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Financial Literacy in Georgia

A Call to Policy Makers and Educators

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Georgia instituted a National Strategy for Financial Education by means of NBG Decree 145/04 of December 15, 2016. The strategy began to be implemented in the following year, under the leadership of the Consumer Protection and Financial Education Department of the NBG. The school year 2019-2020 saw the first implementation at scale of Financial Education as part of the 7th grade national curriculum for the newly introduced Citizenship subject, also known as Civics. The German Savings Bank Foundation for International Cooperation (SBFIC) and the Civic Education Teacher's Forum had a plan to train 600 civics teachers across the country in early 2020 and the initial plan of the World Bank team was to conduct a rigorous impact evaluation study of that training, together with a review of the recently introduced curriculum and didactic materials.

Only the curriculum review part of the original study was possible to be implemented in the lockdown state. However, the team was able to conduct a qualitative study including classroom observation of online classes and in-depth interview of the teachers. This and other related work is presented as a set of working papers that are instruments for discussion and debate rather than conclusive determinations. This study provides a constructive critique of the curriculum and the associated texts, using established international frameworks, including the OECD-PISA framework for measurement of financial literacy of 15 year olds. This policy-maker summary document is an overview for busy policy makers. Some of the policy recommendations summarized here have also been made in other places, most notably in publications by the OECD's International Network on Financial Education (OECD-INFE). Three prioritized and immediately actionable recommendations from this study are highlighted here:

RESEARCH AGENDA FOR FINANCIAL LITERACY IN GEORGIA

Utilize financial literacy data from sources like the OECD-PISA survey of 15 year old children and OECD-INFE survey of adults to uncover insights into areas of policy interest, beyond the tabulation of descriptive results of initial reports: This study has shown some examples of this kind of analytical research and made the code freely available. Extension of this research would be very useful for policy makers including deeper analysis of issues related to gender, financial literacy of families of migrant workers who send remittances, pensioners and the impact of financial literacy on entrepreneurship.

MATHEMATICS AND COMPETENCY BASED LEARNING THROUGH FINANCIAL LITERACY

Encourage conversation and investigation through the educational community about the possible causal links between Financial Literacy and the development of mathematical competencies: The study builds on recent advances in cognitive science about the acquisition of mathematics skills to show how financial literacy may help some students develop better mathematics skills. Development of financial literacy can help educators and parents throughout Georgia understand the practical meaning of competencies. Financial literacy is best acquired as a transversal competency – not just as part of a stand-alone subject, but integrated into mathematics and language learning for early grades.

CURRICULUM, EXTRA-CURRICULAR ACTIVITIES and TEACHER PROFESSIONAL DEVELOPMENT

The study presents curriculum analysis and analysis of OECD-PISA data that provides a range of implications both for future curriculum development and pedagogies including extra-curricular activities and the use of digital apps: The use of practical exercises in classroom and extra-curricular activities including digital apps will support development of financial literacy. Consistently applied formative assessment of student learning needs to be an integral part of the teaching process in Georgia, especially for financial literacy. Teacher professional development needs to impart subject matter knowledge to teachers rather than expect teachers to rely on their possibly limited experience on financial matters. Digital resources may help in this regard, and one of the working papers presented as part of this study provides information about a wide set of digital resources that can be accessed by educators.

Summary of Four Working Papers

Working Paper 1: Financial Literacy: Insights for Georgia from analysis of OECD-PISA data

This paper presents analysis of the OECD-PISA assessment of financial literacy (FL) carried out in 2018, the results of which were released by OECD in May 2020. This paper describes briefly why financial literacy is important and how it is related to cognitive achievement. Even though Georgia's mean performance is low in a comparative international context, there is a wide variation within Georgia in both performance and the causal and contextual variables. The paper uses Structural Equation Modeling (SEM) to uncover underlying patterns. Building from the finding from the literature on acquisition of mathematics skills, this paper finds that school related factors together explain both mathematical and financial literacy skills and suggests that the deterministic relationship may run both ways. Teaching Financial Literacy, by concretizing and placing problems in real life, likely will enhance the learning in Mathematics, a potentially powerful argument to support Financial Literacy in the Curriculum.

Working Paper 2: Financial Literacy: Curriculum for 7th, 8th and 9th grades

This paper presents a critical review of the incorporation of financial literacy in the Georgian national curriculum. Financial literacy was incorporated for the first time in the school year 2019-2020, as part of “Citizenship”, a new 7th grade civics education subject. The paper is directed towards educators and curriculum and textbook developers, and provides an analysis of the content of the curriculum and associated textbooks and didactic material. Criteria used include projected student engagement, guidance for teachers, and formative and summative assessment. The curriculum analysis was supplemented by a qualitative research with Civics teachers regarding their training and the actual implementation in the classroom, albeit disrupted by the transition from in-person to online classes. The two main findings relate to specific suggested improvements in the curriculum to provide more content depth and engaging practical activities to motivate children; and a potential disconnect between the willingness of teachers and the need to deepen the teacher’s own understanding of financial concepts.

Working Paper 3: Digital Applications for Financial Literacy

The question addressed in this paper is whether non-traditional, technology-based and edutainment (education through entertainment) solutions, can provide the needed behavioral change by appealing to emotions and using behavioral psychology principles. Due to the near-zero marginal cost of digital products, they can easily reach thousands of people. Evidence suggests that financial education should start from an early age; and well-designed digital solutions can provide the emotional appeal to engage young children. For example, digital pocket money services for children have started to provide first-hand money management experience to children, which is connected to higher financial literacy. Benefits of well-designed digital games on children and youth include the followings: persistence; creativity; improved learning outcomes and visual-spatial abilities. A potentially useful compilation of available products on the market is presented as a resource for educators and other interested readers.

Working Paper 4: Financial Resilience: Role of Financial Literacy and Financial Education

This paper presents analysis of the Georgia sample of the OECD-INFE International Adult Financial Literacy Survey carried out in 2019. The paper uses Structural Equation Modeling (SEM) to determine whether financial literacy may be associated with financial resilience, defined as the ability to absorb shocks on income or expenditure such as the ones that many individuals have suffered as an effect of the COVID-19 pandemic. Financial Literacy as measured here combines elements of Financial Knowledge, Financial Attitudes and Financial Behavior. After controlling for Financial Inclusion and exogenous variables such as income and education levels, the paper finds that Financial Literacy is strongly linked to Financial Resilience, and this finding is robust to alternative measurements of resilience. From a policy viewpoint, investing in financial literacy will improve financial resilience in the future.

1. OECD-PISA provides the most rigorous and careful measurement of financial literacy available - a deep and detailed policy analytical research program can be built around the easily available PISA Financial Literacy data. The OECD published PISA reports including the PISA Financial Literacy report released in the summer of 2020 together with freely accessible internationally comparable data. With the advent of open-source software and associated environment of packages, that are ever increasing in functionality and ease of use, two things happen: first the entry barrier for useful analysis is lowered so many more researchers or employees of government agencies who do not have a deep level of training can run analysis; second there are newer and more powerful analytical capabilities, together with graphical depictions for communication of results. This paper has demonstrated some of the capabilities and a link for the code is also provided to encourage further analysis.

2. The relationship between Financial Literacy and Mathematics competencies is bi-directional - FL proficiency is an end in itself and also can be instrumental in improving mathematics performance. Students who do not perform well in mathematics, do so because they do not focus well enough on the problem at hand. The main route to student attention is through student's self-motivation - if you like a subject or are interested in it, you are likely to devote attention to it. Conversely, if the subject is boring, or presented to you in a dull and uninspiring way, it is likely that you would not be able to devote attention, and it is likely that you would develop conditions like math anxiety. Financial literacy, especially if it is taught in engaging ways, with practical activities and games, can help improve mathematics achievement.

3. Financial Literacy through Extra-Curricular Activities could be a powerful channel of upgrading skills across age groups in Georgia. The analysis in the paper showed that even though only about a third of fifteen year old students indicated studying financial literacy in school, almost half of them did so as an extra-curricular activity. Related finding about student well-being and the value of incorporation of families in learning activities indicates the potential of extra-curricular activities. Georgia shares with other former communist countries a heritage of state sponsored extra-curricular education. Only recently have western economies begun to realize the value of play in learning, especially the broad concept of learning also encompassing socio-emotional skills in addition to cognitive skills. Clubs and hobby groups for budding entrepreneurs, combined with digital apps (see Working Paper 3 on Financial Literacy through digital apps).

4. Lower proficiency in financial literacy closely tracks with socioeconomic status of parents - this indicates a potential benefit of financial literacy to tackle inequity in education. As with cognitive achievement, students from socio-economically advantaged backgrounds perform better in financial literacy. However, the issue is even more serious for financial literacy because of potentially deleterious downstream effects on income generating opportunities later in life. If there is a causal relationship between FL and mathematics, it provides more reason to focus on improving the provision of financial literacy.

5. Secondary Education Curriculum Reform needs to consider including Financial Education. The national curriculum introduced financial literacy in the 7th grade in the 2019-2020 financial year and it is a subject of deeper analysis in Working paper 2 in this series. The low performance of 15 year old students indicates the value of continuing with financial literacy in upper secondary school as well. This is the age when students start to develop some measure of autonomy and their brain undergoes a second growth spurt after the growth spurt of early childhood. Financial education provided in High School will lead to better outcomes on student motivation and engagement, shown to be important variables determining financial literacy in this paper.

6. Financial literacy should be encouraged but making it mandatory may not necessarily yield dividends, especially at the upper secondary level, where the next curriculum reform is being currently designed.

Due to the fact that the financial literacy module has not been taught yet and no data from experimental or non-experimental research is available, we do not have sufficient evidence to judge whether it will be more effective if financial literacy is instructed as a compulsory or voluntary subject. The OECD recommendation led to an increase in regions with mandatory programs. However, countries like Italy, the Netherlands, Portugal, USA and the Russian Federation adopt a non-compulsory approach.

7. Financial literacy may be taught as a separate subject, but the greatest all round benefits to students would come from integrating financial literacy into other subjects.

Although a stand-alone subject would have the advantage that students get sufficient exposure to financial literacy subjects, it is difficult to implement in view of overloaded curricula and lack of resources and time. A cross-curricular approach provides the opportunity to teach the financial literacy content in a more structured and time-stretched manner. A cross-curricular approach would also be aligned well with the new general education curriculum in Georgia. The new curriculum seeks to develop transversal competencies, such as problem-solving and critical thinking to acquire knowledge and develop skills that can be applied to financial situations and decisions.

8. Financial education needs to start in elementary school or even in pre-school (when considering contexts to develop basic numeracy) and taught through all grades including high school as well as in college or university.

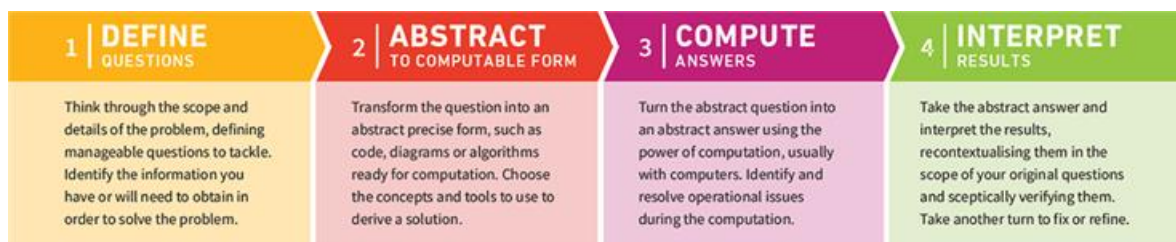
Financial Education programs in secondary schools should have elements of experiential learning, with an emphasis on the relevance of the topic in order to motivate students. A Financial Education program should consider the provision of interactive teaching methods, from visual lessons to simulation games, in which students actively participate in the learning process. A Stock Market Game, where students manage a pretend portfolio is an effective form of experiential learning.

9. A more holistic approach in designing a Civil Education curriculum should be considered so that the financial literacy module can be better integrated as a part of Civil Education.

In practical terms, this would mean creating committees on specific areas, gathering representatives from teacher associations, administrators' associations, education experts, relevant civic and private organizations around specific objectives (e.g. developing guidelines for educational institutions on Entrepreneurship competences). The discussion should be supported by relevant expertise. The results of the collaborative discussion should produce relevant communication resources in various formats to ensure that the results of the joint work are effectively disseminated. Furthermore, it is very important to pilot all new practices, before introduction in the curriculum.

10. Financial literacy and math are connected and the development of the two subjects should be considered together.

Financial literacy can help in each stage of developing mathematical competency as described by Conrad Wolfram and explained with regard to computational literacy. The diagram below explains the cognitive learning cycle and is used to explain why students should learn computer programming to prepare themselves for the modern age – the same reasoning applies to financial literacy.



11. Personalized education that is tailored to the learner’s needs and interests is more likely to turn knowledge into behavior – this is simpler to do with digital media. While personalizing Financial Education through traditional methods is expensive and infeasible for larger audiences, digital tools make personalization possible at an almost zero marginal cost.

12. Financial socialization that focuses on a person’s financial interactions with family members or parents, school and work can be encouraged through digital media. PISA 2018 Financial literacy results showed that students who look to their parents as a source of information outperformed students who do not do so by 27 score points in financial literacy, and those who used internet scored on average 10 points higher than who did not.

13. Integrating digital financial literacy concepts into conventional educational websites is a commendable step that is already being followed by the NBG and needs to be maintained. As new threats emerge all the time, it is critical that financial education websites should be updated regularly to include new information on digital financial literacy. For instance, the FinEdu website in Georgia has content specifically about fraud schemes (malware, phishing, card fraud, personal data security, etc.) and financial security (how to shop online safely, how to protect yourself from phishing, internet and mobile banking security, how to make devices more secure etc.).

14. Integrating digital financial literacy concepts into school-based education: Considering the increasing penetration of digital tools into young people’s lives, school education should start including digital financial literacy concepts. Programs that provide ongoing support as the user changes behavior can have lasting impact. This can be achieved by incorporating periodic checkpoints and/or tracking progress.

Well-designed digital games can improve both learning outcomes and essential skills of learners. Benefits of well-designed digital games on children and youth include the following:

- **Persistence:** Persistence is putting extra effort in solving hard problems. Ventura et al. showed that students who play videogames frequently display higher persistence than others. As the player spends more time on solving challenges in a game, their performance increases; and as the performance increases, the player’s desire to persist longer increases. Moreover, persistence acquired during gameplay transfers to real-world behavior.
- **Creativity:** Videogame playing is associated with greater creativity scores in different dimensions. A study conducted by Jackson et al. with 491 twelve-year old children showed that videogame playing contributed to all types of creativity much more than other types of technology use, including internet, computer, and cell phone use.
- **Improved learning outcomes:** A meta-analysis of 57 studies compared digital game conditions with non-game conditions. It was found that digital games are associated with higher improvement in cognitive, intrapersonal and interpersonal learning outcomes for K-16 students. The studies also highlighted the importance of design elements, rather than medium alone, in predicting learning outcomes.
- **Visual-spatial abilities:** Digital video games, specifically those supported with 3D environments, are shown to promote visual-spatial skills and selective attention by requiring players to navigate through complex ways. Video games achieve this by helping the player encode, store, and retrieve information rapidly.

15. Financial Literacy appears to be directly related to improved Financial Resilience in Georgia - pointing to the possible importance of a policy tool to improve social resilience to be better prepared for the next crisis. The COVID-19 pandemic and associated mitigation measures has a negative impact on everyone, but hits particularly hard at individuals with lower socio-economic status. The pandemic has exposed the critical need for businesses, households and individuals to develop financial resilience. Such resilience will help reduce the duration and magnitude of negative welfare outcomes. One of the possible means to build resilience is through financial literacy. While income and wealth conditions are slow to change and can only keep pace with the overall development, financial literacy can, in principle, be improved for a wide variety of target audiences within current conditions.

16. Financial Literacy is difficult to measure, but techniques such as item response theory and confirmatory factor analysis can provide useful policy insights. The paper described some of the issues concerning the simplistic measurement of financial literacy, by adding up a set of 0 or 1 variables with equal weights. The approach followed in this paper utilizes the empirical pattern of variation and covariation to develop measures approximating latent constructs that allow the three elements of knowledge, behavior and attitude to be correlated with one another. Financial attitude does not appear to have an influence on financial literacy in Georgia after controlling for the correlation with financial knowledge and financial behavior. The paper showed some positive outlooks for Georgia such as the higher levels of financial literacy for migrants and the likely absence of a strong gender bias.

17. The most useful finding of this paper is the evidence regarding the importance of financial knowledge as a determinant of financial literacy, because financial knowledge is the element most amenable to policy intervention. Financial knowledge has a robust effect on financial literacy, in path models for alternative definitions of financial resilience: stated readiness for future expenditure shocks; the amount of months an individual can manage financial affairs without recourse to outside help after suffering an expenditure shock, such as an unplanned hospitalization; and the actual incidence of an episode in the past year when regular income was insufficient to make ends meet. The paper also finds a strong positive effect of higher education on the overall context for an individual, and more than the effect of belonging to a higher income group.

18. Financial behavior, including simple things like monitoring expenditures and separating money needed to pay monthly bills from money for daily expenditures, has a positive effect on financial literacy and ultimately on resilience. Financial literacy is also positively affected by the practice of setting up financial goals and working actively to meet those goals. In the paper, financial behavior is measured by stated actions that are mostly under the control of the respondent. The path model for financial resilience also includes financial inclusion - which refers to the awareness and ownership of a set of financial products, which also depends on factors outside an individual's control. Financial inclusion enhances the strength of a person's financial context, but the evidence shows that the level of the financial context in Georgia is so distributed that there is an overall negative impact on financial resilience.

19. The provision of financial literacy needs to be a target of policy attention as Georgia looks to be better prepared to face future pandemics or other financial crises. Financial literacy begins with financial knowledge and the includes the facet of basic numeracy, which children acquire at a very early age. Looking forward to long term prosperity, Georgia needs to pay attention to the quality of pre-school readiness and basic education.

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