

# **RAND Corporation**

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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**

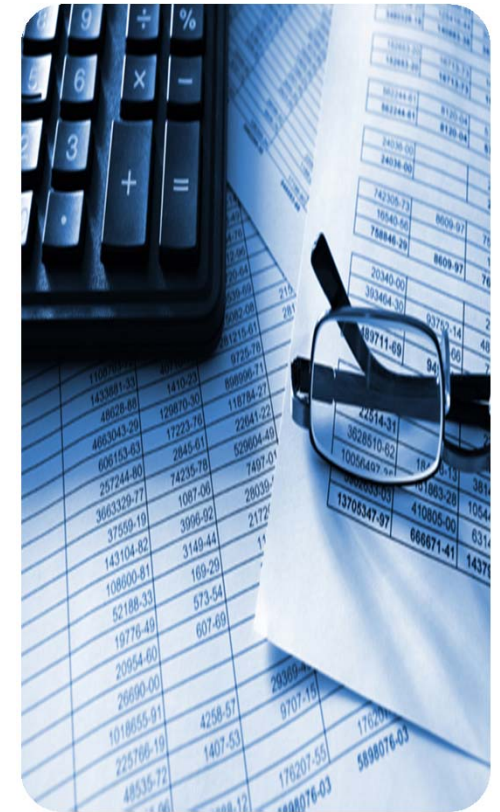
- Greater complexity
- More opportunities to borrow & in large amounts



# 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

**VOLUME VI**



Mean score

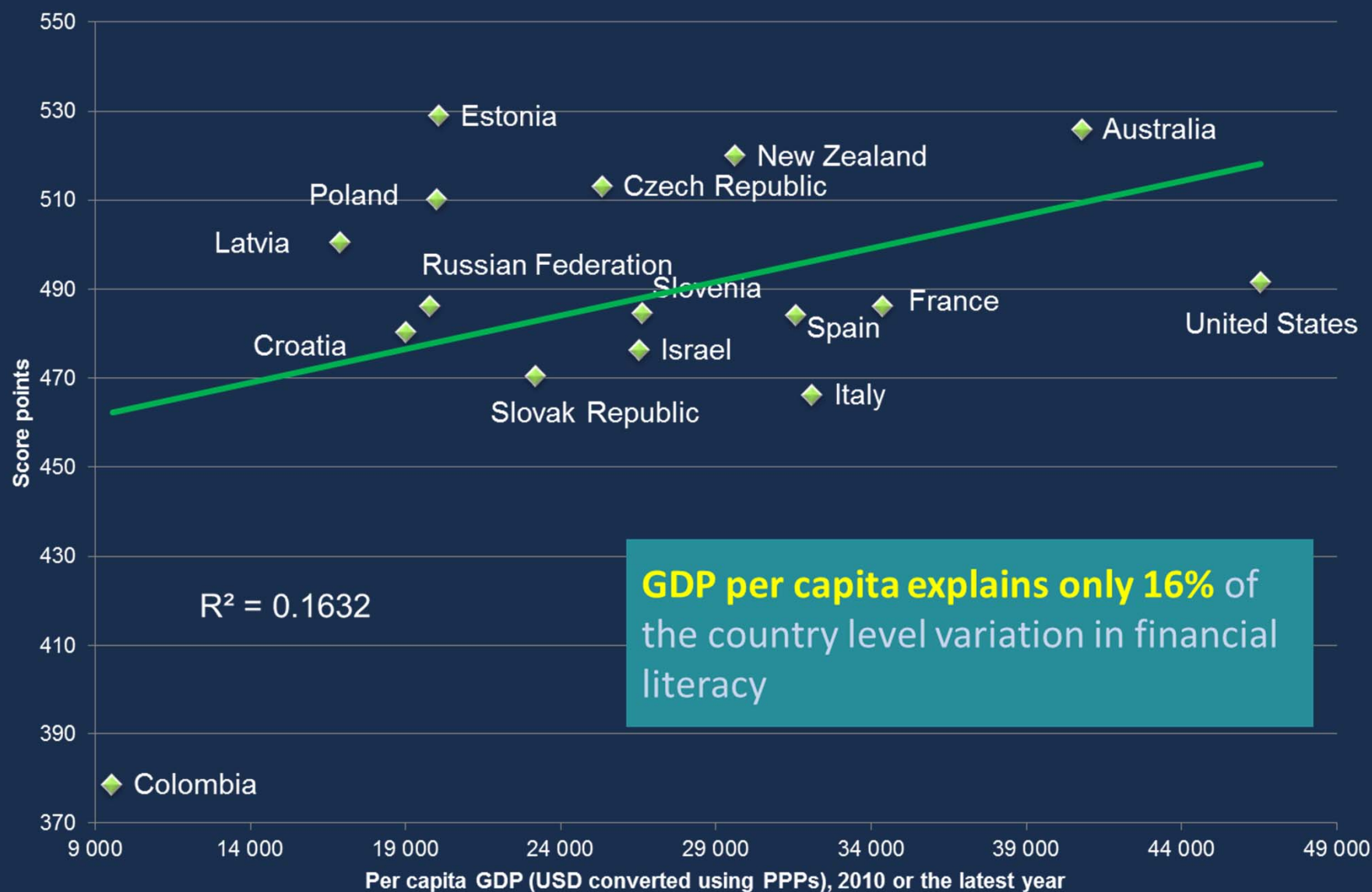
Strong performance in  
financial literacy

Average performance  
of 15-year-olds in  
financial literacy

605  
595  
585  
575  
565  
555  
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375

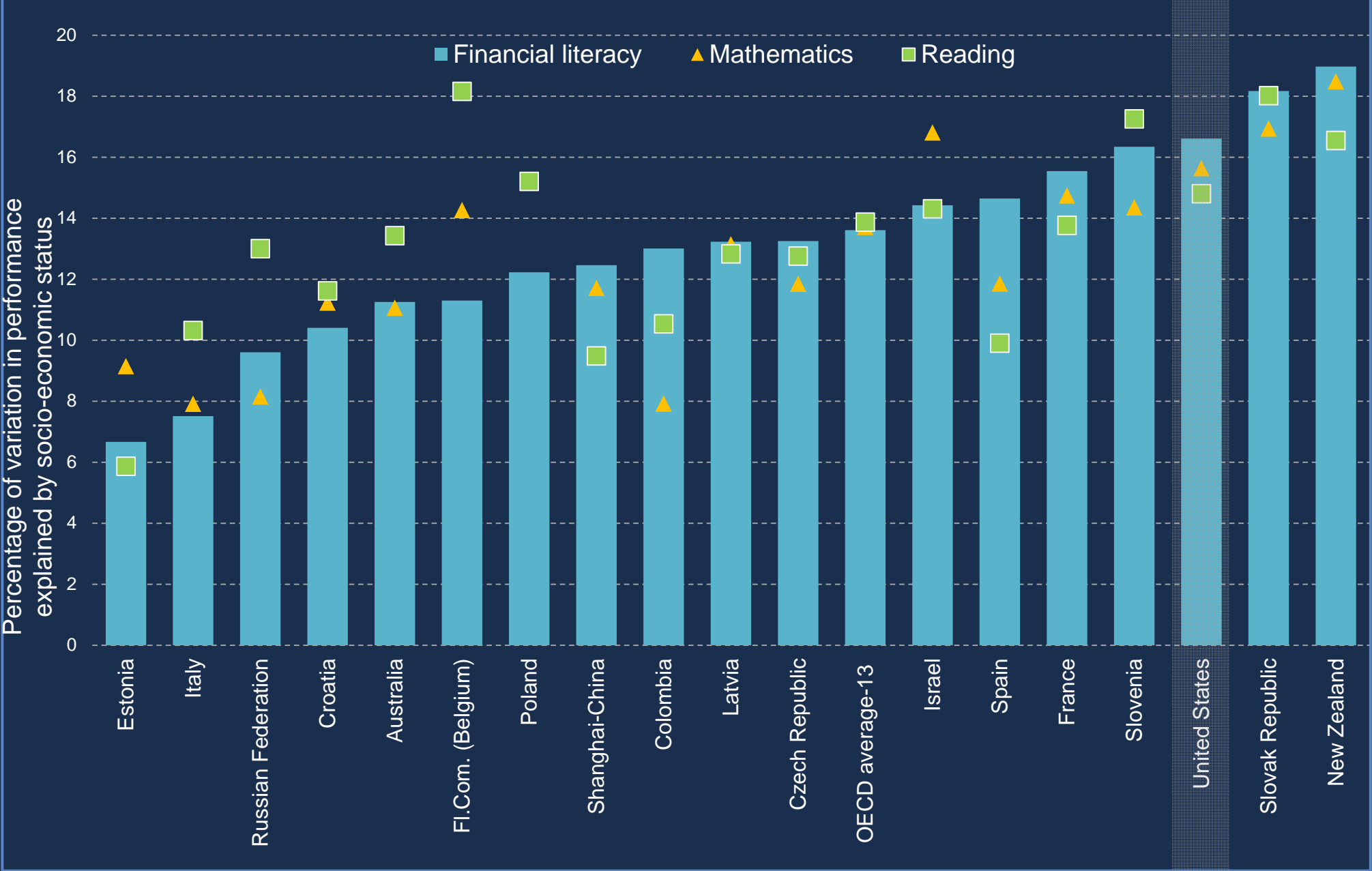


# Differences only partially explained by GDP per capita





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



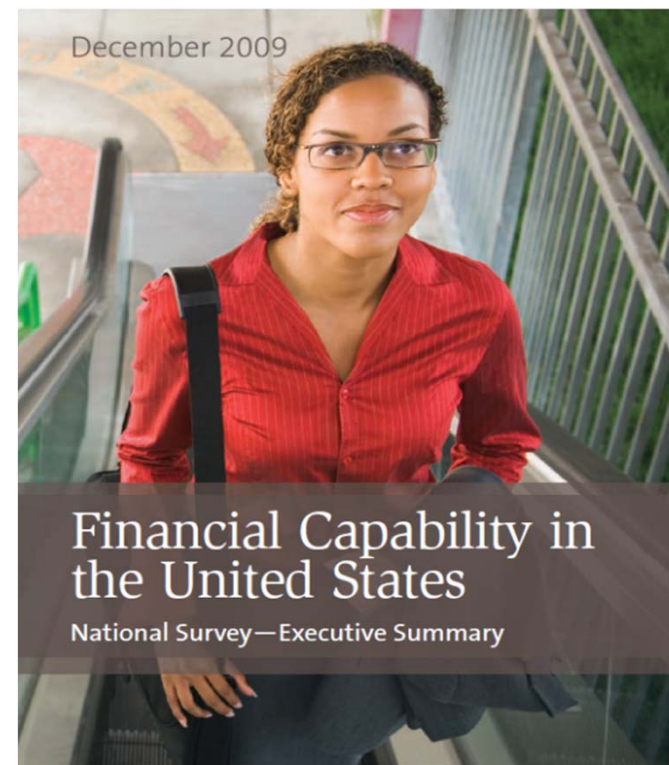
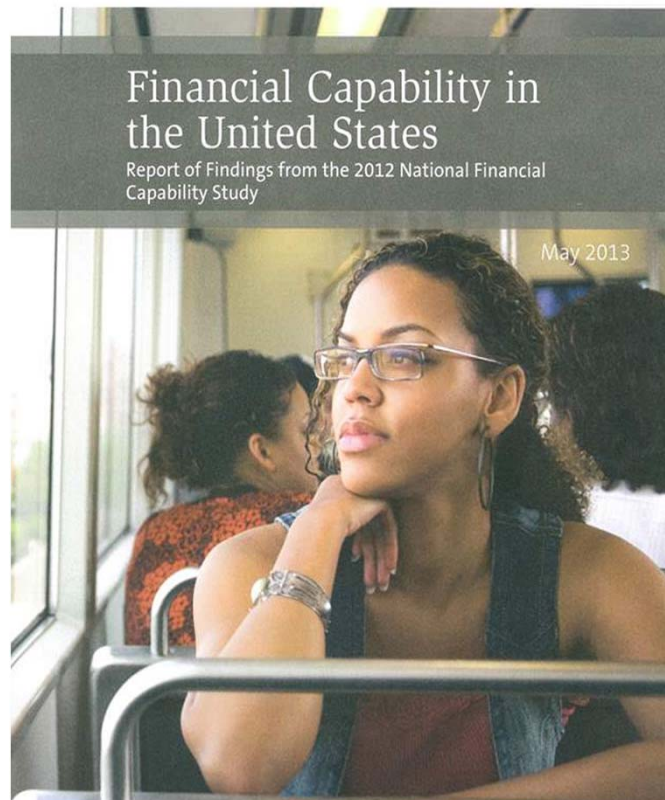


# How much do people know?

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

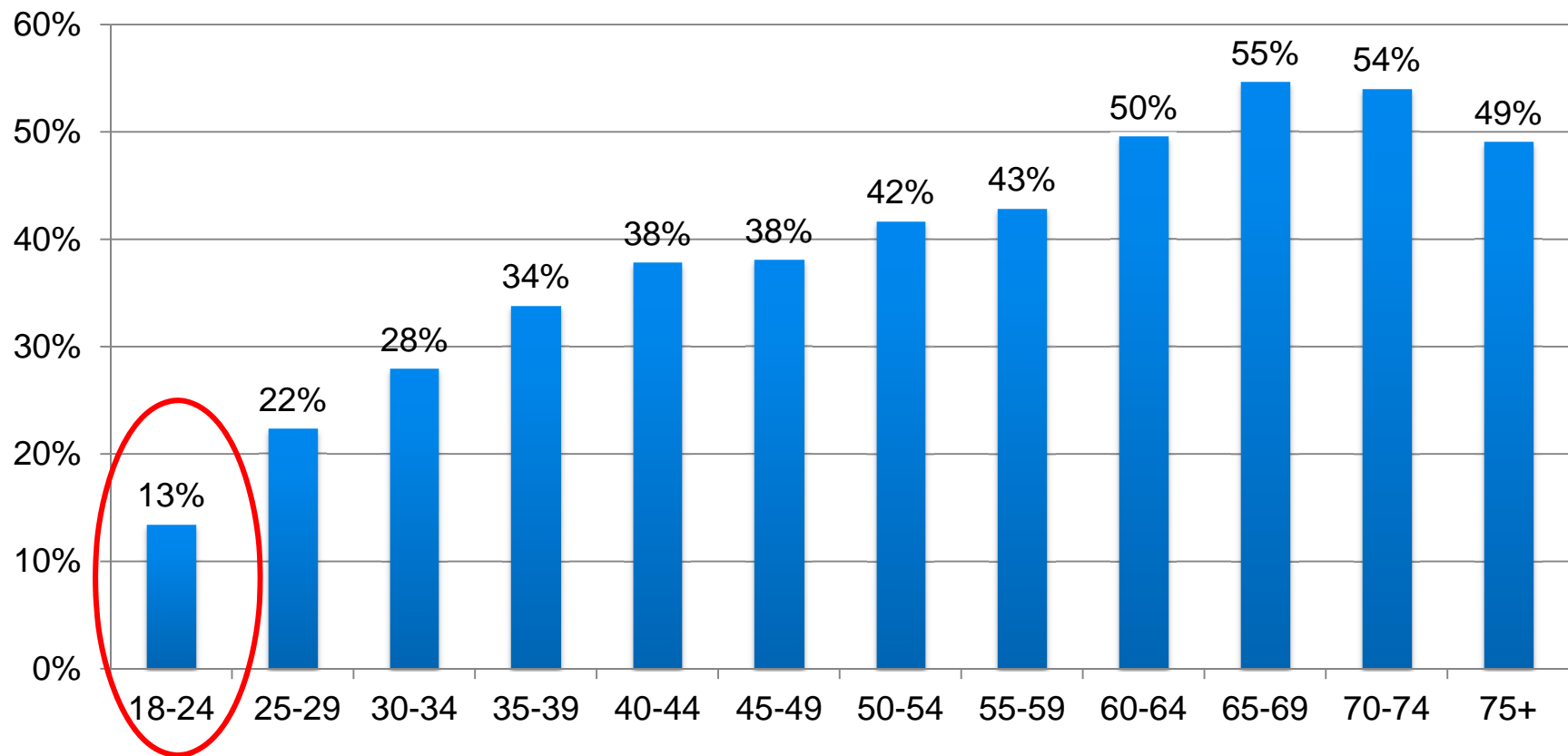
# Data for the United States

## 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

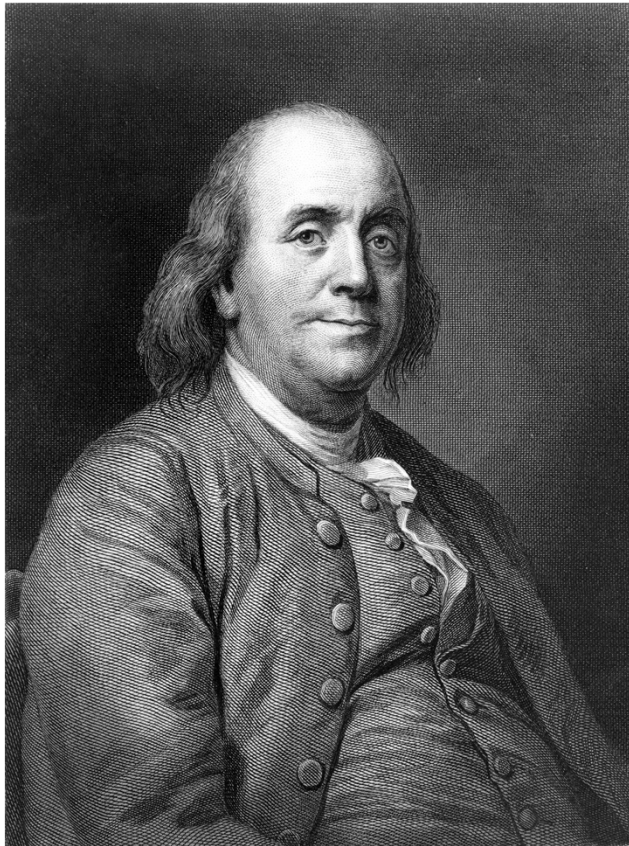
- Those with low literacy (numeracy) are more likely to be delinquent and default on subprime mortgages
- Those with low educational attainment are less likely to refinance mortgages during a period of falling interest rates



***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**



# **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



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





# 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 21<sup>st</sup> 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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