BRATISLAVA UNIVERSITY OF ECONOMICS AND BUSINESS

FACULTY OF ECONOMICS AND FINANCE

SELF-REPORT OF DISSERTATION

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Self-report of Dissertation

Exploring Differences in Financial Literacy and its Impact on Financial Decision-Making

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1 An overview of the current status of the issues addressed in the dissertation at home and abroad

Financial literacy has emerged as a defining competence in modern economies, where the liberalization of credit, the proliferation of complex financial products, and the rapid digitalization of financial services have transferred ever more responsibility for financial decisions upon individuals and households. While financial knowledge enables consumption smoothing, prudent borrowing, and long-term wealth accumulation, its absence leaves households vulnerable to costly mistakes, over-indebtedness, and exclusion from the financial system. Financial literacy is therefore consistently identified as a fundamental driver of individual economic well-being and of broader financial stability (Fernandes et al., 2014; Lusardi and Mitchell, 2014; Ampudia et al., 2016).

The human-capital view of financial literacy (Jappelli and Padula, 2013) posits that individuals invest in financial knowledge much as they invest in other forms of human capital, weighing the cost of acquisition against the returns to better financial decisions. Knowledge in this framework is dynamic and self-reinforcing: those who accumulate it save more, which raises the return to acquiring still more, so that initial differences widen over the life cycle. Extended to portfolio choice, the same logic predicts that more literate individuals diversify more effectively and allocate assets more efficiently (Jappelli and Padula, 2015). Deviations from this idealized path, however, arise from behavioral biases and limited knowledge, and research consistently finds that households with low financial literacy hold more costly debt and are more exposed to financial distress, particularly during economic shocks (Lusardi and Tufano, 2015; Klapper et al., 2013).

The behavioral dimension of these deviations is captured in the behavioral life-cycle hypothesis (Shefrin and Thaler, 1988), which suggests that individuals with limited financial knowledge rely on mental shortcuts and struggle with self-control, leading them toward present-

biased consumption and high-interest borrowing. This dynamic helps explain why financial literacy correlates not only with what households know but with how they behave. Empirical evidence supports this link, connecting modest financial literacy and weak self-control to higher debt burdens and to a reduced propensity to plan, save, and refinance advantageously (Gathergood, 2012; Disney and Gathergood, 2013; Lusardi and Mitchell, 2014).

How financial literacy is acquired is itself contested, particularly outside the classroom. Because financial literacy is not a standard component of the school curriculum in most OECD countries (Kaiser and Menkhoff, 2017), individuals rely heavily on informal channels (e.g., family, experience, and increasingly digital media) to accumulate financial knowledge. Literature on media and learning is divided: heavy social-media and smartphone use has been associated with weaker academic performance and cognitive overload (Sampasa-Kanyinga et al., 2019; Andrews et al., 2024), yet targeted educational media can enhance awareness and critical thinking (Deng and Tavares, 2013; Brau et al., 2021). Direct microeconomic evidence on social media as a channel for acquiring financial literacy specifically, and on whether its effects depend on prior knowledge, has remained scarce.

The distribution of financial literacy across the population is markedly uneven, and the gender gap is among the most robust regularities in the field. Women consistently record lower measured financial knowledge and lower confidence, which constrains their participation in financial markets and their access to formal products (Lusardi and Mitchell, 2006; Atkinson and Messy, 2012). A range of explanations has been advanced, from differences in numeracy and interest in financial topics to socialization, stereotype threat, and cultural norms (Bottazzi and Lusardi, 2021; Tinghög et al., 2021; Preston et al., 2024). These gaps are not universal: country-specific evidence shows that the legacy of gender parity in education and labor-force participation has compressed disparities in several Central and Eastern European economies relative to

Western Europe (Cupak et al., 2018; Botric and Broz, 2017), making the regional context decisive.

A recurring complication in measuring the gap is the role of confidence. Women are more likely than men to choose the "Don't know" option in financial-literacy assessments, which may understate their true knowledge, and accounting for self-confidence tends to shrink the measured gap (Bucher-Koenen et al., 2017; Bucher-Koenen et al., 2025). Distinguishing genuine differences in knowledge from differences in confidence is therefore essential to characterizing where, and for whom, the gap is most severe — a distinction that mean-based comparisons obscure and that distributional and decomposition methods are designed to reveal (Firpo et al., 2009; Fonseca et al., 2012).

On the liabilities side of the household balance sheet, the evidence on financial literacy is thinner but consequential. Much of the literature concentrates on the asset[1], leaving the relationship between financial literacy and debt comparatively under-explored, despite its evident importance (Jappelli, 2010). The studies that do examine it find that individuals with lower financial literacy hold more expensive debt, are more prone to over-indebtedness, and refinance less advantageously (Disney and Gathergood, 2013; Lusardi and Tufano, 2015; Meyll and Pauls, 2019). The relationship is theoretically ambiguous, since financial literacy may raise participation in credit markets while restraining the burden carried by those who borrow. These two channels operate at different margins, and much of the existing work, reliant on subjective measures of fragility, does not cleanly separate them.

Excessive household debt poses risks that extend well beyond the individual borrower. High debt burdens are associated with elevated default and arrears, financial distress, and, in the aggregate, systemic fragility, with credit booms among the most reliable predictors of financial instability (Borio and Drehmann, 2009; Jordà et al., 2016). To

[1] For a more detailed review see Van Rooij et al., 2011.

contain these risks, borrower-based measures (most prominently debt-service-to-income (DSTI), debt-to-income, and loan-to-value limits) have become central instruments of macroprudential policy, constraining risky lending especially during credit expansions. Aligning the analysis of household indebtedness with these policy-relevant, objective measures of debt burden, rather than with subjective indicators, links the study of financial literacy directly to the tools authorities use to safeguard financial stability.

Not only is over-indebtedness a financial phenomenon but a social and psychological one as well. A substantial literature links high debt burdens to stress, anxiety, and depression, with knock-on effects for life satisfaction, productivity, and family relationships (Brown et al., 2005; Gathergood, 2012; Drentea and Lavrakas, 2000).

From this point of view, financial literacy is more than a private store of information: it is a capability that mediates exposure to financial vulnerability and its human costs, which is why its acquisition, its uneven distribution, and its consequences for household debt together motivate the three essays of this dissertation.

2 Aim and focus of the dissertation

This thesis examines the causes and consequences of differences in financial literacy and their impact on financial decision-making through three empirical essays, set mostly in Slovakia, a country that combines relatively low average financial literacy with one of the fastest increases in household indebtedness among Central and Eastern European countries in recent years. The first essay uses PISA 2018 microdata from ten OECD countries to identify the effect of social media use on students' financial literacy. The second analyzes the gender gap in financial literacy in Slovakia across its full distribution, decomposing it into explained and unexplained components. The third investigates how financial literacy shapes household over-indebtedness, measured through the debt-service-to-income ratio in line with borrower-based measures. Together the essays trace a single arc from the acquisition of financial

literacy, through its uneven distribution, to its consequences for household indebtedness.

2.1 From Feeds to Finance: Can Social Media Usage Improve Students' Financial Awareness?

The first essay examines whether the use of social media contributes to the acquisition of financial literacy among high-school students, leveraging the 2018 wave of PISA, a uniquely rich and internationally comparable dataset that combines a financial literacy assessment with a dedicated module on digital media usage across ten OECD countries. The role of the informal information environment is a central focus, as financial literacy, unlike mathematics or reading, is rarely taught through a structured curriculum and is therefore acquired largely outside the classroom. In this setting, social media do not compete with formal instruction but fill an informational vacuum, exposing students to real-world financial concepts they would otherwise encounter rarely. Analyzing this channel provides critical insight into how the effect of social media differs from its documented negative impact on conventional school subjects, and into whether digital platforms can serve as a low-cost source of financial knowledge. Ignoring the domain-specific nature of financial literacy would risk overlooking these heterogeneous effects and could misguide education policy intended to raise financial capability among the least informed.

This essay offers a comprehensive evaluation of the effect of social media use on financial literacy through an instrumental-variable strategy built on two novel instruments: the age of first internet access and the number of household smartphones. It advances the understanding of this relationship across the full spectrum of the literacy distribution, specifically investigating how the effect varies at different points of the distribution and across countries at different levels of economic development, and it rationalizes these patterns through a simple model of information acquisition.

2.2 Exploring the Gender Gap in Financial Literacy: New Survey-Evidence from Slovakia

The second essay analyzes gender differences in financial literacy in Slovakia, a country and region that remain largely under researched in this respect, drawing on representative microdata from the 2021 wave of the Slovak Household Finance and Consumption Survey and its dedicated module on financial literacy. Moving beyond conventional comparisons of averages, the essay characterizes how the gender gap varies across the entire distribution of financial literacy and decomposes it into a part attributable to differences in observable characteristics and a part that remains unexplained. A central focus is the role of confidence, since women are more likely than men to opt for the "Don't know" option in financial literacy assessments, which may understate their true knowledge; the essay accounts for this by using financial self-confidence as a proxy and assessing how much of the observed gap reflects differences in confidence rather than in knowledge. Examining the gap across the whole distribution provides critical insight into where, and for whom, disparities are most severe, since a single average figure conceals heterogeneity that matters for policy. Ignoring this distributional dimension would risk overlooking the segment of the most affected population and could misguide interventions intended to close the gap.

This essay offers a comprehensive evaluation of the gender gap in financial literacy, clearly distinguishing the explained component, driven by socio economic characteristics such as income, education, and employment, from the unexplained component that persists once these are equalized. It advances the understanding of the gap across the full spectrum of the literacy distribution, showing that it is large and largely unexplained at the lower end while disappearing at the upper end, and thereby identifies the vulnerable group toward which corrective policy should be directed.

2.3 In the Shadows of Over-Indebtedness: Unveiling the Light of Financial Literacy

The third essay investigates the relationship between financial literacy, self-confidence, and household over-indebtedness in Slovakia, drawing on the 2021 wave of the Slovak Household Finance and Consumption Survey with detailed household balance sheet information. A central focus is the distinction between two margins of borrowing behavior: the extensive margin, namely the decision to hold any debt, and the intensive margin, namely the burden of debt carried by those who borrow. Over indebtedness is measured through the debt service to income ratio as defined by the borrower-based measures in accordance with the National Bank of Slovakia, an objective indicator of debt burden that is directly compatible with macroprudential policy and distinguishes the essay from prior work reliant on subjective measures of financial fragility. Analyzing both margins together provides critical insight into how financial literacy can simultaneously encourage participation in credit markets and restrain excessive borrowing.

This essay offers a comprehensive evaluation of the effect of financial literacy on household borrowing, clearly distinguishing its positive influence on the likelihood of holding debt from its negative influence on the debt burden conditional on participation. It addresses the endogeneity of measured financial literacy, which suffers from classical measurement error, through an instrumental variable strategy built on interviewer assessments of respondents' comprehension and numeracy, and it advances the understanding of the protective role of financial literacy across the full spectrum of the debt burden distribution, showing that this role is strongest precisely where the risk of over indebtedness is greatest.

3 Methodology of work and research methods

All three essays rely on a combination of different data sources and empirical estimation methods. This approach strengthens the analysis by

drawing on varied information and applying statistical techniques suited to estimating the relationships and effects of interest

3.1 From Feeds to Finance: Can Social Media Enhance Students' Financial Awareness?

The first essay utilizes the 2018 wave of the OECD PISA data, a unique feature of which is the inclusion of a block of questions on digital-media usage. Because not all participating countries collected this information, the sample consists of ten OECD countries – Chile, Spain, Estonia, Finland, Italy, Lithuania, Latvia, Poland, Slovakia, and the United States – covering approximately 28,000 high-school students. The outcome variable is the PISA financial literacy score, which captures students' ability to apply financial knowledge to real-life situations and is represented by ten plausible values drawn from each student's estimated proficiency distribution. The main explanatory variable is the frequency of social media use outside school, measured on a five-point scale from "never or almost never" to "every day". The analysis controls for a broad set of individual characteristics, family background, school policies, and country and location fixed effects.

The analysis begins with estimating the OLS regression of the financial literacy score on social media use:

$$FL_{i,s,c} = \alpha + \beta \cdot SM_{i,s,c} + \gamma' X_{i,s,c} + \delta' W_{s,c} + \lambda + \varepsilon_{i,s,c}\,, \qquad (1)$$

where $FL_{i,s,c}$ is the financial literacy score of student i in school s and country c, $SM_{i,s,c}$ is the intensity of social media use, $X_{i,s,c}$ is a vector of socio-economic characteristics, $W_{s,c}$ a set of school-level characteristics, and λ captures country fixed effects.

Since social media use may be endogenous, OLS estimates of β are potentially biased and inconsistent. Specifically, students with greater academic motivation or a stronger interest in financial matters may be more inclined to use social media as a source of information, generating self-selection concerns. To mitigate this issue, we employ a 2SLS estimator.

In the first stage, the endogenous variable is regressed on a set of instrumental variables and relevant control variables:

$$SM_{i,s,c} = \alpha_1 + \pi \cdot Z_{i,s,c} + \gamma_1' X_{i,s,c} + \delta_1' W_{s,c} + \lambda_1 + \upsilon_{i,s,c}\,, \qquad (2)$$

where social media use is predicted by the instruments and exogenous covariates. In the second stage, the fitted values obtained from the first-stage regression replace the original endogenous variable:

$$FL_{i,s,c} = \alpha_2 + \beta \cdot \widehat{SM_{i,s,c}} + \gamma_2' X_{i,s,c} + \delta_2' W_{s,c} + \lambda_2 + \varepsilon_{i,s,c}\,, \qquad (3)$$

Under the standard assumptions of instrumental variable estimation, the β coefficient can be interpreted as the Local Average Treatment Effect (LATE) for compliers, that is, students whose social media use is influenced by the instruments. Identification is achieved through two instruments derived from the PISA digital-device module: (i) the age at which a student first gained access to the Internet and (ii) the number of internet-connected smartphones available within the household. Both variables exhibit a strong theoretical and empirical relationship with social media engagement. Students who gained Internet access at an earlier age are more likely to develop sustained patterns of social media use, while greater availability of connected devices increases opportunities for social media access and participation.

Instrument relevance is assessed using the first-stage F-statistic, which substantially exceeds the conventional threshold for weak-instrument diagnostics. The validity of the exclusion restriction is supported on conceptual grounds. Conditional on the included socioeconomic and demographic controls, neither the age of initial Internet access, which is largely shaped by parental decisions and household norms, nor the number of internet-connected smartphones in the household is expected to influence financial literacy directly. Rather, their effect is assumed to operate primarily through their impact on students' social media use.

While the 2SLS estimates provide evidence on the average causal effect of social media use, they may conceal heterogeneity across the distribution of financial literacy outcomes. To examine whether the

impact of social media varies among students with different levels of financial literacy, the analysis additionally employs the smoothed instrumental variable quantile regression (SIVQR) estimator proposed by Kaplan (2022), which builds upon the inverse quantile regression framework developed by Chernozhukov and Hansen (2005). For a given quantile τ, the structural quantile model is specified as:

$$Q_{FL}(\tau \mid x) = \alpha(\tau) + \beta(\tau)SM_{i,s,c} + \gamma(\tau)'X_{i,s,c} + \delta(\tau)'W_{s,c} + \lambda(\tau), \quad (4)$$

where $\beta(\tau)$ captures the effect of social media use at a particular point of the conditional financial literacy distribution. Unlike the conventional IVQR estimator, the smoothed approach replaces the non-differentiable objective function with a smooth approximation, thereby significantly improving computational efficiency while retaining the desirable asymptotic properties of the original estimator. The model is estimated at the 25th, 50th, and 75th percentiles of the outcome distribution, enabling an assessment of whether the effect of social media use differs between relatively low-, middle-, and high-performing students. Standard errors are calculated using the bootstrap procedure recommended by Kaplan (2022). Identification of the quantile-specific treatment effects relies on the same instrumental variables employed in the 2SLS framework.

3.2 Exploring the Gender Gap in Financial Literacy: New Survey Evidence from Slovakia

The second essay uses representative microdata from the 2021 wave of the Slovak Household Finance and Consumption Survey (HFCS), which contains a special module on financial literacy. Objective financial literacy is measured as the number of correct answers to four standard questions on interest rates, inflation, diversification, and risk and return, yielding a score from 0 to 4. The main explanatory variable is gender. In line with the literature, the analysis controls for household income and net wealth, risk attitudes, age, marital status, employment status, education, and regional and urban/rural fixed effects.

The analysis begins by estimating the gender gap in financial literacy using a baseline linear regression model:

$$FL_i = \alpha + \beta \cdot FEMALE_i + X_i'\gamma + \delta + \varepsilon_i\,, \qquad (5)$$

where FL_i denotes the student's financial literacy score, $FEMALE_i$ is a binary indicator for gender, X_i represents a vector of individual and household-level characteristics, and δ captures regional fixed effects. The β coefficient measures the average difference in financial literacy between female and male students, conditional on the included covariates. To examine the extent to which observable characteristics account for the estimated gender disparity, the specification is expanded progressively. Financial-resource variables are introduced first, followed by individual socio-demographic characteristics and, finally, regional fixed effects. This sequential modelling strategy provides insight into how the magnitude of the gender gap evolves as additional controls are incorporated and allows for an assessment of the relative contribution of different sets of explanatory factors.

To complement the analysis of average effects, the study examines gender differences across the entire distribution of financial literacy using unconditional quantile regression (UQR) methods based on the recentered influence function (RIF) approach proposed by Firpo et al. (2009). The influence function for a distributional statistic $v(F)$ is defined as

$$IF\big(y; v(F)\big) = \lim_{\varepsilon \to 0} \frac{v\big((1-\varepsilon)\,F + \varepsilon\delta_y\big) - v(F)}{\varepsilon}\,, \qquad (6)$$

and the corresponding recentered influence function is given by:

$$RIF(y; v, F_Y) = v(F_Y) + IF(y; v, F_Y)\,, \qquad (7)$$

In contrast to conditional quantile regression, which estimates the effect of covariates at specific points of the conditional outcome distribution, the UQR framework identifies the impact of marginal changes in

explanatory variables on the unconditional quantiles of the outcome. As a result, coefficient estimates retain a consistent interpretation across alternative model specifications and are directly informative about shifts in the overall distribution of financial literacy.

Building on these estimates, the gender gap is decomposed both at the mean and at selected quantiles using a Blinder–Oaxaca counterfactual decomposition framework. This approach partitions the observed disparity into an explained component, attributable to differences in observable characteristics between female and male students, and an unexplained component, which captures differences in returns to those characteristics as well as the influence of unobserved factors. Furthermore, following the methodology of Bucher-Koenen et al. (2025), the analysis investigates gender differences in the prevalence of "Don't know" responses and uses these responses as a proxy for financial self-confidence. This additional exercise provides insight into whether non-cognitive factors contribute to observed gender disparities in financial literacy outcomes.

Consistent with the empirical strategy adopted throughout the study, all estimates account for the complex survey design of the data. Statistical inference is based on 1,000 replicate weights to obtain bootstrapped standard errors, while parameter estimates are combined across multiply imputed datasets using Rubin's rules, thereby ensuring that both sampling variability and imputation uncertainty are appropriately reflected in the reported results.

3.3 In the Shadows of Over-Indebtedness: Unveiling the Light of Financial Literacy

The third essay also draws on the 2021 wave of the Slovak HFCS, which combines financial literacy, confidence, and risk aversion with detailed household balance-sheet information. Debt behavior is examined at two margins. At the extensive margin, the outcome is whether the household holds any debt. At the intensive margin, the debt burden is captured by

the household-level debt-service-to-income (DSTI) ratio, defined in line with the borrower-based measures of the National Bank of Slovakia.

The relationship is estimated as a two-stage model. At the extensive margin, the probability of holding any debt is modelled with a probit regression as a function of financial literacy and overconfidence, with controls added sequentially. At the intensive margin, the (transformed) DSTI is regressed on financial literacy, overconfidence, and the same set of controls. To address the potential endogeneity of measured financial literacy – which is well known to suffer from classical measurement error and the resulting attenuation bias – the essay uses survey metadata as instrumental variables within an IV-probit and 2SLS framework. The 2SLS model takes the form

$$Y_i = \gamma_0 + y_1 \widehat{FL_i} + y_2 X_i + \lambda + \delta + u_i , \qquad (8)$$

and

$$FL_i = \pi_0 + \pi_1 IV_i + \pi_2 X_i + \lambda + \delta + v_i , \qquad (9)$$

where Y_i is either debt participation or the transformed DSTI, $\widehat{FL_i}$ is the fitted value of financial literacy from the first stage, and identification rests on the exclusion restriction that the instrument affects the outcome only through financial literacy. Specifically, the essay exploits interviewer assessments of respondents' general comprehension and numeracy, while accounting for interviewer-level characteristics shown to influence financial-literacy responses in face-to-face surveys (Crossley et al., 2021). The validity of the instruments is assessed through the Sargan over-identification test, and the relevance through first-stage F-statistics. The essay also examines a credit-access channel, analyzing whether being refused credit or granted a reduced amount affects households that applied for credit, complementing the DSTI-based analysis of debt burden. Robustness is further examined using ordered logit regressions on a discretized version of the DSTI variable. As in the second essay, all estimates incorporate replicate weights for bootstrapped standard errors and combine results across imputations following Rubin's rule.

4 Structure of the dissertation

The structure of the dissertation is built around three interrelated dimensions of financial literacy: its acquisition, distribution, and consequences.

The opening section serves as a general introduction to the topic, establishing a theoretical framework for examining financial literacy and its role in shaping financial decision-making. It begins by defining the concept of financial literacy, discussing the principal approaches used to measure it, and situating it within both human capital and behavioral frameworks of economic behavior. The introduction then links the three empirical essays to distinct components of this framework and reviews the relevant literature across the dimensions of acquisition, distribution, and consequences.

The following section presents the first essay, entitled *"From Feeds to Finance: Can Social Media Usage Improve Students' Financial Literacy?"*. Using PISA 2018 microdata from ten OECD countries, the essay investigates whether social media usage contributes to the development of financial literacy among students. The analysis employs OLS, instrumental-variable, and simultaneous instrumental-variable quantile regression techniques to estimate both average effects and heterogeneity across the distribution of financial literacy as well as across countries. To explain the observed relationships, the essay develops an information-acquisition model that provides a theoretical foundation for the empirical findings. The section further discusses the underlying motivation, relevant literature, data and variable construction, empirical methodology, results, theoretical mechanisms, and policy implications.

The next section presents the second essay, *"Exploring Gender Gaps in Financial Literacy: New Evidence from Slovakia"*. Drawing on data from the 2021 Slovak Household Finance and Consumption Survey (HFCS), the essay examines the extent and nature of gender differences in financial literacy. Particular attention is devoted to understanding how these disparities vary across the financial literacy distribution through the

application of unconditional quantile regressions. Furthermore, a Blinder-Oaxaca decomposition framework is employed to distinguish between explained and unexplained components of the gender gap, while explicitly accounting for differences in financial self-confidence. The robustness of the findings is assessed through a series of additional analyses and sensitivity checks.

The subsequent section presents the final essay, *"In the Shadows of Over-indebtedness: Unveiling the Light of Financial Literacy"*, which explores the relationship between financial literacy and household debt outcomes. Using data from the 2021 Slovak HFCS, the analysis evaluates the effect of financial literacy on participation in debt markets and on households' debt-service burden, measured through the debt-service-to-income (DSTI) ratio. To address the potential endogeneity of financial literacy, the essay applies a two-stage modelling framework based on instrumental variables. The robustness of the results is further examined using alternative model specifications, allowing for a more comprehensive assessment of the role financial literacy plays in mitigating debt-related vulnerabilities.

The final section provides an integrated summary of the dissertation, synthesizing the key findings of the three essays and highlighting their broader implications for financial education initiatives and policy design. It also offers a critical discussion of the study's limitations and identifies promising avenues for future research that could further advance understanding of financial literacy and its economic consequences.

5 The results of the work

Each of the three essays constitutes an individual research article, currently at various stages of the publication process. This section provides a summary of the findings from all three articles. Specifically, this section includes these articles:

- **From Feeds to Finance: Can Social Media Usage Improve Students' Financial Literacy?**
  Co-authored with: Andrej Cupak (NBS, EUBA) and František Mašek (ČNB)
  Current state: Yet-to-be-submitted

- **Exploring Gender Gaps in Financial Literacy: New Evidence from Slovakia**
  Co-authored with: Andrej Cupak (NBS, EUBA)
  Current state: Published in Czech Journal of Economics and Finance, 2025, vol. 75(4), pp. 372-399. DOI: https://doi.org/10.32065/CJEF.2025.04.01 ©2025 Charles University in Prague.
  Other version of this paper has been published as a National Bank of Slovakia working paper (WP 12/2025).

- **In the Shadows of Over-Indebtedness: Unveiling the Light of Financial Literacy**
  Co-authored with: Andrej Cupak (NBS, EUBA), Martin Cesnak (NBS)
  Current state: Yet-to-be-submitted

5.3 From Feeds to Finance: Can Social Media Usage Improve Students' Financial Literacy?

Table 1 reports the estimated coefficients from OLS regressions examining the relationship between social media use and students' financial literacy. The specifications progressively introduce country and school-location fixed effects, school-level digital policies, digital-literacy instruction, and financial education controls. The results indicate a consistently positive relationship between social media use and financial literacy. While the coefficient is statistically insignificant in the baseline specifications, it becomes positive and statistically significant once country fixed effects are included and remains stable across subsequent models. The estimated effect ranges between 1.07 and 1.15 score points, suggesting that the association is robust to the inclusion of additional school-level and educational controls.

Table 1: Effects of social media use on financial literacy

	(1)	(2)	(3)	(4)	(5)	(6)
Social media use	0.565	0.586	1.067**	1.153**	1.144**	1.130**
	(0.509)	(0.508)	(0.482)	(0.487)	(0.484)	(0.488)
Academic performance	Yes	Yes	Yes	Yes	Yes	Yes
Student and family	Yes	Yes	Yes	Yes	Yes	Yes
School policy	No	No	No	Yes	Yes	Yes
Dig. literacy	No	No	No	No	Yes	Yes
Financial education	No	No	No	No	No	Yes
Country FE	No	No	Yes	Yes	Yes	Yes
School-location FE	No	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.806	0.806	0.813	0.814	0.813	0.814
Observations	28,142	28,094	28,094	27,914	27,843	27,746

Notes: Standard errors are reported in parentheses. Academic performance includes math and reading scores. Student and family characteristics include demographic, socio-economic, and household-background variables. School policy controls capture regulations governing the use of digital devices in class. Digital-literacy controls refer to instruction on proper internet use. All models use PISA 2018 complex survey design.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: Programme for International Student Assessment 2018, OECD.

Table 2 extends the baseline OLS analysis by addressing the potential endogeneity of social media use through an IV approach. The IV specification instruments social media use using the age at first Internet access and the number of internet-connected smartphones available within the household. The first-stage estimates confirm the relevance of both instruments: students who gained Internet access earlier tend to use social media more intensively, while greater smartphone availability is associated with higher social media use.

The second-stage results indicate a sizeable positive effect of social media use on financial literacy. While the preferred OLS specification in Table 1 suggests an increase of roughly 1.1 points in financial literacy associated with higher social media use, the corresponding IV estimate rises to 8.3 points and remains statistically significant. This substantial difference suggests that conventional OLS estimates may understate the true effect of social media use, potentially due to measurement error or

other sources of endogeneity. Overall, the results support the interpretation that social media serves as an important channel for acquiring financial knowledge and awareness among students beyond formal educational settings.

Table 2: OLS and 2SLS estimates of the determinants of financial literacy

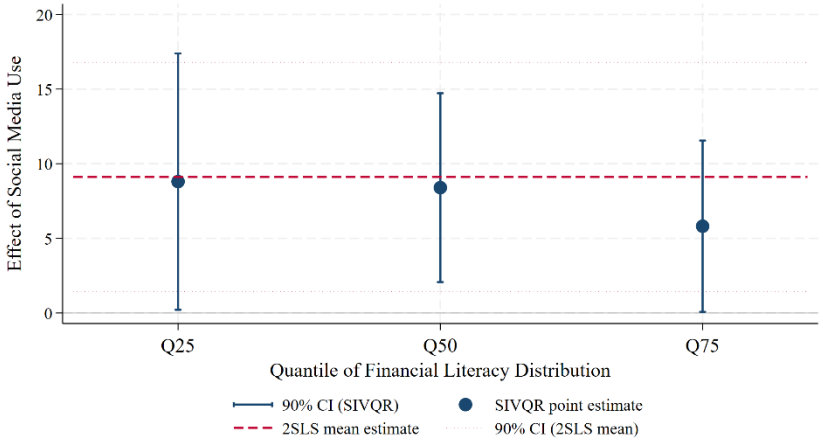
	Dep. var.: Financial literacy score	
	OLS	2SLS
Social media use	1.130**	-
	(0.488)	-
Social media use (predicted)	-	8.344**
	-	(3.323)
IV1: Age of first Internet access	-	-0.134***
IV2: Number of smartphones	-	0.277***
Adjusted R^2	0.814	-
F-statistics of the first stage	-	103.49
Sargan Chi-2 test	-	5.496
P-value	-	0.283
Wu-Hausman test of endogeneity	-	26.603
P-value	-	0.001
Controls	Yes	Yes
Country and school-location FE	Yes	Yes
Observations	27,523	27,523

Notes: Regressions are estimated using multiple-imputation techniques. Bootstrapped standard errors presented in parentheses are based on 80 replicate weights. Estimated regressions use the same set of control variables and country fixed effects as in the baseline specification (6) in Table 1. A constant was included.
* p < 0.1, ** p < 0.05, *** p < 0.01.
Source: Programme for International Student Assessment 2018, OECD.

Figure 1 presents the SIVQR estimates of the effect of social media use across the financial literacy distribution, alongside the 2SLS mean estimate as a reference. The point estimates at the 25th, 50th, and 75th quantiles are broadly similar in magnitude, ranging from approximately 8.4 at the median to 5.9 at the upper tail, and all remain in the vicinity of the 2SLS mean estimate of 8.344 represented by the dashed reference line. This pattern suggests that the positive effect of social media use on financial literacy is relatively homogeneous across the distribution, with no strong evidence of differential effects at the lower or upper parts of the financial literacy distribution. While the point estimate at the 75th

quantile is somewhat smaller than those at the 25th and 50th quantiles, the wide confidence intervals across all three quantiles preclude firm conclusions about distributional heterogeneity. Overall, the SIVQR results are consistent with the 2SLS mean estimate and provide no evidence that the effect of social media use is concentrated among students at a particular point of the financial literacy distribution.

Figure 1: Quantile estimates of social media use across financial literacy distribution



Notes: Estimates are computed using the same set of control variables and country fixed effects as in specification (6) in Table 1, combined across 10 plausible values using Rubin's rules.
Source: Programme for International Student Assessment 2018, OECD.

5.4 Exploring the Gender Gap in Financial Literacy: New Survey Evidence from Slovakia

Table 3 presents the OLS estimates of the determinants of financial literacy. In the baseline specification, women score about 0.21 points lower than men on the financial literacy index, and the difference is statistically significant. After introducing measures of household financial resources, the gender gap narrows to around 0.15 points and becomes only marginally significant. Both net wealth and family income are positively associated

with financial literacy, suggesting that individuals with greater economic resources tend to possess higher levels of financial knowledge.

Table 3: OLS estimates of the determinants of financial literacy

	(1)	(2)	(3)	(4)
Female	-0.206**	-0.150*	-0.015	-0.034
	(0.081)	(0.084)	(0.077)	(0.077)
Net wealth		0.042*	0.038**	0.044**
		(0.023)	(0.019)	(0.020)
Family income		0.252**	0.109	0.098
		(0.102)	(0.085)	(0.084)
Risk attitude score			0.226***	0.203***
			(0.055)	(0.056)
Married			0.242**	0.235**
			(0.098)	(0.099)
University degree			0.551***	0.563***
			(0.082)	(0.082)
Demographic controls	No	No	Yes	Yes
Household controls	No	No	Yes	Yes
Regional FE	No	No	No	Yes
Adjusted R^2	0.006	0.067	0.184	0.211
Observations	2,174	2,174	2,174	2,174

Notes: Standard errors are reported in parentheses. Demographic controls include age, age squared, employment status and self-employment status. Household controls include the number of adults and dependent children in the household.
* p<0.10, ** p<0.05, *** p<0.01.
Source: Household Finance and Consumption Survey 2021, NBS.

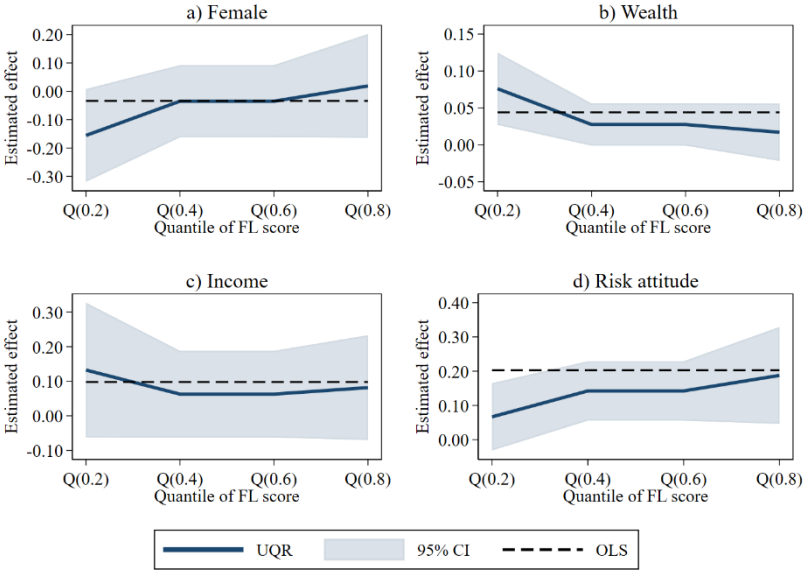
The results change notably once individual and household characteristics are included. Controlling for risk attitudes, marital status, education, employment, age, and household composition reduces the female coefficient to near zero and removes its statistical significance. This finding indicates that the observed gender gap is largely explained by differences in socio-economic characteristics rather than gender itself. Among the controls, risk tolerance, being married, and holding a university degree are strongly and positively related to financial literacy. In particular, tertiary education emerges as the strongest predictor in the model. Net wealth

remains significant throughout specifications, while the effect of family income disappears after additional controls are introduced. Finally, adding regional fixed effects leaves the results virtually unchanged, confirming the robustness of the findings and the absence of an independent gender effect once observable characteristics are considered.

The mean-based estimates mask substantial heterogeneity across the financial literacy distribution. Figure 2 reports the UQR estimates of the gender gap in financial literacy. The gender gap is large and statistically significant in the lower part of the distribution, where women score nearly 0.20 points lower than men. As financial literacy increases, the magnitude of the gap gradually declines and eventually becomes statistically insignificant at higher quantiles. This pattern suggests that gender differences are concentrated primarily among individuals with relatively low levels of financial knowledge, whereas men and women with higher financial literacy display broadly similar outcomes. Consequently, relying solely on average effects may understate important distributional differences and obscure the fact that the gender gap is driven mainly by those at the lower end of the financial literacy distribution.

The Blinder–Oaxaca decomposition (see Table 4), applied at the mean and across quantiles using RIFs, shows that in the lower part of the distribution the unexplained component dominates the observed gap. This suggests that it is the (unobserved) mechanisms through which financial literacy is produced that drive the disparity at the bottom of the distribution, while in the upper part the gap is predominantly explained by socio-economic characteristics. One plausible interpretation, consistent with the wider literature, points to the role of non-numerical factors such as social norms, stereotype threat, and culture. The modest size of the median gap is in line with recent CEE evidence, which finds much smaller gaps in post-socialist countries than in economies such as Germany or the Netherlands.

Figure 2: UQR estimates of the determinants of financial literacy (selected covariates)



Notes: This figure shows the estimated marginal effects of OLS (black dashed lines) and the estimated marginal effects of UQR (dark blue lines) along with the 95 % confidence intervals (blue shaded areas). Regressions are estimated using multiple-imputation techniques and confidence intervals are bootstrapped based on 1,000 replicate weights. Regressions are estimated using the same set of covariates and estimation sample as in Table 3, specification (4).
Source: Household Finance and Consumption Survey 2021, NBS.

Table 4: Blinder-Oaxaca UQR decomposition results

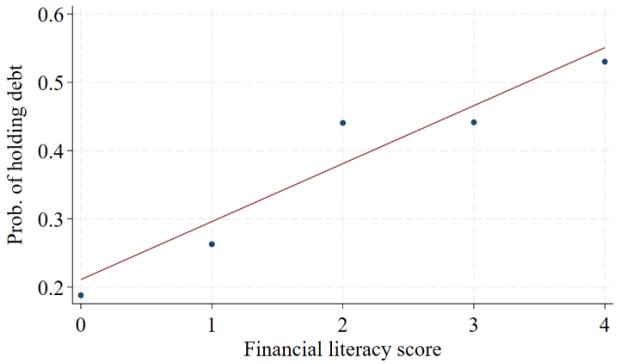
	Q(0.2)	Median	Q(0.8)
Men	1.408***	2.552***	3.610***
	(0.058)	(0.042)	(0.057)
Women	1.111***	2.433***	3.583***
	(0.085)	(0.071)	(0.095)
Raw difference	0.296***	0.119	0.027
	(0.097)	(0.080)	(0.106)
% difference	23.58%	4.77%	0.75%
Explained	0.107	0.147**	0.166**
	(0.092)	(0.061)	(0.079)
Unexplained	0.190*	-0.028	-0.140
	(0.112)	(0.083)	(0.107)
N (men)	1,182	1,182	1,182
N (women)	992	992	992

Notes: Standard errors are reported in parentheses. The explained component captures differences in observed characteristics between men and women, while the unexplained component reflects differences in returns to those characteristics and other unobserved factors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: Household Finance and Consumption Survey 2021, NBS.

5.5 In the Shadows of Over-Indebtedness: Unveiling the Light of Financial Literacy

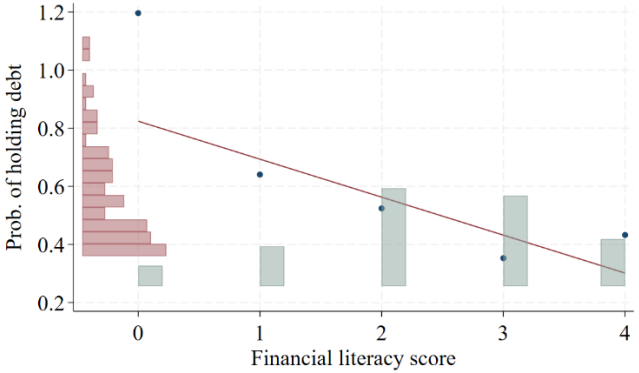
Figure 3 presents the average relationship between financial literacy and debt holding and confirms a strong positive association between the two variables. The estimated probability of holding debt increases steadily from approximately 20% among individuals with the lowest financial literacy scores to more than 50% among those with the highest scores. The fitted line suggests an almost linear relationship, indicating that financially literate individuals are more likely to participate in credit markets. This pattern is consistent with the idea that greater financial knowledge improves awareness of financial products and increases access to formal sources of credit. More financially literate individuals may therefore be better equipped to evaluate borrowing opportunities and use credit as part of their broader financial planning.

Figure 3: Raw correlation between the probability of holding any type of debt and financial literacy score



Notes: Relationship is estimated using survey weights and multiple-imputation techniques.
Source: Household Finance and Consumption Survey 2021, NBS.

Figure 4: Raw correlation between the household-level DSTI and financial literacy score



Notes: Relationship is estimated using survey weights and multiple-imputation techniques.
Source: Household Finance and Consumption Survey 2021, NBS.

Figure 1 illustrates a negative relationship between financial literacy and the household debt-service-to-income ratio (DSTI). The downward-sloping fitted line indicates that households with lower levels of financial literacy devote a substantially larger share of their income to servicing debt, whereas households with higher financial literacy tend to face lower debt burdens relative to income. In other words, less financially literate households appear to be more indebted and potentially more financially vulnerable, while more financially literate households maintain more sustainable debt positions. This pattern suggests that financial knowledge may contribute to better borrowing decisions, improved budgeting, and a greater ability to keep debt obligations under control.

Table 5: OLS and 2SLS estimates of the determinants of debt holding and DSTI

	Debt participation		DSTI	
	Probit	IV probit	OLS	2SLS
Fin. lit. score	0.053***	-	0.090**	-
	(0.011)	-	-	-
Fin. lit. score (pred.)	-	0.116**	-	-0.643***
	-	(0.047)	-	(0.260)
IV1: general understanding of questions	-	0.349***	-	0.260**
IV2: converting monetary values	-	0.277***	-	0.236**
R-squared	0.260	-	0.095	-
F-statistics of the first stage	-	59.760		14.922
Sargan Chi-2 test	-	0.120		0.423
P-value	-	0.283		0.518
Wu-Hausman test of endogeneity	-	26.603		22.625
P-value	-	0.001		0.000
Controls	Yes	Yes	Yes	Yes
Country and school-location FE	Yes	Yes	Yes	Yes
Observations	2,174	2,174	490	490

Notes: Regressions are estimated using multiple-imputation techniques. Bootstrapped standard errors presented in parentheses are based on 1000 replicate weights. A constant was included.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: Household Finance and Consumption Survey 2021, NBS.

Crucially, the relationship becomes substantially stronger once financial literacy is instrumented using interviewer assessments of respondents' comprehension and numeracy skills. The first-stage F-statistics indicate that the instruments are sufficiently relevant, while the Sargan test provides support for their exogeneity and overall validity. After accounting for endogeneity and measurement error, the estimated effects of financial literacy increase markedly. Specifically, the IV-probit estimate of the effect on debt participation rises from approximately 0.053 in the baseline probit model to around 0.116, while the 2SLS estimate of the effect on the debt-service-to-income ratio (DSTI) increases in absolute magnitude from about −0.090 in the OLS specification to roughly −0.643. These considerably larger coefficients suggest that conventional estimates understate the true impact of financial literacy, consistent with attenuation bias arising from classical measurement error in survey-based literacy measures. More broadly, the results strengthen the evidence that financial literacy plays an important role in shaping both borrowing decisions and debt-management outcomes. They also align closely with the framework proposed by Sergeyev et al. (2025), which views financial literacy as a proxy for household sophistication. Within this framework, the positive effect on debt participation and the negative effect on DSTI jointly suggest that more sophisticated households are more willing and able to access credit markets, while simultaneously maintaining lower debt burdens relative to income. This pattern is consistent with a better understanding of credit contracts, improved financial planning, and a stronger precautionary motive to avoid becoming constrained by excessive indebtedness.

6 Conclusion

The dissertation thesis contributes to the expanding literature on household finance and, specifically, on financial literacy through three interrelated essays on the drivers of financial literacy and the consequences of its absence. Drawing on several unique data sources (Household Finance and Consumption Survey and the Programme for International Student Assessment) and applying a battery of econometric methods, it traces a single logical arc from acquisition through distribution to consequence.

The first essay shows that social media use is positively and robustly associated with financial literacy among high-school students, with the estimated instrumental-variable effect of around 8.3 points corresponding to roughly 2% of the mean score. The gains are largest for students with the weakest baseline financial knowledge and decline monotonically up the literacy distribution, a pattern mirrored in a cross-country gradient whereby students in less economically developed countries exhibit larger effects. Because financial literacy is largely acquired outside the formal curriculum, social media appear to fill an informational vacuum rather than to displace structured learning. The information-acquisition model unifies the positive average effect and its heterogeneity within a single framework, in which social media lower the cost of accessing information while reducing average signal precision. These findings point to the potential of social media as a tool for improving financial literacy among the least informed students, while underscoring that their benefits diminish as baseline knowledge rises.

The second essay shows that the gender gap in financial literacy in Slovakia is more nuanced than mean-based comparisons suggest. The raw gap, while statistically significant, narrows and loses

significance once socio-economic characteristics are controlled for. A distributional analysis nevertheless reveals that the gap is large and significant at the lower end of the literacy distribution, where the Blinder–Oaxaca decomposition attributes most of it to unexplained factors. This points to differences in the very process through which financial literacy is acquired, rather than to observable characteristics, and the result is robust to accounting for financial self-confidence as a proxy for "Don't know" responses. The evidence suggests that policies aimed at reducing gender disparities should focus on women at the lower end of the distribution, combining targeted financial education with confidence-building measures.

The third essay shows that financial literacy is positively associated with debt-market participation but negatively associated with the debt burden, conditional on participation. Financially literate households are more likely to hold debt yet less likely to become over-indebted, as measured by the DSTI ratio, and the protective effect is strongest in the upper tail of the debt-burden distribution. The instrumental-variable estimates confirm that this relationship is, if anything, understated in conventional regressions, owing to measurement error in the financial literacy score. Because the DSTI measure is aligned with the borrower-based tools used by central banks and macroprudential authorities, the findings carry direct policy relevance: financial education may complement borrower-based measures by improving households' capacity to self-regulate their debt behaviour, and populations with low average financial literacy may represent a source of systemic vulnerability that supervisors should account for.

A key takeaway from the three essays is that financial literacy is not merely a personal store of information but a broader capability shaped by information environments, social disparities, and

economic circumstances, whose effects are heterogeneous and concentrated among the most vulnerable. The first essay shows that informal learning channels provide the greatest gains to those with the weakest financial foundations; the second shows that gender disparities concentrate where they remain largely unexplained; and the third shows that the protective effect of financial literacy against excessive debt is strongest among the most indebted households. Together, these findings suggest that limited financial literacy is self-reinforcing: those who start with less knowledge face larger unexplained disadvantages and are simultaneously most exposed to financial vulnerability. This convergence has direct implications for financial-education policy, which must be designed with heterogeneity in mind and targeted towards those who stand to benefit most.

Several limitations should be acknowledged. The first essay relies on 2018 data, which may not fully reflect subsequent changes in adolescents' digital habits and the evolving nature of social media platforms; the 2022 PISA wave, collected during the pandemic, would confound the channel of interest, making the 2018 data the more credible basis for the analysis. The second and third essays rely on cross-sectional data from a single HFCS wave, which limits causal interpretation and the ability to track financial literacy and indebtedness over time, and they measure financial literacy at the household level through the most knowledgeable person, which may introduce measurement noise. Survey-based measures of financial literacy may also not fully capture households' actual decision-making capacity in real borrowing situations. Future research would therefore benefit from richer individual-level and longitudinal data that make it possible to observe how financial literacy and its consequences evolve over time.

Beyond these specific limitations, the dissertation suggests a broader agenda for research on financial literacy as a determinant of financial decision-making. The recurring finding that effects are concentrated among the most vulnerable implies that average treatment effects, which dominate the existing literature, may give a misleading picture of where financial literacy matters most. Distributional and decomposition methods of the kind employed here deserve wider application, since they reveal heterogeneity that average effects conceal and point more precisely to the populations towards which policy should be directed. Likewise, the consistent evidence that measurement error attenuates the estimated effects of financial literacy argues for greater attention to identification, whether through instrumental variables, survey metadata, or experimental designs, in a field where self-reported measures remain the norm.

The dissertation's central message is ultimately an optimistic one, tempered by realism. Financial literacy is malleable: it can be acquired through informal channels such as social media, especially by those who start with the least, and it confers tangible protection against the financial vulnerability associated with excessive debt. At the same time, the disparities documented here – across the literacy distribution, between men and women at the lower end, and between more and less indebted households – are not self-correcting, and the groups that would benefit most from financial knowledge are often those least likely to acquire it through conventional means. Closing these gaps will require financial-education policy that is deliberately targeted, sensitive to heterogeneity in both outcomes and mechanisms, and integrated with the prudential and macroprudential tools through which authorities safeguard household and systemic financial stability. In an economy increasingly shaped by household credit and digital

information, ensuring that financial knowledge reaches those who need it most is a matter not only of individual welfare but of collective resilience.

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Cupak, A., Jurašeková Kucserová, J., Strachotová, A., Babecký, J., Orlov, D., Marenčák, M., Novák, V. (2026): „Household Finance and Consumption Survey 2023: Results from Slovakia“, *National Bank of Slovakia occasional paper*, OP 1/2026.

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9 Summary

Financial literacy has become a fundamental competence in modern economies, shaping individuals’ saving, borrowing, and investment decisions and, through them, household well-being and broader financial stability. As this dissertation demonstrates, however, financial literacy is neither uniformly distributed nor uniform in its effects: it is acquired through diverse channels, is unequally spread across demographic groups, and translates into financial behaviour in ways that depend strongly on who the household is. The Slovak case – characterised by relatively low average financial literacy and rapidly evolving credit and digital environments – illustrates why understanding these differences matters not only for personal finance but also for financial stability and effective economic policy.

The thesis presents three empirical essays that together trace a single arc from the acquisition of financial literacy, through its distribution, to its consequences. Drawing on several unique data sources (i.e., the Programme for International Student Assessment and the Slovak Household Finance and Consumption Survey) and applying a battery of econometric methods, it delivers three principal sets of findings.

First, the thesis provides novel evidence on the role of social media in the acquisition of financial literacy. Using PISA 2018 microdata from ten OECD countries and an instrumental-variable strategy exploiting the age of first internet access and household smartphone availability, it shows that social media use raises financial literacy, with the strongest gains accruing to students with the weakest baseline knowledge. Because financial literacy is largely acquired outside the classroom, social media fill an informational vacuum rather than displacing formal educational materials. An information-acquisition model unifies the positive average effect and its heterogeneity, highlighting the potential of digital platforms as targeted educational tools.

Second, using the 2021 Slovak HFCS, the thesis shows that the gender gap in financial literacy emerges primarily in the lower segments of the distribution. While the raw gap disappears once socio-economic characteristics are controlled for, a Blinder–Oaxaca decomposition reveals that the gap at the lower end remains largely unexplained, pointing to differences in the underlying process of knowledge acquisition rather than in observable characteristics. Financial self-confidence accounts for only a modest part of the gap. These insights underscore the need for targeted interventions and confidence-building measures for the most vulnerable groups.

Third, the thesis advances the literature on financial literacy and household over-indebtedness by showing that financial literacy is positively associated with the likelihood of holding debt but negatively associated with the debt burden, measured by the DSTI ratio. The protective relationship at the intensive margin strengthens after accounting for sample selection and remains significant when financial

literacy is instrumented, confirming that conventional estimates attenuate it. The use of a DSTI measure aligned with central banks' borrower-based tools enhances the policy relevance of the findings.

A central insight from the thesis is that the effects of financial literacy are heterogeneous and concentrated among the most vulnerable households. Those who start with less knowledge gain most from informal learning channels, yet they also face larger unexplained disadvantages in knowledge accumulation and greater exposure to financial vulnerability. Together, the findings reinforce the importance of tailored financial-education policies, designed with heterogeneity in mind and targeted towards those who stand to benefit most, as a complement to prudential and macroprudential tools. In a world increasingly dependent on household credit and digital information, ensuring that financial knowledge reaches those who need it most is essential not only for individual well-being but also for long-term financial and economic stability.

10 Extended abstract in the Slovak language

Táto dizertačná práca skúma rozdiely vo finančnej gramotnosti a ich vplyv na finančné rozhodovanie prostredníctvom troch empirických štúdií. Zameriava sa na to, ako finančnú gramotnosť formuje informačné prostredie, ako sa líši v jednotlivých skupinách obyvateľstva a ako ovplyvňuje finančné správanie a zraniteľnosť domácností. Tri eseje netvoria navzájom nezávislé štúdie, ale sledujú jednu logickú líniu začínajúc osvojovaním si finančnej gramotnosti, cez jej rozdelenie medzi demografickými skupinami, až po jej dôsledky pre finančné správanie domácností. Práca využíva viacero unikátnych dátových zdrojov (napr. mikrodáta z prieskumu PISA a zo slovenského zisťovania o financiách a spotrebe domácností).

Prvá esej skúma úlohu sociálnych médií pri osvojovaní si finančnej gramotnosti u stredoškolákov. Na základe mikrodát z prieskumu

PISA 2018 v desiatich krajinách OECD a s využitím prístupu inštrumentálnych premenných (vek prvého prístupu na internet a dostupnosť smartfónov v domácnosti) štúdia ukazuje pozitívny a robustný vzťah medzi využívaním sociálnych médií a finančnou gramotnosťou. Odhadovaný efekt predstavuje približne 8,3 bodu, čo zodpovedá okolo 2 % priemeru. Tento vzťah je heterogénny, teda najsilnejší je u študentov s najnižšou základnou finančnou gramotnosťou a monotónne klesá smerom k vyšším úrovniam. Sociálne médiá teda nenahrádzajú formálne vzdelávanie, ale vypĺňajú informačné vákuum u tých študentov, ktorí majú k štruktúrovanému finančnému vzdelávaniu najmenší prístup.

Druhá esej analyzuje rodové rozdiely vo finančnej gramotnosti na Slovensku, v krajine a regióne, ktoré zostávajú v tejto oblasti relatívne málo preskúmané. S využitím reprezentatívnych mikrodát z prieskumu HFCS 2021 štúdia odhaľuje mierny rodový rozdiel, ktorý je najvýraznejší na spodnom konci distribúcie. Hoci deskriptívne výsledky naznačujú, že muži dosahujú vyššie skóre ako ženy, tento rozdiel sa stáva štatisticky nevýznamným po zohľadnení socioekonomických charakteristík. Blinder–Oaxaca dekompozícia však ukazuje, že v spodnej časti distribúcie dominuje nevysvetlená zložka, čo naznačuje, že hlavnými hnacími silami rozdielu sú skôr mechanizmy, akými sa finančná gramotnosť nadobúda, ako pozorovateľné charakteristiky. Finančné sebavedomie vysvetľuje len malú časť pozorovaného rozdielu.

Tretia esej skúma vzťah medzi finančnou gramotnosťou, sebavedomím a nadmerným zadlžením domácností, opäť s využitím údajov HFCS 2021 a dvojstupňového modelu. Výsledky ukazujú, že finančná gramotnosť pozitívne súvisí s pravdepodobnosťou držania dlhu, ale zároveň znižuje dlhové zaťaženie merané ukazovateľom DSTI. Tento ochranný vzťah sa

posilňuje po zohľadnení výberovej chyby a zôstáva štatisticky významný aj pri použití inštrumentálnych premenných, čo potvrdzuje, že OLS odhady ho podhodnocujú. Využitie ukazovateľa DSTI, ktorý je v súlade s metodológiou Národnej banky Slovenska, zvyšuje relevantnosť zistení.

Naprieč všetkými tromi esejami práca ukazuje, že finančná gramotnosť je kľúčovým, no zároveň heterogénnym determinantom finančného rozhodovania, ktorého účinky sú sústredené medzi najzraniteľnejšími domácnosťami. Tí, ktorí začínajú s menšími vedomosťami, najviac profitujú z neformálnych vzdelávacích kanálov, no zároveň čelia väčším nevysvetleným znevýhodneniam a väčšej finančnej zraniteľnosti. Zistenia preto zdôrazňujú dôležitosť cielených politík finančného vzdelávania, navrhnutých s ohľadom na heterogenitu a zameraných na tých, ktorí z nich môžu najviac ťažiť.