECD	Organisation for Economic Co-operation and Development
INFE	International Network on Financial Education
RTF	Russian Trust Fund
CBA	Central Bank of Armenia
AFI	Alliance for Financial Inclusion
FSA	Financial Services Authority

BACKGROUND

Measuring financial capability is recognized as an important part of financial education policy. It provides both a baseline for elaborating national strategies on financial education and a tool for monitoring its effectiveness. Thus, the Organisation for Economic Co-operation and Development (OECD) and the World Bank, major international players[1] in financial education policies, have elaborated methodologies for measuring financial capability that many countries use. One of the main objectives of these methodologies was to create a unified approach that would help to collect globally comparable data on financial capability in different countries.

Armenia has conducted two financial capability assessments based on the OECD and World Bank methodologies, which were then used to elaborate its National Strategy for Financial Education (NSFE). Some challenges were identified. First, more financial education topics were required than the methodologies covered, such as the wider economic impact of financial capability, protecting consumer rights and safety. Second, as a nationwide, multi-stakeholder project, the NSFE requires a simple system for setting policy priorities. Any stakeholder should be able to identify the main issues of different target groups easily and in enough detail to design tailored, effective programs. Another challenge was the simplicity of the scoring system, which should be simple and effective enough to allow policymakers and the public to easily monitor the progress of NSFE implementation and determine whether it is meeting its objectives.

To address these challenges, the Central Bank of Armenia, in cooperation with AFI, elaborated a new financial capability measurement tool, the Financial Capability Barometer (FCB), in 2013 and 2014. The objective of the FCB is to set effective policy priorities, strategies and benchmarks for the development of financial education programs, and to monitor the implementation of the NSFE and ensure public accountability. The general framework of the FCB is presented in this paper.

We believe that AFI member countries in the process of elaborating an NSFE or setting up assessment and monitoring systems to measure the effectiveness of their NSFEs, can, with the support of AFI, use the new FCB approach and easily tailor it to their national contexts. AFI, in turn, can create a comparative database on financial capability in member countries and support global research on related topics.

1 There is no globally recognized approach to measuring financial capability. In fact, a large number of approaches are used in different countries and vary by the topics covered, methods of data analysis and scoring systems. A recent comprehensive report by the World Bank (2013) counted 17 different measurement approaches in 152 countries. Two approaches elaborated by The World Bank and OECD are the most commonly used by countries developing national methodologies, including Armenia.

FINANCIAL CAPABILITY BAROMETER

OBJECTIVE

The Financial Capability Barometer (FCB) is a framework for measuring the financial capability of a country's population and is an effective tool for:

- Policymakers to set financial education policy priorities effectively;
- Financial education project implementers to design effective and tailored projects;
- NSFE Steering Committees[2] to obtain a baseline assessment of financial capabilities, set measurable targets for an NSFE and monitor the effectiveness of the NSFE over time; and
- The public to monitor the progress of the NSFE and demand public accountability in a simple manner.

The FCB is a comprehensive, simple, flexible and effective set of solutions required to fully and accurately measure the financial capabilities of a country's population. The FCB includes capability components, thematic areas, a competency matrix, survey methodology, questionnaire, scoring matrix and scoring module.

Although the FCB was initially tailored to Armenia's national context and elaborated to measure the level of financial capability in this country specifically, it is flexible enough for other countries to apply as well. However, minor adjustments may be needed depending on the unique features and priorities of the country's NSFE.

DEFINITION OF A FINANCIALLY CAPABLE PERSON

The definitions of financial capability currently used by countries and international organizations do not have any major conceptual differences, so defining it within the FCB framework was simply a matter of wording. For the FCB, we use the definition of a 'financially capable person', as described in Armenia's NSFE:

A financially capable person is a person who has the knowledge, abilities, skills and culture, which give them the opportunity to be informed, make responsible decisions about their personal finances, and take the right actions according to the situation.

In terms of measurement, the level of financial capability corresponds with the knowledge, skills, attitude and behavior an individual demonstrates when making decisions about their personal finances.

METHODOLOGICAL PRINCIPLES AND SPECIFICATIONS

The following are the underlying core principles and specifications of the FCB methodology:

1 **Inheritance:** The FCB approach preserves the continuity of existing international methodologies by applying the main concepts of the World Bank/RTF and OECD/INFE approaches in terms of financial capability, its components, thematic areas, questions included in the questionnaire and survey analysis, as well as the assessment of financial capability. However, the FCB also uses a number of new approaches that help to determine the level of financial capability by taking into account country-specific characteristics and the priorities of national policymakers. It is more about repackaging and fine-tuning existing methodologies to measure financial capability more effectively, set baselines and policy priorities, monitor the progress of national financial education strategies and ensure public accountability.

2 **Flexibility:** Despite the FCB being country-specific, the toolkit allows any country to easily tailor it to its national context and policy priorities (like removing or inserting Lego blocks), while also making it possible and easy to compare data across countries.

3 **Simplicity:** Given that NSFE is a nationwide initiative and includes multiple stakeholders from various areas and backgrounds, the FCB approach was designed to allow:
   - Policymakers to ensure proper policy priorities are set;
   - Financial education project implementers to easily map existing financial capability issues across different target groups, thematic areas (savings, debt management, etc.) and financial capability components (knowledge, skills, attitude, behavior);
   - NSFE Steering Committee to multilaterally monitor the effectiveness of NSFE; and
   - The public to monitor progress and be assured there is a simple system of accountability in place.

The FCB scoring model gives a dynamic perspective to financial capability by measuring many dimensions: thematic areas, financial capability components (knowledge, skills, attitude, behavior), as well as gender, geography, education, age and income. This approach allows detailed multidimensional mapping of financial capabilities and thus more targeted and effective financial education initiatives.

Neutrality is a key specification as well. In order to get an objective and realistic picture of financial capability in the country, the FCB scoring approach does not use weighted measures for financial capability across thematic areas and financial capability components.[3]

2 The Steering Committee for the Development and Implementation of National Strategy on Financial Education in Armenia is an intergovernmental advisory body and its members cooperate to develop and implement Armenia's NSFE in the most efficient way possible.

3 The reason for this approach is that, during the NSFE elaboration process in Armenia, the causal relationships between financial capability components (knowledge, skills, attitude and behavior) were heavily debated by policymakers and it was determined that weighting them may distort an objective assessment of financial capabilities in terms of policy decisions.

FINANCIAL CAPABILITY COMPONENTS

The FCB adopted the World Bank's approach, which is based on four main financial capability components:

- knowledge
- skills
- attitude
- behavior.

Knowledge is the stock of information on any issue, topic or subject an individual obtains and retaines. Knowledge, the first and most important component of financial capability, is formed through three sources: education and training, experience or information flows from various resources (e.g. relatives and friends, mass media, etc.). All these sources represent channels through which information is acquired and transferred. Some of this information will be understood and retained by the individual, while the rest is lost. Whatever is retained replenishes their stock of knowledge. Knowledge assessment within the framework of the FCB aims to identify the lack or absence of financial knowledge among different population groups based on which financial education implementers are able to develop more targeted initiatives.

The content selected for the assessment of financial knowledge depends on the level of financial system development in the particular area of the country. Based on experience, countries with a developed financial system have objectively more knowledge and information, and, depending on the number of financial services provided in the respective financial market, survey questions may cover a significantly larger range of topics than in countries with underdeveloped financial systems.

To define **Skill** in the context of the FCB, we used the same approach as the Financial Services Authority (FSA), which defines it as a person's ability to use their financial knowledge. For example, if a person knows how to calculate a compound percentage, this is knowledge, but if they are able to apply the compound percentage calculation while using a financial service, this is a skill.

Knowledge and skill are usually not enough for people to manage their financial affairs appropriately. They must be prepared to take whatever steps are necessary to apply their knowledge and exercise their skills. Over the course of their lives, different circumstances lead people to develop certain perceptions and beliefs that affect their decisions when managing their personal finances. Given this, we define **Attitude** as the willingness and readiness of a person to invest the time and other resources required to apply their knowledge and exercise their skills.

The last component of financial capability is **Behavior**, which is defined as the actual application of knowledge, skills and attitude in everyday life.

FINANCIAL CAPABILITY THEMATIC AREAS

With the FCB, it is important to define all the thematic dimensions that play a primary role in the implementation of a financial education policy and which are based on the country's unique characteristics. For an NSFE, the FCB has identified seven thematic dimensions:

1 **Economic Impact** (main financial and economic concepts and their impact on personal finances)
2 **Budget Management** (effective management of personal and family budget)
3 **Savings and Long-term Planning** (short-term and long-term savings based on goals)
4 **Debt Management** (effective management of debts)
5 **Shopping Around** (information collection and comparison of financial products and services for making informed decisions)
6 **Rights Protection** (protection of personal rights when an issue arises)
7 **Safety** (understanding the safe usage of financial instruments and avoidance of scams, deception and fraud)

These thematic dimensions more or less cover the topics in the OECD/INFE and World Bank/RTF methodologies while including additional topics as well. For example, Economic Impact contains questions about inflation, exchange rate and the central bank's refinancing rate—frequently monitored indexes by population in a developing economy.

FINANCIAL CAPABILITY COMPETENCY MATRIX

The Financial Capability Competency Matrix defines the competencies that a financially capable adult should have across the seven thematic areas and financial capability components (knowledge, skills, attitude and behavior). This matrix served as the basis for designing the FCB survey questionnaire and is presented in full in Appendix 1.

SCORING MATRIX AND FINANCIAL CAPABILITY INDEX

The FCB scoring matrix consists of the Financial Capability Index and 39 sub-indexes (see Table 1). All indicators are expressed as percentages.

The sub-indexes include 28 indexes across seven thematic areas and financial capability components (knowledge, skills, attitude and behavior), seven aggregated indexes for each thematic area and four aggregated indexes for each financial capability component.

Scoring matrixes like in Table 1 can also be calculated by gender, age, region, income and education.

The Financial Capability Index (FCI) shows the level of financial capability within a population. For example, FCI=44% means that, of the 100 financial capabilities in the Financial Competencies Matrix (Appendix 1), only 44% of them are present in the population.

Every sub-index can be read the same way. For example, the Knowledge sub-index (_A) =29% shows that only 29% of the financial knowledge defined in the Financial Competencies Matrix across the seven thematic dimensions exists in the population. The sub-index 'Economic Impact' (A_) shows that only 39% of this financial capability (knowledge, skill, attitude and behavior) is present. When the Knowledge sub-index of 'Savings and Long-term Planning' (CA) is 64%, this means that the population's knowledge about savings is 64% on average.

For simplicity reasons, the FCI and other sub-indexes are scaled lowest (0-20%), low (21-40%), middle (41-60%), high (61-80%) and highest (81-100%).

No weights are used in the FCB scoring model. The indexes are calculated based on the averagefor each 'capability component-thematic area group' (AA to GD 28 sub-indexes in Table 1). Using the same principle, the sub-indexes are then calculated for each thematic area and capability component. Given that all thematic dimensions and capability components are equally important, the FCI is calculated as the average of the 28 sub-indexes.

An example of a scoring matrix for Armenia (based on a 2014 study using the FCB) is presented in Table 2.

TABLE 1: **SCORING MATRIX (%)**

FINANCIAL CAPABILITY COMPONENTS: THEMATIC AREAS	KNOWLEDGE	SKILLS	ATTITUDE	BEHAVIOR	OVERALL
1. ECONOMIC IMPACT	AA	AB	AC	AD	A_
2. BUDGET MANAGEMENT	BA	BB	BC	BD	B_
3. SAVINGS AND LONG-TERM PLANNING	CA	CB	CC	CD	C_
4. DEBT MANAGEMENT	DA	DB	DC	DD	D_
5. SHOPPING AROUND	EA	EB	EC	ED	E_
6. RIGHTS PROTECTION	FA	FB	FC	FD	F_
7. SAFETY	GA	GB	GC	GD	G_
OVERALL	_A	_B	_C	_D	FCI

TABLE 2: **FINANCIAL CAPABILITY SCORES FOR ARMENIA (%)**

	KNOWLEDGE	SKILLS	ATTITUDE	BEHAVIOR	OVERALL
1. ECONOMIC IMPACT	25%	64%	45%	24%	39%
2. BUDGET MANAGEMENT	54%	34%	54%	42%	46%
3. SAVINGS AND LONG-TERM PLANNING	27%	35%	43%	29%	34%
4. DEBT MANAGEMENT	30%	48%	52%	68%	45%
5. SHOPPING AROUND	21%	78%	71%	23%	48%
6. RIGHTS PROTECTION	37%	67%	57%	69%	58%
7. SAFETY	10%	13%	75%	67%	41%
	29%	48%	57%	44%	44%

The scoring model was designed to assess financial capability in a simple manner by using different indexes. As a result, the FCB scoring model provided an opportunity to:

- identify the strong and weak aspects of financial capability in Armenia across different thematic areas and components, and help policymakers and financial education project implementers to develop targeted and efficient initiatives;
- multilaterally monitor the effectiveness of NSFE during the implementation period and make progress toward achieving the goals and objectives of the NSFE; and
- demonstrate accountability to the public by using simple calculations and analysis

METHODOLOGICAL CONSIDERATIONS

The financial capability assessment is designed to be based on data collected through direct interviews using a standardized questionnaire. Given the broad range of financial capability and large number of questions (118), face-to-face interviews are the most effective way for reliable assessment.

The questionnaire was designed based on the Financial Capability Competency Matrix. It consists of eight sections, including the respondent's information (region, age, gender, income and education) and the seven thematic areas in the matrix. 118 "closed" questions were used to make it efficient both in terms of data collection and scoring. Eight of the questions are not included in the FCB scoring model, but provide important information, for example, the reasons for not using financial services. The target population for the study is adults (18+). Individuals rather than households were chosen since, from a financial education perspective, it is more appropriate and effective to study the needs of individuals than households. The entire territory of the country should be covered to capture urban and rural populations in all regions.

Sampling can be flexible depending on costs. The FCB suggests a minimum sample size to get country-wide representation with a confidence level of 95% and a confidence interval of 2.5%. This approach was used in Armenia. In this case, the statistical results for different population groups are not considered representative, but are enough to reveal common patterns. Based on the common patterns and other priorities, additional qualitative research studies or experiments can be conducted. However, if the country intends to get representative results not only nationwide but also for separate population groups, this can be achieved through enlarging the sample size.

As mentioned earlier, neutrality is important. In order to get an objective and realistic picture of a country, the FCB scoring approach does not use weighted measures for financial capability across thematic areas and components.[4]

APPLICABILITY TO OTHER COUNTRIES

The thematic areas and scoring system of the FCB were designed to offer flexibility and be easily adapted to another country context and the needs of national policymakers. Any country that wants to use the new FCB tool can tailor it to its own specifications. It does not require significant effort to adapt the questionnaire and scoring to national circumstances in the thematic areas and financial capability components. At the same time, it is easy to compare data across countries.

4 See footnote 3

CONCLUDING REMARKS

This paper has provided an overview of the Financial Capability Barometer (FCB) developed by the CBA in cooperation with AFI. This new methodology for measuring financial capability draws on the key principles of existing methodologies and provides a new toolkit that allows policymakers to more effectively map issues across different target groups, ensure proper policy priorities are set, multilaterally monitor the effectiveness of NSFE and ensure public accountability, simply. The FCB approach is also flexible enough for other countries to adapt and use.

The Financial Capability Barometer toolkit includes the FCB framework (concept, definition, principles, components, measurement, reporting, etc.), a survey questionnaire, a how-to guide for conducting the survey and the Scoring Matrix.

We believe that AFI member countries in the process of elaborating their NSFE or setting up assessments and monitoring systems to measure the effectiveness of their NFSE, can, with the support of AFI, use the new FCB approach and tailor it to their national contexts. AFI, in turn, can set up a comparative database of financial capability in AFI member countries and support global research on related topics.

APPENDIX 1

FINANCIAL COMPETENCIES MATRIX

TOPICS	A. KNOWLEDGE	B. SKILLS	C. ATTITUDE	D. BEHAVIOR
1. ECONOMIC IMPACT	> Know the financial institutions that provide financial services > Know the types of financial services > Know the role of the central bank > Know major macroeconomic concepts, such as inflation, exchange rate, percentages of financial services and central bank refinance rate	> Be able to evaluate the impact of inflation and exchange rate on his/her personal finances > Be able to evaluate the impact of the refinancing rate on the percentages of financial services	> Trust the main financial institutions > Value following important financial and macroeconomic indicators	> Use different financial services > Follow important financial and macroeconomic indicators
2. BUDGET MANAGEMENT	> Know what a budget is > Know the types of income and differentiate income from cash inflow > Know the types of costs and differentiate costs from cash outflow > Know the difference between fixed and variable costs > Know what net income is > Know about bank account and payment cards and what kinds of transactions can be performed with them > Know the risks related to his/her personal finances > Know about insurance and different types	> Be able to manage budget deficit if needed > Be able to prioritize costs > Be able to monitor budget > Be able to define the relationship between risk and yield > Be able to choose insurance services based on different characteristics	> Value budgeting and planning > Value budget monitoring by using specific tools > Value using insurance services	> Plan and create a budget in advance > Manage seasonal income in an efficient way > Spend income based on the budget > Monitor budget using a specific tool, including statements for bank accounts and payment cards > Have a bank account and payment cards > Have one insurance service
3. SAVINGS AND LONG-TERM PLANNING	> Know the main goals of saving > Know that it is possible to get an additional income from savings by making investments > Know about the types of investment tools (deposit, shares, pension) > Know about diversification > Know about simple and compound interest, capitalization > Know about deposit insurance funds and insurance amounts	> Be able diversify > Be able to calculate simple and compound interest > Be able to choose investment shares based on different characteristics > Be able to manage a pension account	> Value saving in general and long-term saving especially > Value investing savings in a formal way rather than keeping at “home”	> Always make savings in general and targeted savings especially > Invest savings in a formal way > Have a pension account and manage it actively
4. DEBT MANAGEMENT	> Know the sources and types of debts > Know what credit is and the different types > Know about nominal and effective interest rates > Know the types of collateral and consequences of delay debt > Know about the Credit Bureau	> Be able to take on debt based on his/her budget > Be able to choose debt financial services based on different characteristics > Be able to use Credit Bureau services > Be able to monitor debt repayment	> Value taking on debt in a formal way > Have a negative attitude towards covering debts with another debt > Value monitoring debt repayment and having a repayment schedule	> Use a formal channel to take on debt, if it is needed > Take on a debt considering his/her personal budget > Have a debt repayment schedule and cover all debts on time

FINANCIAL COMPETENCIES MATRIX *CONTINUED*

TOPICS	A. KNOWLEDGE	B. SKILLS	C. ATTITUDE	D. BEHAVIOR
5. SHOPPING AROUND	> Know the information sources for getting all the necessary information about financial products and services	> Be able to get the necessary information from different sources in a short period > Be able to review the conditions of a financial service in-depth if something is unclear > Be able to compare financial products and services before making a decision	> Value official and professional sources of information > Value comparison of financial services and products before choosing one of them > Value getting advice from official and professional sources and pay for it if necessary	> Before choosing any financial service or product, gather information from different sources and make comparisons between them > Ask for consultation if necessary
6. RIGHTS PROTECTION	> Know how to protect personal rights > Know what official authorities deal with consumer complains > Know about the Financial System Mediator	> Be able to approach official authorities in case of a complaint	> Value his/her personal rights protection in a formal way > Trust official authorities > Value the role of the Financial System Mediator	> Read contracts before signing > In case of a complaint, approach the official authorities responsible for dealing with it
7. SAFETY	> Know what kind of inancial fraud exists	> Be able to detect financial fraud	> Value information related to financial fraud > Do not trust suspicious financial services and offers	> Be attentive to information related to financial fraud > Not all suspicious financial services and offers should be rejected without first undergoing a risk based examination

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