Gender Differences in Financial Literacy: Evidence and Implications

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Changing financial landscape

Changes in demographics
- Longer life expectancy

Changes in pension systems
- More individual and private accounts

Changes in financial markets
- Greater complexity
- More opportunities to borrow and in large amounts

Changes in labor markets and education
- Workers change job often, gig economy
- Rising cost of education

Changes in technology
- Rise of fintech
Women and financial decisions

- Unique challenges for women relative to men
  - Longer life expectancies
  - Lower lifetime income
  - Career interruptions due to child rearing

- Specific needs
  - Greater need to plan for old age
  - Different savings needs

- Other characteristics
  - Multiplier effect because women care for others
Some questions

1. How well equipped are women to make financial decisions: How financially literate are they?

2. What explains the gender differences in financial literacy

3. What are the implications for policy and programs?
Measuring financial literacy around the world
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?”

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
Evidence from 15 countries (and more):

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

These 3 questions are now in the 2016 US Survey of Consumer Finances (SCF) and the 2017 Federal Reserve’s Survey of Household Economics and Decisionmaking (SHED)
Distribution of responses across the U.S. population
(2009 National Financial Capability Study)

Distribution of Responses to Financial Literacy Questions (%)

<table>
<thead>
<tr>
<th></th>
<th>Correct</th>
<th>Incorrect</th>
<th>DK</th>
<th>Refuse</th>
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</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>65%</td>
<td>21%</td>
<td>13%</td>
<td>1%</td>
</tr>
<tr>
<td>Inflation</td>
<td>64%</td>
<td>20%</td>
<td>14%</td>
<td>2%</td>
</tr>
<tr>
<td>Risk diversif.</td>
<td>52%</td>
<td>13%</td>
<td>34%</td>
<td>1%</td>
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NB: Only 30% correctly answer all 3 questions; less than half (46%) got the first two questions right.
Distribution of responses across the Dutch population
(2010 Dutch Central Bank Household Survey)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Correct</th>
<th>Incorrect</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>85%</td>
<td>5%</td>
<td>9%</td>
</tr>
<tr>
<td>Inflation</td>
<td>77%</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>Risk diversif.</td>
<td>52%</td>
<td>13%</td>
<td>33%</td>
</tr>
</tbody>
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NB: Only 45% correctly answer all 3 questions; more than half (73%) got the first two questions right.
How much do Canadians know?

Distribution of responses across the Canadian population
(2012 CSA Investor Index Survey)

<table>
<thead>
<tr>
<th>Distribution of Responses to Financial Literacy Questions (%)</th>
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<tr>
<td><strong>Responses</strong></td>
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<td>----------------</td>
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<td>Risk diversif.</td>
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NB: Only 42% correctly answer all 3 questions; A little more than half (58%) got the first two questions right.
- Very robust findings of large gender differences in financial knowledge
- Women are much more likely to say “I do not know”
The S&P Global Financial Literacy Survey is the largest, most comprehensive measure of financial literacy.

- Interviewed more than 150,000 adults age 15+ in 143 countries in 2014.

- The survey provides key information to policy makers, regulators, the private sector, and academics.
The survey covers four topics:

- Numeracy
- Interest compounding
- Inflation
- Risk diversification

*Being financially literate:*
How many can answer 3 out of these 4 topics correctly (a passing grade)
Only 1 in 3 adults worldwide responded correctly to three out of four topics.
In most economies around the world, men have a better understanding of basic financial concepts than women.

Source: Global FinLit Survey
Women are disproportionately more likely than men to respond to a question with “I do not know.”

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<tr>
<th></th>
<th>World</th>
<th>Major advanced economies</th>
<th>Major emerging economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 out of 4 topics correct</td>
<td>35%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Average “don’t know” response rate</td>
<td>16%</td>
<td>59%</td>
<td>51%</td>
</tr>
<tr>
<td>3 out of 4 topics correct</td>
<td>22%</td>
<td>8%</td>
<td>25%</td>
</tr>
<tr>
<td>Average “don’t know” response rate</td>
<td>12%</td>
<td>12%</td>
<td>27%</td>
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</tbody>
</table>
What explains the gender differences?
The gender gap in financial literacy is large and persistent across countries, and there is no evidence that income helps explain it.

Source: S&P Global FinLit Survey
Other determinants

• Education system does not seem to explain it
  • There is a gender difference even in countries with strong education systems and more equal societies (ex: Finland)

• In some countries gender differences are present very early in life
  • According to PISA data, gender differences are present among 15 year old students in Italy

• How about confidence?
  • Looking closer at the “do not know” responses
Other determinants: Confidence

- Work with data from the Dutch Central Bank Household Survey
- Ask the Big Three questions in 2 waves (w1 and w2) with and without the “do not know” option
- We also asked how confident respondents were about their answer
- We find that responses are a mix of knowledge and confidence
Taking away the “do not know” option

Significant improvement in the probability to give a correct answer for both men and women

Interest rate question
Taking away the “do not know” option

Inflation question

- Correct
- Incorrect
- DK (refuse)

W1 W2 W1 W2

Men Women
Taking away the “do not know” option

Risk diversification question

- Men: W1, W2
- Women: W1, W2

- Correct
- Incorrect
- DK (refuse)
Gender differences and confidence

Confidence conditional on being correct, incorrect, and “do not know.”
Risk diversification question

Confidence cond. Correct

Confidence cond. Incorrect

Confidence cond. Do not know
Fearless Girl!
Women, confidence, and financial literacy

Tabea Bucher-Koenen (MEA)
Rob Alessie (Groningen)
Annamaria Lusardi (GWSB and GFLEC)
Maarten van Rooij (DNB)
Individuals/women who are financially literate are also more likely to:

- Cope with emergency expenses/less likely to be financially fragile
  - Can come up with $2,000 in 30 days

- Manage their debt well
  - Less likely to have “too much debt.”

- Have long-term savings:
  - More likely to plan for retirement
  - More likely to have financial investments, aside from retirement accounts.
Financial fragility – GFLEC’s latest research

New research released in April 2018

Measuring financial fragility:

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
Financial literacy and wealth inequality

- Consider a life cycle model of saving with financial literacy

- Financial literacy affects the return on savings

- Financial literacy is an important determinant of wealth and wealth inequality

- Important finding: 30-40% of U.S. retirement wealth inequality can be attributed to difference in financial knowledge
Implications for policies and programs
What we learn from the data

- Need to improve levels of financial literacy
  - Levels of knowledge are critically low globally
  - Even in countries with high income and well developed markets

- Gender difference in finlit in most countries
  - Need programs targeted to women
  - Role of confidence

- Some topics are particularly hard
  - Risk and risk diversification
Given widespread financial illiteracy

Need for large and scalable programs

• Financial education in school
• Financial education in the workplace
• Financial education in the community (libraries, museums, other places where people go to learn)
Personal finance courses for college students

- Use a rigorous quantitative approach
- Cover the basics, in particular risk and risk diversification
- Cover personal finance topics, such as saving and investing, retirement planning, insurance, etc.
- Material available for free on our website
- Pay attention to gender differences

Our initiative: Everybody can help promote financial literacy
We designed a program that targeted individuals who wanted to save but were limited by a lack of knowledge.

The aim of the program was to:

- Simplify financial decisions
- Provide information when needed by individuals
- Target specific groups: women and low income workers
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.
In their own words: four videos

Topics discussed:
Hopes for retirement
Why they save
How they save
Planning for the future
Their recommendations
Results from the Dartmouth project

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

<table>
<thead>
<tr>
<th></th>
<th>30 days After Hire</th>
<th>60 days After Hire</th>
<th>Number of Observations</th>
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<tbody>
<tr>
<td>Control Group</td>
<td>7.3%</td>
<td>28.9%</td>
<td>210</td>
</tr>
<tr>
<td>Planning aid</td>
<td>21.7%</td>
<td>44.7%</td>
<td>166</td>
</tr>
</tbody>
</table>

- Videos generated an increase in enrollment of 56%.
Financial literacy is like reading and writing

- It is an essential skill for the 21st century
- We need to empower women so they can be financially secure