

# The Importance of Financial Literacy: Opening a New Field

**Joseph Lucia Memorial Lecture**  
**University of Villanova**

**Annamaria Lusardi**

Senior Fellow, SIEPR

Founder and Academic Director, GFLEC

Director, Financial Freedom Initiative

**STANFORD**  
**BUSINESS** GRADUATE  
SCHOOL OF



# Main topics I will cover

1. Measuring financial literacy
2. Assessing the impact of financial literacy on behavior
3. Using the data and findings to design policy and programs
4. Implications for teaching and the field

# Meet Charlinda



# Motivation: Changes in pension system, financial markets, and more

- Changes in the pension system: people are now in charge of their pension
- Student loans: How to finance education
- Complexity of financial instruments, including new ones (crypto assets)
- Easy access to credit, buy now pay later
- Fintech, buy with a click
- Increase in risk, including climate change



# Two numbers to remember from this presentation

**3**

---

**1/3**

---

# Starting with the first number: 3

- How to measure financial literacy: **The Big Three**

*First added in a module in the Health and Retirement Study in 2004*

- Even a small number of questions can provide insights about financial literacy

*They have become a reliable and well-studied measure*

- This small number made it possible to have these questions in many national surveys around the world

*In the US, they were added to national surveys like the Survey of Consumer Finances*

# 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 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?”
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...”
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.”

- ☒ More than \$102
  - ☐ Exactly \$102
  - ☐ Less than \$102
  - ☐ Don't know
  - ☐ Refuse to answer
- 
- ☐ More than today
  - ☐ Exactly the same as today
  - ☒ Less than today
  - ☐ Don't know
  - ☐ Refuse to answer
- 
- ☐ True
  - ☒ False
  - ☐ Don't know
  - ☐ Refuse to answer

# The second number: 1/3

- How many people know the ABCs of personal finance, even in countries with well-developed financial markets
- The proportion of “do not know” responses to many financial literacy questions
- How many people were financially fragile before the pandemic started



## How much do Americans know? (*Lusardi and Mitchell, JPEF 2011*)

*Distribution of responses across the U.S. population  
(2009 National Financial Capability Study)*

	Responses			
	Correct	Incorrect	DK	Refuse
Interest rate	64.9%	20.5%	13.5%	1%
Inflation	64.3%	20.2%	14.2%	1.3%
Risk diversif.	51.8%	13.3%	33.7%	1.2%

Only about **1/3** correctly answer all 3 questions. About **1/3** do not know about risk diversification.

## How much do Canadians know? (*Boisclair, Lusardi and Michaud, JPEF 2017*)

*Distribution of responses across the Canadian population  
(2012 Canadian Securities Administrators Survey)*

	Responses		
	<i>Correct</i>	<i>Incorrect</i>	<i>DK</i>
Interest rate	77.9%	13.2%	8.8%
Inflation	66.2%	17.7%	16.1%
Risk diversif.	59.3%	9.4%	31.3%

Less than half (42.5%) correctly answer all 3 questions. About **1/3** do not know about risk.

## How much do Germans know? (*Bucher-Koenen & Lusardi, JPEF 2011*)

*Distribution of responses across the German population  
(2009 SAVE)*

	Responses		
	Correct	Incorrect	DK
Interest rate	82.4%	6.7%	11%
Inflation	78.4%	4.6%	17%
Risk diversif.	61.8%	5.9%	32.3%

About half (53.2%) correctly answer all 3 questions. About **1/3** do not know about risk

# Financial Literacy around the World (Flat World)

## Evidence from 15 countries and counting:

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



**Using the Big Three, we have found that financial literacy is low in both developed and developing economies**

# Financial Literacy around the World (Flat World), cont.

**Evidence from other countries and updating the evidence 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



# How much does the US know? New evidence

*Distribution of responses*  
(2021 National Financial Capability Study)

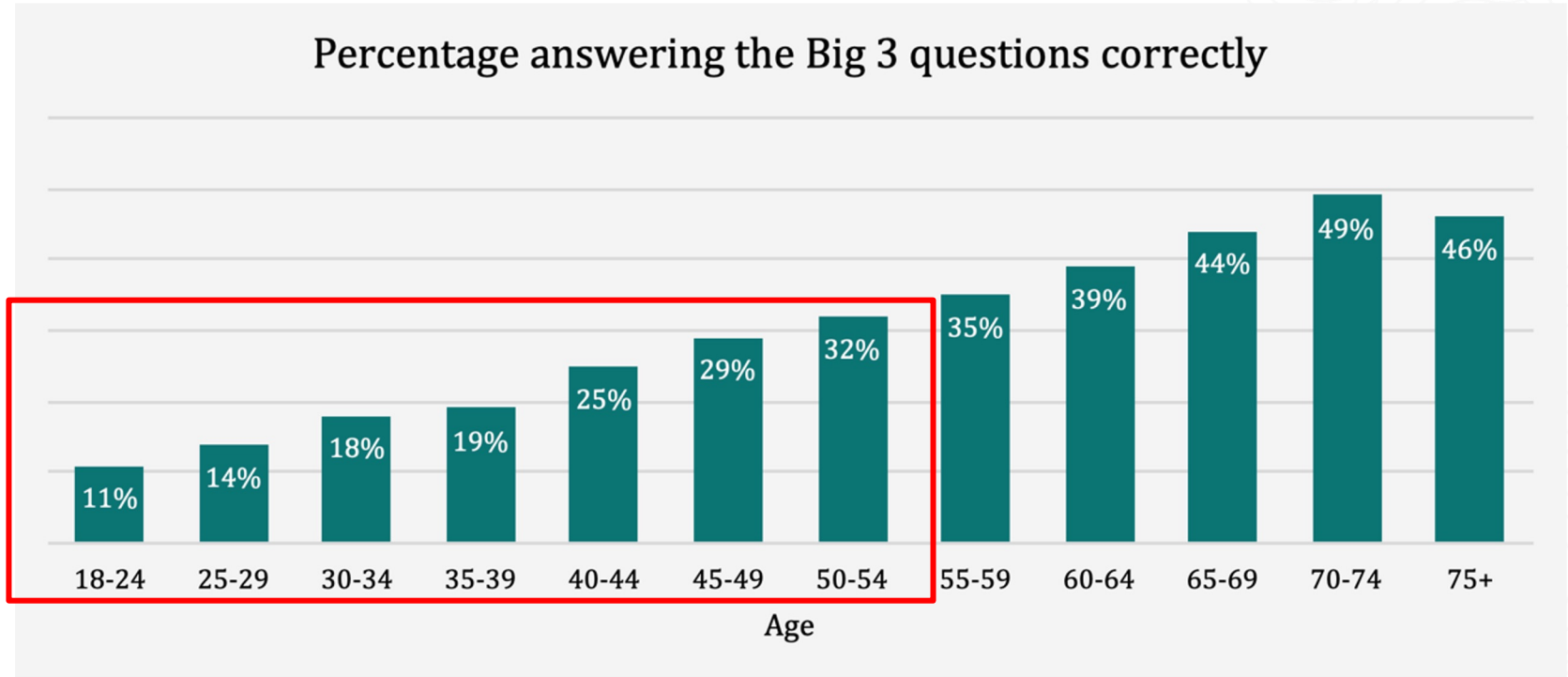
	Responses		
	<i>Correct</i>	<i>Incorrect</i>	<i>DK</i>
Interest rate	69.4%	14.2%	15.4%
Inflation	53.1%	22.7%	23.1%
Risk diversif.	41.5%	12.5%	45.2%

Less than **1/3** (28.5.4%) correctly answer all 3 questions. About half do not know or are incorrect about inflation. More than **1/3** do not know about risk.

# Who knows the least?



# Financial literacy in America (2021 NFCS), by age



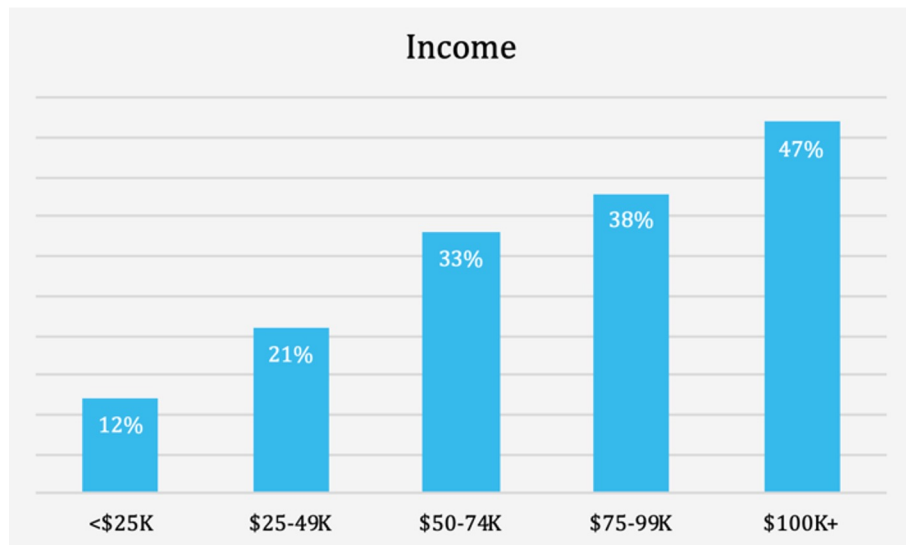
Only **1/3** of Americans know these 3 basic concepts by age 55, even though many financial decisions are made well before that age.

Source: 2021 NFCS

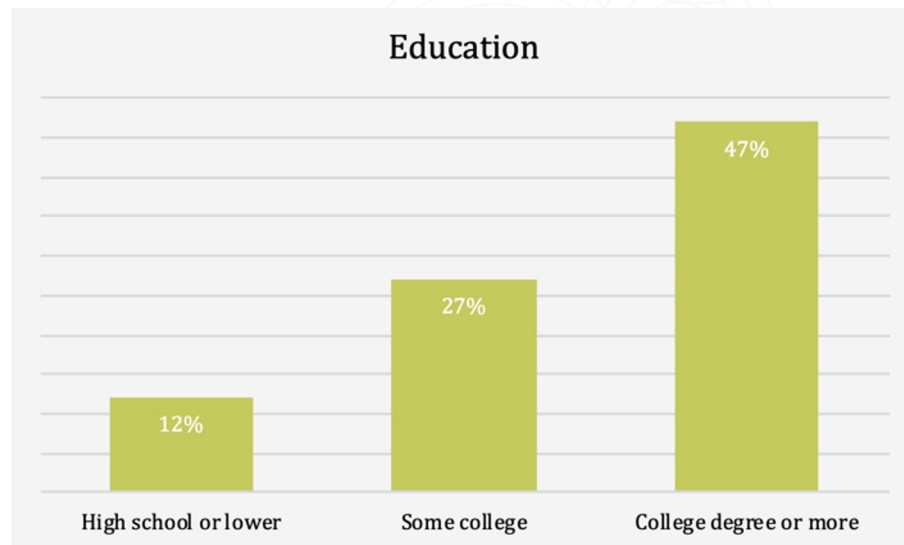


# Financial literacy by income and education

Financial literacy and  
**income...**



... and **education.**



Source: 2021 NFCS

# Explaining financial literacy (*Lusardi et al., JPE 2017*)



- These findings inspired Olivia Mitchell, Pierre-Carl Michaud, and I to work on a paper that was published in the JPE in 2017
- Who benefits from financial literacy? And what are the costs of acquiring financial literacy?
- Consider a life cycle model of saving with financial literacy. Financial literacy affects the return on savings. We have to spend time and effort in acquiring financial literacy
- Financial literacy is a choice variable and we can derive the “optimal” amount of knowledge.

# Started our own data collection in 2017

- Designed an index of personal finance knowledge: TIAA Institute – GFLEC Personal Finance Index (*P-Fin Index*)
- Data is collected each year (in January)
- Focus on areas of interest and needs



# 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 National Standards for Financial Literacy).

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

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

# Financial literacy in America: A failing grade (2023 data)

*% of P-Fin Index questions answered correctly*



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

**22-28 correct**  
(76%-100%)

**16%**

**15-21 correct**  
(51%-75%)

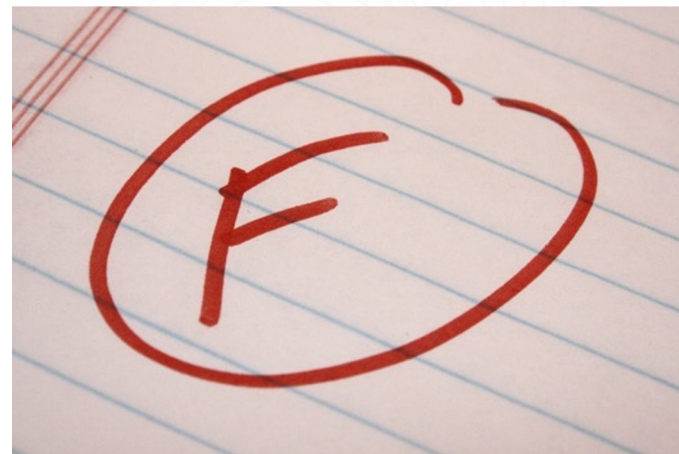
**33%**

**8-14 correct**  
(26%-50%)

**26%**

**0-7 correct**  
(<26%)

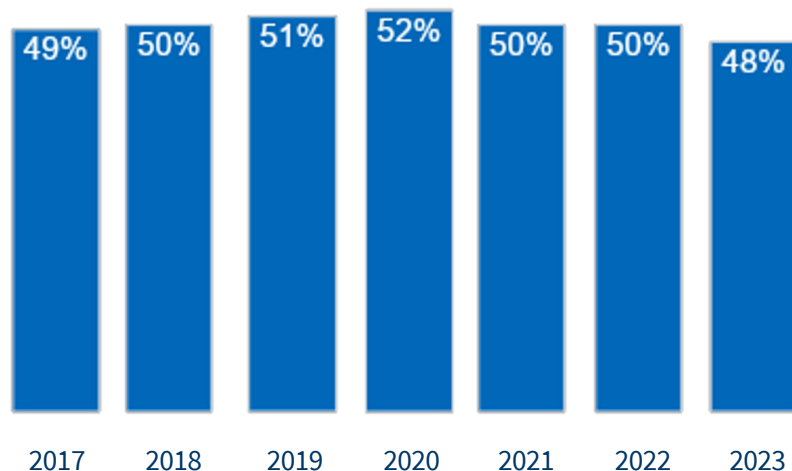
**25%**



Source: TIAA Institute-GFLEC Personal Finance Index (2023).

# Financial (il)literacy is holding steady: 2017-2023

*% of P-Fin Index questions answered correctly*



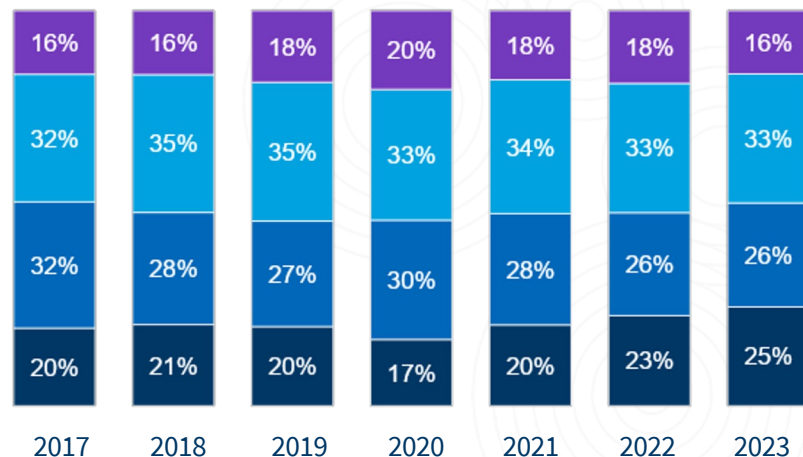
*Distribution of correct answers to P-Fin questions*

22-28 correct  
(76%-100%)

15-21 correct  
(51%-75%)

8-14 correct  
(26%-50%)

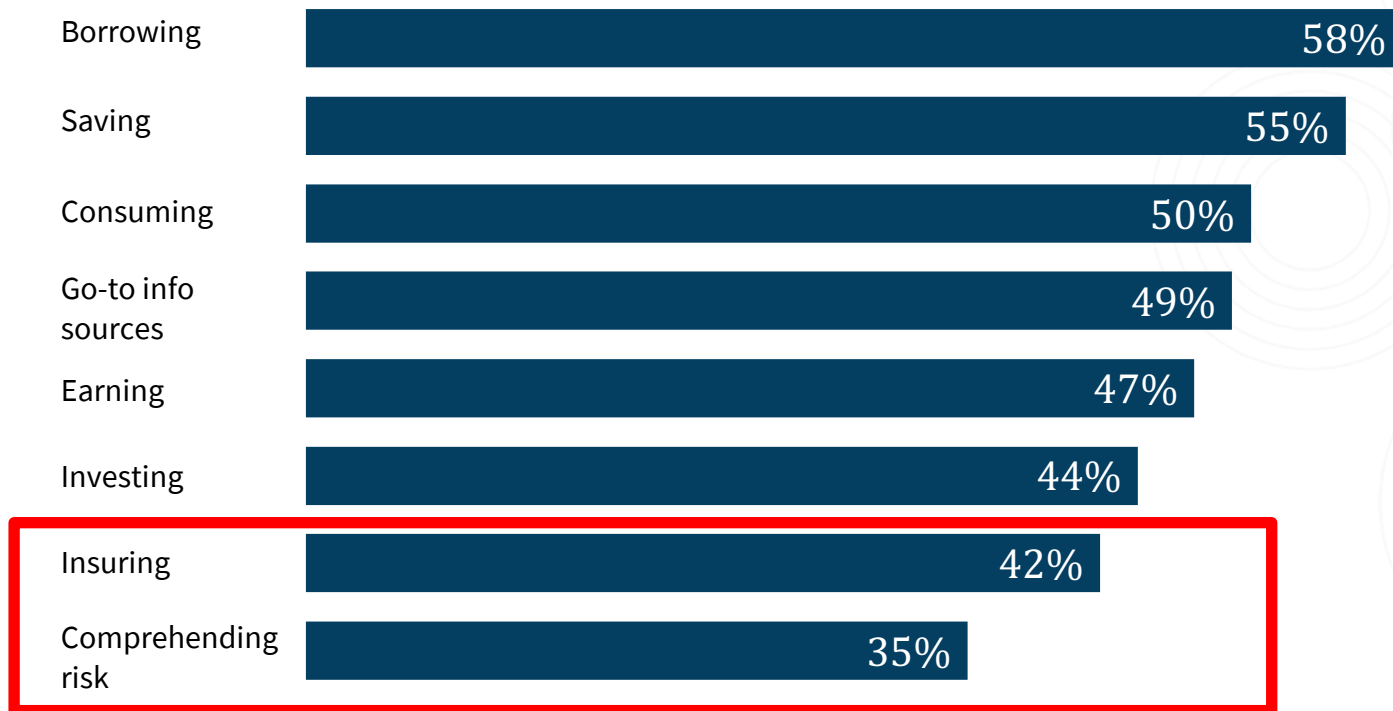
0-7 correct  
(<26%)



Source: TIAA Institute-GFLEC Personal Finance Index (2017-2023).

# What do people know the most and the least

*% of P-Fin questions answered correctly*



Source: TIAA Institute-GFLEC Personal Finance Index (2023).

# “Calculated risk”? New question during COVID

Which of the following indicates the highest probability of getting a particular disease?

- There is a one-in-twenty chance of getting the disease
- 2% of the population will get the disease
- 25 out of every 1,000 people will get the disease
- Don't know
- Refuse to answer

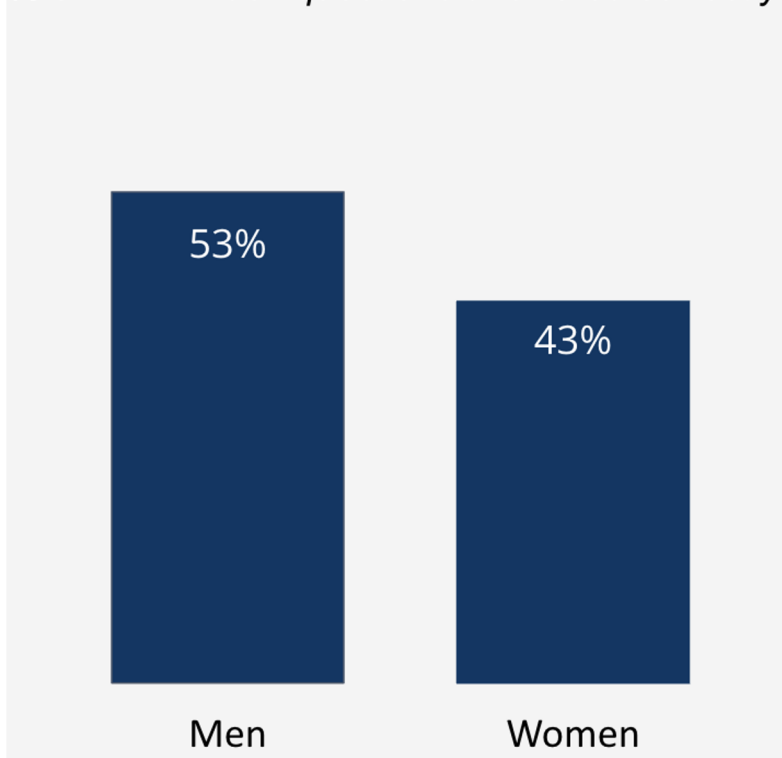
<b>Results:</b>	
<b>Correct</b>	<b>28%</b>
<b>Incorrect</b>	<b>19%</b>
<b>Don't Know</b>	<b>53%</b>
<b>No Answer</b>	<b>0%</b>

Source: TIAA Institute-GFLEC Personal Finance Index (2021).

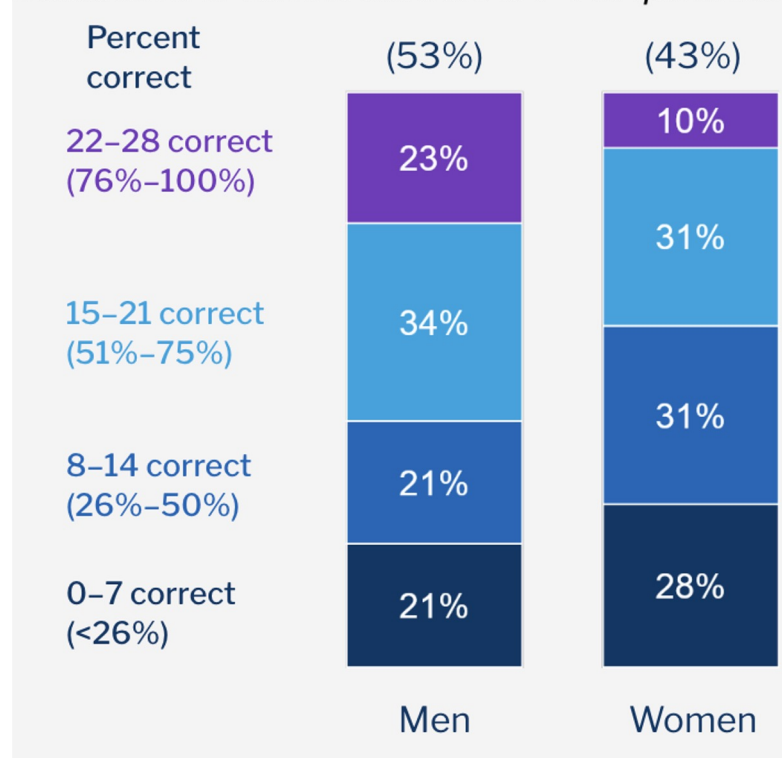


# Demographic variation: Women and knowledge

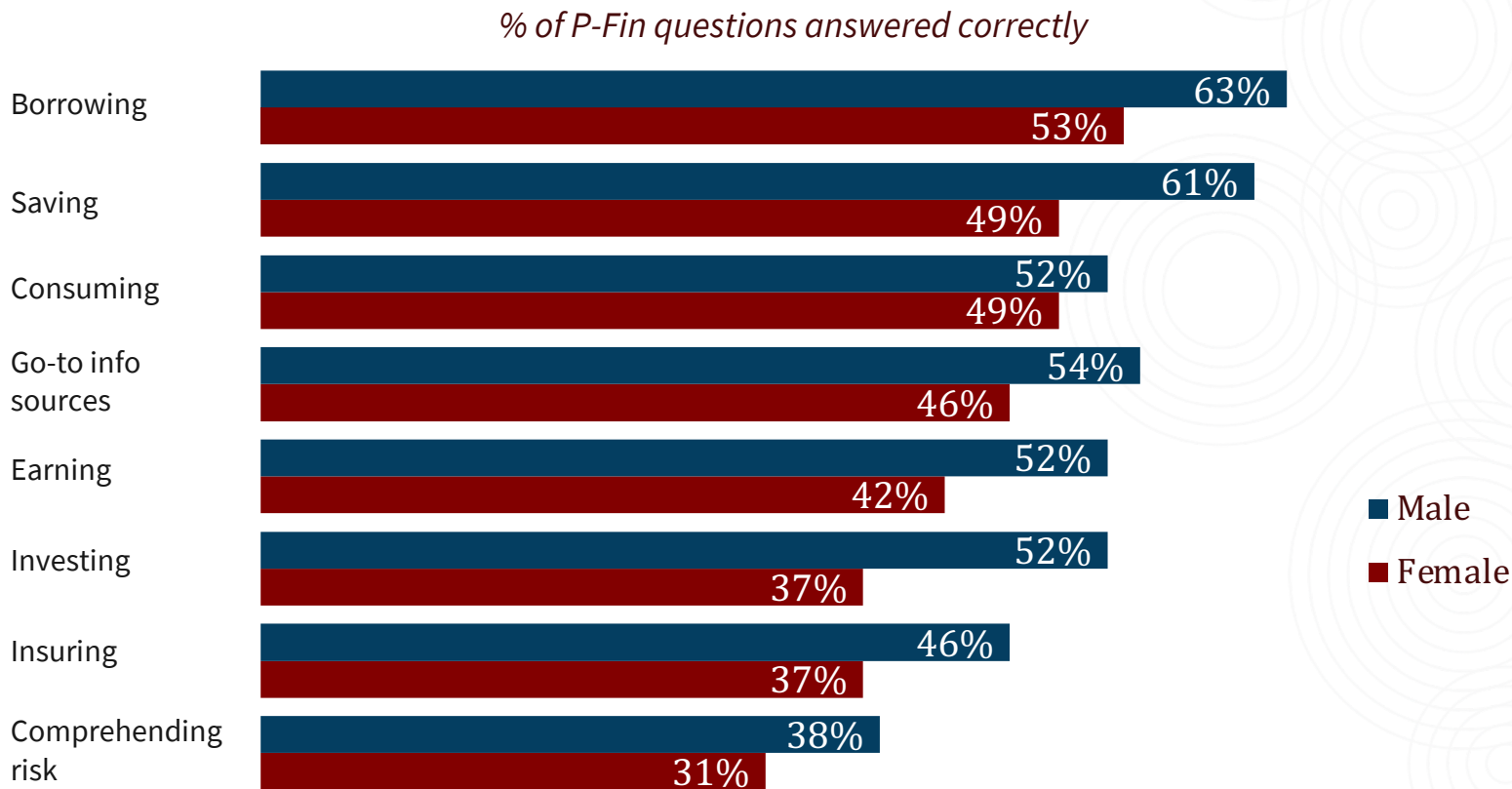
*% of P-Fin Index questions answered correctly*



*Distribution of correct answers to P-Fin questions*

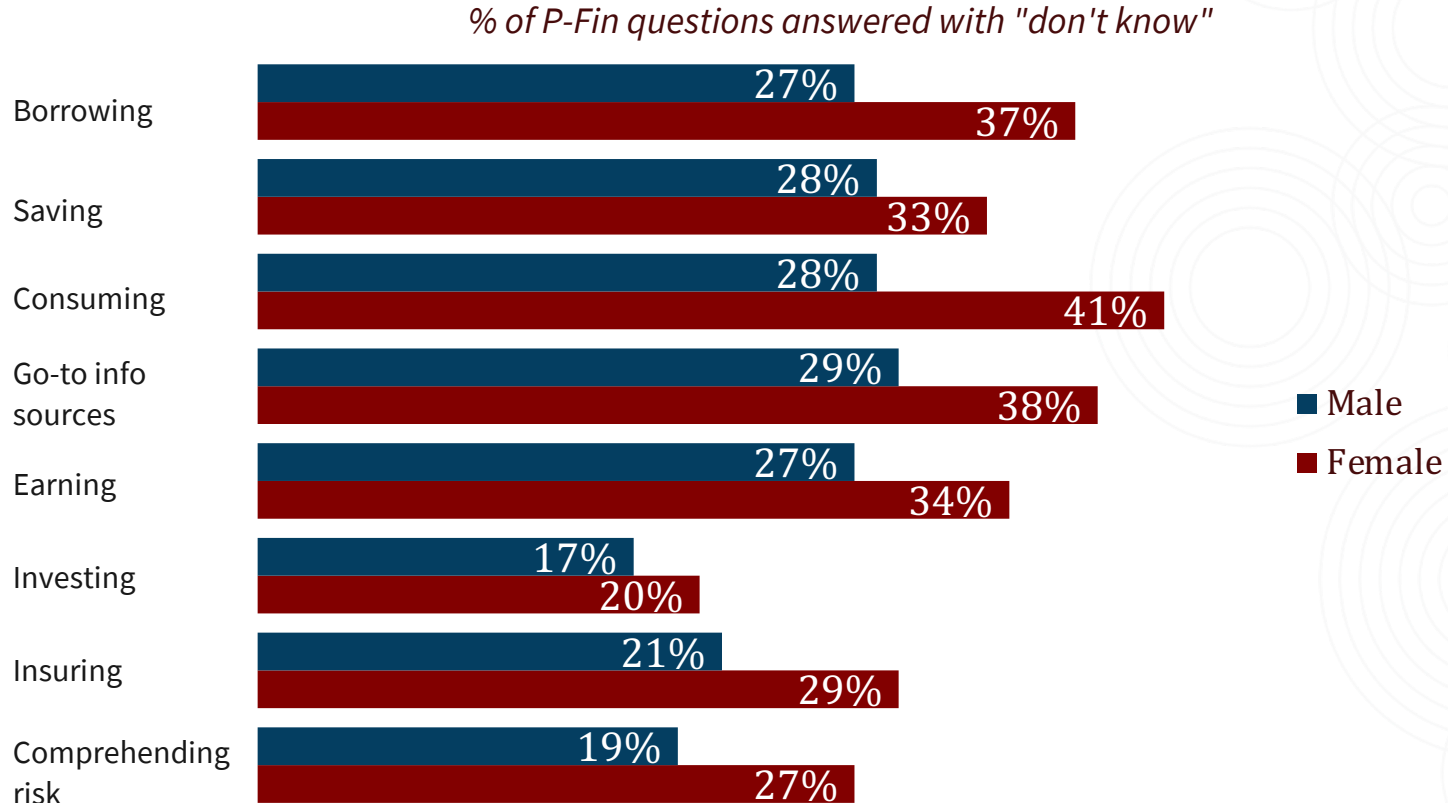


# Financial literacy gender gap in each topic...



Source: TIAA Institute-GFLEC Personal Finance Index (2023).

# ...and in answering “Do not know”



Source: TIAA Institute-GFLEC Personal Finance Index (2023).

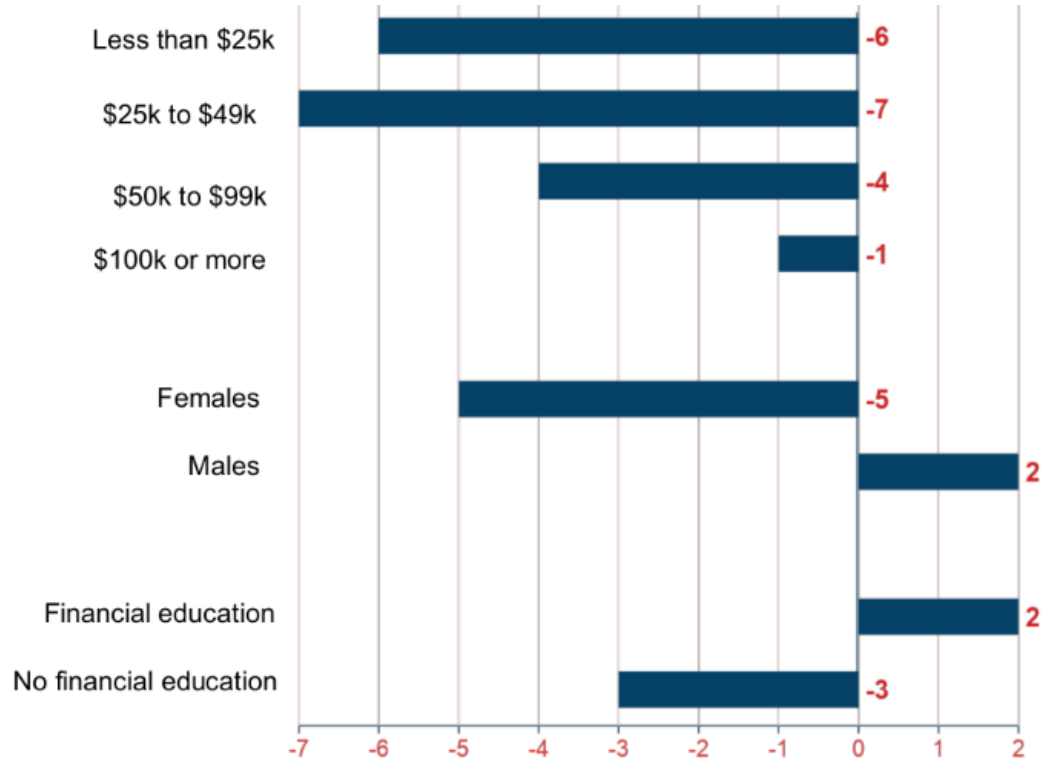
# Our new project addressing the gender difference

## *Fearless Woman: Financial Literacy and Stock Market Participation*

**Tabea Bucher-Koenen (ZEW, U of Mannheim)**  
**Rob Alessie (U of Groningen)**  
**Annamaria Lusardi (The George Washington  
University and GFLEC )**  
**Maarten van Rooij (DNB)**

# Where changes happened over time: Toward an unequal path

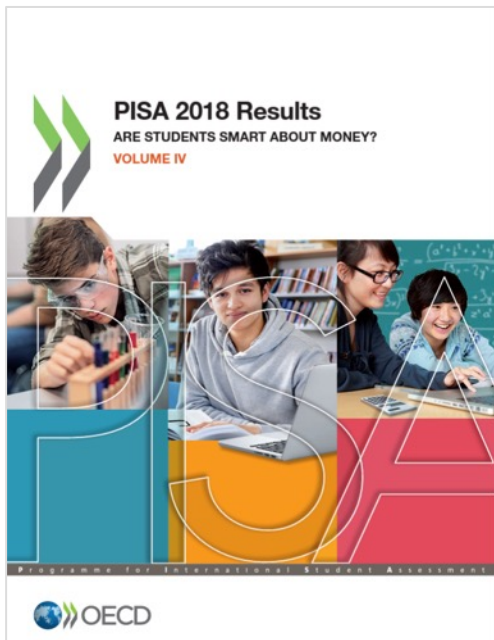
*% point change in P-Fin questions answered correctly, 2017 to 2023*



Source: TIAA Institute-GFLEC  
Personal Finance Index (2017,  
2023).

# Confirming findings on the young

In the US, young people who are financially literate are disproportionately white males from college-educated families.



## the journal of consumer affairs

 Full Access

### Financial Literacy among the Young

ANNAMARIA LUSARDI, OLIVIA S. MITCHELL, VILSA CURTO

First published: 01 June 2010 | <https://doi.org/10.1111/j.1745-6606.2010.01173.x> | Citations: 722

Find it @ Stanford

The research reported herein was conducted pursuant to a grant from the US Social Security Administration (SSA) to the Michigan Retirement Research Center, funded as part of the Retirement Research Consortium. We also received a generous grant from FINRA Investor Education Foundation. Additional support was provided by the Pension Research Council and Boettner Center at the Wharton School of the University of Pennsylvania. We are very grateful to Dan Black for his help with the data and would also like to thank Anna Paulson for helpful suggestions and comments. Hiroaki Matsuura provided excellent research assistance. Opinions and errors are solely those of the authors and not of the institutions with which the authors are affiliated.

# Assessing the impact of financial literacy





# Does financial literacy matter?





# Financial fragility in America

Long lines at the food banks at the start of the pandemic!



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

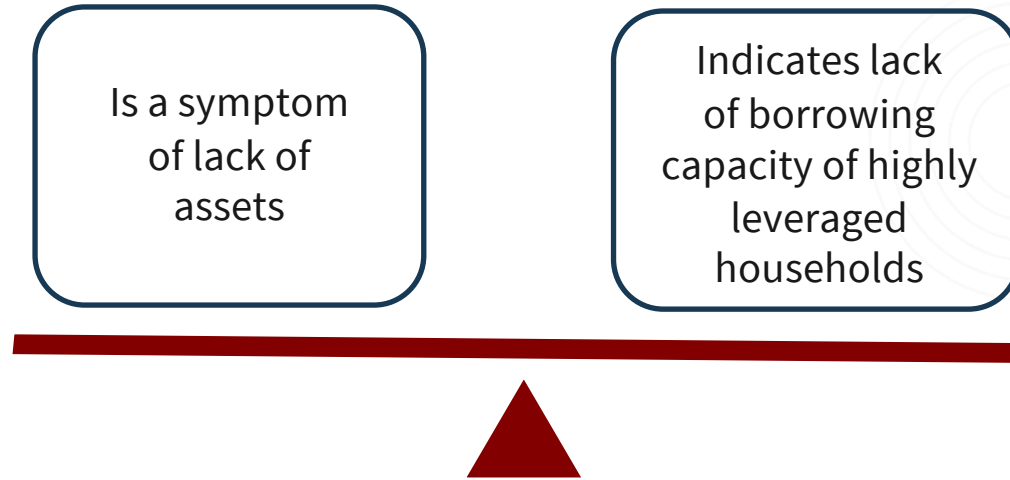
How **confident** are you that you could come up with **\$2000** if an unexpected need arose **within the next month**?

- 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.

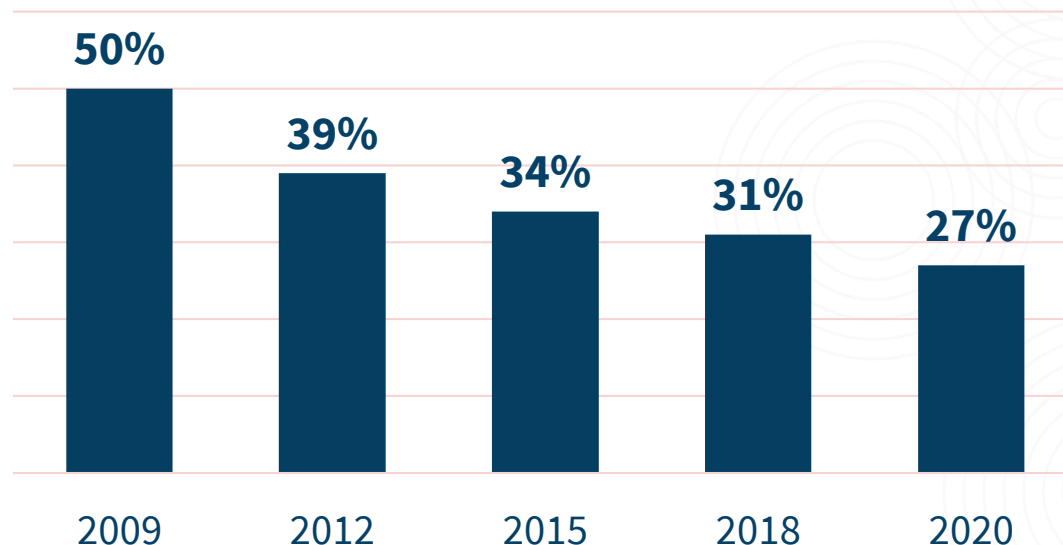
# Financial fragility: What does it measure?



# Financial fragility before the pandemic: 1/3 cannot face a shock



Financial fragility over time

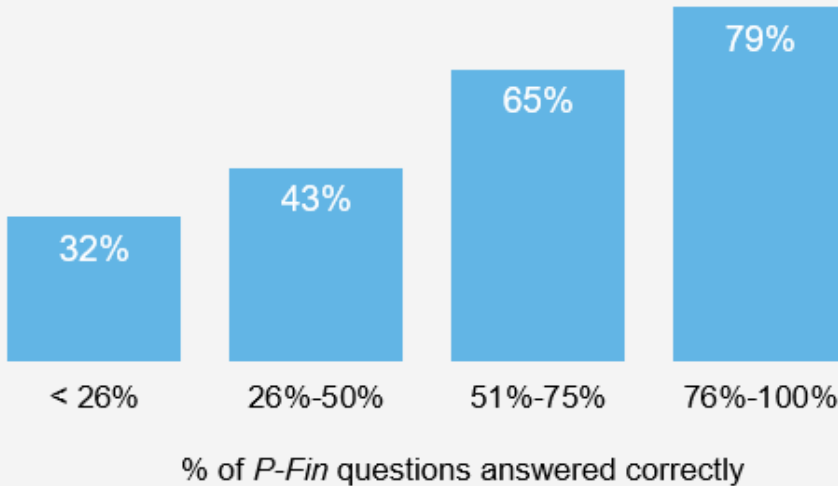


Source: 2009 TNS data, 2012, 2015 and 2018 NFCS data, and 2020 P-Fin data

# Financial literacy and being able to cope

**Those with greater financial literacy are less likely to be financially fragile.**

*% who could certainly come up with \$2,000 if an unexpected need arose within the next month*



Source: TIAA Institute-GFLEC Personal Finance Index (2022).

# The relationship between being able to cope and financial literacy (*Lusardi et al., JAPP 2023*)

	<b>Model 1</b> <i>Financial Resilience</i>	<b>Model 2</b> <i>Financial Resilience</i>	<b>Model 3</b> <i>Financial Resilience</i>
> 50% of P-Fin questions correct	0.079*** (0.018)		
Total # of questions correct		0.007*** (0.001)	
Was offered financial education			0.012 (0.016)
Demographic controls	Yes	Yes	Yes
Observations	3,377	3,377	3,377
R-squared	0.187	0.190	0.181

Source: TIAA Institute-GFLEC Personal Finance Index (2022).

# The relationship between retirement planning and financial literacy

	<b>Model 1</b> <i>Retirement Planning</i>	<b>Model 2</b> <i>Retirement Planning</i>	<b>Model 3</b> <i>Retirement planning</i>
> 50% of P-Fin questions correct	0.125*** (0.023)		
Total # of questions correct		0.011*** (0.002)	
Was offered financial education			0.074*** (0.021)
Demographic controls	Yes	Yes	Yes
Observations	2,507	2,507	2,507
R-squared	0.183	0.192	0.176

Source: TIAA Institute-GFLEC Personal Finance Index (2022); non-retirees.

# Financial literacy matters

Who is financially literate:

- is more likely to cope with financial shocks
- is more likely to plan for retirement
- is more likely to save
- is less likely to be debt-constrained

The findings in the P-Fin Index confirm the results in other studies using the Big Three around the world.





# Use research to inform policy & programs



# What we learned from data and research

- Very **low** levels of financial literacy, even in advanced economies

*Cannot take financial literacy for granted*

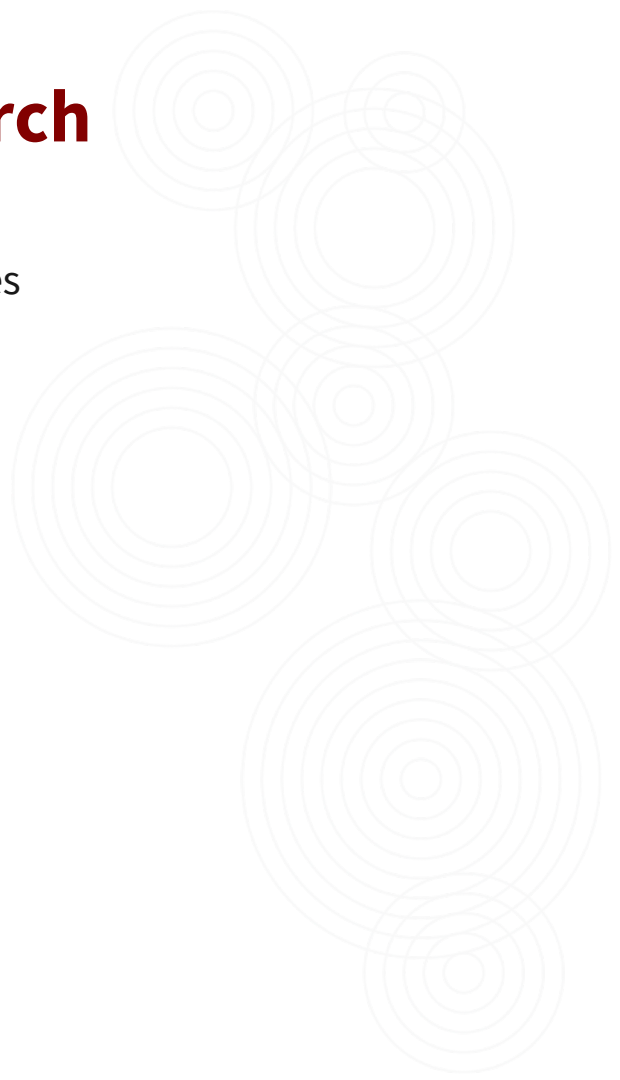
*The world is changing fast, we need to catch up*

- Large **heterogeneity** across demographic subpopulations

*One size does not fit all*

- Financial literacy has an **impact** on behavior

*It can impact the macroeconomy too*



# Financial education for Millennials

## Program:

- Covered 5 basic concepts for financial planning
- Targeted to young workers
- It is a story (narrative or video)

## We put together a team of researchers from different fields:

Economics, psychology, and linguistics

## We evaluated its effectiveness



*"Five Steps to Planning Success. Experimental Evidence from U.S. Households", Lusardi et al., Oxford Review of Economic Policy, Vol. 30, 4, 2014, pp 697–724*

# Five steps to financial success: Topics

## The five topics

- *Compound interest*
  - How to grow your wealth
- *Inflation*
  - The erosion of purchasing power over time
- *Risk diversification*
  - Do not put all your eggs in one basket
- *Tax treatment of retirement savings vehicles*
  - Taxes advantages; 401(K) and IRAs
- *Employer matches in defined contribution saving plans*
  - Don't leave money on the table



# Five steps to financial success: Effectiveness

- After being exposed to videos, financial literacy improved among participants
- While young were targeted, the videos affected all age groups
- 25-33% of the knowledge gain is still observable after 8 months
- People learned even difficult topics, such as risk diversification

**Even short interventions can affect knowledge**

# Policy: National strategies for financial literacy

More than 80 countries have done or are doing a national strategy for financial literacy





# A national strategy for financial literacy in Italy



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

We did many initiatives all based on research and data.

We provided guidelines for financial education for young and adults.

We evaluated the effects of a national information campaign.

# Implications for teaching and the field





# Need for large and scalable programs

Financial education in

- school
- the workplace
- the community (libraries, museums, other places where people go to learn)



# My personal finance courses

- Started a Personal Finance course at GW in 2012
- For both undergraduate and graduate students
- Based on data and research
- Taught risk at the end and devoted many classes to it



# New course at Stanford

- Teaching personal finance to Stanford students
- Can serve as a springboard to scale compelling curriculum online to a wide variety of constituents and ensure as much access as possible for effective distribution



# Our teaching personal finance conference

Stanford | Institute for Economic  
Policy Research (SIEPR)

Stanford | Department of Economics  
SCHOOL OF HUMANITIES AND SCIENCES

STANFORD  
BUSINESS

GFLEC  
GLOBAL FINANCIAL LITERACY  
EXCELLENCE CENTER

## Teaching Personal Finance Conferences

Stanford University | Upcoming Online Conference: October 6, 2023

HOME

ABOUT

AGENDA

PEOPLE

LOGISTICS

PHOTO GALLERY

More information about the 2023 program [here](#).



Stanford Graduate School of Business

# It's time to teach personal finance in every college/university

## Conference Organizers



**Michael J. Boskin**

Stanford University



**Annamaria Lusardi**

Stanford University



**John B. Shoven**

Stanford University

- The first conference on teaching personal finance
- We want to extend the course to create programs for alumni and have students become ambassadors for financial literacy
- We want to promote personal finance in other universities and colleges, from the Ivy League to community colleges.



# Financial Freedom Initiative

## Collaboration between:

**STANFORD**  
**BUSINESS** GRADUATE  
SCHOOL OF

**Stanford** | Institute for Economic  
Policy Research (SIEPR)

**Stanford** | Department of Economics  
SCHOOL OF HUMANITIES AND SCIENCES

Through the initiative, we will offer robust in-person and online learning opportunities to a variety of audiences, build a strong research pipeline in the field of financial literacy, and initiate and facilitate external partnerships, which together have the potential to improve the quality of financial decision-making, lead to effective interventions, and inform policy.

# Financial literacy has its JEL code (G53)



AMERICAN  
ECONOMIC  
ASSOCIATION

[Membership](#) [About AEA](#) [Log In](#)

[Journals](#) [Annual Meeting](#) [Careers](#) [Resources](#) [EconLit](#) [EconSpark](#) [Q](#)

[Home](#) > [Resources](#) > [JEL Guide](#)

## Resources

[Data Sources](#)

[For Students](#)

[For Educators](#)

[Online Seminars](#)

[Meetings & Conferences](#)

[JEL Codes Guide](#)

[Funding & Grants](#)

## JEL Classification Codes Guide

The guide provides JEL Code application guidelines, keywords, and examples of items within each classification.

The "JEL" classification system originated with the Journal of Economic Literature and is a standard method of classifying scholarly literature in the field of economics. It is used in many of the AEA's published research materials.

Use the guide to gain insight on how JEL Codes are used to classify articles, dissertations, books, book reviews, and working papers. You will also find it is helpful when adding classification codes to your own work.



**G53 Financial Literacy**

# The first journal for the financial literacy field



- Two issues already released in 2023
- Submissions are highly encouraged



# Some new initiatives

- Adding financial literacy to national statistics, such as reporting GDP or inflation, and use it for policy.

*A financial literacy target?*

- Finland launched a challenge: they want to be the most financially literate country by 2030.
- In the US, many states are making financial education mandatory in high school. Good new data for research.

# Living well

We need to provide access to knowledge and skills so that people can be more financially resilient and financially secure. Financial literacy is like water in an eco-system, it is needed to grow and flourish.



# How I have changed my Personal Finance course

- I spend the first class describing the many decisions we will cover
- We start in plain English; class by class, we learn the language of finance
- I take into consideration the differences among students
- I always report the data from our research
- What is this course about? It is a happiness project; it is about achieving financial freedom!

# Thank you.

For more info visit [www.gflec.org](http://www.gflec.org).

Follow us on social media and stay informed.

**If you have any questions, please send them to [alusardi@stanford.edu](mailto:alusardi@stanford.edu).**