The importance of financial and risk literacy: Lessons from many years of data

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Stanford | Initiative for Financial Decision-Making

The Geneva Risk Economics Lecture
August 4, 2025

Outline of the presentation

- An overview of financial and risk literacy
- The impact of knowledge on behavior
- How to address lack of knowledge
- Our Initiative for Financial Decision-Making (IFDM)

Preview of findings

- Financial and risk literacy are very low and not improving over time
- Financial and risk literacy can be linked to basic insurance behavior
- There are effective remedies for the lack of financial and risk literacy
- Academics, the industry and policy makers have a role to play

Why focusing on financial and risk literacy?

- Changes in the pension system: People are in charge of their financial security after retirement
- Changes in the labor market: Gig economy and STEM
- Changes in financial markets: Complexity of financial instruments, including new ones and easy access to credit
- Fintech and AI
- Most importantly, the increase in risk

Need a rigorous approach to financial decision-making: From Corporate Finance to Personal Finance

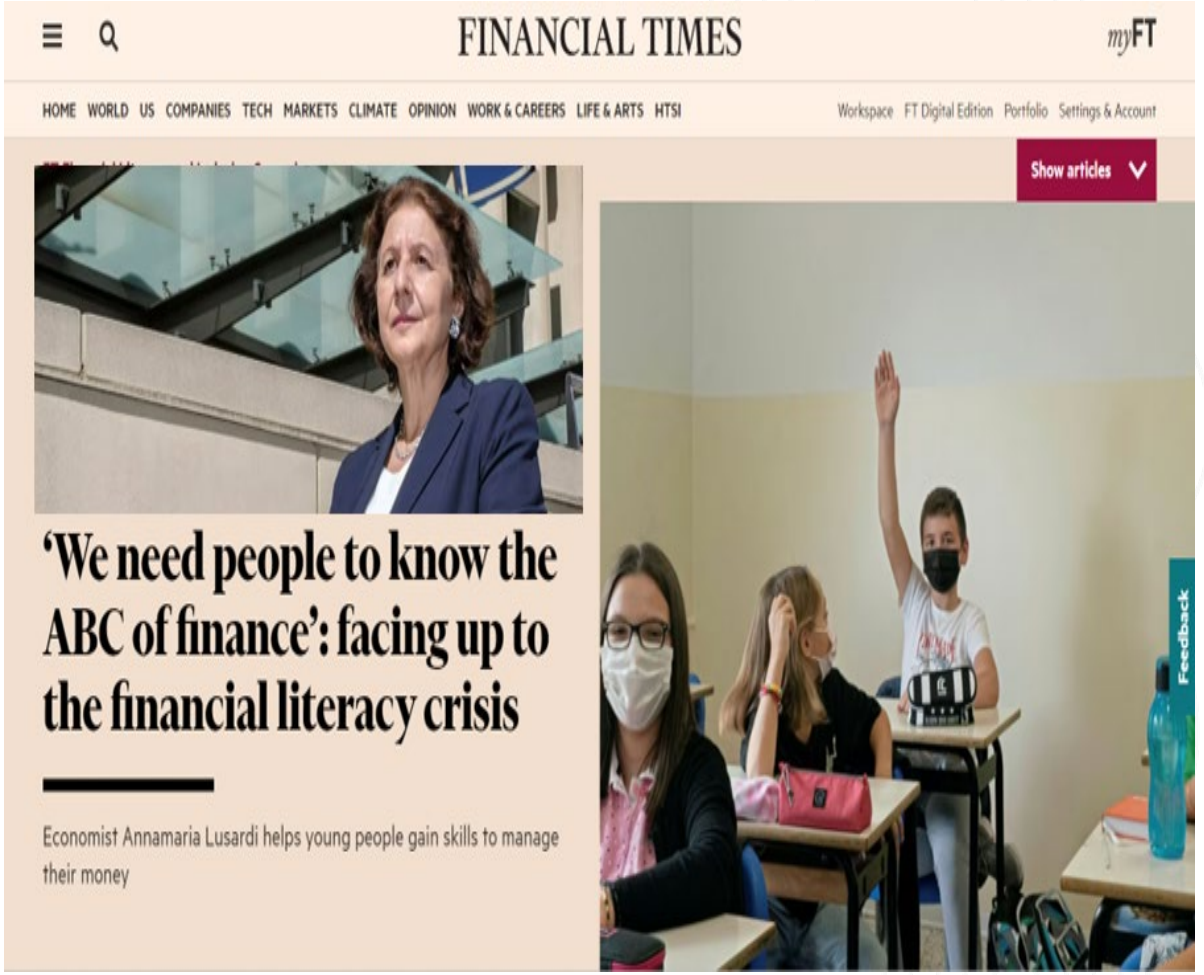
How equipped are people to make financial decisions?

About 20 years ago, I started measuring financial literacy using 3 simple questions.

The results are striking and speak of the importance of looking closely at how people make decisions

This can be particularly important for young people as they face a different future.

These findings are even more important now




Back to basics

Measuring financial literacy: The ABCs of personal finance

These are the questions I designed jointly with Olivia Mitchell, known as the "Big Three."
One question is about inflation:

The Big Three

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 (DK)
- ☐ 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 (DK)
- ☐ 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 (DK)
- ☐ Refuse to answer

How much do Americans know?

Distribution of responses across the U.S. population
(2024 National Financial Capability Study)

	Responses			
	Correct	Incorrect	DK	Refuse
Interest rate	69.3%	13.6%	16.4%	0.7%
Inflation	58.2%	18.5%	22.5%	0.8%
Risk diversif.	41.3%	10.6%	47.5%	0.6%

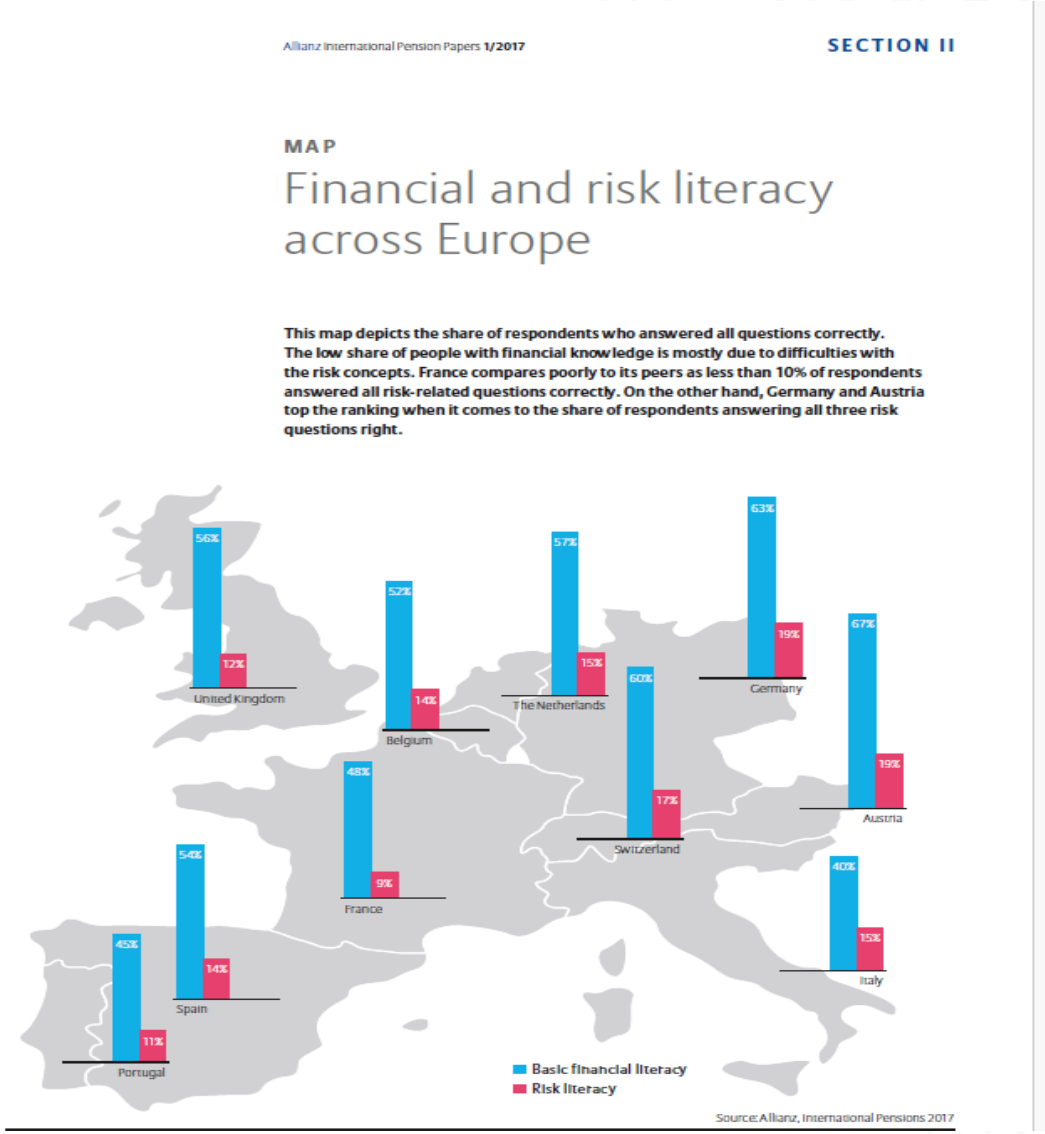
NB: Less than 1/3 (28%) correctly answer all 3 questions. Close to 1/2 do not know about risk diversification.

Financial and risk literacy in Europe (Allianz Survey, 2016)

From: “When will the penny drop? Money, financial literacy and risk in the digital age”

International Pension Papers, 1/2017

- Risk literacy is particularly low in Europe too
- Across 10 countries, less than 20% can answer 3 questions about risk
- High proportion of “Do not know” answers in the risk questions



Financial Literacy around the World (FLat World)

Recent evidence from other countries (special issue of the *Journal of Financial Literacy and Wellbeing*, 2023) show similar results

- USA
- Canada
- Latin America (Peru and Uruguay)
- Eastern Europe (9 countries)
- Singapore
- Finland
- Italy
- Japan
- Germany

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Main findings

- Strikingly similar and low levels of financial literacy around the world: about **1/3 of the population** is financially literate

Some groups are particularly vulnerable: the young, women, etc. Again, very similar findings across countries.

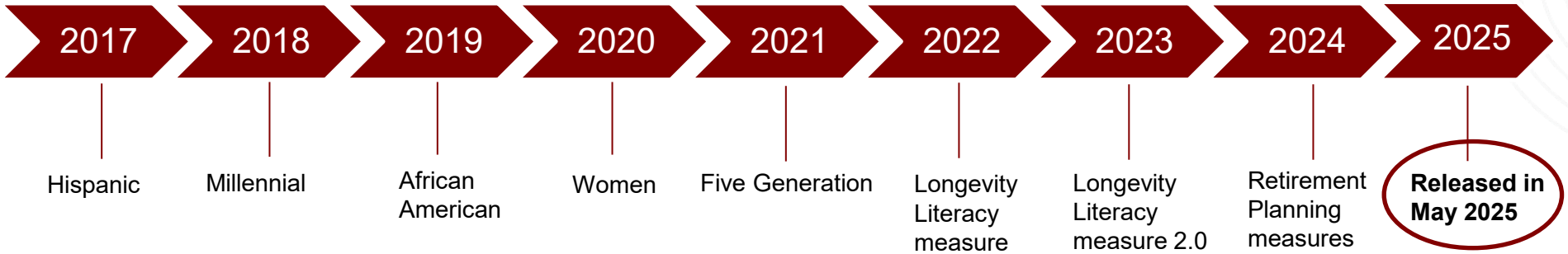
- Little improvement over time

Across countries, improvements in financial literacy are small

Beyond the basics

Measuring personal finance knowledge

- The TIAA-Institute-GFLEC Personal Finance Index (P-Fin Index) is an annual measure of knowledge and understanding which enable sound financial decision-making and effective management of personal finances among U.S. adults.
- The 28 questions of the P-Fin Index relate to common financial situations that individuals encounter
- In addition to personal finance knowledge, it provides information on financial well-being indicators.
- Data is now collected on a representative sample of about 3,500 respondents (age 18+).



What is unique: 8 functional areas of personal finance

The index is based on responses to **28 questions**, with three or four questions for each of the eight functional areas (from the National Standards for Financial Literacy).

The P-Fin Index's 28 questions cover eight functional areas:

1. Earning
2. Saving
3. Consuming
4. Investing
5. Borrowing
6. Insuring
7. Comprehending risk
8. Go-to information sources

An example question about comprehending risk

Lottery A pays a prize of $200 and the chance of winning is 5%. Lottery B pays a prize of $90,000 and the chance of winning is 0.01%. Expected winnings are greater in which lottery?

- Lottery A
- Lottery B
- They are equal
- Don’t know
- Refuse to answer

Results:	
Correct	**47%**
Incorrect	**24%**
Don’t Know	**29%**
No Answer	**1%**

Source: TIAA Institute-GFLEC Personal Finance Index (2025).

An example question about insuring

Katherine is a single 25-year old worker who is in good health. What type of insurance coverage is she most likely to need in the near-term?

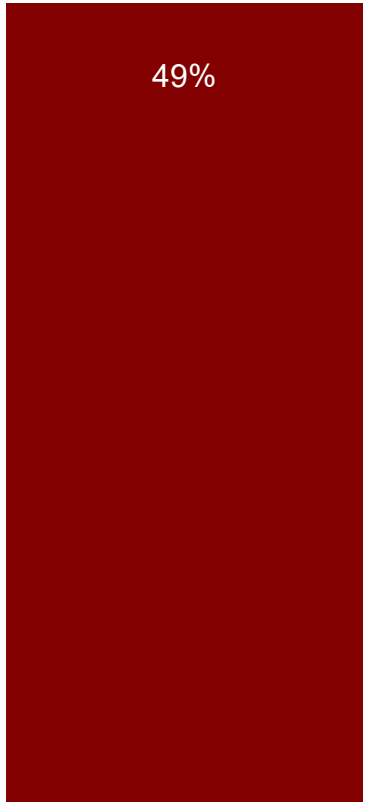
- Disability insurance
- Life insurance
- Long-term care insurance
- Don't know
- Refuse to answer

Results:	
Correct	28%
Incorrect	44%
Don't Know	27%
No Answer	1%

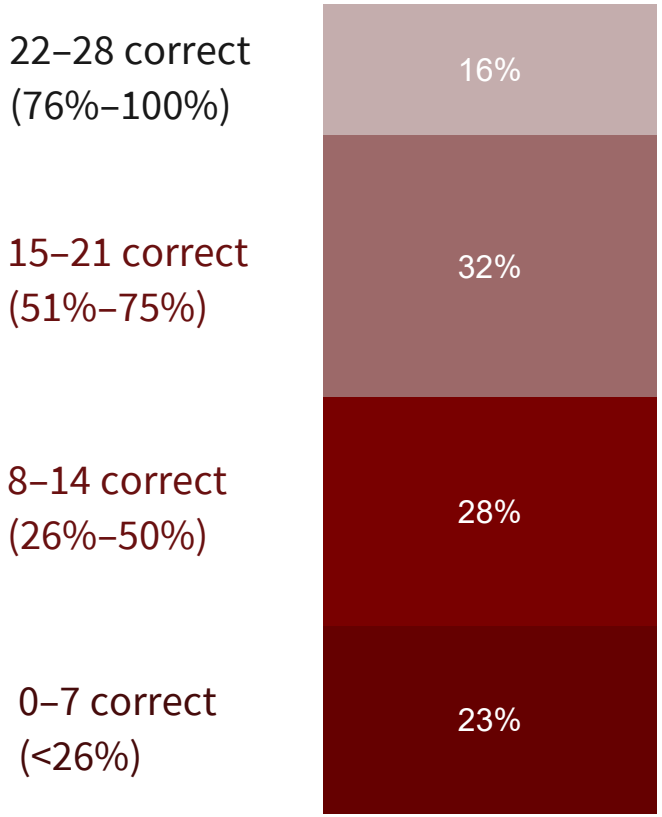
Source: TIAA Institute-GFLEC Personal Finance Index (2025).

Financial literacy: A failing grade

% of P-Fin Index questions answered correctly



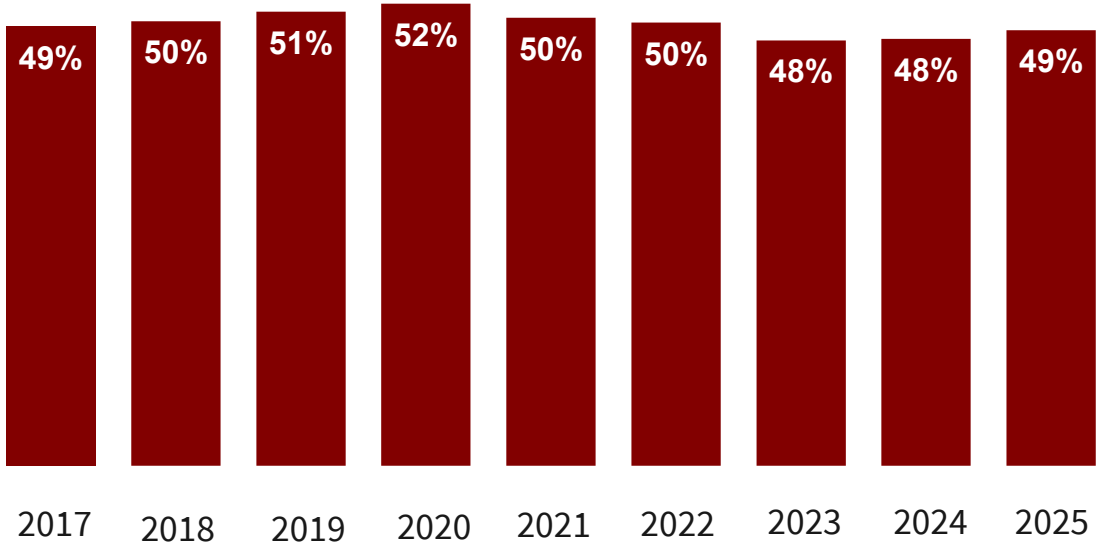
Distribution of correct answers to *P-Fin Index* questions



Source: TIAA Institute-GFLEC Personal Finance Index (2025).

Financial (il)literacy is holding steady: 2017-2025

% of P-Fin Index questions answered correctly



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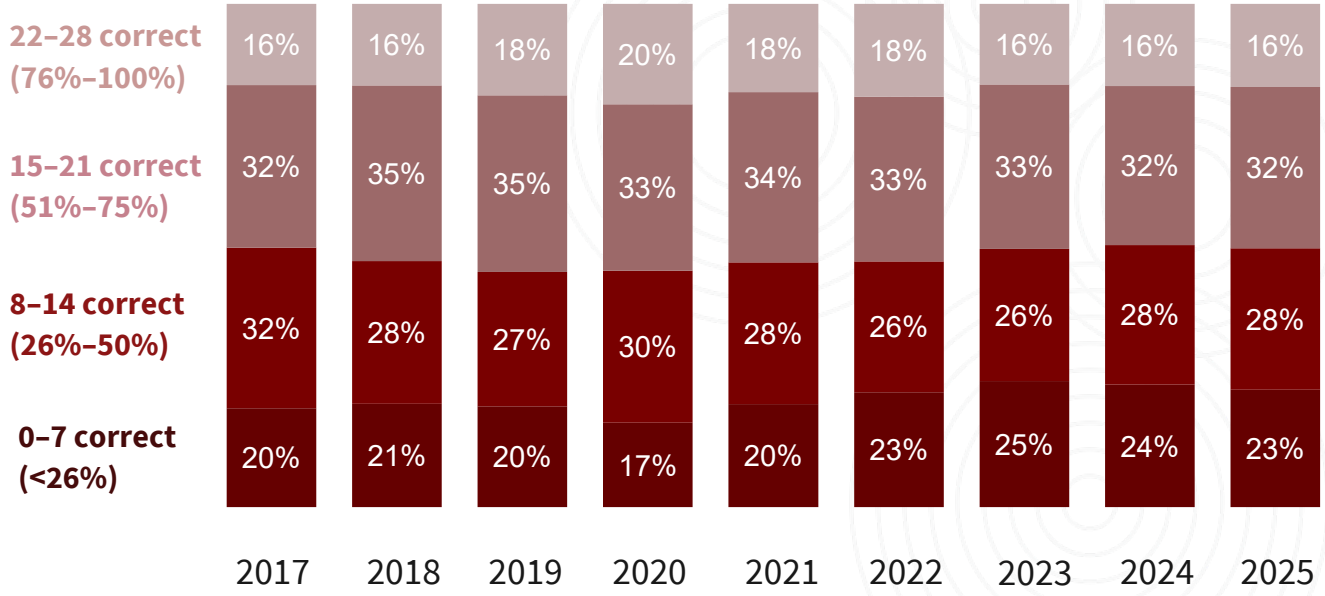

Source: TIAA Institute-GFLEC Personal Finance Index (2017-2025).

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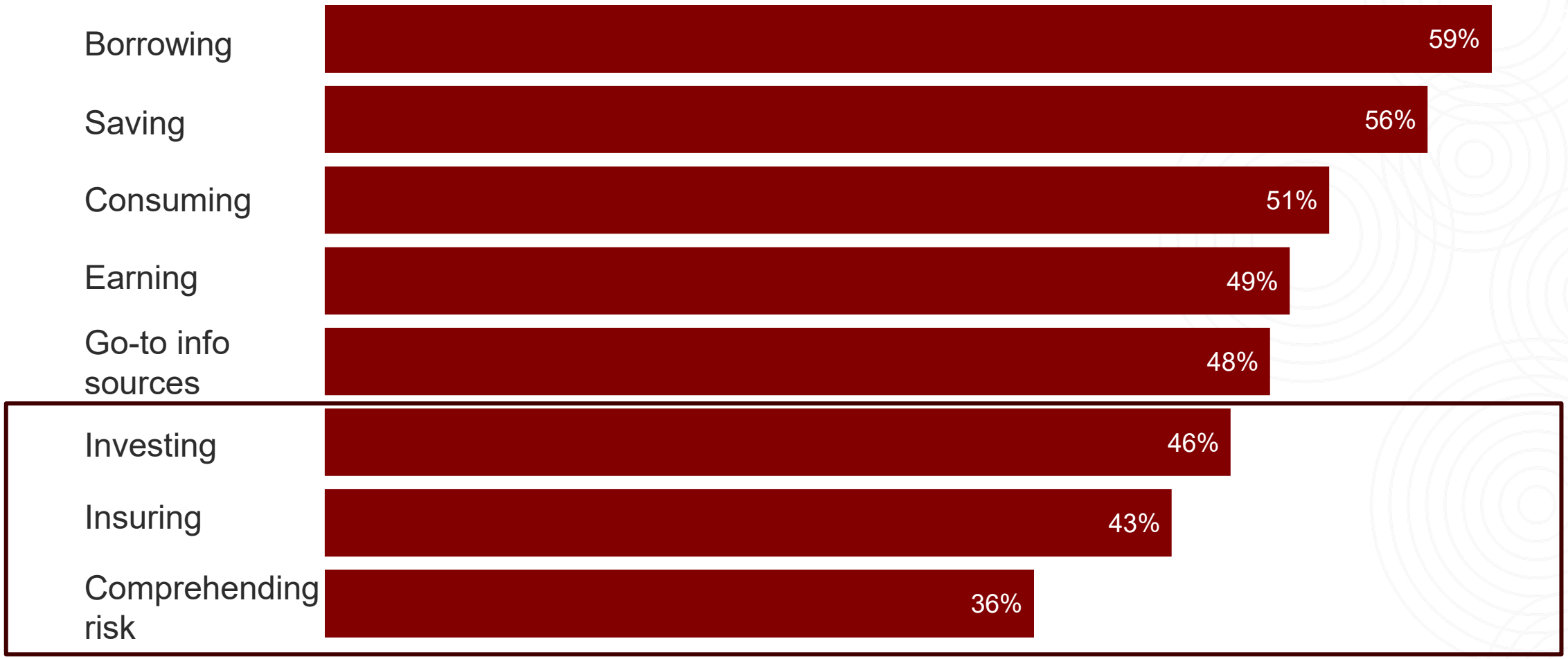
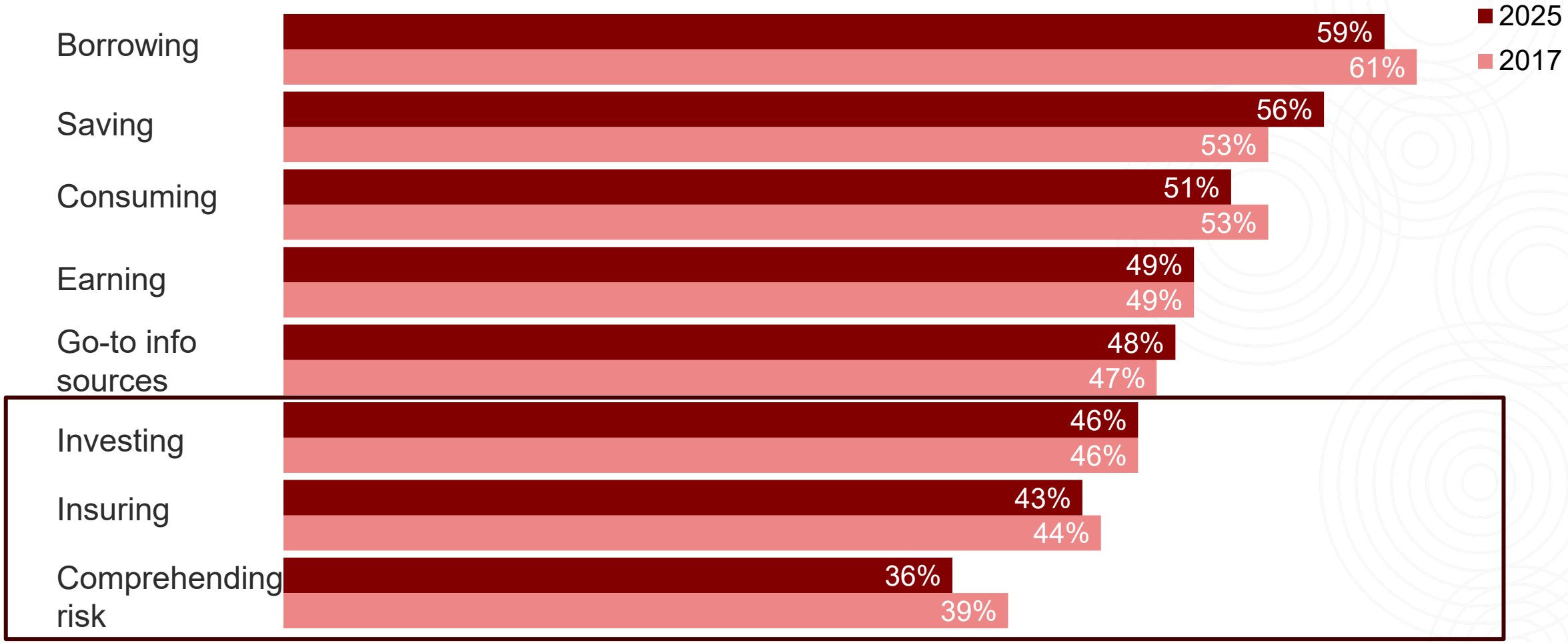
What do people know the most and the least in 2025



Source: TIAA Institute-GFLEC Personal Finance Index (2025).

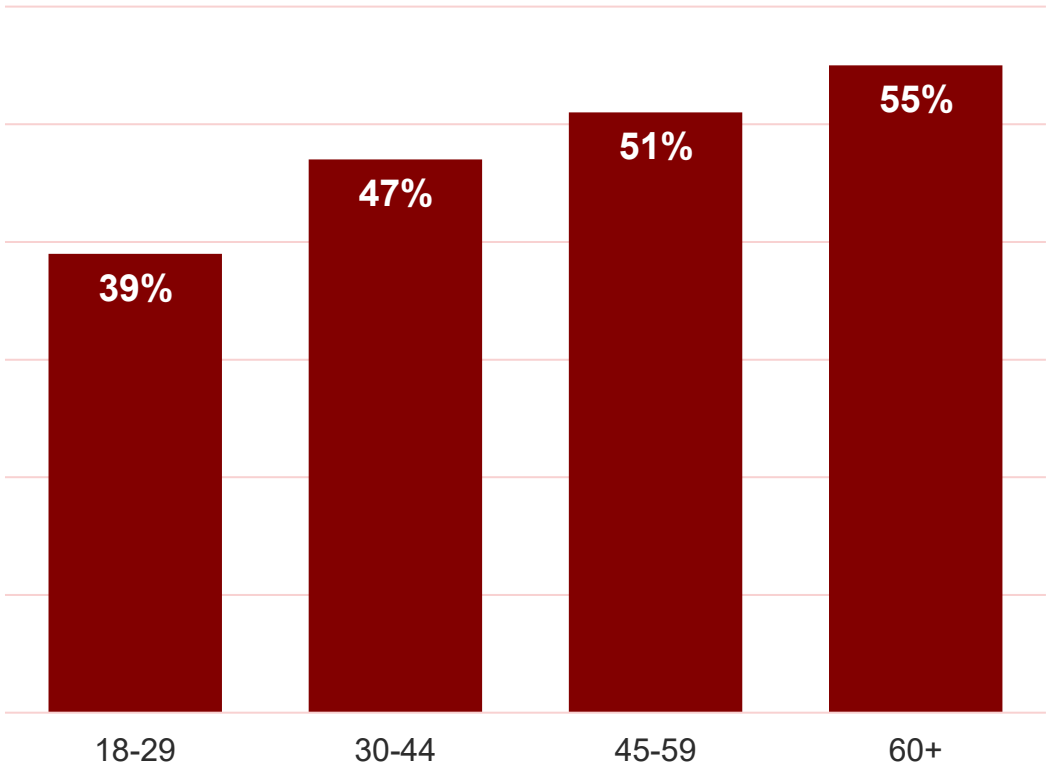
What do people know the most and the least (over time)



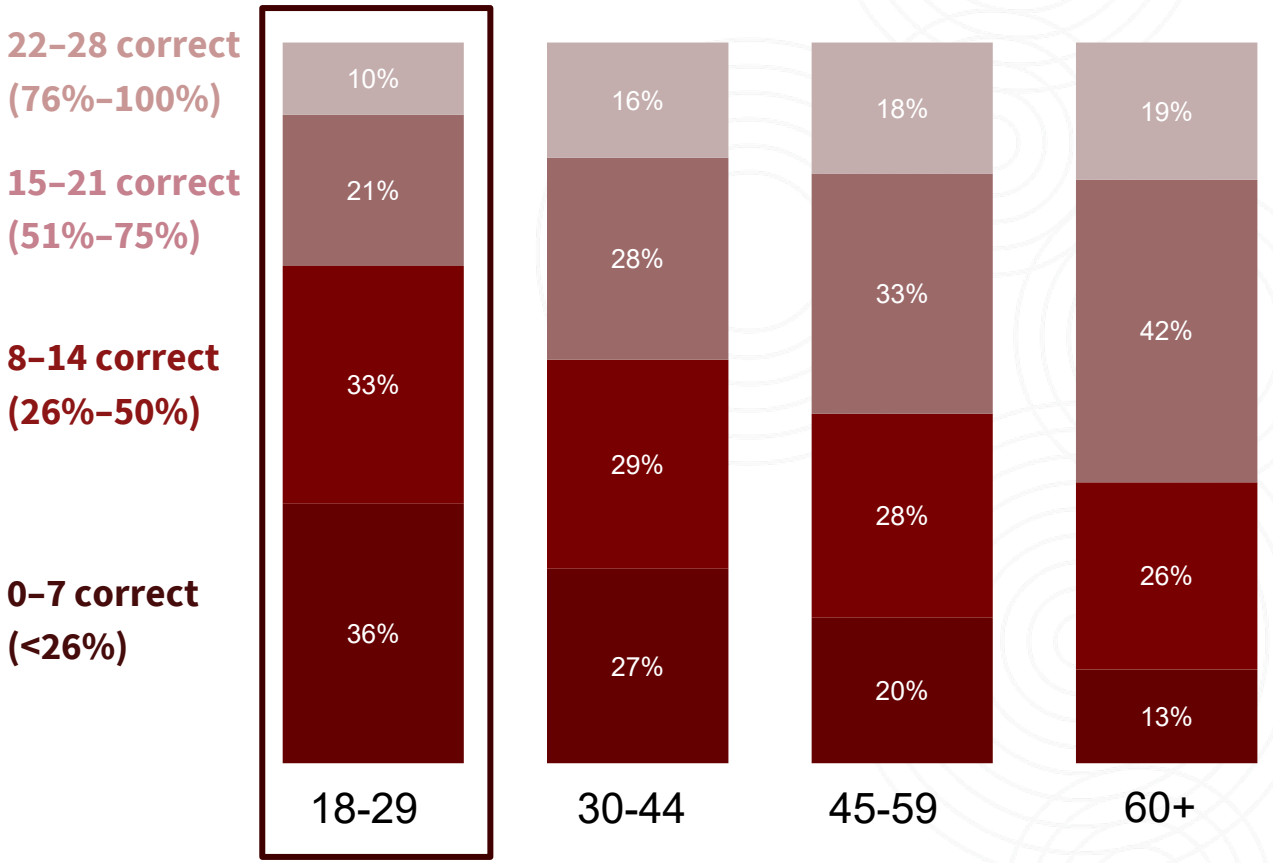
Source: TIAA Institute-GFLEC Personal Finance Index (2025, 2017).

Gaps in financial knowledge: Age groups/cohorts

% of P-Fin Index questions answered correctly



Distribution of correct answers to P-Fin Index questions



Source: TIAA Institute-GFLEC Personal Finance Index (2025).

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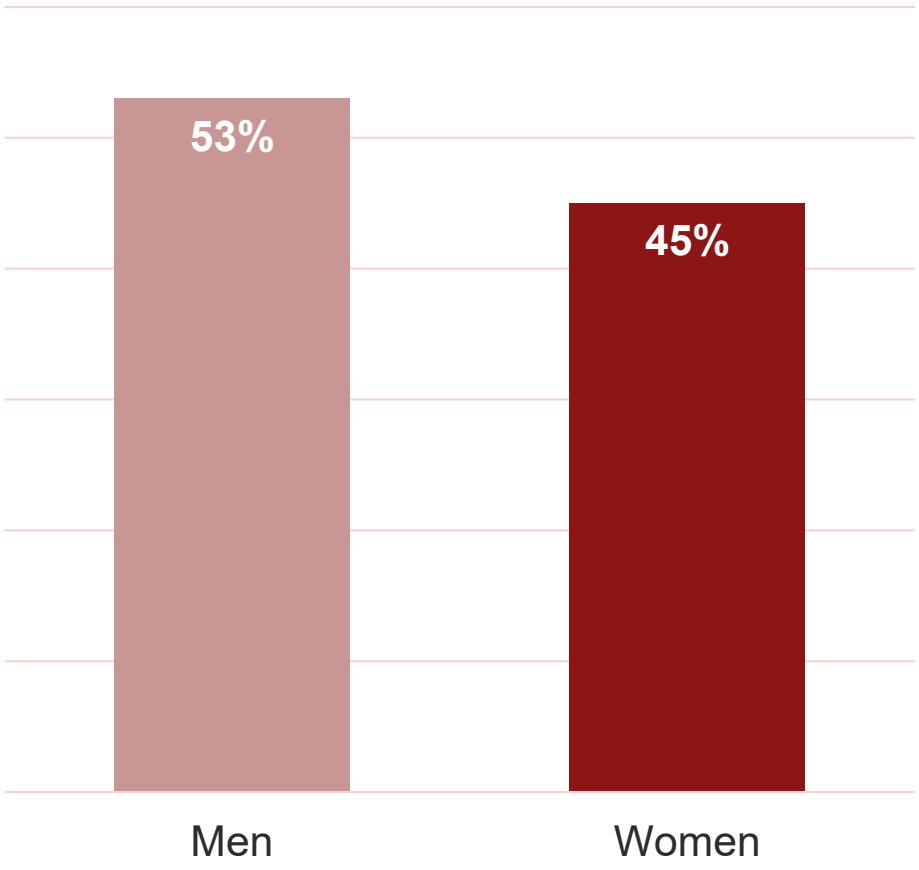
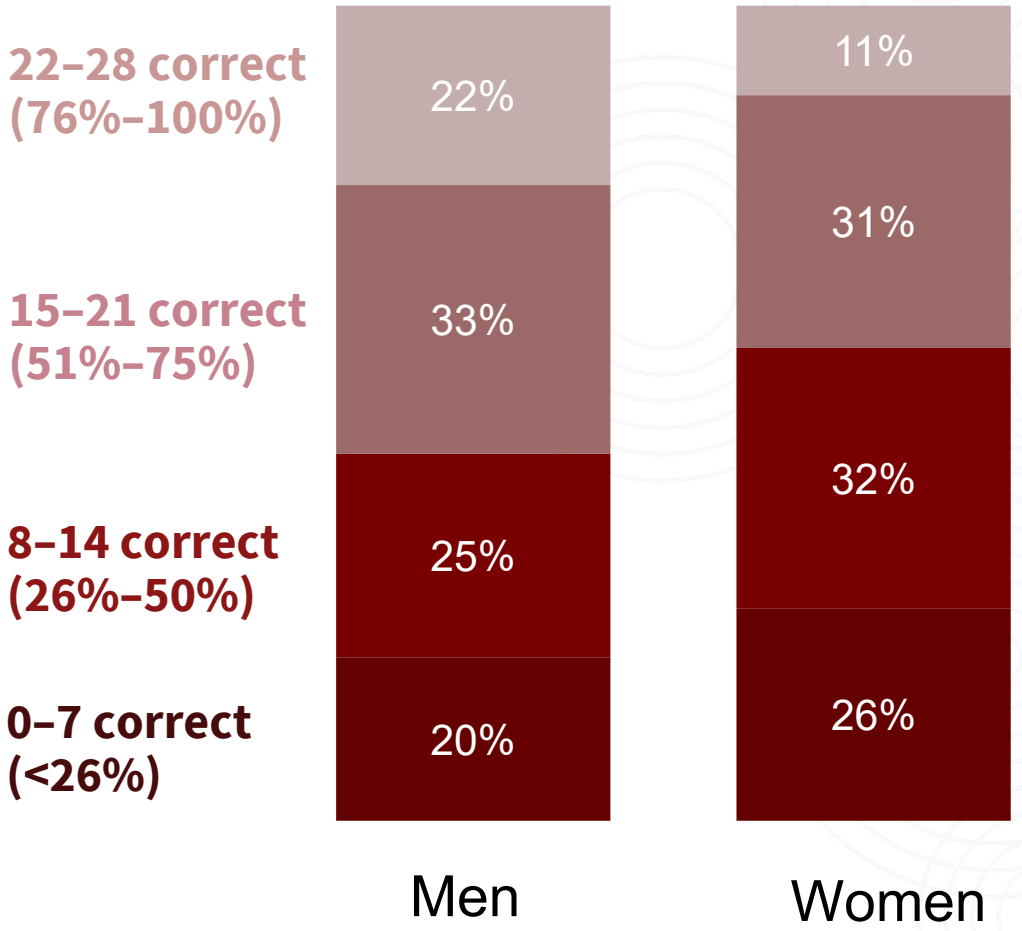
Gaps in financial knowledge: Women and men

% of P-Fin Index questions answered correctly



Distribution of correct answers to P-Fin Index questions



Source: TIAA Institute-GFLEC Personal Finance Index (2025).

Other gaps in financial knowledge

- Financial and risk literacy is low for those with low income and education
- Financial and risk literacy is low among Blacks and Hispanics
- Financial and risk literacy is low for the unemployed, those living in rural areas, etc.

Given these differences, we need targeted approaches to close the gaps

Similar findings from the P-Fin Index and the Big Three

Findings are very similar:

- Financial literacy is low
- Risk literacy is especially low
- Statistics do not improve over time
- Some groups are particularly vulnerable

The importance of precautionary savings

Why do so many people have so little precautionary savings?

According to any traditional model of saving, people should hold a buffer to protect against shocks. The buffer does not have to be big (Deaton, Econometrica, 1991), but having very little precautionary savings can expose ourself to financial hardship or to high costs

Even practitioners agree, the recommendation is to hold 3-6 months of income/expenses

Measuring financial fragility *(Lusardi, Schneider and Tufano, BPEA, 2011)*

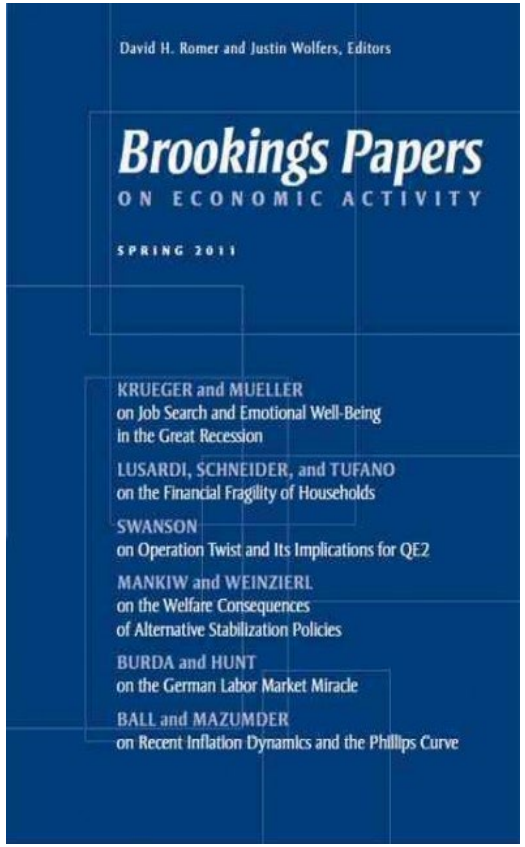
How **confident** are you that you could come up with **$2,000** if an unexpected need arose **within the next month**?

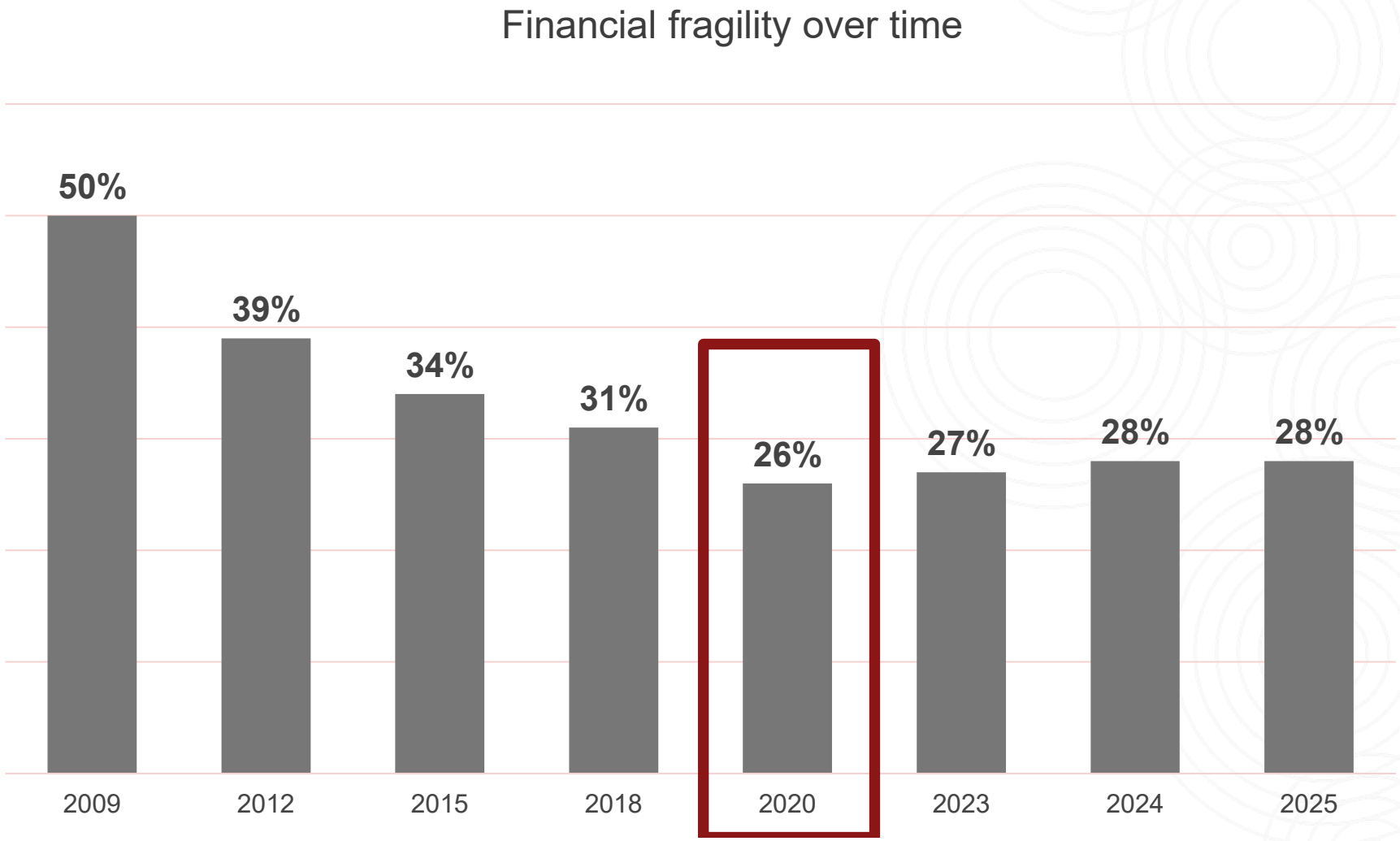
- I am certain I could come up with the full $2,000.
- I could probably come up with $2,000.
- **I could probably not come up with $2,000.**
- **I am certain I could not come up with $2,000.**
- Don't know.
- Prefer not to say.

Respondents are classified as financially fragile.

The face of financial fragility

Financial fragility before and after the pandemic





Source: 2009 TNS data; 2012, 2015 and 2018 NFCS data; 2020, 2023, 2024, 2025 P-Fin data.

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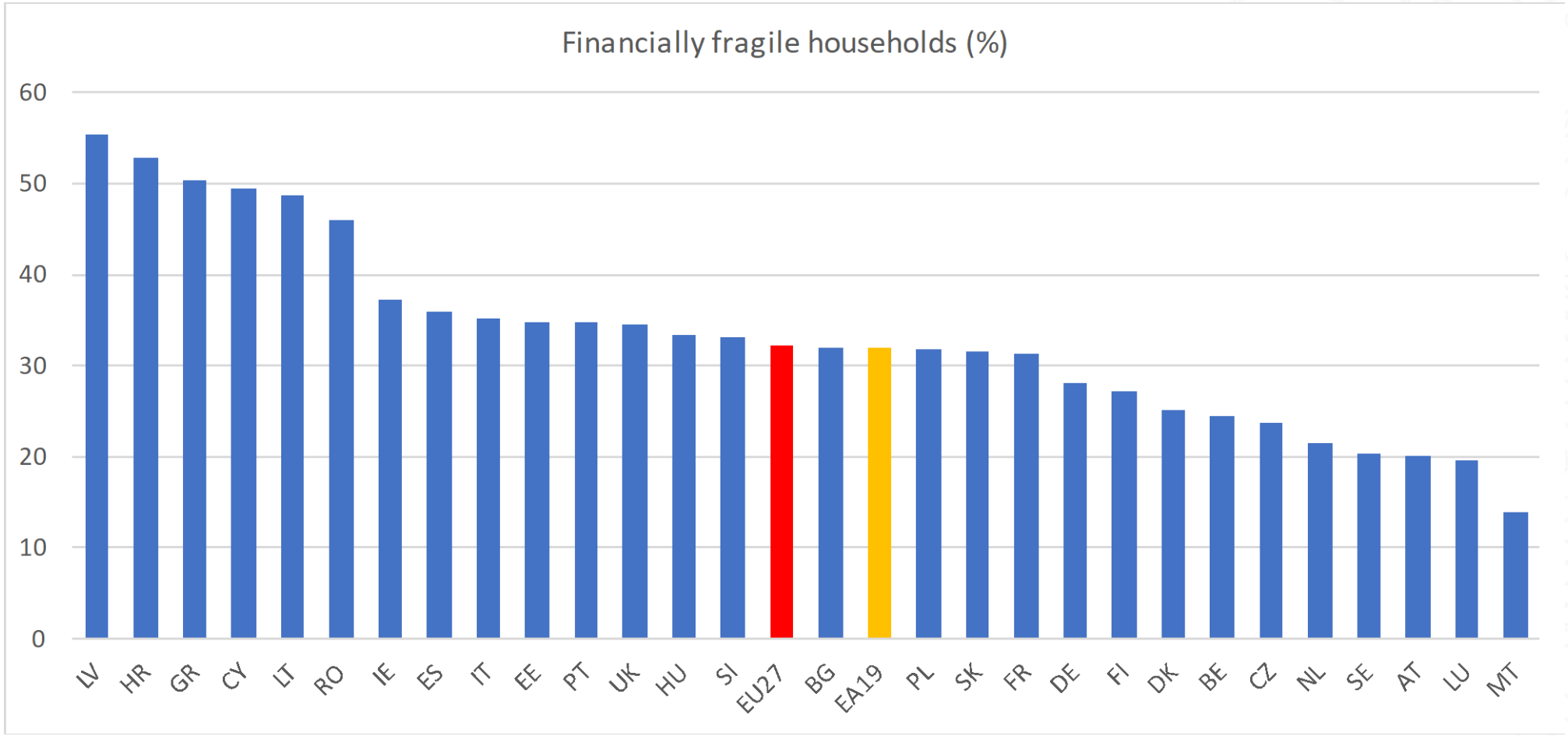
Similar findings in Europe: 1/3 cannot face a shock

(Demertzis, Domínguez-Jiménez and Lusardi, 2020)



Source: EU-SILC 2018

Financial literacy and financial fragility (2024 NFCS)

	Model 1 *Financially Fragile*	**Model 2** *Financially Fragile*	**Model 3** *Financiall Fragile*
Interest rate	-0.032***		
	(0.009)		
Inflation	0.003		
	(0.008)		
Risk diversification	-0.065***		
	(0.008)		
All Big 3 correct		-0.073***	
		(0.008)	
Was offered financial education			-0.073***
			(0.008)
Demographic controls and income shock	Yes	Yes	Yes
Observations	23,140	23,140	23,140
R-squared	0.249	0.248	0.248

Controls: Age, gender, race/ethnicity, education, marital status, financially dependent children, employment status, income and income shock (have you experienced an income shock in the past 12 months).

Source: NFCS 2024, DNK and RF answer options are excluded from the sample.

Financial literacy and financial fragility (2025 P-Fin Index)

	Model 1 *Financially Fragile*	**Model 2** *Financially Fragile*	**Model 3** *Financiall Fragile*
>50% of P-Fin questions correct	-0.085***		
	(0.019)		
Total # of P-Fin questions correct		-0.007***	
		(0.001)	
Was offered financial education			-0.045***
			(0.017)
Demographic Controls	Yes	Yes	Yes
Observations	3,104	3,104	3,104
R-squared	0.142	0.144	0.138

Source: TIAA Institute-GFLEC Personal Finance Index (2025).
DNK and RF answer options are excluded from the sample.

Demographic controls: Age, gender, race/ethnicity, education, marital status, children, employment status, income.

Robustness checks

- Similar results using different measures of precautionary savings
- Instrumenting for financial literacy tend to give similar or even higher estimates than the OLS
- Relationship on financial literacy and financial fragility also holds at the macro level (use aggregated data across countries)

Similar findings during the pandemic

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J. Account. Public Policy

journal homepage: www.elsevier.com/locate/jaccpubpol

Full length article

Resilience and wellbeing in the midst of the COVID-19 pandemic: The role of financial literacy

Andrea Hasler [a], Annamaria Lusardi [b,*], Nikhil Yagnik [c,1], Paul Yakoboski [d]

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ABSTRACT

Using the 2021 wave of the TIAA Institute-GFLEC Personal Finance Index (*P-Fin Index*), this paper provides an in-depth examination of the financial literacy of U.S. adults in the midst of the COVID-19 pandemic. Knowledge is troublingly low, with U.S. adults averaging a score of 50 percent on the twenty-eight questions that compose the *P-Fin Index*. Even more disturbingly, only 28 percent of U.S. adults correctly answered a question testing their ability to comprehend and compare probabilities. Financial literacy matters. Lower financial literacy is associated with increased time spent worrying about personal finances. After controlling for income, education, and key demographic information, the more financially literate are found to be more likely to be financially resilient, to plan for retirement, and to feel unconstrained by debt. These findings highlight the importance of financial knowledge, in particular in a time of crisis, and raise concerns about the public's ability to comprehend complex messages about risk during the pandemic.

Findings before the pandemic (data from The Netherlands)

- Financial fragility in a country with an extensive welfare system
- Both financial and probability literacy matters
- Confirm findings from other countries

the journal of consumer affairs

RESEARCH ARTICLE | Open Access

Skating on Thin Ice: New Evidence on Financial Fragility

Jasmira T. E. Wiersma, Rob J. M. Alessie, Adriaan S. Kalwij, Annamaria Lusardi, Maarten C. J. van Rooij

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SECTIONS PDF TOOLS SHARE

ABSTRACT

This paper examines the financial fragility of Dutch households by assessing their ability to raise €2000 within a month in the event of a financial emergency. We show that one in seven Dutch households was financially fragile well before the start of the pandemic and resulting slow-down of the economy. The most fragile groups were the young, households with children, and those with lower education and income levels. While most households relied on their savings to cope with a financial emergency, other coping methods include seeking help from family and friends or credit card borrowing. Further, our findings show that financial and probability literacy are associated with financial fragility and the chosen methods to cope with a financial emergency. These findings emphasize the importance of financial knowledge and numerical ability for financial decision-making. The results of this study can be used to design targeted policies and financial education initiatives.

Source : Dutch Central Bank Data

Risk literacy matters (Lusardi and Streeter, FLWB, 2023)

Table 5. Financial literacy and financial well-being in the National Financial Capability Study, 2021. OLS estimates. Full sample.

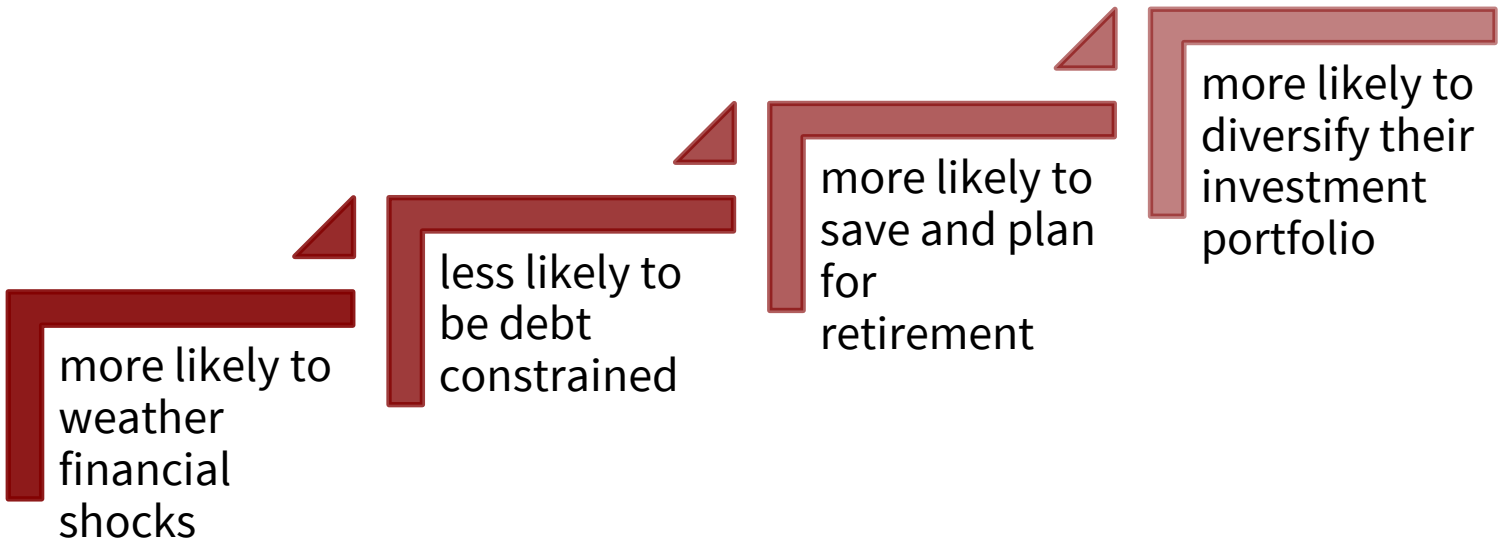
	Plan for retirement	Financial fragility	Have too much debt
All correct	0.128***	−0.063***	−0.038***
	(0.01)	(0.01)	(0.01)
# correct	0.055***	−0.036***	−0.020***
	(0.00)	(0.00)	(0.00)
Interest correct	0.017**	−0.042***	−0.029***
	(0.01)	(0.01)	(0.01)
Inflation correct	0.038***	−0.020***	−0.011
	(0.01)	(0.01)	(0.01)
Risk correct	0.107***	−0.049***	−0.021***
	(0.01)	(0.01)	(0.01)

Controls: Age, gender, race/ethnicity, education, marital status, financially dependent children, employment status, and income and income shock (have you experienced an income shock in the past 12 months).

Source: NFCS 2021, DNK and RF answer options are excluded from the sample. Sample restricted to those aged 25-65.

Key lesson: Financial literacy matters

A financially literate person is…



These are indicators of **financial resilience** and ultimately **well-being**.

From corporate finance to personal finance

The need for rigorous financial education, in particular about risk

Large and scalable programs

1. Financial education in the workplace (for adults)
2. Financial education in school and college
3. Financial education in places where people go to learn




Does financial education work?

ELSEVIER

Journal of Financial Economics

Available online 3 October 2021

In Press, Corrected Proof

Financial education affects financial knowledge and downstream behaviors

Tim Kaiser [a], Annamaria Lusardi [b], Lukas Menkhoff [c], Carly Urban [d]

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https://doi.org/10.1016/j.jfineco.2021.09.022 Get rights and content

Abstract

We study the rapidly growing literature on the causal effects of financial education programs in a meta-analysis of 76 randomized experiments with a total sample size of over 160,000 individuals. Many of these experiments are published in top economics and finance journals. The evidence shows that financial education programs have, on average, positive causal treatment effects on financial knowledge and downstream financial behaviors. Treatment effects are economically meaningful in size, similar to those realized by educational interventions in other domains, and robust to accounting for publication bias in the literature. We also discuss the cost-effectiveness of financial education interventions.

- Look at the most rigorous evaluation of financial education programs (RTCs studies) in as many as 33 countries
- Financial education affects a variety of behaviors
- It not only works but it is also cost effective
- It is effective both among the young and the old

Research–based workplace financial education programs

Our workplace financial wellness webpage describes the financial wellness programs we have designed based on our research. Our programs include managing risk and insurance.

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Teaching personal finance in college/university

- Personal Finance courses for undergraduate and graduate students at the George Washington University (started in **2012)**
- Extensive coverage of risk and risk management
- Paying attention to gender and other differences in financial literacy
- Use the P-Fin Index data in every class to motivate and illustrate the topic
- A lot of applications

Personal finance (Econ 43) at Stanford University

- When the course first opened in 2020, 362 students signed up. It is one of the most popular courses in Economics
- Last academic year, we taught 3 courses on Personal Finance targeting different students, including during the summer term
- We can share our material (lectures, applications, exams, etc.)

Annual Teaching Personal Finance Conference

Stanford | Institute for Economic Policy Research (SIEPR)
Stanford | Department of Economics, SCHOOL OF HUMANITIES AND SCIENCES
STANFORD BUSINESS, GRADUATE SCHOOL OF
GFLEC, GLOBAL FINANCIAL LITERACY EXCELLENCE CENTER

Stanford | Initiative for Financial Decision-Making

Promoting personal finance courses at other universities/colleges

Sharing with a rapidly growing group of academics who are teaching personal finance. We also have a boot camp for young researchers (Ph.D. students, Post-docs, assistant professors) to train them about research and teaching.

A simple program

Using stories to teach the Big Three

- **Objective**: Examine whether brief educational "stories," delivered online, can effectively increase financial literacy and ultimately influence financial behaviors.
- **Design**: Participants aged 45 and older were randomly assigned to one of three treatment groups—each reading a story on a key financial concept—or a control group that read no story.
- **Rationale**: Many adults lack basic financial knowledge; cost-effective, scalable interventions like short stories could potentially help close knowledge gaps.

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Journal of Economic Behavior and Organization

journal homepage: www.elsevier.com/locate/jebo

Research Paper

Evaluating the effects of a low-cost, online financial education program☆

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ABSTRACT

We provide evidence on how a low-cost, online, and scalable financial education program influences older participants' financial knowledge. We test the program using a field experiment that includes short stories covering three fundamental financial education topics: compound interest, risk diversification, and inflation. Two surveys are administered eight months apart to measure the effects of those stories on middle-aged and older (45+) participants' short-term and longer-term knowledge and financial behavior. We show that the risk diversification story is the most effective at improving participants' knowledge, in both the short and longer terms. In the short term, reading the risk diversification story significantly increased the likelihood of correctly answering the related knowledge questions by 17–18 percentage points. The compound interest and inflation stories significantly increase participant knowledge in the short term, but the gain in financial literacy declines over time. Furthermore, timestamp data was used to show that the inflation story increased the time participants spent answering the related knowledge questions suggesting that exposure to our story boosted participants' attentiveness and interest in the topic. Over just an eight-month time period, the stories do not seem to have a significant effect on financial behaviors as measured by four financial distress indicators and a financial resilience index. Nevertheless, higher financial literacy is positively linked to better financial decision-making. The eight months might be too short to measure significant behavioral change; thus, further research is needed to prove the intervention's effect on financial behavior in the long run.

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The three stories

Compound Interest

- *Central Theme:* Demonstrates how interest earned is added to the principal, so future interest is based on a growing balance (“interest on interest”).
- *Practical Insights:* Highlights why starting to save early can make a large difference in long-term wealth. Shows how even small amounts, if invested continuously, compound over time.

Inflation

- *Central Theme:* Covers how the general rise in prices reduces the purchasing power of money over time.
- *Practical Insights*: Urges people to consider inflation’s impact when planning for long-term goals or retirement. Underscores that “saving under the mattress” might not protect against rising costs.

Risk Diversification

- *Central Theme:* Explains why holding a variety of assets (e.g., stocks, bonds, different funds) can help lower overall investment risk.
- *Practical Insights:* Warns against putting all one’s money in a single stock or sector. Illustrates how spreading investments across different categories can buffer against major losses.

Main findings

- **All three stories** significantly improved financial knowledge in the **short term**, with the risk diversification story having the strongest and most lasting impact—improving correct responses by 17–18 percentage points, with effects persisting **8 months later**.
- Stories on compound interest and inflation also improved knowledge, though the effects diminished over time.
- The inflation story increased participant engagement, as shown by increased time spent on related survey questions.
- While no **behavioral changes** were detected after 8 months, the study emphasizes the strong link between financial literacy and improved financial outcomes, suggesting a need for longer-term or **repeated interventions**.
- Brief, targeted narratives can be a **low-cost, accessible tool** to enhance financial knowledge in the short term.

Influencing policy and global leaders

Stanford | Initiative for Financial Decision-Making

Influencing policy: National strategies for financial literacy

I chaired the Italian Committee for Financial Education in charge of the national strategy for financial literacy

Supported a law mandating financial education in school

Evaluation of effectiveness:

"**Financial Education at Scale: Experimental Evidence on a National Information Campaign**" with Tim Kaiser et al., 2024.

Engaging central bankers

Our new work in progress:

- Financial literacy : Why should central banks care

(Keynote to the ECB conference on expectation surveys, October 2024)

Engaging global leaders

- Working with the World Economic Forum
- One of their Global Future Councils in 2025-2026 will be devoted to financial education
- We are co-chairing that Council

Global Future Council on Financial Education

Amidst the rise of individual investing, innovation in financial products and tools, and economic uncertainty, it is essential to reimagine the future of financial education to ensure individuals can access the information and products needed to achieve long-term financial wealth. With the onus of financial wellbeing increasingly falling on individuals, how can we empower people with the skills they need to navigate this challenging and evolving economic landscape?

Initiative for Financial Decision-Making (IFDM)

Collaboration among:

Stanford | Institute for Economic Policy Research (SIEPR)

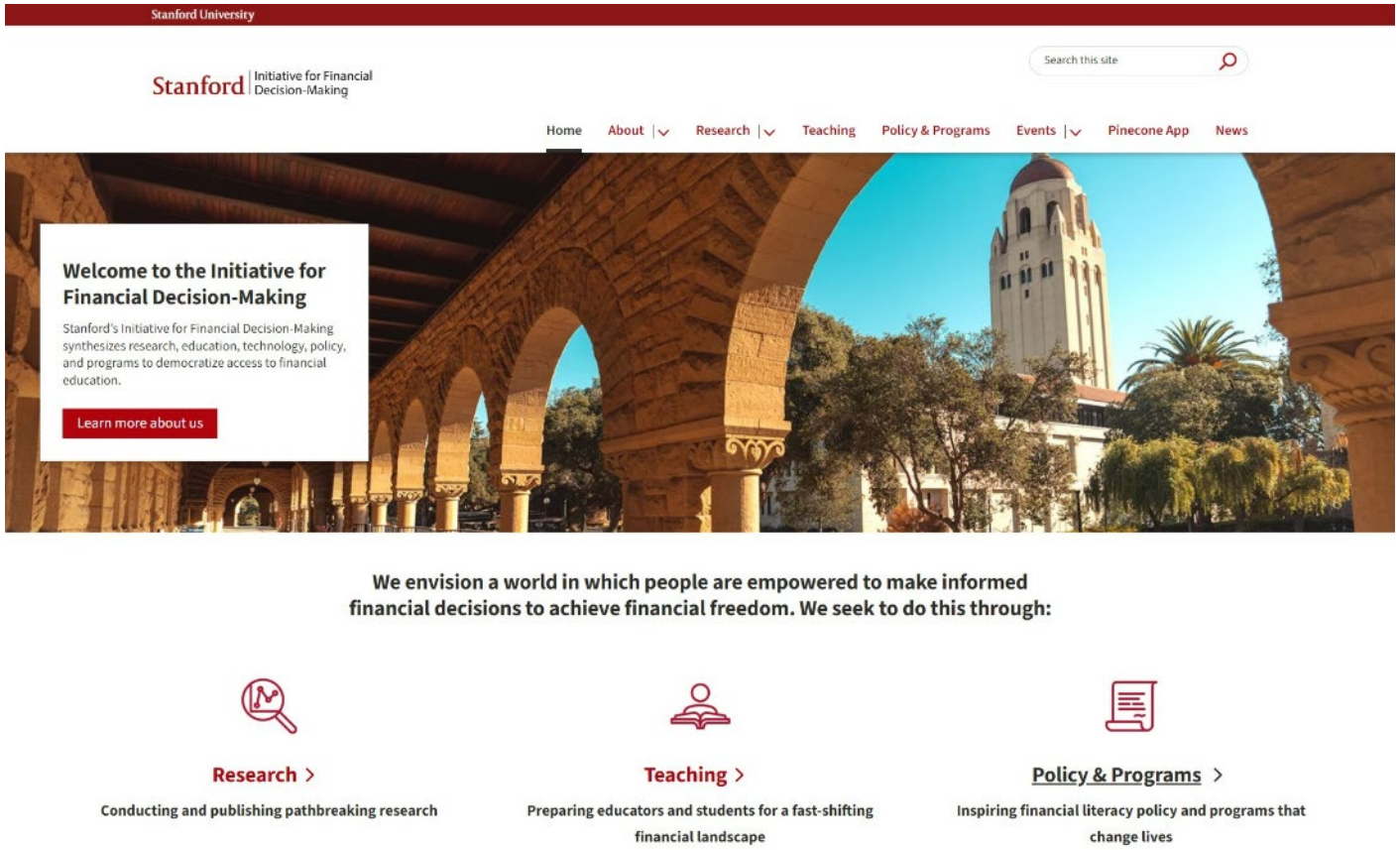
STANFORD GRADUATE SCHOOL OF BUSINESS

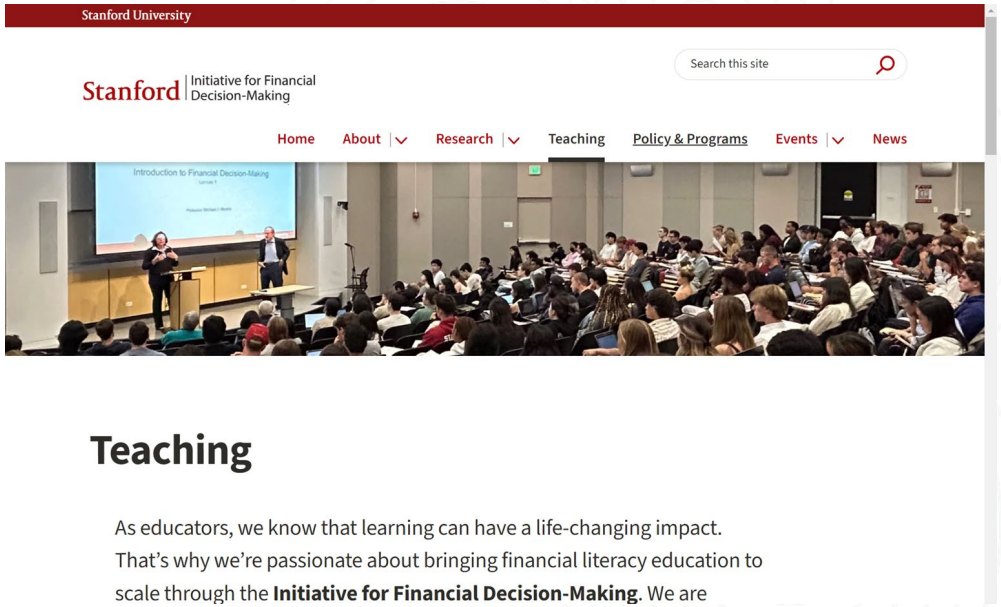
Stanford | Department of Economics
SCHOOL OF HUMANITIES AND SCIENCES

Our aim is to transform personal finance education.

For more information, please visit us at

https://ifdm.stanford.edu/





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To summarize

- Individuals are their own CFO and are making complex financial decisions
- Need to improve the level of financial and risk knowledge and provide wide access to financial education
- Many countries have mandated financial education in high school, but we need financial education in higher education too
- Add financial literacy to national statistics and make it a policy target

To summarize, cont.

- Financial literacy/personal finance is a rapidly growing research field with a plethora of research opportunities.
- It is a relevant topic for academia, industry, and policy.
- It is time to change the statistics I have presented today.
- We can all benefit from a more financially and risk literate population

Like water in an ecosystem

We need to provide wide access to rigorous financial education (like we do for corporate finance) so that people can be more financially resilient and financially secure. **Financial literacy is like water in an ecosystem, it is needed to grow and flourish.**