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Political participation and financial education: understanding personal and collective tradeoffs for a better citizenship

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Abstract

The paper documents a positive association between political participation, measured by the number of citizens voting at national elections, and awareness of the tradeoffs behind both private and public decisions that indicators of basic financial education can capture. The association is robust to the inclusion of a range of controls, stronger for the most difficult concepts of risk diversification and interest compounding, and consistent with the hypothesis that in countries where financial education is higher due to national cultural traits, voter turnout at national elections is higher.

Keywords: financial education; financial literacy; citizenship; voter turnout; culture.

JEL Classification: D72, G53, I21.

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1. Introduction

According to a large literature on political behavior, education facilitates political participation and civic engagement (Rosenstone and Hansen, 1993; Putnam, 2001; Hanushek, 2002). Citizens who spend more time at school are more likely to turn out and vote in individual data (e.g. Dee, 2004; Tenn, 2007), while higher levels of education do not seem related to political participation at the aggregate level, where school education could be long but less effective reflecting contemporary societal changes - such as an increase in the complexity of policy agendas, the weakening of civic society or higher costs of gathering information (Delli Carpini, 1997; Persson 2015).

This paper reconsiders the relationship between education and political participation across countries focusing on a specific type of education: the ability of citizens to understand the tradeoffs behind both private and public decisions that indicators of financial education, i.e. financial literacy, can capture (Fornero and Lo Prete, 2019 and 2023). The paper documents a positive association between political participation and financial literacy at the aggregate level, provides evidence of its robustness to the inclusion of a range of controls, and discusses alternative explanations for it. It is always difficult for a cross-country study to provide a conceptual framework to interpret empirical findings and drive causal inference. One explanation that receives support in the data is that the competences that make people turn-out and vote are likely to depend on historical patterns such as the cultural trait used in this analysis.

2. The evidence

Figure 1 documents an empirical regularity: electoral participation is higher in countries where the average level of basic financial education among the population is higher.¹ The variable *voter turnout*, on the vertical axis, measures the percentage of eligible voters casting a ballot in parliamentary elections held between 2000 and 2019 using data from the Voter Turnout Database compiled by the International Institute for Democracy and Electoral Assistance (IDEA). The indicator of *financial literacy*, measured on the

¹ The sample includes 75 advanced and developing countries where the basic standards of political rights and liberties apply, that is where voting behavior is not constrained by government coercion and can be considered (free or partially free) democracies based on the Freedom House average indicator of political rights and civil liberties. The list of countries is available in the Appendix to this article.

horizontal axis, from the Standard & Poor's Ratings Services Global Financial Literacy Survey, defines financially literate those who answered correctly to three out of four questions on numeracy, compound interest, inflation, and risk diversification and aggregates individual data to compute the percentage of financially literate people in each country. Descriptive statistics for all the variables used in the analysis are in Table A1 in the Appendix.

The models in Table 1 control for the possibility that the association in Figure 1 is spurious, by including the (log) level of GDP per capita and (log) openness to international trade to capture differences in economic conditions; the (log) size of the population as a proxy for the weight of a single vote in a country and, thus, for the probability of a voter to be pivotal; dependency ratios to represent the age structure of the population; a dummy variable for compulsory voting; school education, measured using the Human Capacity Index developed by the United Nations, to control for the possibility that voting increases in the average stock of human capital; a dummy variable for OECD membership.

In column 1 the positive and significant association between voter turnout and financial literacy is robust to the inclusion of these covariates.² Electoral participation is also higher in countries where voting is compulsory. The indicator of school education is not associated to voter turnout (in these regressions and in regressions where financial literacy is not included, not reported) confirming the paradox of a missing link between education at school and voter turnout in aggregate data (Persson, 2015).

The other models in Table 1 consider the four questions used to build the indicator of financial literacy separately. According to the financial education literature, risk sharing and compounding are the most difficult concepts to grasp (Klapper et al., 2015). They also represent competences which can be traced back to the intra-temporal and inter-temporal dimension of choices, respectively, a hypothesis that finds support in the data: voter turnout is significantly higher in countries where a higher share of the population understands risk diversification (column 4) and interest rate compounding (column 5)

² The results are robust also in models controlling for the form of government and electoral rules (Persson and Tabellini, 2004; Fumagalli and Narciso, 2012), ethnic fragmentation (Alesina et al., 2003), colonial history (Acemoglu et al., 2001), regional dummies (results not reported).

and is more strongly related to compounding in the model that includes information on all the four sub-components of financial literacy together (column 6).

3. Discussion and some hypotheses

To gain a basis for exclusion restrictions that would justify two-stage estimates, one could argue that financial education reflects historical patterns of governance and education related to voter turnout. Indeed, in recent studies country-specific culture plays an important role in explaining cross-country variation in financial literacy (Ahunov and Van Hove, 2020; De Beckker et al., 2020; Pulk and Riitsalu, 2024). It is also possible that financial literacy reflects contemporary patterns whereby financially literate citizens, owing more liquid or illiquid assets (Nadeau et al., 2019; Hall and Yoder, 2022) or having become richer because their ability to reap the benefits of deeper financial markets (Lo Prete, 2013), are more interested in voting to defend their personal interests.

Table 2 helps discussing these alternative explanations. The model in column 1 includes two indicators that Hobsfede developed in the 1980s (Hobsfede et al., 2010) to measure cultural traits that, among other cultural dimensions, are robust instrumental candidates: *individualism* indicates if citizens perceive themselves as individuals and care more about their personal goals (as opposed to feeling part of a community that shares values and goals) and *uncertainty avoidance* if citizens prefer to abide to social norms and preserve the status quo to avoid uncertainty (as opposed to displaying higher critical sensibility and valuing independence more).

In the ordinary least-squares (OLS) regression that can serve as first stage of a two-stage least squares (2SLS) model where financial literacy may be correlated with the shocks in the error term, financial literacy is higher in countries with more individualism and lower levels of risk avoidance. The indicators of cultural traits may be valid instruments if they were not directly correlated with voter turnout. This identifying restriction cannot be tested directly but finds support in the evidence in column 2, where these instrumental variables candidates, included alongside financial literacy, do not help explain voter turnout at significant levels.

In the 2SLS model of column 3, the instrumented voter turnout variable still attracts a positive and significant coefficient, larger than in the OLS regression, suggesting that

endogeneity issues may be at least partially addressed by the instrumental variables. The Hansen J statistic indicates that the null hypothesis that the instruments are valid cannot be rejected, and the test developed by Montiel Olea and Pflueger rejects the null hypothesis of weak instruments.

Finally, the models in columns 4 and 5 include an indicator of financial asset ownership, measured as a ratio to GDP, as a proxy for patrimonial voting motives. Interestingly, it is not a significant determinant of financial literacy in column 4 and cannot be used as excluded instrument in the corresponding 2SLS model. Instead, it covaries with voter turnout in column 5, suggesting that the higher interest at stake in elections for asset owners do play a role at all levels of financial literacy. Basic financial education is again associated to country-specific cultural traits and is relevant to political participation.

4. Concluding remarks

The preliminary results in this paper offer important insights that future work focusing on individual-level data should explore further to identify the political outcomes of developing a good understanding of the trade-offs behind individual and collective decisions. These are competences that, from a normative point of view, could be increased by educational programs, for instance as part of civic and economic education modules providing the skills that future citizens need to engage.

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Data Appendix

Countries in the sample

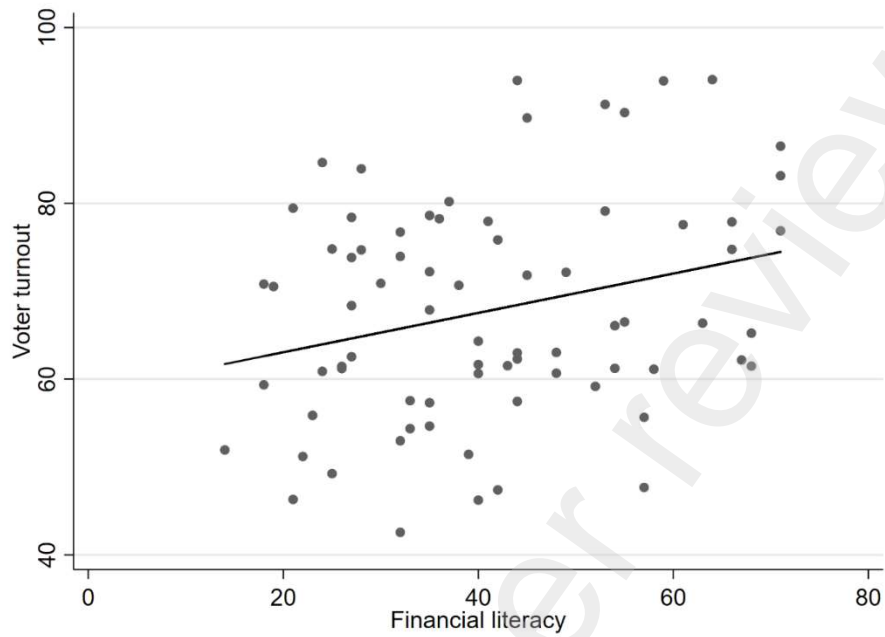
Albania, Argentina, Armenia, Australia, Austria, Bangladesh, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Dominican Republic, Ecuador, El Salvador, Estonia, Finland, France, Germany, Ghana, Greece, Guatemala, Honduras, Hungary, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Kenya, Kuwait, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Moldova, Namibia, Nepal, Netherlands, New Zealand, Norway, Panama, Peru, Philippines, Poland, Portugal, Romania, Senegal, Sierra Leone, Singapore, Slovak Republic, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Ukraine, United Kingdom, United States, Uruguay, Venezuela, Zambia.

Table A1 - Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Voter turnout	75	67.8	12.3	43.9	93.9
Financial literacy	75	41.3	15.3	14	71
Numeracy correct	75	53.6	10.7	27	72
Inflation correct	75	55.6	11.1	21	74
Risk correct	75	45.6	17.6	11	78
Compounding correct	75	47.8	12.2	23	74
GDP p.c. (constant dollars)	75	24663	20054	1677	89445
Trade/GDP	75	89.3	58.7	25.9	365.9
Population (milions)	75	49	144	0.4	1190
Dependency ratio	75	54.9	12.3	30.2	95.0
Compulsory voting	75	0.2	0.4	0.0	1.0
School education	75	0.8	0.1	0.3	1.0
OECD	75	0.4	0.5	0	1
Individualism	75	42.1	23.8	6	91
Uncertainty avoidance	75	66.6	22.2	8	100
Financial assets/GDP	66	20.1	33.1	0.25	199.2

Notes: The table reports information on the variables not transformed.

Figure 1. Relationship between voter turnout and financial literacy.



Notes: Partial correlation coefficient = 0.23, standard error = 0.09, t-statistic = 2.68, R-squared 0.08.

Table 1. Political participation and financial education.

Dependent variable: Voter Turnout						
	(1)	(2)	(3)	(4)	(5)	(6)
Financial literacy	0.41*** (0.14)					
Numeracy correct		0.21 (0.15)				0.07 (0.21)
Inflation correct			0.06 (0.18)			-0.07 (0.23)
Risk correct				0.22** (0.10)		0.06 (0.11)
Compounding correct					0.38** (0.15)	0.34* (0.17)
GDP p.c.	0.67 (3.00)	5.21* (2.90)	5.12* (2.81)	1.81 (3.05)	0.79 (2.87)	0.47 (2.98)
Trade	2.91 (3.56)	4.16 (3.75)	4.40 (3.70)	3.88 (3.57)	2.69 (3.44)	2.70 (3.57)
Population	0.44 (1.17)	0.62 (1.19)	0.61 (1.22)	0.76 (1.15)	0.08 (1.15)	0.21 (1.16)
Dependency ratio	0.06 (0.17)	0.28* (0.15)	0.28* (0.15)	0.07 (0.18)	0.04 (0.16)	0.01 (0.18)
Compulsory voting	13.65*** (3.30)	12.48*** (3.79)	11.88*** (3.74)	13.52*** (3.45)	12.65*** (3.27)	13.27*** (3.48)
School education	-12.60 (22.90)	-12.99 (21.39)	-8.33 (23.90)	-5.39 (22.50)	0.86 (22.00)	0.26 (22.94)
OECD	-4.36 (4.61)	-3.23 (4.93)	-2.02 (4.98)	-3.03 (4.63)	-2.48 (4.34)	-3.00 (4.50)
R squared	0.32	0.26	0.25	0.28	0.32	0.33

Notes: OLS estimation. Robust standard errors in parenthesis. All models include a constat (not reported). The symbols *, **, and *** denote significance at the 10 percent, 5 percent, and 1 percent levels. Number of observations: 75.

Table 2. Culture and alternative explanations.

Dependent variable	(1) Financial literacy	(2) Voter Turnout	(3) Voter Turnout	(4) Financial literacy	(5) Voter Turnout
Financial literacy		0.27 (0.18)	0.71*** (0.20)		0.36* (0.20)
Individualism	0.20*** (0.06)	0.10 (0.10)		0.23*** (0.06)	
Uncertainty avoidance	-0.13*** (0.05)	-0.05 (0.08)		-0.11** (0.05)	
Financial assets/GDP				0.21 (0.73)	2.71*** (0.57)
Other covariates	✓	✓	✓	✓	✓
Hansen J statistic			2.47 [0.12]		0.01 [0.91]
OMP effective F statistic			16.65		13.71
Critical value (2SLS)			7.48		6.78
Critical value (LIML)			14.01		13.40
R squared	0.79	0.34		0.79	
Observations	75	75	75	66	66

Notes: OLS estimation in columns 1, 2 and 4, 2SLS estimation in columns 3 and 4. The Hansen J statistic tests for overidentifying restrictions under the null hypothesis that the instruments are uncorrelated with the error term and that the excluded instruments are correctly excluded from the estimated equation (Chi-square p-value in square brackets). The Olea Montiel-Pflueger (OMP) effective F statistic tests the null hypothesis that the 2SLS and the LIML Nagar biases exceed 10% of the OLS bias under the assumption of conditional homoscedasticity and no serial correlation. All models include the control variables listed in Table 1 and a constant (not reported). Standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.