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FINANCIAL LITERACY AND THE COST OF IGNORANCE

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The growing importance of financial literacy

A new economic landscape

Major changes that increase individuals' responsibility for their financial well-being

- **Changes in the pension landscape**
 - More individual accounts and DC pensions
- **Changes in labor markets**
 - Divergence in wages – skills are critical
- **Changes in financial markets**
 - Greater complexity
 - More opportunities to borrow & in large amounts



Increase in individual responsibility

Being our own CFO

- **Individuals make many financial decisions**
 - Investment in education
 - Financial security after retirement
 - Investing in financial markets & other markets (buying a home, car, etc)
- **Not enough to look at asset side; liability side is equally important**
 - Increase in household debt
 - Debt normally incurs higher interest rates than what is earned on assets
- **Financial decisions are complex**
 - Many more financial products than in the past



Definition of financial literacy

*“Financial literacy is **knowledge and understanding** of financial concepts and risks, and the **skills, motivation and confidence** to **apply** such knowledge and understanding in order to make **effective decisions** across a **range of financial contexts**, to improve the financial well-being of **individuals and society**, and to enable **participation in economic life.**”*



PISA 2012 Results: Students and Money

FINANCIAL LITERACY SKILLS
FOR THE 21ST CENTURY

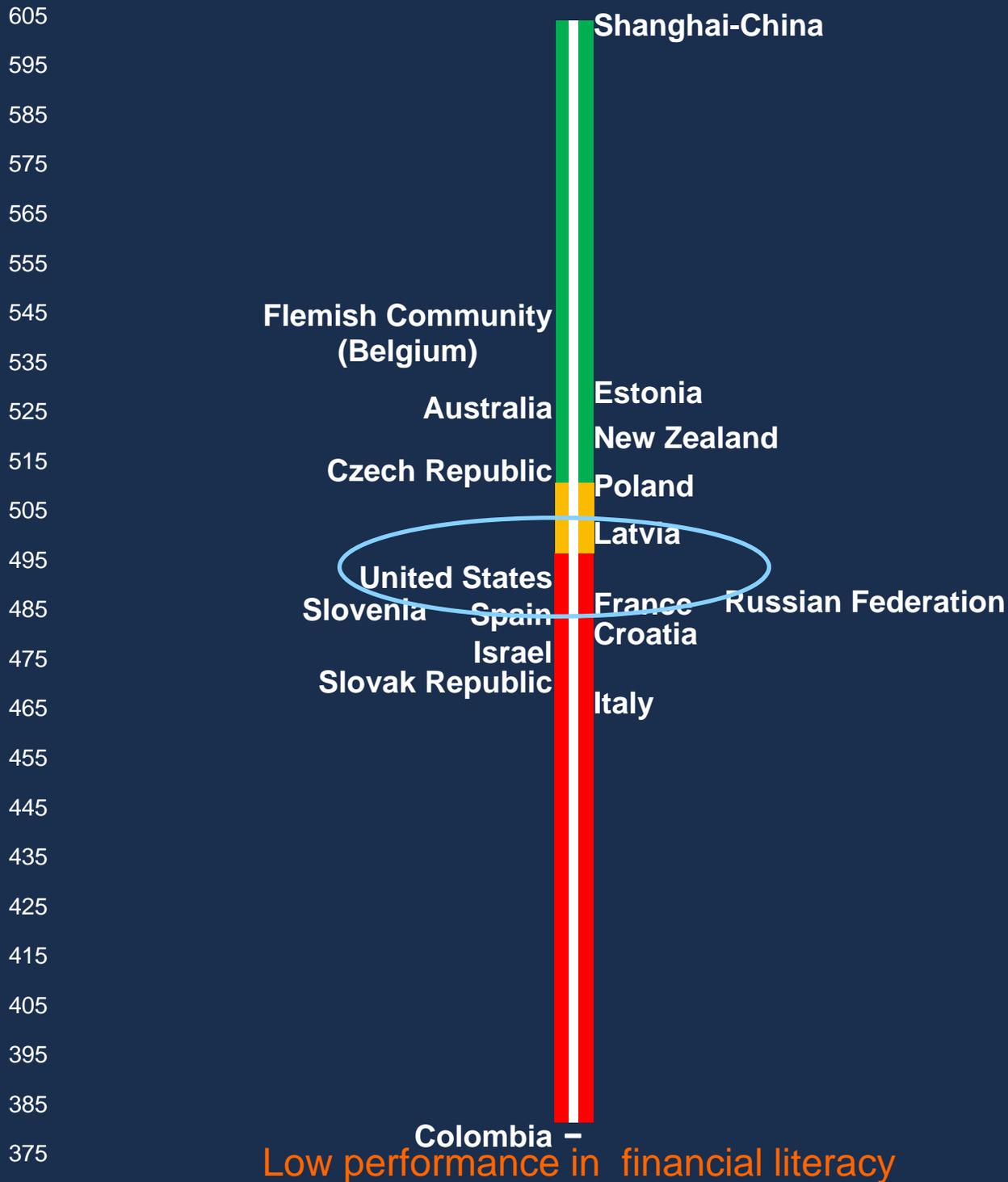
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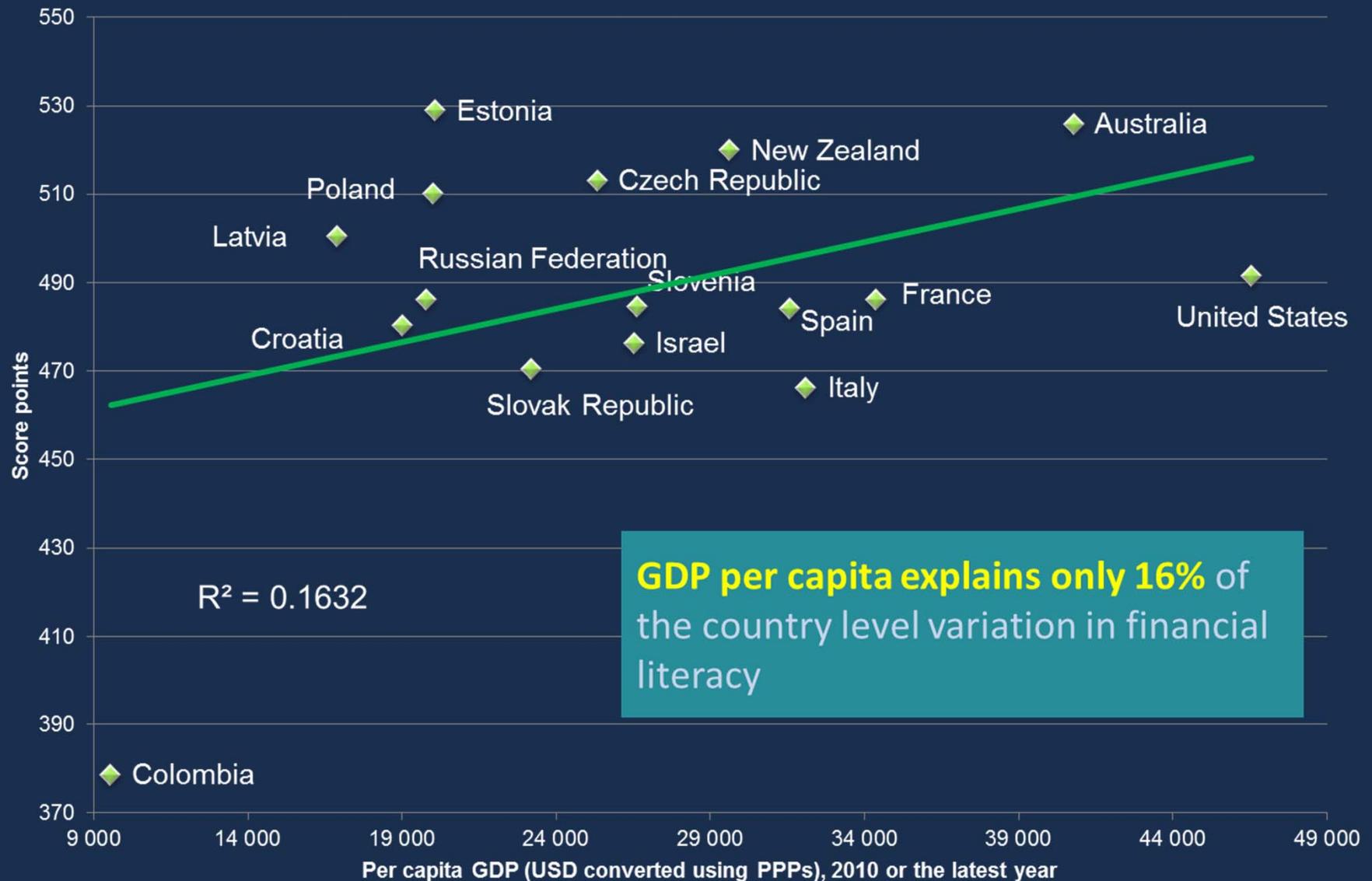
Mean score

Strong performance in financial literacy

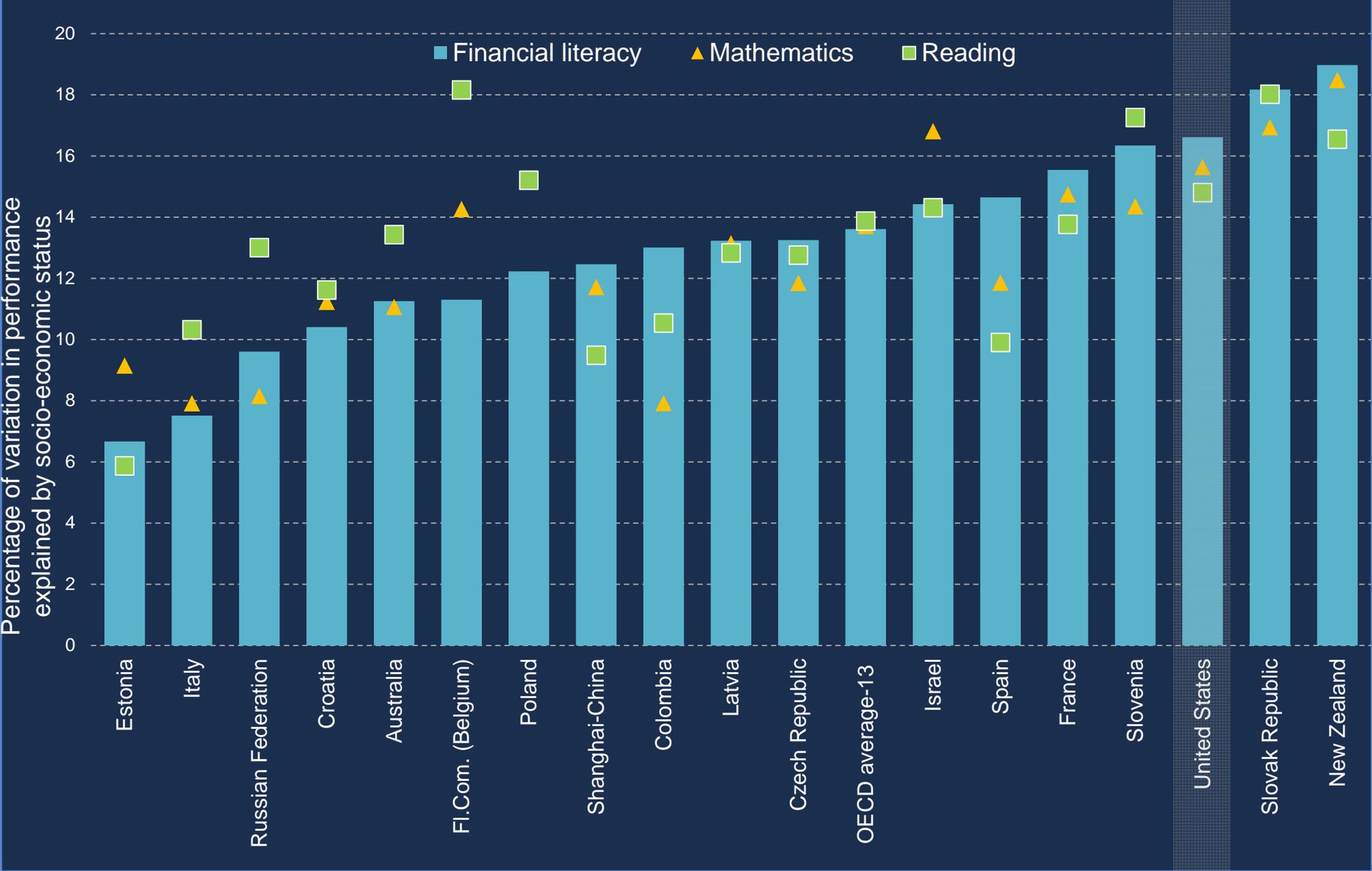
Average performance of 15-year-olds in financial literacy



Differences only partially explained by GDP per capita



Relationship between socio-economic status and financial literacy, mathematics, and reading performance



How much do people know?

- 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?”**

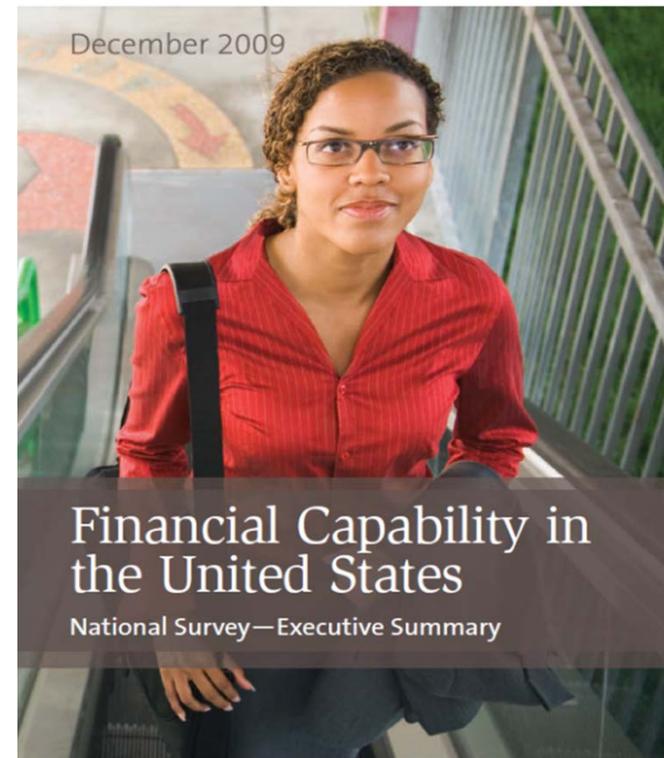
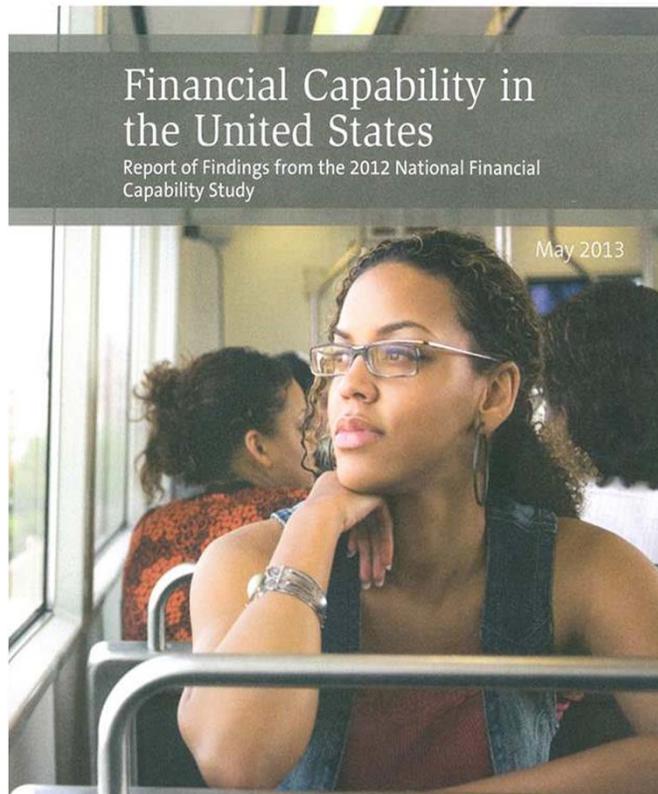
 - More than \$102
 - Exactly \$102
 - Less than \$102
 - Don't know
 - Refuse to answer
- 2. “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account, would you be able to buy...”**

 - 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

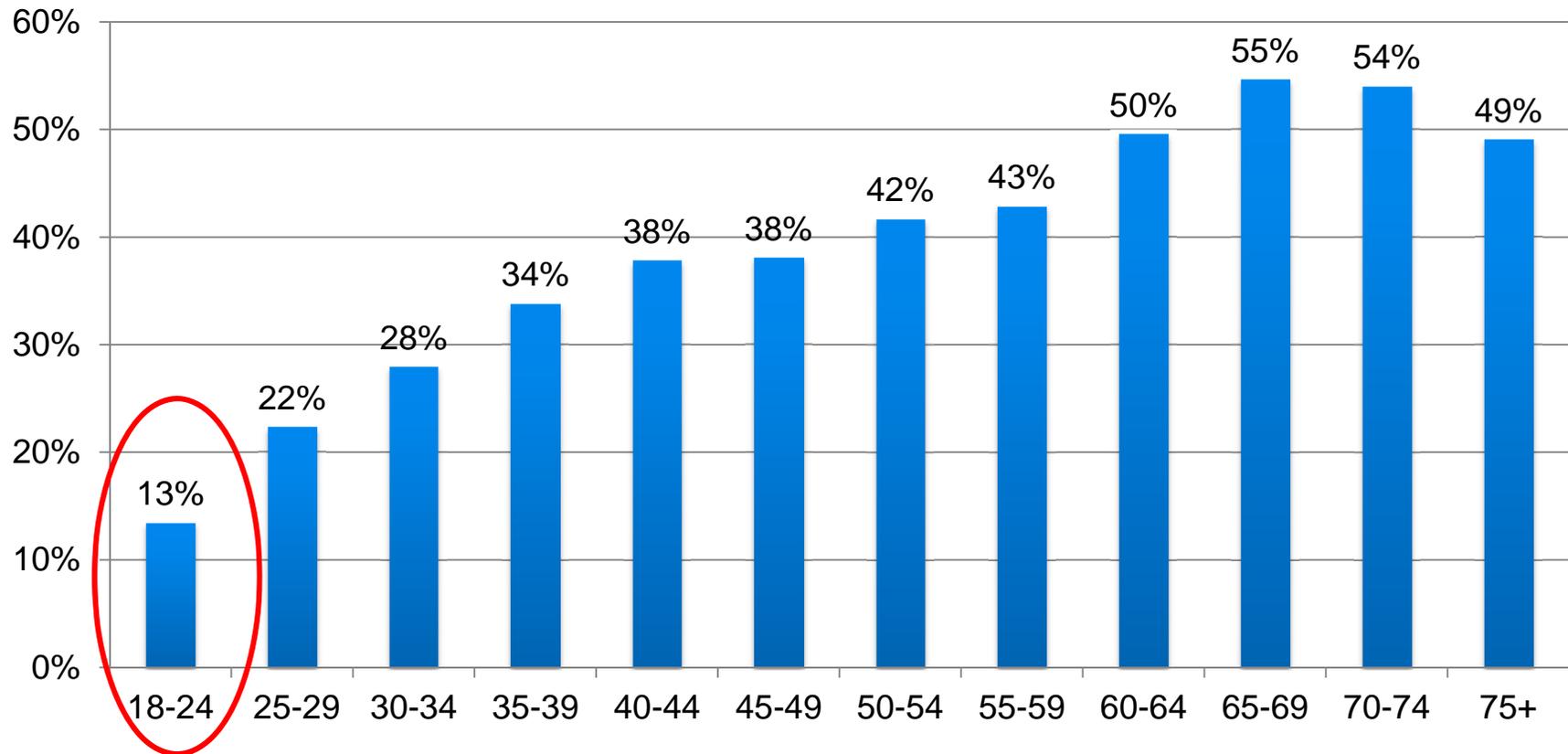
Data for the United States

The 2009 & 2012 National Financial Capability Study (NFCS)



Financial literacy across age groups

**Financial literacy by age in the United States –
2012 US National Financial Capability Study
(% answering 3 questions correctly)**



It pays to be financially literate

Debt and debt management



Investments



Planning and wealth accumulation

Financial Literacy and Mortgages

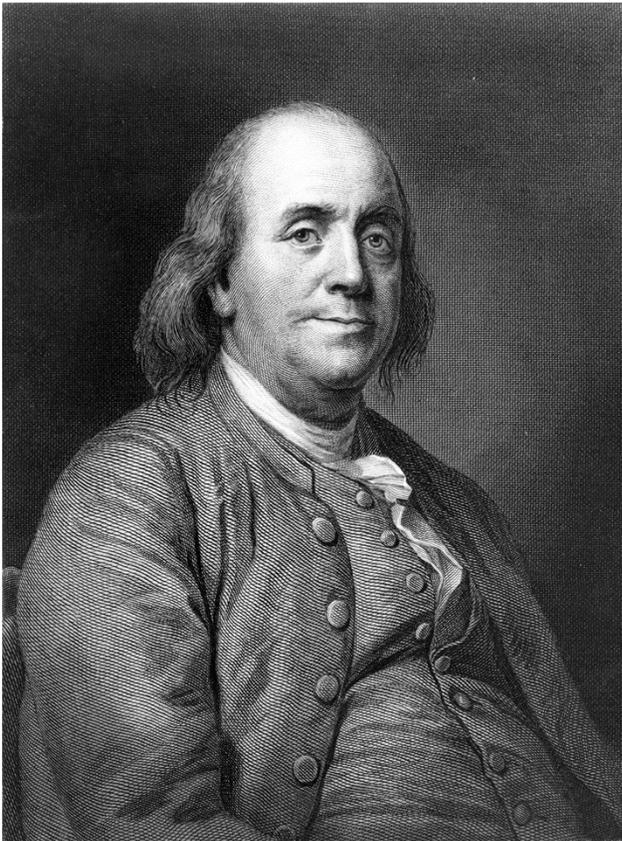
- Those with low literacy (numeracy) are more likely to be delinquent and default on subprime mortgages
- Those with low educational attainment are less likely to refinance mortgages during a period of falling interest rates



Source: Campbell (2006), Gerardi et al. (2013)

An earlier thinker on financial literacy

“An investment in knowledge pays the best interest.”



Benjamin Franklin, *The Way to Wealth*, 1758

Most recent research work

Financial knowledge & 401(k) investment performance

- **Use administrative data from large financial institution**
 - High quality data
- **Designed survey that had the 3 financial literacy questions + questions on pension literacy**
 - Higher financial literacy than in the US population
- **Linked financial literacy to return on 401(k) investments**
 - Unique data
- **Those who are more financially literate earn 130 basis points more on their portfolio (adjusted for risk)**
 - Similar evidence is emerging in other papers

Inequality

- Financial literacy can also be linked to wealth inequality
- Our paper shows that **30-40%** of wealth inequality can be attributed to financial knowledge



What to do: The importance of scalability

Venues for financial education

➤ In schools

- Easier to reach the young



➤ In the workplace

- Easier to reach the adults



➤ In libraries, local communities, museums

- Where people go to learn



Financial education in schools

Need to prepare the new generations

Financial education in school is critically important:

- **Investment in higher education is one of the most important decisions the young face**
 - Young people start their economic life in debt
- **Need to be financially literate *before* engaging in financial transactions**
- **Provide a basis on which to build**
 - It will be cheaper to do workplace financial education

New Field: Personal Finance

A new course at the George Washington University

Financial Decision-Making: Implications for the Consumer and the Professional

- **Cover personal finance with a rigorous approach**
 - A quantitative approach to personal finance
- **It incorporates some macro, accounting, and risk management**
- **Writing a new textbook on personal finance**
 - Joint with a mathematician

Our (STAR) students

Undergraduates, graduate students and... athletes

Our students in and out of the classroom



A program for the young

Five steps to planning success

- **We designed a program for young workers**
 - They are the ones with low literacy
- **Used new method of communication**
 - A video
- **Kept the message free of economic/finance jargon**
 - Very important for women
- **Covered concepts, such as risk diversification, in a simple story**

Short video about risk

Risk diversification = don't put all your eggs in one basket



[Link to Video](http://www.rand.org/labor/centers/financial-literacy.html) <http://www.rand.org/labor/centers/financial-literacy.html>

We measured whether it worked

- Tested interventions using the RAND American Life Panel
- Baseline questions on 5 concepts
- Randomly assigned
 - Intervention group
 - ◆ Video only, narrative only, video & narrative
 - Control group
 - ◆ No intervention
- Repeated 5 concepts questions

Findings

- After being exposed to videos, the performance on financial literacy questions (general knowledge and self-efficacy) improved
- While young were targeted, the videos affected all age groups



 **NYSE**



10

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NYSE Workplace Financial Fitness Toolkit

A program for any company

- **Ten steps divided into 3 stages: Basic, Intermediate, and Advanced**
- **Customize the program for employees
One size does not fit all**
- **The Employee Checklist
Ten guidelines with implementation tips to improve employees' financial fitness**

A saving museum in Turin, Italy



Il gioco della Formica

MdR
MUSEO DEL RISPARMIO

Regole del gioco

Regolamento del concorso

MdR
MUSEO DEL RISPARMIO

Ciao!

Giochiamo insieme? Metti alla prova le tue conoscenze sul risparmio e l'economia con il trivial quiz e non perderti le caselle bonus per incrementare il punteggio.

Occhio alle formiche da collezione: raccoglile 3 e partecipa al concorso!

Buon divertimento!

Premi per iniziare

An International Federation of Finance Museums: four founders – now extended to many museums



中國金融博物館 李貴鮮
CHINESE MUSEUM OF FINANCE

MU\$EUM
OF AMERICAN
FINANCE

MdR
MUSEO DEL RISPARMIO

Final thoughts

➤ **Financial literacy is like reading and writing**

- As it was not possible in the past to participate in society without being able to read and write, so it is not possible to thrive in today's society without being financially literate

➤ **Building human capital for the 21st century**

- Everyone deals with finance and finance is sufficiently complex that we cannot leave it to the individual to learn by himself/herself

Financial Literacy: The best line of defense

"Well-informed consumers, who can serve as their own advocates, are one of the best lines of defense against the proliferation of financial products and services that are unsuitable, unnecessarily costly, or abusive."

Ben Bernanke, Former Chairman of the Fed

Financial illiteracy is a complex but solvable problem

“It always seems impossible until it is done.”

Nelson Mandela

Contact and further information

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