

# POLITICAL PARTICIPATION AND FINANCIAL EDUCATION: UNDERSTANDING POLICY CONTENT ACROSS-COUNTRIES

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# Contents

This work explores the long-run association between electoral participation and different levels and types of education, with a special focus on financial education – to study whether voter turnout depends on the ability of citizens to assess the content of the socio-economic policies they vote for when casting a ballot in national elections, that indicators of financial literacy can measure.

## Findings

In a sample of 91 advanced and developing countries observed over the 1990-2014 period,

- electoral participation is higher in countries where a larger share of the population is financially literate. The effect is causal and results hold in 5-year subperiod panel regressions;
- the association between electoral participation and other measures of education at school is mild.

# Literature on education and political participation

A large literature in political science and economics agrees on the relevance of education to electoral participation.

- Education may increase voter turnout by increasing civic skills and, hence, develop civic behavior, awareness of their public choices, sense of sharing a collective civic identity (Wolfinger and Rosenstone, 1980; Putnam, 1980; Rosenstone and Hanse, 1993; Persson, 2013 and 2015; McNamara and Musgrave, 2020), by decreasing the cost of gathering information and voting (Filer et al., 1993).
- In individual data, positive nexus (Dee, 2004; Milligan et al., 2004; Tenn, 2007).

Empirically,

- paradox in macro data - due to other societal changes (Delli Carpini, 1997; Persson, 2013 and 2015);
- in macroeconomics, education used as a control variable (Mueller and Stratmann, 2003; Fumagalli and Narciso, 2012), *no systematic analysis* on the association between education and voter turnout.

Education type

- Focus on education *length*.
- In recent studies, the *type* of education matters (Bhatti, 2017; Hillygus, 2005).

# Financial literacy (FL)

In the last decades, *financial literacy* has been conceptualized, measured, analyzed, correlated to:

- *various aspects of individual behavior*:
  - from savings to portfolio choices, from retirement decisions to pension plans participation, from human capital formation to debt taking up (Lusardi Mitchell, 2007; Bucher-Koenen Lusardi, 2011; Guiso Jappelli, 2008; Van Rooij *et al.*, 2011; Fornero *et al.*, 2022).
- *macroeconomic phenomena*:
  - lack of portfolio diversification (Jappelli, 2000; Giofrè, 2017);
  - inequality and financial development (Lo Prete, 2013 and 2018), financial inclusion (Menkhoff *et al.*, 2018).

Public choice:

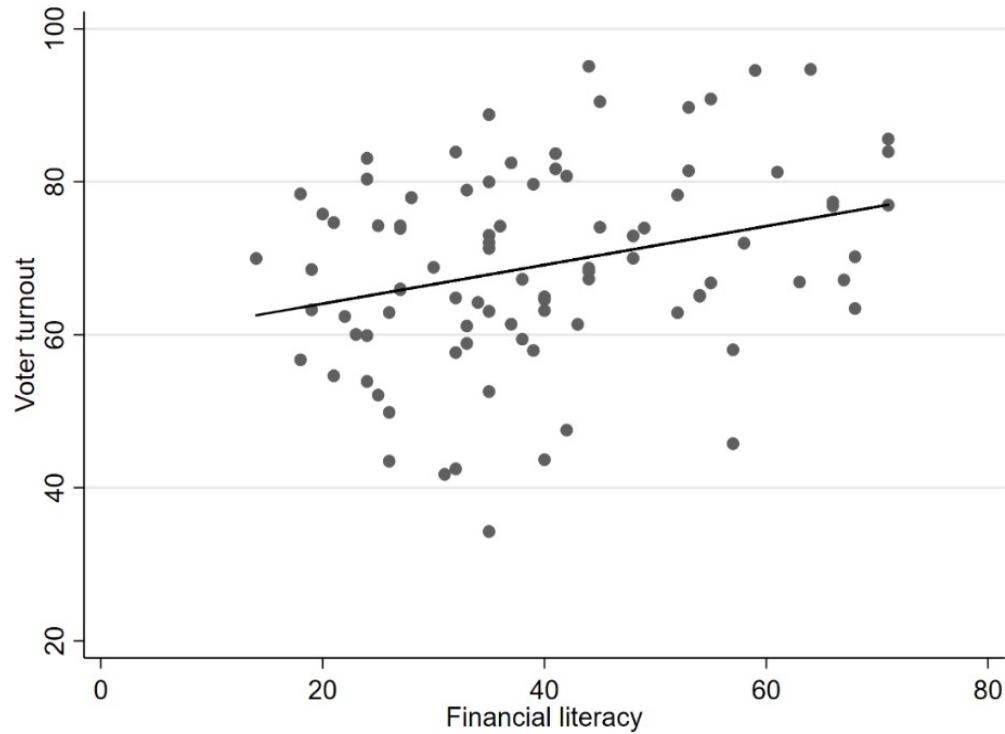
- support to economic reforms (Fornero and Lo Prete, 2019), policy outcomes (*in progress*), more informed political choices (Murtinu *et al.*, 2022);
- experiments on individual support to economic reforms (Fontoura Gouveia, 2017) attitudes towards redistribution (Montagnoli *et al.*, 2017).

# AGGREGATE DATA

## Main indicators

- **VOTER TURNOUT:** percentage of eligible voter casting a ballot at national parliamentary elections (IDEA).
- **FINANCIAL LITERACY:** Standard & Poor's Ratings Services Global Financial Literacy Survey. Based on 150.000 interviews, administered in 2014 in over 140 countries. Four questions (basic numeracy, interest compounding, inflation, and risk diversification). A person is defined financially literate if she correctly answered to three out of four questions. The index considers the percentage of financially literate people in a country.
- **EDUCATION AT SCHOOL:** school attainment rates and years of schooling (Barro and Lee, 2013).
- **CONTROL VARIABLES:** socio-economic conditions, institutional, geographical, historical determinants of political participation.

# Financial literacy and voter turnout



# Education at school and voter turnout

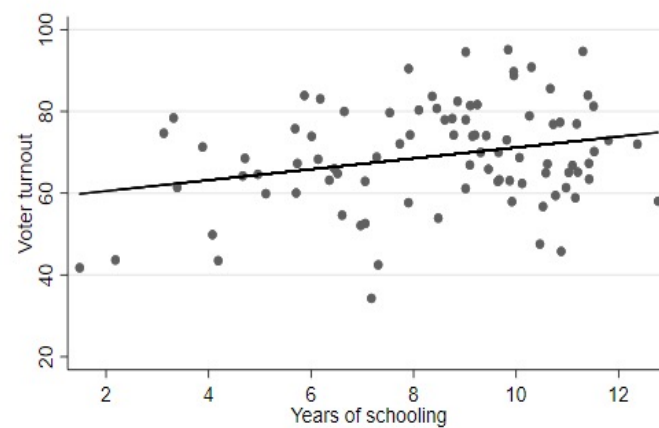
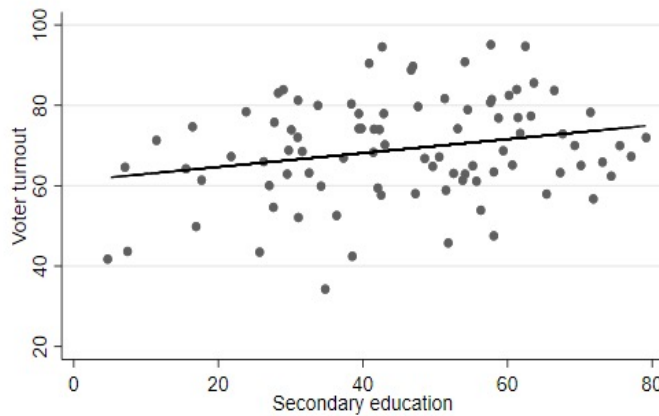
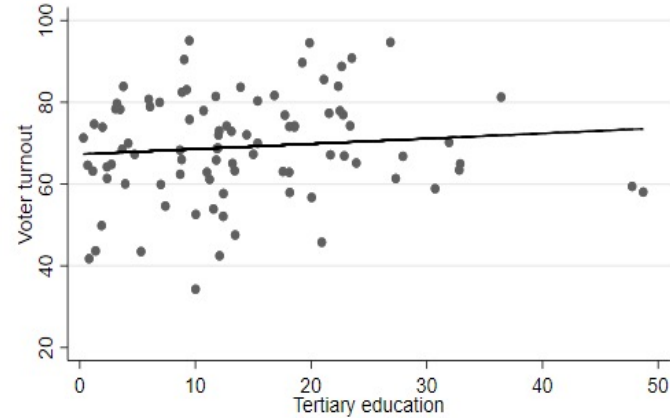
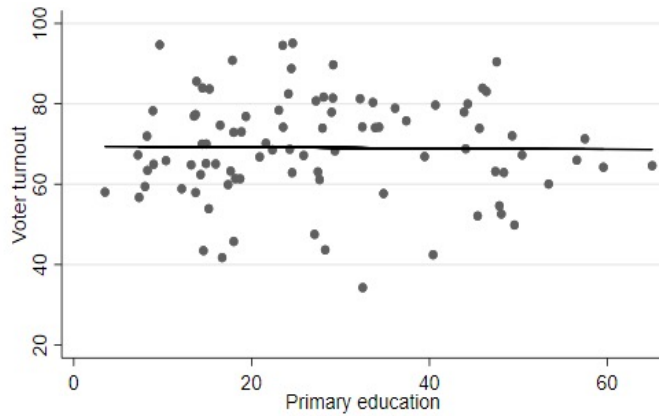


Table 1. Education and voter turnout.

Dependent variable: Voter turnout					
<i>Panel A – Bivariate associations</i>					
Education measure (regressor):	[1] Financial literacy	[2] Primary education	[3] Secondary education	[4] Tertiary education	[5] Years of schooling
<i>Education</i>	0.25*** (0.08)	-0.01 (0.08)	0.17** (0.07)	0.13 (0.13)	1.33** (0.53)
<i>Panel B – OLS estimation with control variables</i>					
Education measure (regressor):	[1] Financial literacy	[2] Primary education	[3] Secondary education	[4] Tertiary education	[5] Years of schooling
<i>Education</i>	0.35*** (0.12)	0.05 (0.11)	0.07 (0.10)	-0.16 (0.13)	0.17 (0.74)
GDP p.c.	-4.54 (2.96)	-1.46 (2.77)	-1.27 (2.78)	-0.89 (2.72)	-1.44 (2.69)
Trade	0.40 (3.04)	1.75 (3.38)	1.63 (3.37)	1.60 (3.34)	1.68 (3.34)
Population	-1.45 (1.07)	-1.39 (1.09)	-1.18 (1.13)	-1.24 (1.14)	-1.33 (1.10)
Dep. ratio	-0.93** (0.46)	-0.67 (0.51)	-0.46 (0.54)	-0.69 (0.46)	-0.58 (0.49)
Compulsory	11.50*** (2.91)	8.98** (3.56)	10.14*** (3.35)	9.48*** (3.09)	9.58*** (3.15)
OECD	-0.37 (3.76)	4.17 (3.68)	3.77 (3.65)	4.50 (3.61)	3.72 (3.77)
R-squared	0.28	0.22	0.23	0.22	0.22
Observations	91	91	91	91	91

Notes: OLS estimation. Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.



Table 2. Other explanatory variables.

Dependent variable: Voter turnout							
Education measure (regressor):	[1]	[2]	[3]	[4]	[5]		Obs. Nr.
	Financial literacy	Primary education	Secondary education	Tertiary education	Years of schooling	<i>Specification including the set of control variables in table 1 panel B, plus:</i>	
	0.32*** (0.12)	0.09 (0.11)	0.04 (0.09)	-0.11 (0.13)	0.23 (0.71)	Presidential	91
	0.33** (0.14)	0.06 (0.10)	0.07 (0.09)	-0.18 (0.13)	0.17 (0.71)	Majoritarian	91
	0.38*** (0.12)	0.05 (0.11)	0.07 (0.10)	-0.16 (0.13)	0.15 (0.75)	Ethnic fragmentation	91
	0.38*** (0.11)	-0.03 (0.12)	0.18 (0.11)	-0.10 (0.14)	0.81 (1.01)	Colonial history	73
	0.35** (0.14)	-0.00 (0.11)	0.27*** (0.09)	-0.14 (0.14)	1.79** (0.78)	Regional controls	91
	0.38*** (0.13)	0.04 (0.11)	0.08 (0.10)	-0.14 (0.13)	0.06 (0.78)	Freedom of expression	88

Notes: OLS estimation. Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Other regressors not shown in the table: GDP per capita, trade, population, dependency ratio, compulsory voting dummy, OECD dummy.

Table 3. Instrumental variables regressions. Determinants of voter turnout.

	[1]	[2]	[3]	[4]	[5]	[6]
	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage
	Financial literacy	Voter Turnout	Secondary education	Voter Turnout	Years of schooling	Voter Turnout
<i>Education</i>		0.63** (0.25)		0.26 (0.22)		2.86* (1.68)
GDP p.c.	7.76*** (1.90)	-11.55*** (4.33)	3.07 (2.84)	-6.90* (4.09)	0.81** (0.37)	-8.61* (4.78)
Trade	5.85* (3.50)	-3.28 (2.83)	4.60 (3.94)	-1.55 (3.49)	0.31 (0.42)	-1.49 (3.60)
Population	1.87 (1.15)	-2.99*** (0.93)	0.00 (1.57)	-2.31* (1.28)	0.03 (0.14)	-2.49** (1.11)
Dep. ratio	0.24 (0.28)	-1.69*** (0.55)	-0.93* (0.48)	-1.18** (0.59)	-0.08 (0.07)	-1.22** (0.55)
Compulsory	-0.60 (2.83)	12.47*** (3.63)	-1.79 (3.25)	11.59*** (3.63)	0.09 (0.46)	11.33*** (3.75)
OECD	11.04*** (3.15)	-5.78 (4.15)	0.03 (4.26)	0.78 (3.74)	0.99** (0.41)	-2.18 (4.28)
Presidential	-2.91 (2.36)	-2.30 (2.54)	-7.42** (3.14)	-2.38 (2.29)	-0.21 (0.38)	-3.18 (2.33)
Anglo-Saxon legal origin	7.45*** (2.67)		4.78 (3.30)		1.87*** (0.41)	
German legal origin	1.68 (4.65)		8.95* (4.54)		1.41** (0.62)	
Scandinavian legal origin	18.74*** (3.51)		8.72 (6.06)		1.32** (0.64)	
Socialist legal origin	23.81*** (5.66)		38.23*** (7.69)		2.59** (0.98)	
Regional controls	Yes	yes	Yes	yes	Yes	yes
Over-ident. restrictions		2.08 [0.56]		4.84 [0.18]		2.67 [0.45]
Specification test		0.47 [0.49]		0.05 [0.83]		0.45 [0.50]
Weak identification test		12.65		6.23		5.54
Observations	91	91	91	91	91	91

Notes: 2SLS estimation. Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Test of over-identifying restrictions, under the null that all instrumental variables are orthogonal to the second-stage error term. Specification test, under the null: estimates from OLS and IV are both consistent. Weak identification test: Kleibergen–Paap Wald rk F statistic, robust to non-i.i.d. error.

Table 4. Financial literacy by gender.

	[1]	[2]	[3]	[4]	[5]	[6]
	OLS	1 <sup>st</sup> stage Financial Literacy women	2 <sup>nd</sup> stage Voter Turnout	OLS	1 <sup>st</sup> stage Financial Literacy men	2 <sup>nd</sup> stage Voter Turnout
Financial literacy, women	0.24* (0.14)		0.52** (0.22)			
Financial literacy, men				0.25** (0.12)		0.60** (0.25)
GDP p.c.	-7.98* (4.48)	6.69*** (1.74)	-10.19** (4.24)	-7.98* (4.37)	6.50*** (2.13)	-10.62*** (4.07)
Trade	-1.86 (3.47)	5.34* (3.07)	-2.50 (2.99)	-1.84 (3.32)	4.60 (4.11)	-2.60 (2.87)
Population	-2.75** (1.07)	1.67 (1.05)	-2.78*** (0.95)	-2.69** (1.06)	1.20 (1.37)	-2.64*** (0.97)
Dep. ratio	-1.50** (0.61)	0.12 (0.28)	-1.59*** (0.54)	-1.48** (0.60)	0.02 (0.33)	-1.56*** (0.52)
Compulsory	10.84*** (4.07)	1.62 (2.71)	11.37*** (3.72)	10.67*** (4.01)	1.72 (3.24)	11.08*** (3.68)
OECD	-1.21 (4.20)	8.96*** (3.18)	-3.75 (3.99)	-1.16 (4.12)	8.71** (3.33)	-4.12 (4.33)
Presidential	-3.39 (2.64)	-3.14 (2.39)	-2.44 (2.48)	-3.75 (2.63)	-1.37 (2.71)	-3.11 (2.57)
Anglo-Saxon legal origin		9.17*** (2.63)			9.60*** (3.18)	
German legal origin		5.12 (4.05)			2.02 (5.73)	
Scandinavian legal origin		21.64*** (3.63)			19.25*** (4.05)	
Socialist legal origin		24.83*** (5.45)			21.76*** (6.72)	
Regional controls	yes	yes	yes	yes	yes	yes
Over-ident. restrictions			2.19 [0.53]			1.36 [0.72]
Specification test			1.04 [0.31]			1.44 [0.23]
Weak identification test			14.53			8.94
Observations	91	91	91	91	91	90

Notes: Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Test of over-identifying restrictions, under the null that all instrumental variables are orthogonal to the second-stage error term. Specification test, under the null: estimates from OLS and IV are both consistent. Weak identification test: Kleibergen–Paap Wald rk F statistic, robust to non-i.i.d. error.

Table 5. Panel estimation: financial education and voter turnout.

	[1]	[2]	[3]	[4]	[5]
	S&P Financial Literacy	S&P Financial literacy	IMD Economic literacy	IMD Economic literacy	IMD Economic literacy
<i>Financial education</i>	0.44*** (0.07)	0.41*** (0.08)	1.98*** (0.71)	1.75** (0.71)	2.94*** (1.07)
GDP p.c.	-6.90*** (2.09)	-5.82** (2.26)	-2.69 (1.96)	-1.45 (2.01)	-1.21 (4.41)
Trade	-1.66 (1.59)	-0.22 (1.64)	-1.26 (1.73)	0.77 (1.85)	4.92 (4.45)
Population	-1.73** (0.67)	-1.22* (0.71)	-1.36* (0.69)	-0.67 (0.73)	28.84** (12.19)
Dep. ratio	0.32 (0.29)	0.23 (0.29)	0.49 (0.31)	0.34 (0.31)	0.17 (0.46)
Compulsory	19.89*** (1.91)	19.51*** (1.95)	17.84*** (1.90)	17.50*** (1.90)	
Presidential	0.79 (2.36)	0.68 (2.30)	2.51 (2.57)	2.19 (2.46)	
OECD	1.04 (1.75)	0.96 (1.76)	-1.71 (1.59)	-1.56 (1.57)	
Regional contr.	yes	yes	yes	yes	no
Time effects	no	yes	no	yes	yes
Fixed effects	no	no	no	no	yes
R-squared	0.50	0.51	0.43	0.45	0.26
Observations	255	255	255	255	255

Notes: Panel estimation: OLS specification in columns 1-4; fixed effects specification with time effects in column 5. Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 6. Panel estimation: school education and voter turnout.

	[1]	[2]	[3]	[4]	[5]	[6]
	Secondary education	Secondary education	Secondary education	Years of schooling	Years of schooling	Years of schooling
<i>Education</i>	0.09 (0.06)	0.14** (0.06)	-0.17 (0.12)	0.19 (0.61)	0.99 (0.62)	0.81 (1.16)
GDP p.c.	-1.94 (2.10)	-0.92 (2.11)	-2.27 (5.28)	-1.52 (2.28)	-1.53 (2.19)	-1.27 (4.97)
Trade	-2.39 (1.81)	-0.11 (1.94)	5.23 (4.69)	-1.78 (1.77)	0.86 (1.88)	3.90 (5.01)
Population	-2.19*** (0.71)	-1.32* (0.76)	30.90** (12.42)	-2.03*** (0.71)	-1.18 (0.74)	31.26** (12.98)
Dep. ratio	0.50 (0.32)	0.30 (0.31)	0.07 (0.48)	0.52 (0.32)	0.33 (0.32)	0.30 (0.50)
Compulsory	18.19*** (1.99)	18.00*** (1.94)		17.91*** (2.10)	18.00*** (2.03)	
Presidential	3.44 (2.83)	2.49 (2.64)		3.82 (2.72)	2.37 (2.50)	
OECD	-1.39 (1.65)	-0.89 (1.61)		-1.78 (1.66)	-1.12 (1.68)	
Regional c.	yes	yes	no	yes	yes	no
Time effects	no	yes	yes	no	yes	yes
Fixed effects	no	no	yes	no	no	yes
R-squared	0.42	0.45	0.24	0.42	0.45	0.23
Observations	255	255	255	255	255	255

Notes: Panel estimation: OLS specification in columns 1, 2, 4, and 5; fixed effects specification with time effects in columns 3 and 6. Robust standard errors in parenthesis. The symbols \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

# Concluding remarks

Basic financial education helps explain voting behavior in a large sample of democracies. Education at school – which is arguably related to the development of civic skills – is important, but its nexus with political participation is mild.

The data suggest that there is more than civic skills and responsibility – taught at schools - that matters to political engagement. Financial education – that, at a basic level, provides the skills needed to gauge economic and financial concepts - may help dealing with the increased complexity of politics and policy content in modern economies.

If citizens' understanding of economics and finance concepts is among the determinants of the decision to turn out to vote, investing in financial education programs, and possibly including financial literacy modules in school curricula, can help to effectively increase political participation.