

The Importance of Financial Literacy: Evidence from Singapore

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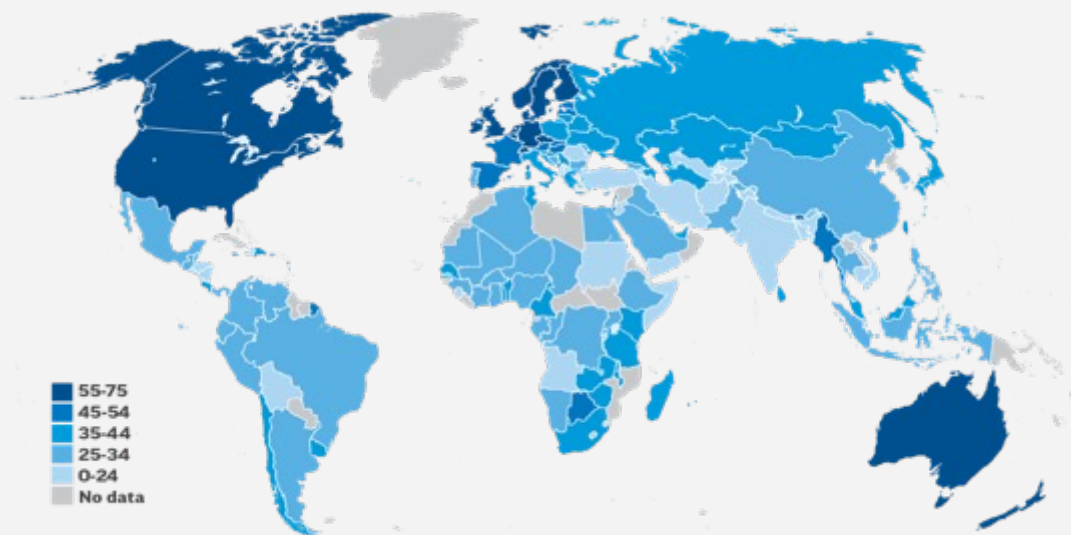
Previous evidence depicts a low level of finlit

- The Global FinLit Survey (S&P, 2014) is the largest, most comprehensive, global measure of financial literacy
- Interviewed more than 150,000 adults age 15+ in more than 140 countries
- The measure has to be applicable to every country, irrespective of economic structure and financial market development
- The survey covers four topics:

- Numeracy
- Interest compounding
- Inflation
- Risk diversification

Being financially literate:
Able to answer 3 out of these 4 topics correctly

% of financially literate adults



Only 1 in 3 adults worldwide responded correctly to three out of four topics (Klapper & Lusardi, 2020)

Too little is known about Asians

- Although evidence is limited, the literature reports Asians have higher financial knowledge and better financial behavior than other subgroups of the population (see Hasler et al., 2023).
- Klapper and Lusardi (2020) is the only paper to incorporate the financial literacy of Singaporeans to date, given that it is a global study.
- They found that 59% of the population is *financially literate*.



The need to update the data

- **Follow the scheme**
(Full sample, across demographics, country-specific effects)
- Give a framework about the pension system and the financial market
- **Adopt the same measure of financial literacy (The Big Three)**
- Motivate the results within the context
- Discuss policy implications

The FLAT world project

- According to the Big Three, previous evidence shows that across 15 countries financial literacy is low in both developed and developing economies



- ❖ USA
- ❖ Germany
- ❖ The Netherlands
- ❖ Italy
- ❖ Russia
- ❖ Sweden
- ❖ New Zealand
- ❖ Japan
- ❖ Australia
- ❖ France
- ❖ Switzerland
- ❖ Romania
- ❖ Chile
- ❖ Finland
- ❖ Canada

Still the most downloaded issue of the Journal of Pension Economics & Finance.

The new international comparison in financial literacy

- This paper is part of a new international comparison which provide evidence on new countries with a focus on inflation (special issue of the *Journal of Financial Literacy and Wellbeing*, 2023)



- ❖ Latin America (Peru and Uruguay)
- ❖ Eastern Europe (9 countries)
- ❖ **Singapore**
- ❖ Finland
- ❖ Italy
- ❖ Japan
- ❖ US

This is the first time we provide evidence from Singapore, according to the Big Three questions.

The understudied island city-state: Singapore

Country-specific factors:

- Excellent education system
- Racial diversity
- Well-developed financial market
- Fintech and ESG commitment



Addressing our research questions

1. What is the level of financial literacy (Big Three) in Singapore? How does it differ across demographics? And across country-specific factors such as race/ethnicity and ESG literacy?
2. How prevalent is inflation knowledge in Singapore?
3. Does financial literacy matter?

Unique data collection

To explore financial literacy in Singapore, we fielded a survey in September 2022

- SKBI-GFLEC Sustainable Investment Survey administered through YouGov's Global Omnibus online polling service

Our final sample consists of 1,699 respondents.

Financial literacy: The ABCs of personal finance

These are the questions designed jointly by Annamaria Lusardi and Olivia Mitchell, known as the “Big Three”.

The Big 3

1. “Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?”
 - More than \$102
 - Exactly \$102
 - Less than \$102
 - Don't know
 - Refuse to answer
2. “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account, would you be able to buy...”
 - More than today
 - Exactly the same as today
 - Less than today
 - Don't know
 - Refuse to answer
3. “Do you think the following statement is true or false? Buying a single company stock usually provides a safer return than a stock mutual fund.”
 - True
 - False
 - Don't know
 - Refuse to answer

The Big Three distribution

Table 1: Summary statistics on three financial literacy questions

	Full sample (%)	Age 25-65 (%)		Full sample (%)	Age 25-65 (%)
(A) Interest question			(C) Risk question		
>\$102	77.7	77.3	Correct (false)	49.8	50.0
=\$102	5.7	5.7	Incorrect (true)	9.9	10.4
<102	9.7	10.1	DK	38.4	37.8
DK	5.6	5.6	RF	1.9	1.8
RF	1.2	1.3	(D) Cross-question consistency		
(B) Inflation question			Interest and Inflation	63.2	62.1
More	6.1	6.8	All correct	39.3	38.9
Exactly the same	9.9	10.0	None correct	8.3	8.0
Less	74.8	74.2	At least 1 DK	40.8	40.4
DK	8.7	8.2	All DK	2.6	2.4
RF	0.5	0.7	Number of observations	1,699	1,284

Note: All figures are weighted. DK indicates respondent does not know

Dive into the Big Three across demographics

Table 2a: Distribution of responses to financial literacy questions by age, sex, education, and employment status (%)

		Interest		Inflation		Risk		Overall	
		Correct	DK	Correct	DK	Correct	DK	3	>= 1
		Correct	DK	Correct	DK	Correct	DK	Correct	DK
<i>Age group</i>									
	<35	81.0	4.5	70.0	8.7	51.6	34.9	41.2	38.1
	36-50	75.4	5.7	73.6	8.5	48.2	39.4	36.9	41.5
	51-65	75.4	6.7	76.6	8.8	48.8	41.7	37.8	44.0
	>65	79.5	5.8	83.4	8.9	51.1	37.6	43.3	38.7
<i>Gender</i>									
	Male	79.1	5.2	76.9	6.1	55.3	31.1	45.4	32.6
	Female	76.2	6.1	72.6	11.3	44.1	46.0	33.1	49.1
<i>Education</i>									
	High school or Less	67.3	10.1	65.7	17.1	30.1	55.1	20.6	58.5
	Some College	75.2	6.7	70.1	10.6	43.8	47.0	32.7	49.8
	College Degree	86.3	2.8	84.0	3.3	63.9	26.6	55.3	27.7
	Postgraduate	77.9	2.9	77.5	4.2	60.6	17.7	45.0	20.5
<i>Employment status</i>									
	Employed	78.1	5.0	73.8	8.4	51.3	35.9	40.5	38.3
	Not Employed	76.6	7.8	73.8	11.0	41.4	52.1	30.2	55.3
	Retired	76.4	7.7	84.6	8.2	47.6	42.5	41.4	43.1

Note: All figures are weighted. DK indicates respondent does not know

Zooming in on inflation

Table 2b: LPM estimates of inflation knowledge on socio-demographic characteristics in Singapore

VARIABLES	(1) Inflation question correct
<i>Socio-demographic controls</i>	
36-50	0.058* (0.030)
51-65	0.128*** (0.031)
>65	0.197*** (0.042)
Female	-0.027 (0.022)
Some College	0.086** (0.035)
College Degree	0.260*** (0.036)
Postgraduate	0.168*** (0.044)
Not employed, NLF	0.067* (0.038)
Retired	0.060 (0.041)
Constant	0.531*** (0.041)
Observations	1,699
R-squared	0.058

Note: Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1. All statistics are weighted.
 Other controls include age squared, income, marital status, employment status, district of residence, and having children.

Country-specific analysis: Race and ethnicity

Table 3a: Distribution of responses to financial literacy questions by race and ethnicity (%)

	Interest		Inflation		Risk		Overall	
	Correct	DK	Correct	DK	Correct	DK	3 Correct	>= 1 DK
<i>Race and ethnicities</i>								
Chinese	80.9	4.1	81.9	5.7	54.4	35.1	45.0	36.9
Malay	62.4	8.6	58.9	12.5	47.2	38.6	27.5	43.6
Indian	69.2	12.0	47.2	22.2	24.4	56.8	14.9	60.5
Other*	84.1	4.52	71.3	8.3	57.2	35.6	45.5	37.0

Note: All figures are weighted. DK indicates respondent does not know. *N=59

Country-specific analysis: ESG Literacy

Table 3b: Distribution of responses to financial literacy questions by ESG literacy (%)

	Interest		Inflation		Risk		Overall	
	Correct	DK	Correct	DK	Correct	DK	3 Correct	>= 1 DK
ESG illiterate	72.4	7.5	67.3	12.2	44.2	41.5	31.6	44.4
ESG literate	88.7	1.6	90.5	1.3	61.5	31.9	55.7	33.0

Note: All figures are weighted. DK indicates respondent does not know.

A focus on active investors

To address our research questions, we investigate a subgroup of the population who get to choose how the money is invested (both for retirement as well as for other investments).

We consider active investors, defined as those who replied yes to at least one of the following questions:

- “Do you have any investments in retirement accounts where you get to choose how the money is invested?”

- **Yes**
- No
- Don't know
- Prefer not to say

- “Not including private or employer-provided retirement accounts, do you have any investments in stocks, bonds, mutual funds, or other securities?”

- **Yes**
- No
- Don't know
- Prefer not to say

Huge differences among active vs non-active investors

Table 4: Distribution of responses to financial literacy questions by active investors vs non-active investors (%)

		Active- Investors (N=783)	Non-Active Investors (N=459)
Interest question			
	Correct	84.0	67.1
	DK	2.2	10.7
Inflation question			
	Correct	81.8	61.5
	DK	2.85	17.4
Risk diversification question			
	Correct	63.2	30.0
	DK	22.6	60.8
Summary			
	Correct: Interest and inflation	73.0	45.2
	Correct: all three	52.0	18.6
	Number of correct answers	2.28	1.59

Note: All statistics are weighted. DK indicates the respondent does not know. Sample consists of 1,426 non-retired respondents aged 25-65.

Financial literacy matters

Table 5: OLS estimates of active investments on financial literacy in Singapore

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Active investors	Full Sample Active investors	Active investors	Active investors	Age 25-65 Active investors	Active investors
<i>Financial literacy measures</i>						
All Big Three correct	0.230*** (0.024)			0.226*** (0.028)		
N. of correct answers		0.122*** (0.013)			0.128*** (0.015)	
Inflation correct			0.104*** (0.031)			0.079** (0.035)
Interest correct			0.081*** (0.031)			0.108*** (0.036)
Risk correct			0.170*** (0.026)			0.186*** (0.030)
Observations	1,699	1,699	1,699	1,242	1,242	1,242
R-squared	0.224	0.227	0.230	0.243	0.252	0.256

Note: All statistics are weighted. Sample consists of 1,426 non-retired respondents aged 25-65. Other controls include all demographics, gender, income, age, age squared, marital status, area of residence, having kids.

Addressing endogeneity of finlit

Table 6: OLS estimates of active investments on financial education offered in Singapore.

VARIABLES	(1) Full Sample Active investors	(2) Age 25-65 Active investors
<i>Financial literacy measure</i>		
Was offered financial education	0.117*** (0.025)	0.120*** (0.029)
Female	-0.072*** (0.023)	-0.059** (0.027)
Observations	1,699	1,242
R-squared	0.188	0.211

Note: All statistics are weighted. Sample consists of 1,426 non-retired respondents aged 25-65. Other controls include age squared, marital status, area of residence, having kids, income.

Research with an impact

- Our approach can be useful to replicate our study and provide additional comparable evidence worldwide.
- Our results are of interest to the financial service and pension industry, employers, and policymakers.
- These findings may help to design programs and initiatives that target underserved populations in Singapore.
- The ultimate goal of our research is to promote an inclusive approach to strengthening financial well-being across races and ethnicities.

Thank you!

For more info visit www.gflec.org.

Follow us on social media and stay informed.

If you have any questions, please send them to asconti@gwu.edu.

Dive in into the sample

Table A1: Summary statistics of the demographics on the full sample

	Obs	Mean	SD	Min	Max
Age	1,699	46.49824	15.52746	23	86
<35	1,699	0.295994	0.456623	0	1
36-50	1,699	0.294947	0.456153	0	1
51-65	1,699	0.262923	0.440351	0	1
>65	1,699	0.146136	0.353346	0	1
25-65	1,699	0.755432	0.429957	0	1
Male	1,699	0.507689	0.500088	0	1
Female	1,699	0.492310	0.500088	0	1
High School or Less	1,699	0.197305	0.380062	0	1
Some College	1,699	0.352179	0.47779	0	1
Degree	1,699	0.336584	0.47268	0	1
Postgraduate	1,699	0.113932	0.317822	0	1

Note: All figures are weighted.

Dive in into the sample (cont.)

Table A1: Summary statistics of the demographics on the full sample (cont.)

Married	1,699	0.563481	0.4961	0	1
Single not married	1,699	0.363382	0.481115	0	1
Divorced/separated	1,699	0.058591	0.234928	0	1
Widowed	1,699	0.014546	0.11976	0	1
HH 1st quartile	1,699	0.285383	0.451729	0	1
HH 2nd quartile	1,699	0.271885	0.445062	0	1
HH 3rd quartile	1,699	0.232066	0.422275	0	1
HH 4th quartile	1,699	0.210667	0.407903	0	1
Employed	1,699	0.7888	0.40828	0	1
Not employed NLF	1,699	0.120742	0.325923	0	1
Retired	1,699	0.090458	0.286921	0	1
Chinese	1,699	0.741728	0.437813	0	1
Malay	1,699	0.136494	0.343414	0	1
Indian	1,699	0.091309	0.288132	0	1
Other	1,699	0.030469	0.171925	0	1
Has kids	1,699	0.508607	0.500073	0	1
Active investors	1,699	0.594683	0.491098	0	1
Retirement investors	1,699	0.289835	0.453819	0	1
Other investors	1,699	0.527534	0.499388	0	1

Note: All figures are weighted.