

# Financial literacy: different indicator, different insights?

Leo Van Hove & Muzaffar Ahunov

## The Paper That We Should Not Have Written

Leo VAN HOVE <sup>a</sup> & Inza Farjon AHUNOV <sup>b\*</sup>

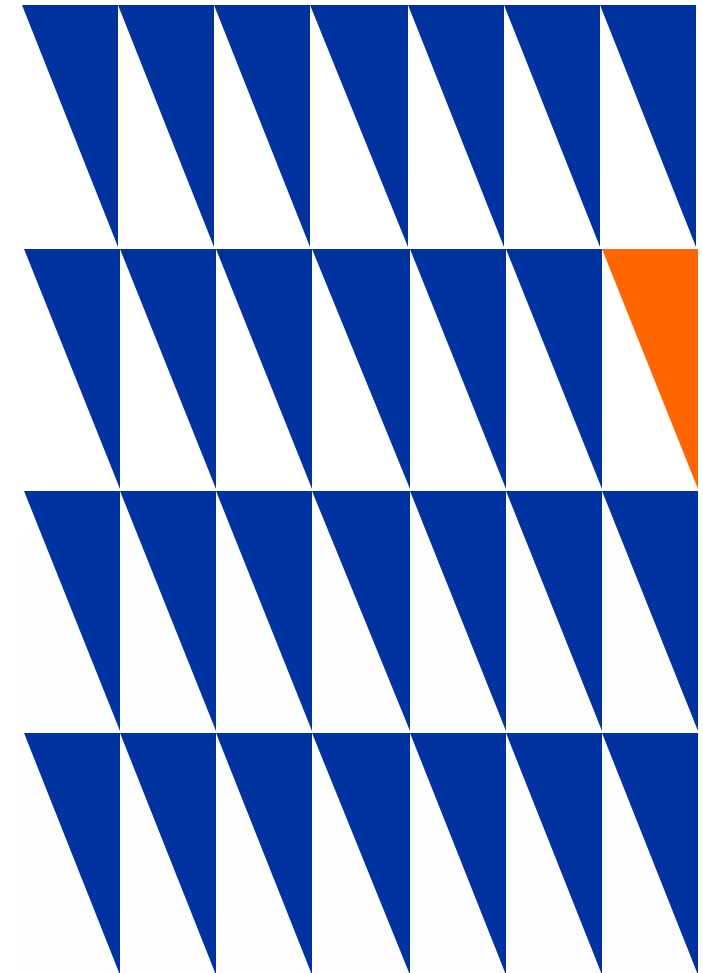
<sup>a</sup> Department of Applied Economics (AECE), Vrije Universiteit Brussel (Free University of Brussels), Pleinlaan 2, B-1050 Brussels, Belgium. [Leo.Van.Hove@vub.be](mailto:Leo.Van.Hove@vub.be)

ORCID: <http://orcid.org/0000-0001-7546-7746>

<sup>b</sup> Endicott College of International Studies, Woosong University, Jayang-Dong, Dong-gu Daejeon, South Korea 300-718, [mahunov@endicott.ac.kr](mailto:mahunov@endicott.ac.kr)

ORCID: <http://orcid.org/0000-0003-2073-3220>

Rejected by  
9 journals!





## National culture and financial literacy: international evidence

Muzaffarjon Ahunov <sup>a</sup> and Leo Van Hove <sup>b,c</sup>

<sup>a</sup>Endicott College of International Studies, Woosong University, Dong-gu Daejeon, South Korea; <sup>b</sup>Department of Applied Economics (APEC), Vrije Universiteit Brussel (Free University of Brussels), Belgium; <sup>c</sup>Faculty of Economic Sciences and Management, Nicolaus Copernicus University, Toruń, Poland

### ABSTRACT

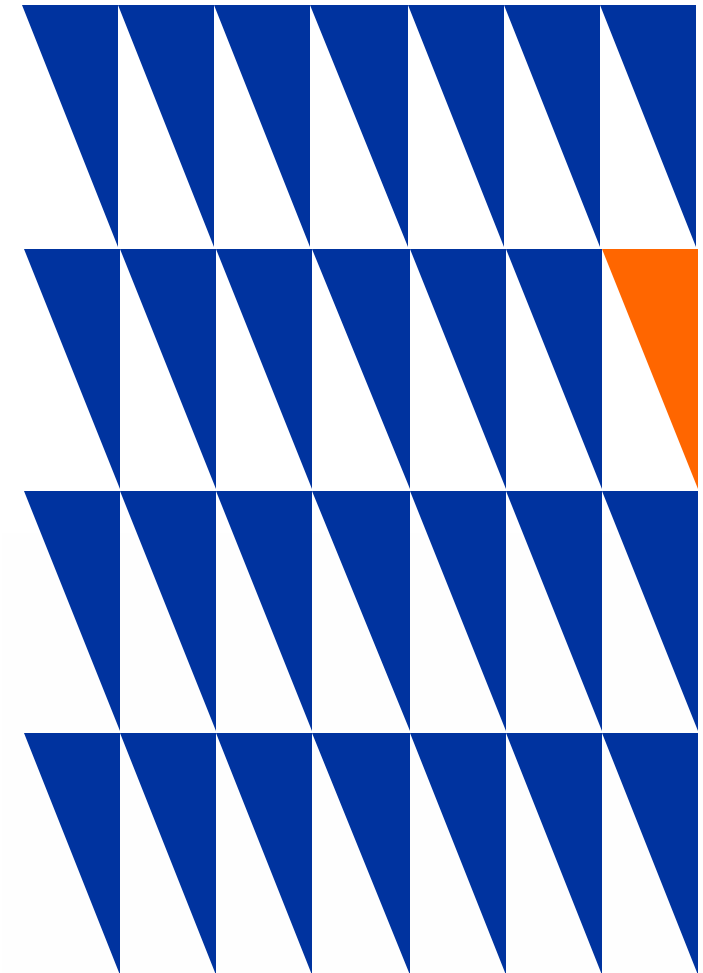
We examine to what extent (aspects of) national culture can explain cross-country variations in financial literacy. Our results, for a sample of 92 countries, show that Hofstede's dimensions of power distance and individualism explain, respectively, over 40 and 60 per cent – which is substantially more than national cognitive scores and standard economic variables. In particular, we find that financial literacy is lower in countries where power distance is high, and that the opposite is true for individualism. Uncertainty avoidance would seem to be negatively related with financial literacy, but the evidence is not so strong. For masculinity, indulgence, and long-term orientation we find no significant impact. Overall, our results highlight the need for additional (interdisciplinary) theories that can improve our understanding of the determinants of financial literacy and better guide policies in this area.

### KEYWORDS

Financial literacy; financial development; national culture; cross-country analysis

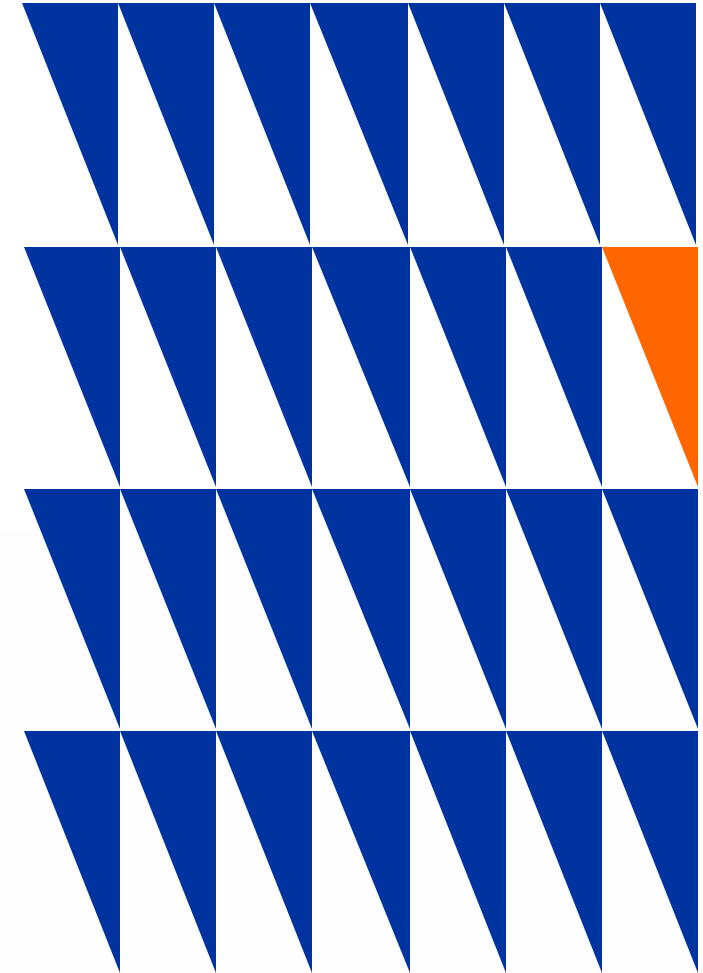
### JEL CLASSIFICATION

A12; G41; Z10



## OUR *APPLIED ECONOMICS* ARTICLE

- Cross-country analysis, 92 countries
- National culture = Hofstede
- Financial literacy = 2014 Standard & Poor's Global Financial Literacy Survey
- Financial literacy = Big Three?
- Financial literacy = OECD/INFE?
- Replicate second paper?



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*Never again ...*

Financial literacy:  
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## SET-UP

- We replicate two articles
  - Ahunov & Van Hove (2020); 92 countries
  - Grohmann et al. (2018): “Does financial literacy improve financial inclusion? Cross country evidence”; 143 countries
- We replace S&P by, alternately, Big Three and OECD/INFE
- First joint, large-scale test of these indicators

$$\text{Financial literacy}_i = \alpha + \beta_1 \text{Controls}_i + \beta_2 \text{National culture}_i + \varepsilon_i$$

- FL = % of individuals with 3 out of 4 S&P concepts correct
- National culture = dimensions one by one, *not* jointly
- Controls = GDP per capita + each time 1 other

# PAPER 1 – AHUNOV & VAN HOVE

**Table 5.** National culture and financial literacy: full models, ordinary least squares.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>A</b>										
Power distance	-0.65*** (0.06)	-0.41*** (0.06)	-0.35*** (0.05)	-0.37*** (0.06)	-0.34*** (0.06)	-0.40*** (0.05)	-0.41*** (0.05)	-0.38*** (0.06)	-0.36*** (0.06)	-0.20** (0.06)
Observations	92	91	92	87	90	91	89	92	92	92
Adjusted R <sup>2</sup>	0.41	0.59	0.63	0.62	0.62	0.60	0.65	0.75	0.62	0.69
<b>B</b>										
Individualism	0.77*** (0.04)	0.56*** (0.05)	0.51*** (0.05)	0.53*** (0.06)	0.51*** (0.05)	0.56*** (0.05)	0.51*** (0.05)	0.43*** (0.06)	0.52*** (0.05)	0.38*** (0.05)
Observations	92	91	92	87	90	91	89	92	92	92
Adjusted R <sup>2</sup>	0.60	0.66	0.70	0.67	0.69	0.66	0.68	0.77	0.68	0.74
Country-level controls										
GDP per capita (current US\$)		x	x	x	x	x	x	x	x	x
Domestic credit provided by financial sector		x								
Female to male labour force participation rate			x							
Gini coefficient				x						
Economic freedom index					x					
National IQ, score						x				
Human capital index							x			
Bank-based financial system								x		
Political stability index									x	
Rule of law index										x

Standardized beta coefficients; Heteroskedasticity-robust standard errors in parentheses; \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .



$$Y_i = \alpha + \beta_1 FL_i + \beta_2 X_i + u$$

- $Y$  = access to / usage of financial services (bank account, debit card)
- $FL$  = S&P
- $X$  = country and institutional controls (education, ease of doing business, etc.)
- also various IV regressions

# PAPER 2 – GROHMANN ET AL.

**Table 2**  
Financial literacy and access to finance – OLS results.

	(1) Account ownership OLS	(2) Account ownership OLS	(3) Account ownership OLS	(4) Debit card ownership OLS	(5) Debit card ownership OLS	(6) Debit card ownership OLS
Financial literacy	1.441 <sup>***</sup> (0.101)	0.712 <sup>***</sup> (0.143)	0.511 <sup>***</sup> (0.140)	1.522 <sup>***</sup> (0.125)	0.687 <sup>***</sup> (0.141)	0.518 <sup>***</sup> (0.154)
Log GDP p.c. (PPP)		15.418 <sup>***</sup> (2.414)	13.223 <sup>***</sup> (2.798)		15.876 <sup>***</sup> (2.071)	13.943 <sup>***</sup> (2.550)
Population share between 15 and 64		0.277 (0.389)	-0.239 (0.342)		-0.037 (0.334)	-0.482 (0.305)
Secondary education		-0.007 (0.108)	0.018 (0.106)		0.010 (0.098)	0.028 (0.102)
Tertiary education		0.050 (0.145)	-0.151 (0.137)		0.230 <sup>*</sup> (0.137)	0.031 (0.150)
Private credit to GDP			0.130 <sup>***</sup> (0.031)			0.093 <sup>**</sup> (0.044)
Bank branches per 1000 km <sup>2</sup>			0.058 <sup>***</sup> (0.017)			0.034 <sup>**</sup> (0.017)
Strength of legal rights index			0.309 (0.542)			-0.002 (0.509)
Ease of doing business index			-0.102 <sup>**</sup> (0.049)			-0.105 <sup>*</sup> (0.053)
Constant	1.38 (4.318)	-132.72 <sup>***</sup> (16.349)	-71.89 <sup>***</sup> (25.653)	-16.77 <sup>***</sup> (4.572)	-134.95 <sup>***</sup> (13.957)	-77.52 <sup>***</sup> (24.802)
R <sup>2</sup>	0.424	0.741	0.803	0.469	0.795	0.816
Observations	141	136	119	141	136	119

# FINANCIAL LITERACY DATA

**Table 1. Datasets**

	Survey	Financial literacy metric	Number of countries	Source(s)
#1	Standard & Poor's Global Financial Literacy Survey	S&P	143	Klapper et al. (2015)
#2	Allianz	Big Three	10	Allianz (2017)
#3	Retirement Readiness Survey (Aegon)	Big Three	15	Aegon Center for Longevity and Retirement (2018)
		$AL+FW+AE = 10 + 10 + 6$	<b>26</b>	
#4	FLat World Project	Big Three	15	Lusardi (2019)
#5	Survey of Adult Financial Literacy Competencies	OECD/INFE	50	See Table A3

**Table 2. Overlapping samples**

Sample	Number of countries	Description
S&P-50	50	Overlapping sample between the S&P and OECD/INFE datasets (when using the OECD/INFE ‘Min 5 out of 7’ score).
S&P-26	26	Overlapping sample between the S&P and Big Three datasets – 26 being the number of unique countries with a Big Three score obtained by combining Aegon, Allianz, and FLat World data.

Note: overlap between OECD/INFE and Big Three datasets too limited (19 countries)

## LOW CORRELATIONS ...

**Table A5.** Comparison of S&P and FLat World Project rankings

Country	S&P	FLat World Project
Sweden	1	12
Canada	2	5
Netherlands	3	3
Germany	4	1
Australia	5	4
Finland	6	6
New Zealand	7	11
United States	8	8
Switzerland	9	2
France	10	7
Japan	11	9
Chile	12	13
Russian Federation	13	15
Italy	14	10
Romania	15	14

Note: Countries are ranked from highest to lowest financial literacy

## ... WHEREAS INDICATORS ARE SIMILAR

**Table A1.** Measuring financial literacy: S&P vs. Big Three vs. OECD/INFE

	S&P	Big Three	OECD/INFE
Risk diversification	X	X	X
Inflation	X	X	X X
Compound interest	X X	X	X
Interest			X
Numeracy	X		X
Risk & return			X
Literate	3 out of 4 topics	all 3	5 out of 7

# RESULTS: AHUNOV & VAN HOVE

**Table 5. A&VH – Overview of results, OLS**

Metric	Sample	Observations	Power distance (-)			Individualism (+)			Uncertainty avoidance (-)					
			n.s.	*	**	***	n.s.	*	**	***	n.s.	*	**	***
<b>Standard &amp; Poor's</b>														
(1)	S&P-92 †	52-92	-	-	1	9	-	-	-	10	-	1	1	8
(2)	S&P-50	25-38	-	-	2	8	-	-	-	10	1	1	3	5
(3)	S&P-26	22-26	1	2	6	1	-	-	-	10	-	1	0	9
<b>OECD/INFE – Min 5 out of 7</b>														
(4)	OECD/INFE	25-38	9	-	-	1	8	-	1	1	10	-	-	-
<b>Big Three</b>														
(5)	AL+FW+AE	22-26	-	-	7	3	9	-	1	-	6	4	-	-
(6)	AL+AE+FW	22-26	-	-	7	3	9	1	-	-	8	2	-	-
(7)	FW+AL+AE	22-26	-	-	8	2	9	-	1	-	7	3	-	-
(8)	FW+AE+AL	22-26	-	-	8	2	9	-	1	-	3	6	1	-
(9)	AE+FW+AL	22-26	-	1	7	2	9	1	-	-	9	1	-	-
(10)	AE+AL+FW	22-26	-	1	7	2	9	1	-	-	8	2	-	-

† Taken from A&VH (2020), Table 5. n.s. = statistically insignificant, \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01.

**Table 10.** Grohmann et al. – Overview of results, OLS

Entries in the final column are percentage differences between the S&P results and the OECD/INFE or Big Three results.

Sample	S&P-50	S&P-26	OECD/INFE	Big Three	Difference (in %)
Outcome variable					
Account ownership	0.57***		0.32**		-44
		0.63***		0.41***-0.51***	-35, -19
Debit card ownership	0.87***		0.61**		-30
		0.91***		0.23-0.37**	-75, -59
Saved on account	0.72***		0.22*		-69
		0.98***		0.54***-0.68***	-45, -31
Used debit card	1.17***		0.68**		-42
		1.23***		0.42-0.56*	-66, -54

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



## RESULTS: GROHMANN ET AL.

- Coefficient on Private credit/GDP changes too (measures 'financial depth')
- Interaction term becomes insignificant in majority of regressions
- FL not significant anymore in any of the IV regressions

## WRAP-UP

- “Financial literacy: different indicator, different insights?”: no longer question mark
- Where do the differences come from?
- “the literature would benefit from revisiting several key papers”, including single-country studies

***Thank you for your  
attention!***

***p.s. Any Editors in the room?***