

**Presentation to Insper, Brazil
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The Economic Importance of Financial Literacy

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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



A large amount of research in past 15 years

Some questions

1. How well-equipped are people to make financial decisions?
2. Are there vulnerable groups?
3. Does financial literacy matter?
4. What can be done to promote financial literacy and financial decision-making?

How well-equipped are people?

Do individuals know the basic concepts that are key to making financial decisions?

**Aim: Assess knowledge of basic concepts:
The *abc*'s of personal finance**

The journey of three simple questions

Measuring financial literacy (I)

To test numeracy and understanding of interest rates, we asked:

“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

Measuring financial literacy (II)

To test understanding of inflation, we asked:

“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

Measuring financial literacy (III)

Finally, to test understanding of risk diversification, we asked:

“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

Financial Literacy around the World

(FLat World)

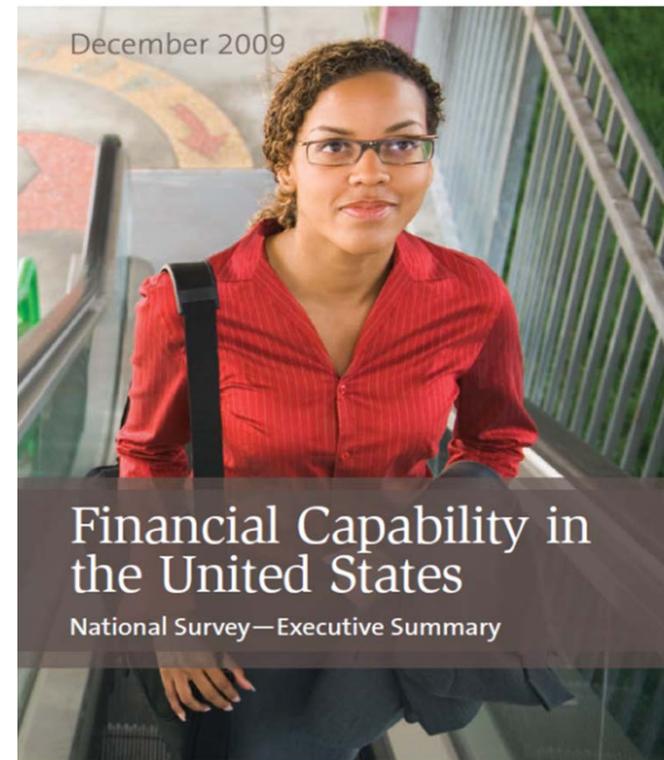
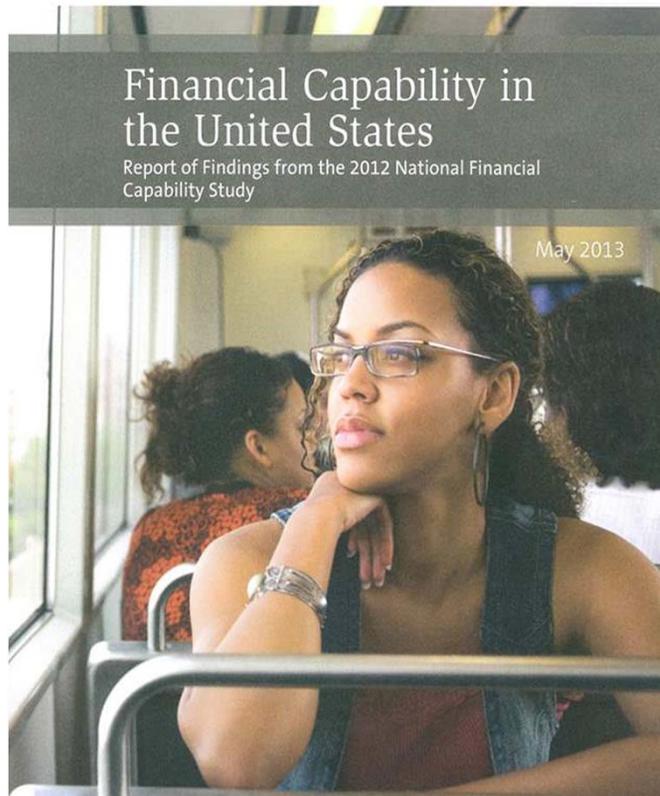
Evidence from 13 countries:

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



Collecting new data

The 2009 & 2012 National Financial Capability Study



How much do Americans know?

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

	Responses			
	<i>Correct</i>	<i>Incorrect</i>	<i>DK</i>	<i>Refuse</i>
Interest rate	65%	21%	13%	1%
Inflation	64%	20%	14%	2%
Risk diversif.	52%	13%	34%	1%

NB: Only 30% correctly answered all three Qs; less than half (46%) got the first two Qs right. **Strikingly similar evidence across countries.**

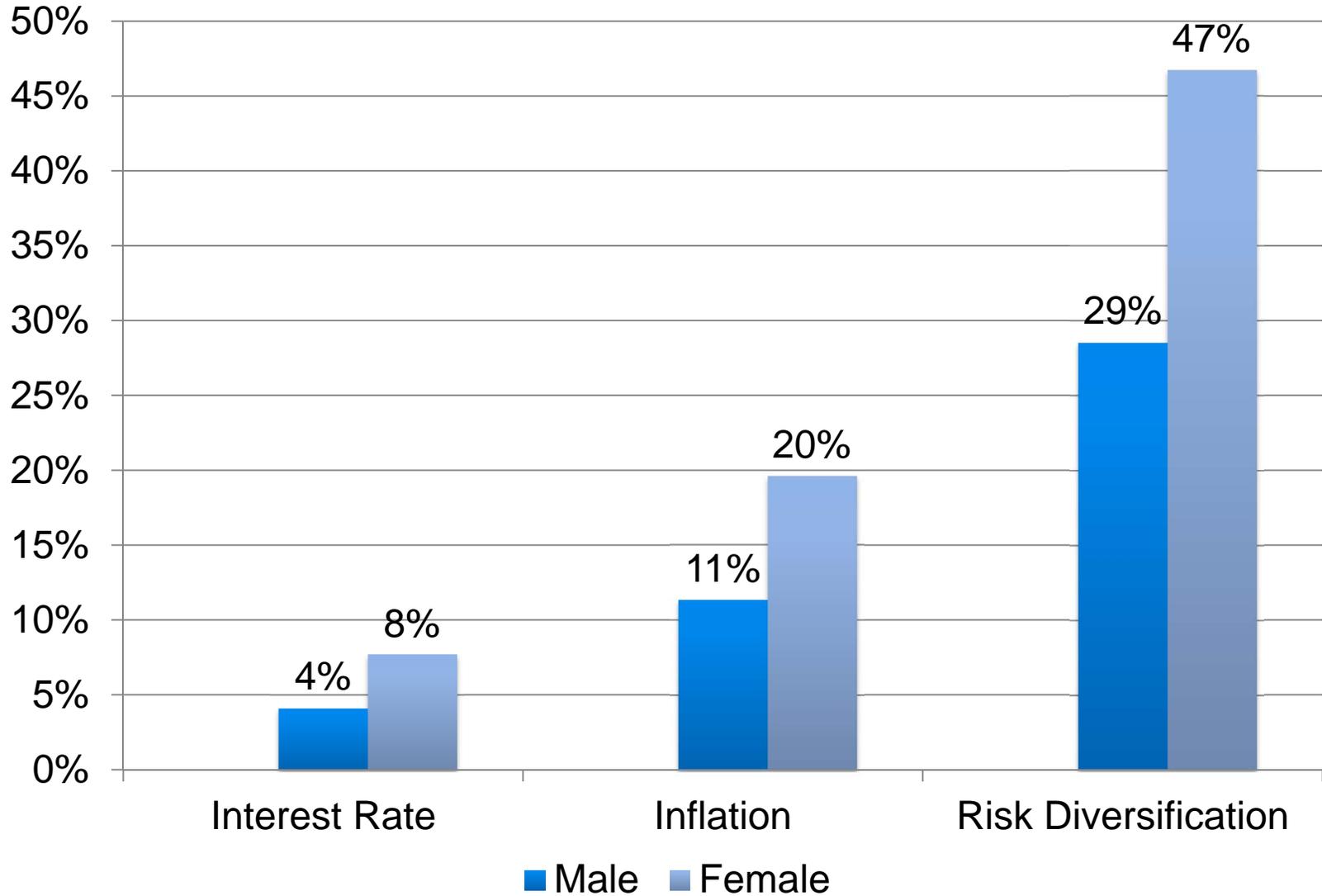
Financial literacy across age groups (2012 NFCS)

The widespread lack of financial literacy

	Total sample	Millennials	Mid-career	Pre-retirees
Interest Q correct	80%	75%	81%	83%
Inflation Q correct	65%	50%	68%	79%
Risk Q correct	54%	44%	56%	62%
All 3 Qs correct	41%	28%	43%	51%

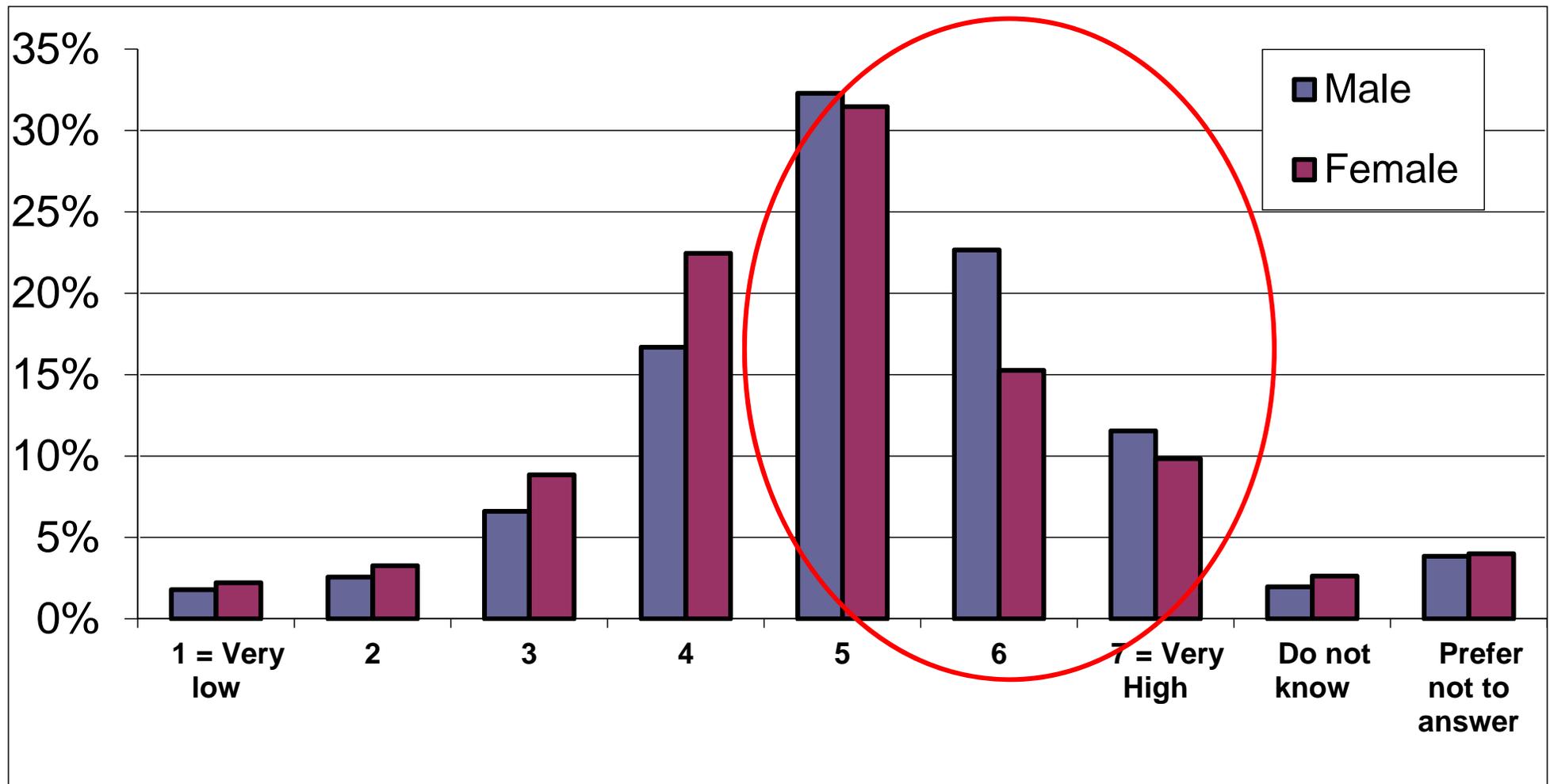
Note: Respondents aged 23 to 61 and employed at the time of the survey. Young people know the least in most countries.

“Do not know” responses by gender (age 23-28, NLSY)



Gender differences in self-reported literacy (TNS data for US - 2009)

On a scale of 1 (very low) to 7 (very high), how would you assess your overall financial knowledge?



FLat World

Strikingly similar patterns across countries

- **Financial illiteracy is widespread in the population**
 - Particularly low among the young
- **Risk diversification is most difficult concept**
 - Prevalence of “do not know” answers
- **Gender difference in financial literacy**
 - Women more likely than men to answer “I do not know” to financial literacy questions

Implications for financial education

What the research suggests

- **Need to improve levels of financial literacy**
 - **Levels of knowledge are low globally**
- **Need for more targeted programs**
 - **One size does not fit all**
- **Women are an ideal group for fin. educ. programs**
- **It will be difficult to engage employees**
 - **They are not aware of their lack of knowledge**

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)

From research to policy and applications

Some words of caution

- **Changing behavior is not optimal for everyone**
 - **Some financial illiteracy can be optimal**
 - **People are very different**

- **What are the “mistakes”?**
 - **Mistake according to whom and in reference to what?**

Scalability: Reaching the population

Venues for financial education

➤ In schools

- Easier to reach the young



➤ In the workplace

- Easier to reach the adults



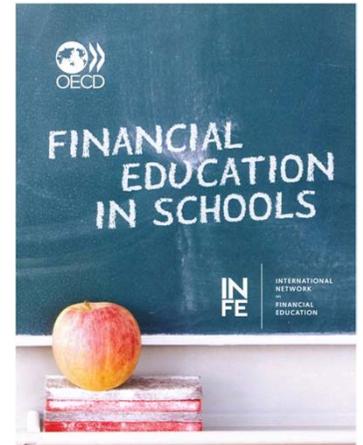
➤ In libraries, local communities, museums

- Where people go to learn

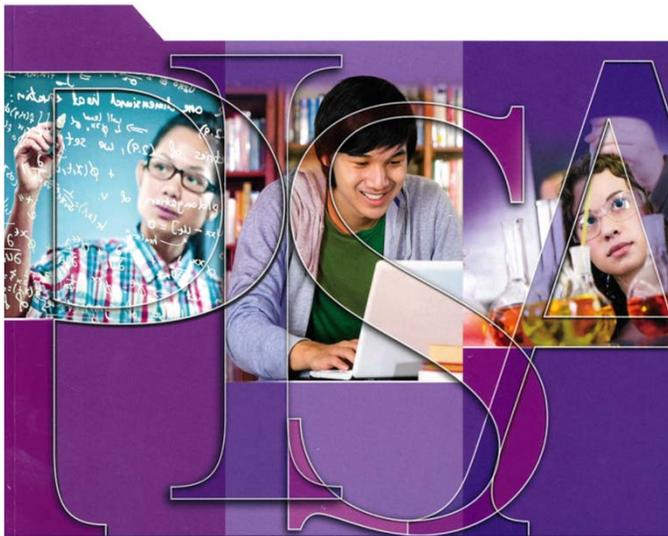


OECD's Programme for International Student Assessment (PISA). Financial literacy added in 2012

**Are students well prepared for future challenges?
Can they analyze, reason and communicate effectively?
Do they have the capacity to continue learning throughout life?**



**PISA 2012 Assessment
and Analytical Framework**
MATHEMATICS, READING, SCIENCE,
PROBLEM SOLVING AND FINANCIAL LITERACY



Every three years the OECD Programme for International Student Assessment (PISA) answers these questions and more. It assesses to what extent students near the end of compulsory education have acquired some of the knowledge and skills essential for *full participation in society*.



PISA 2012 Results: Students and Money

FINANCIAL LITERACY SKILLS
FOR THE 21ST CENTURY

VOLUME VI

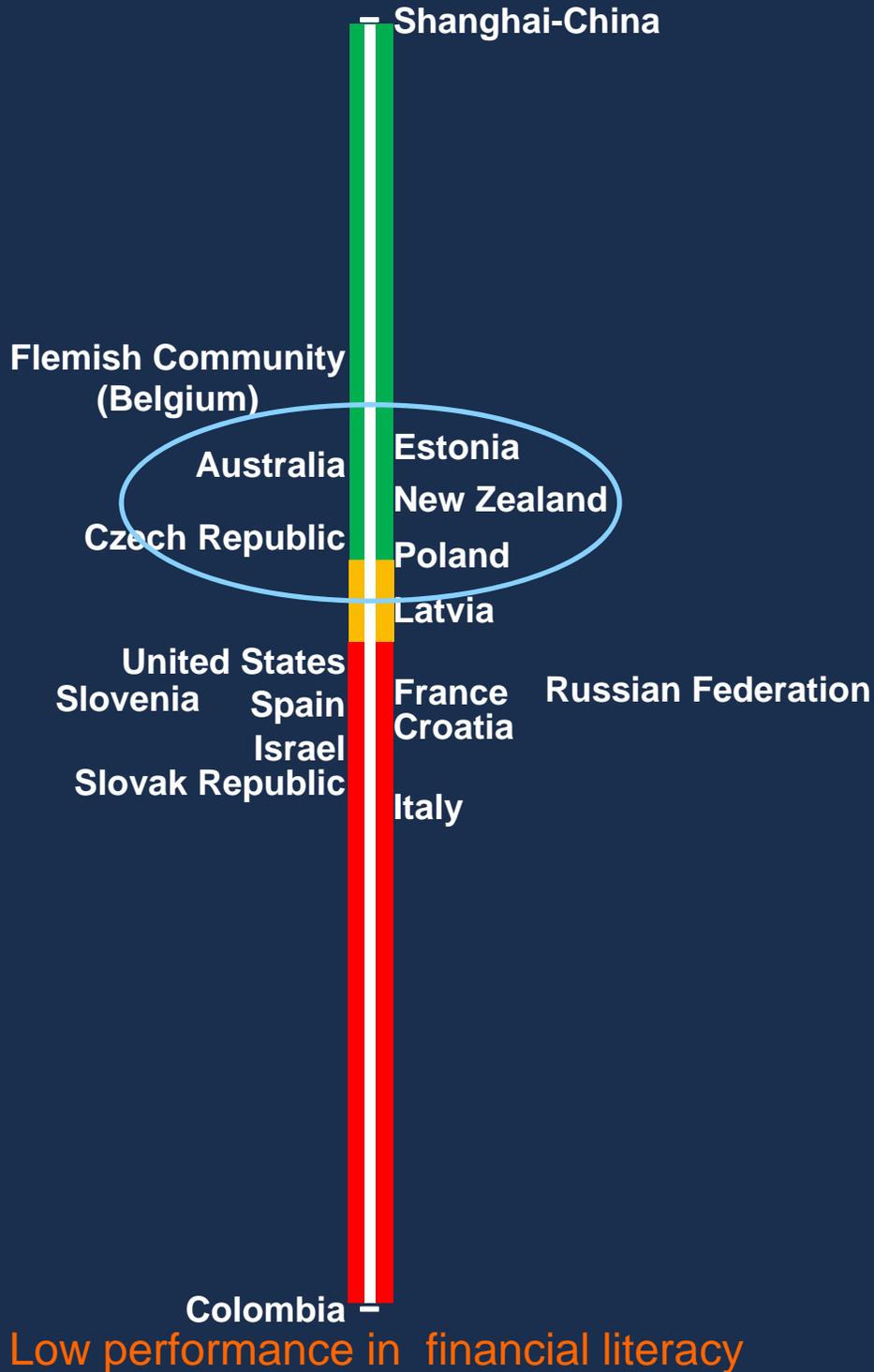


Mean score

Strong performance in financial literacy

Average performance of 15-year-olds in financial literacy

605
595
585
575
565
555
545
535
525
515
505
495
485
475
465
455
445
435
425
415
405
395
385
375



How are younger generations doing?

Findings from the 2012 PISA financial literacy data

- Large differences across countries
- A sizeable proportion of students in many countries scored below the proficiency level
- There are large differences across demographic groups.
- Most of the variation in financial literacy is explained by socio-economic status

New field: Personal Finance (A Quantitative Approach)

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
 - Teaching takes into consideration gender differences in fin literacy
- **It incorporates some macro, accounting, and risk management**
- **Writing a new textbook on personal finance**
 - Joint with a mathematician

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 interest compounding and risk diversification, in a simple story**

Short video about interest compounding



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

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 an Internet 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 hypothetical choices) improved
- While young were targeted, the videos affected all age groups

How to help employees make financial decisions

The Dartmouth Project

- Simplify financial decisions
- Provide information when needed by individuals
- Target specific groups
- Use communication that does not rely on figures and numeracy

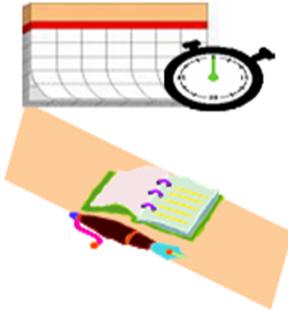


A Planning aid

Together with a marketing professor, I designed a planning aid intended to help Dartmouth College employees enroll in supplementary retirement accounts (SRA)

We have outlined 7 simple steps to help you complete the application.

1. **Select a 30 minute time slot** right now to complete the online contribution to your Supplemental Retirement Account (SRA) during the next week.
2. **3 minutes. Check to see if you have the following materials:** a) worksheet in your benefits packet , and b) the name and social security number of a beneficiary .
3. **Select the amount you want to invest for 2006** (minimum: \$16/month, maximum: \$1,666.67/ month), even if you don't know your take-home pay in your first month. If you want, you can change this amount at a later date. This voluntary contribution is tax-deferred, you will not pay taxes on it until you withdraw the funds.
4. **5 minutes. Select a carrier.** if you do not select a carrier, Dartmouth will invest the non-voluntary portion of your college funds in a Fidelity Freedom Fund, a fund that automatically changes asset allocation as people age.
5. **5 minutes.** Now you are **ready to complete your worksheet.** Complete the worksheet even though you may be unsure of some options. You can change the options in the future.
6. **Take your completed worksheet to a computer** that is available for 20 minutes. If you like, you can use the one in the Human Resources office at 7 Lebanon Street, Suite 203.
7. **15-20 minutes. Log on to Flex Online and complete your online SRA registration** within the 20 assigned minutes. Be sure to click on the investment company (TIAA-CREF, Fidelity, or Calvert) to complete the application. You need to set up your account – otherwise your savings will not reach the carrier.



Fidelity.com



Calvert



FlexOnline
With Award-Winning Fundamentals

A Planning aid

Don't give up! Contact the Benefits Office (6-3588) if for any reason you could not complete the online application.



It takes no time to prepare for your lifetime!

Most people plan on electing a supplemental retirement account, but feel they don't have the time or information right now. We have outlined 7 simple steps to help you complete the election process. It will take between 15 – 30 minutes, from start to finish. It will take less time for you to start to insure your future than it takes you to unload your dishwasher!

Program effectiveness

There was a large increase in savings enrollment within 30 and 60 days of hiring among participants who received the brochure.

	30 days After Hire	60 days After Hire	Number of Observations
Control Group	7.3%	28.9%	210
Planning aid	21.7%	44.7%	166

In their own words: Four videos



Topics discussed:

Hopes for retirement

Why they save

How they save

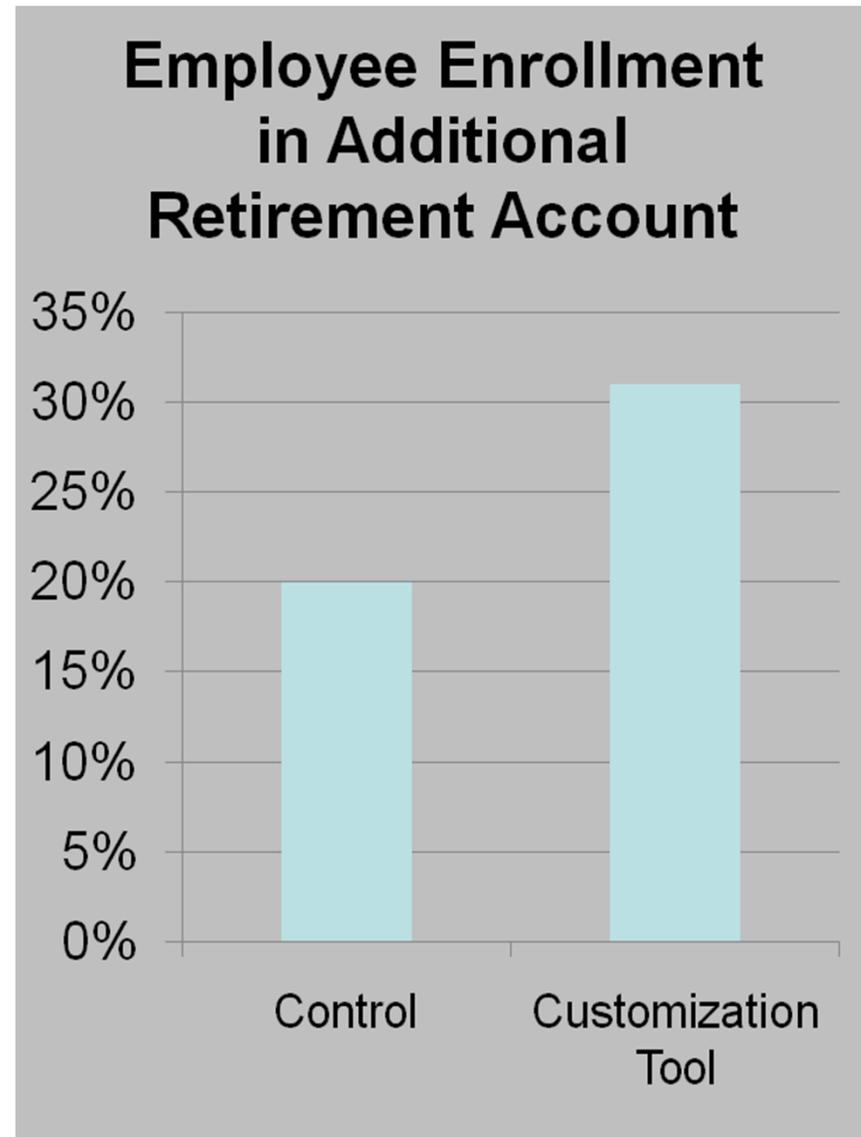
Planning for the future

Their recommendations

Effects of videos

Increase of 56%

Possibility to test because HR did not show videos on some days



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**



 **NYSE**



10

11



The Employer Checklist

Ten key steps to financial fitness, divided into three stages and designed to help employees meet their financial goals.

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Automatic Escalation

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Lifecycle Asset Allocation

Give employees the chance to grow their retirement savings.

[MORE](#)

Did You Know?



Bells were introduced on the NYSE when continuous trading was instituted in the 1870s. Originally a Chinese Gong was

used, but brass bells have been used since the Exchange moved to its current location in 1903. Visit our history page to learn more fascinating facts. [MORE](#)



Ask Our Experts a Question

INTERMEDIATE



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Increase safety and lower administrative costs at the same time. [MORE](#)



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Employee satisfaction is as a competitive advantage. Create a culture of caring for employees. [MORE](#)



Credit Scores

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ADVANCED

Debt Management

Help with debt management can prevent an employee's loss of focus and performance.

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Health and Financial Fitness Assessment

Data enables employers to design an evidence-based benefit plan.

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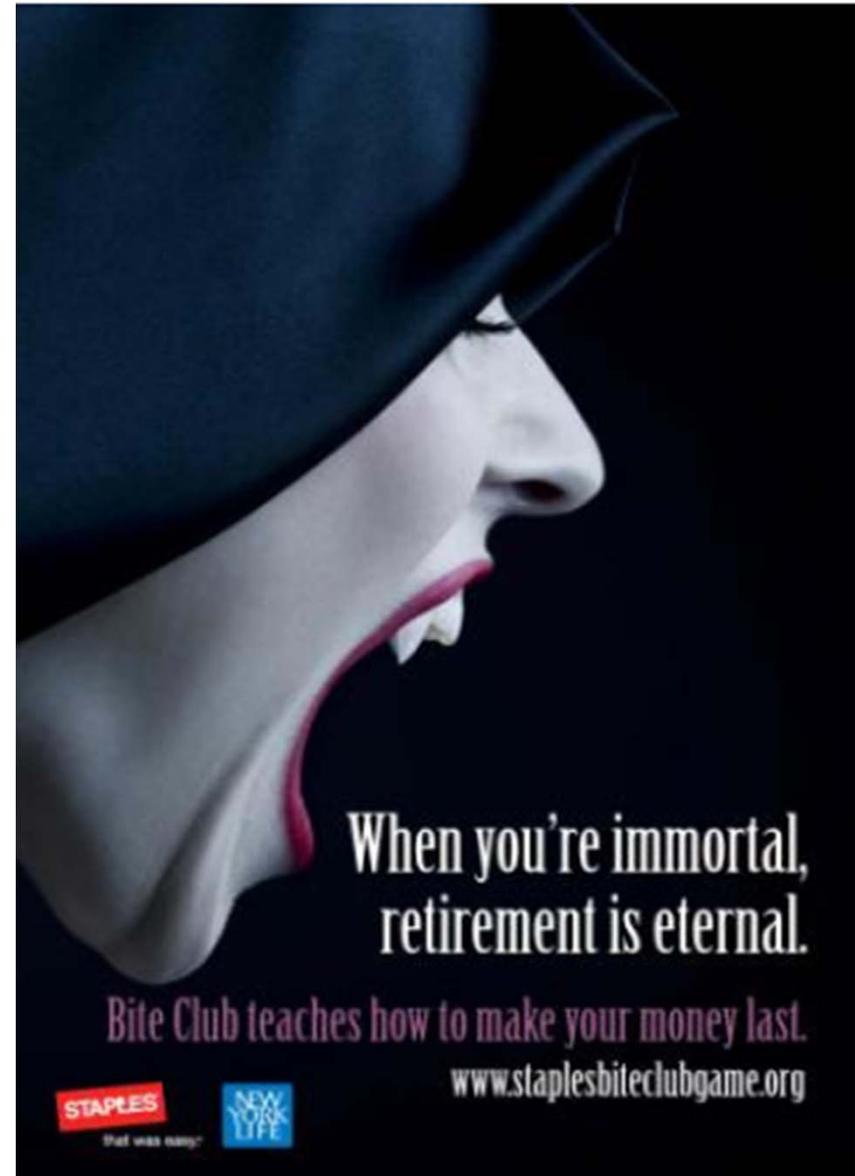
Financial Planning Seminars

Educate your employees about the customized financial plans available to them.

[MORE](#)



Thinking outside the box: Financial literacy games



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: raccogliline 3 e partecipa al concorso!

Buon divertimento!

Premi per iniziare



Le persone che... da un'età di... in occasione di... moneta di...

La media non è elevata... la vostra capacità... la pensione... tutto pensionistico...

100

trading to your wealth

It's my life



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



The importance of research

Research can inform policy makers, regulators and practitioners

1. New Research Committee at the OECD/International Network on Financial Education
2. The Nucleo de Estudos Comportamentais at CVM in Brazil
3. Assessing effectiveness
 - Important to know what works

**Join us at the 2nd OECD/GFLEC Global Policy Research Symposium to Advance Financial Literacy
Paris, November 6, 2014**



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 it (or to grandma!)

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



“If we can really see a problem, which is the first step, we come to the second step: cutting through the complexity to find a solution.”

Bill Gates, Harvard 2007

Contact and further information

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Financial Literacy Seminar Series: <http://business.gwu.edu/flss/>

