Financial fragility is the ability to cope with emergency expenses (such as a car or house repair, medical bill, or small legal expense) in a short timeframe.

Background:

- This measure was piloted in the 2009 TNS Global Economic Crisis Study.
- In 2009 almost 50% of U.S. households were classified as financially fragile.
Research objectives

- Investigate financial fragility among American households.
- Identify vulnerable subgroups of the population.
- Analyze the characteristics that make these subgroups financially fragile.
- Characterize the underlying factors of financial fragility.
- Investigate long-term implications.
Contribution

- Empirical study using two datasets:
  - 2015 National Financial Capability Study
  - 2015 Survey of Household Economics and Decisionmaking

- Investigate financial fragility in recovering economy (continuation of the 2011 study using the same financial fragility measure)

- Contribute to the existing literature by pursuing a comprehensive approach. Most relevant literature focuses on precautionary savings, asset levels, and income. This study adds debt and debt management.

- In-depth understanding of financial fragility and coping methods by conducting qualitative focus group research.
A. A **broad cross-section** of the population is financially fragile.
   - Not only a problem of the young, low-income, and low-education.
   - Still prevalent in a recovering economy, not only a result of the recession.

B. Financial fragility is **multi-faceted**; underlying factors are low asset levels, high debt, and low financial literacy.
   - Debt and debt management, in addition to asset levels, affect ability to manage short-term shocks.
   - This measure is a good proxy for the resources people have and can access.

C. Financial fragility has short- and **long-term consequences**.
   - Short-term financial setbacks in the face of an emergency.
   - Financial fragility is associated with lower likelihood of planning for retirement.
Data and Financial Fragility Measure
2015 National Financial Capability Study – NFCS (1)

- Online nationally representative sample of more than 25,000 respondents
- Commissioned by FINRA Investor Education Foundation
- Offers unique information on financial literacy and capability
- It started in 2009, financial fragility question asked in 2\textsuperscript{nd} wave in 2012 and 3\textsuperscript{rd} wave in 2015
- Main source of data used for regression analysis (because of its sample size, and design of financial literacy and financial fragility questions).
Measuring financial fragility:

How confident are you that you could come up with $2,000 if an unexpected need arose within the next month?

Confidence relates to the way that individuals assess their financial situation and their financial planning behavior.

$2,000 approximates the amount needed to cover a major expense, such as a car or home repair, a large medical payment, or a legal expense.

A month provides an ample timeframe for respondents to access all available resources (compared to immediate accessibility).
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

Financially fragile
• Online survey of more than 5,000 respondents
• Designed by the Federal Reserve Board
• It has been conducted annually since 2013
• The data provide a snapshot of financial situations and expectations of households
• Ability to cope with shocks asked in all four waves
• The SHED data substantiate the results obtained with the NFCS, and provide more insight into the debt and asset composition, and credit and financial behavior of individuals.
Suppose that you have an emergency expense that costs $400. Based on your current financial situation how would you pay for this expense?

- Put it on my credit card and pay it off in full at the next statement
- With the money currently in my checking/savings account or with cash
- Put it on my credit card and pay it off over time
- Using money from a bank loan or line of credit
- By borrowing from a friend or family member
- Using a payday loan, deposit advance, or overdraft
- By selling something
- I wouldn’t be able to pay for the expense right now
- Other

Financially fragile
Goal:

• To complement the quantitative analysis

• To gain a deeper understanding of financial fragility: The individuals’ perception of financial fragility and their ways of coping with an emergency expense.

Set-up:

• The screening criteria for respondents included:
  
  • Financially fragile: “I could probably not come up with $2,000” or “I am certain I could not come up with $2,000”
  
  • Have primary or shared responsibility for bill paying in their household
  
  • Represent a mix of races/ethnicities in each group
  
  • Demographic oversamples: women, young people and blue-collar workers.
  
  • Two focus groups were conducted in each of three cities: Austin, Baltimore, and Cincinnati. Each focus group had 12 participants.

• Conducted in May and June 2017
Empirical Findings -

(A) A broad cross-section of the population is financially fragile
Financial fragility in the U.S.

Response to financial fragility question ($2,000/30 days)

- **I am certain I could come up with the full $2,000**: 35.7%
- **I could probably come up with $2,000**: 20%
- **I could probably not come up with $2,000**: 15%
- **I am certain I could not come up with $2,000**: 5%
- **Don't know/Prefer not to say**: 5%

**Source**: NFCS 2015

Coping sources used by sample of respondents

- **Credit card debt paid immediately**: 41%
- **Cash/Savings or checking account**: 30%
- **Other**: 15%
- **Credit card debt paid over time**: 10%
- **Borrow from bank**: 5%
- **Borrow within network**: 5%
- **Alternative financial services**: 5%
- **Sell something**: 5%
- **Unable to pay**: 5%

**Source**: SHED 2015
Financial fragility across age

- Equal distribution across age
- Fragility is slightly higher in the middle age group of 40- to 49-year-olds
- Middle-aged individuals are at the peak of financial obligations such as child care costs, student loan repayments, and mortgage payments.

Source: NFCS 2015
Financial fragility across household income

- Financial fragility falls with income but is still high for the middle-income households.
- Nearly 30% of middle-income and 20% of high-income households are financially fragile.
- This is notable, especially when comparing the relative magnitude of the emergency expense ($2,000) to a household’s income level.

Source: NFCS 2015
Financial fragility across education levels

There is a substantial educational divide between those who attend college but do not receive a degree and those who receive at least a Bachelor’s degree.

Source: NFCS 2015
Financial fragility across gender

42% of women versus 30% of men are financially fragile.

Source: NFCS 2015
Regression Analysis

The full regression model is

\[ F = \beta_0 + \beta_D' D + \beta_W' W + \beta_L L + \beta_S' S + \varepsilon \]

where

F: Financial fragility (dummy variable)

D: Demographic and family characteristics
  - Age, gender, race or ethnicity, education, married, children

W: Job variables
  - Income brackets, employment status

L: Financial literacy
  - First three questions correct (interest, inflation, risk)

S: Financial distress variables
  - Income shock (large unexpected drop in income in the previous 12 months)
  - Outstanding medical bills (unpaid medical bills that are past due)

- Model 1 includes variables D and W; Model 2 includes D, W, and L; Model 3 is the full model
- Sample restriction:
  - Non-retired individuals age 25-60
  - “Do not know” and “refuse to answer” responses for the fragility question are excluded
<table>
<thead>
<tr>
<th>Age (BL: 25-29 years)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 30-34</td>
<td>0.024</td>
<td>0.026*</td>
<td>0.022</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Age 35-39</td>
<td>0.030**</td>
<td>0.034**</td>
<td>0.033**</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Age 40-44</td>
<td>0.059***</td>
<td>0.067***</td>
<td>0.068***</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Age 45-49</td>
<td>0.058***</td>
<td>0.068***</td>
<td>0.068***</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Age 50-54</td>
<td>0.011</td>
<td>0.022</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Age 55-60</td>
<td>-0.008</td>
<td>0.003</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.015)</td>
</tr>
</tbody>
</table>

Demographic variables: Yes, Yes, Yes
Job variables: Yes, Yes, Yes
Financial literacy: -, Yes, Yes
Financial distress: -, -, Yes
Observations: 16,174, 16,174, 16,174
R²: 0.247, 0.250, 0.280

Source: NFCS 2015, 25- to 60-year-olds
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Fragility is significantly higher for the middle-aged cohort compared to the youngest age group.
## NFCS subsample regressions – Age (1)

<table>
<thead>
<tr>
<th></th>
<th>Age 25-39</th>
<th>Age 40-49</th>
<th>Age 50-60</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Married</strong></td>
<td>-0.054*** (0.015)</td>
<td>-0.009 (0.019)</td>
<td>0.023 (0.016)</td>
</tr>
<tr>
<td>Financially dependent children</td>
<td>0.003 (0.006)</td>
<td>0.016** (0.007)</td>
<td>0.005 (0.007)</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>7,219</td>
<td>4,083</td>
<td>4,872</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.224</td>
<td>0.328</td>
<td>0.344</td>
</tr>
</tbody>
</table>

Middle-aged individuals experience fixed family budgets:
- child care costs
- student loan repayments
- mortgage payments

<table>
<thead>
<tr>
<th>Chi2 – Test of equal coefficients</th>
<th>Age 25-39</th>
<th>Age 40-49</th>
<th>Age 50-60</th>
<th>chi2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Married</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y Y Y</td>
<td>11.88</td>
<td>3.38</td>
<td>11.71</td>
<td>1.64</td>
<td>0.0026</td>
</tr>
<tr>
<td>Y Y Y</td>
<td>0.003</td>
<td>0.016**</td>
<td>0.005</td>
<td></td>
<td>0.0661</td>
</tr>
<tr>
<td>Y Y Y</td>
<td>2.41</td>
<td>2.17</td>
<td>0.03</td>
<td>1.41</td>
<td>0.3003</td>
</tr>
<tr>
<td>Financially dependent children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y Y Y</td>
<td>3.38</td>
<td>2.17</td>
<td>0.03</td>
<td></td>
<td>0.1411</td>
</tr>
<tr>
<td>Y Y Y</td>
<td>0.003</td>
<td>0.1411</td>
<td>0.8637</td>
<td></td>
<td>0.8637</td>
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<tr>
<td>Y Y Y</td>
<td>1.41</td>
<td>0.2350</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: NFCS 2015
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1
### NFCS subsample regressions – Age (2)

<table>
<thead>
<tr>
<th></th>
<th>Age 25-39</th>
<th>Age 40-49</th>
<th>Age 50-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed full time, part time or self employed</td>
<td>-0.100*** (0.017)</td>
<td>-0.101*** (0.021)</td>
<td>-0.021 (0.018)</td>
</tr>
<tr>
<td>Income shock</td>
<td>0.075*** (0.015)</td>
<td>0.079*** (0.020)</td>
<td>0.107*** (0.018)</td>
</tr>
<tr>
<td>Outstanding medical bills</td>
<td>0.113*** (0.016)</td>
<td>0.176*** (0.020)</td>
<td>0.229*** (0.019)</td>
</tr>
<tr>
<td>Controls</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>7,219</td>
<td>4,083</td>
<td>4,872</td>
</tr>
<tr>
<td>R²</td>
<td>0.224</td>
<td>0.328</td>
<td>0.344</td>
</tr>
</tbody>
</table>

**Source:** NFCS 2015  
Robust standard errors in parentheses.  
*** p<0.01, ** p<0.05, * p<0.1

<table>
<thead>
<tr>
<th>Chi2 – Test of equal coefficients</th>
<th>Age 25-39</th>
<th>Age 40-49</th>
<th>Age 50-60</th>
<th>chi2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed full time, part time or self employed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>12.57</td>
<td>0.0019</td>
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<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>0.00</td>
<td>0.9748</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>10.37</td>
<td>0.0013</td>
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<tr>
<td>Income shock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>2.00</td>
<td>0.3686</td>
</tr>
<tr>
<td>Outstanding medical bills</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>22.64</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>6.37</td>
<td>0.0116</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>22.09</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>3.72</td>
<td>0.0538</td>
</tr>
</tbody>
</table>
### NFCS regressions – Income

<table>
<thead>
<tr>
<th>Income (BL: less than $15,000)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income - $15-25K</td>
<td>-0.120*** (0.019)</td>
<td>-0.118*** (0.019)</td>
<td>-0.127*** (0.019)</td>
</tr>
<tr>
<td>Income - $25-35K</td>
<td>-0.181*** (0.020)</td>
<td>-0.179*** (0.020)</td>
<td>-0.179*** (0.020)</td>
</tr>
<tr>
<td>Income - $35-50K</td>
<td>-0.289*** (0.018)</td>
<td>-0.284*** (0.018)</td>
<td>-0.270*** (0.018)</td>
</tr>
<tr>
<td>Income - $50-75K</td>
<td>-0.430*** (0.017)</td>
<td>-0.424*** (0.017)</td>
<td>-0.403*** (0.018)</td>
</tr>
<tr>
<td>Income - $75-100K</td>
<td>-0.504*** (0.019)</td>
<td>-0.497*** (0.019)</td>
<td>-0.470*** (0.019)</td>
</tr>
<tr>
<td>Income - $100-150K</td>
<td>-0.595*** (0.018)</td>
<td>-0.580*** (0.018)</td>
<td>-0.537*** (0.018)</td>
</tr>
<tr>
<td>Income - $150K+</td>
<td>-0.612*** (0.019)</td>
<td>-0.595*** (0.019)</td>
<td>-0.542*** (0.020)</td>
</tr>
</tbody>
</table>

Demographic variables | Yes | Yes | Yes
Job variables | Yes | Yes | Yes
Financial literacy | -  | Yes | Yes
Financial distress | -  | -   | Yes

- Variable with the largest effect on financial fragility in terms of the magnitude of the coefficients.
- Nearly 30% of middle-income and 20% of high-income households are financially fragile.

Source: NFCS 2015, 25- to 60-year-olds
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1
NFCS subsample regressions – Income

<table>
<thead>
<tr>
<th></th>
<th>Income &lt;$35K</th>
<th>Income $35-75K</th>
<th>Income &gt;$75K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed full time, part time or self employed</td>
<td>-0.138*** (0.016)</td>
<td>-0.094*** (0.018)</td>
<td>-0.031* (0.019)</td>
</tr>
<tr>
<td>Income shock</td>
<td>0.065*** (0.017)</td>
<td>0.123*** (0.018)</td>
<td>0.074*** (0.018)</td>
</tr>
<tr>
<td>Outstanding medical bills</td>
<td>0.116*** (0.017)</td>
<td>0.206*** (0.018)</td>
<td>0.136*** (0.020)</td>
</tr>
</tbody>
</table>

Controls Yes Yes Yes
Observations 4,496 5,897 5,781
R² 0.089 0.111 0.084

Source: NFCS 2015
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Chi2 – Test of equal coefficients

<table>
<thead>
<tr>
<th></th>
<th>Income &lt;$35K</th>
<th>Income $35-75K</th>
<th>Income &gt;$75K</th>
<th>chi2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed full time, part time or self employed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td><strong>19.01</strong></td>
<td><strong>0.0001</strong></td>
</tr>
<tr>
<td>Income shock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td><strong>18.81</strong></td>
<td><strong>0.0000</strong></td>
</tr>
<tr>
<td>Outstanding medical bills</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td><strong>13.80</strong></td>
<td><strong>0.0010</strong></td>
</tr>
</tbody>
</table>
### NFCS regressions – Education

<table>
<thead>
<tr>
<th>Education (BL: is “High school or less”)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some college, no degree</td>
<td>-0.032*** (0.011)</td>
<td>-0.024** (0.011)</td>
<td>-0.025** (0.011)</td>
</tr>
<tr>
<td>Bachelors’ degree</td>
<td>-0.094*** (0.012)</td>
<td>-0.079*** (0.012)</td>
<td>-0.071*** (0.012)</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>-0.099*** (0.013)</td>
<td>-0.080*** (0.013)</td>
<td>-0.073*** (0.013)</td>
</tr>
</tbody>
</table>

Demographic variables: Yes, Yes, Yes
Job variables: Yes, Yes, Yes
Financial literacy: -, Yes, Yes
Financial distress: -, -, Yes
Observations: 16,174, 16,174, 16,174
R²: 0.247, 0.250, 0.280

Source: NFCS 2015, 25- to 60-year-olds
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Educational divide:**

- **b[some college] – b[bachelor]** = 0
  - F (1, 16144) = 22.13
  - P-value = 0.0000

- **b[bachelor] – b[post-grad]** = 0
  - F (1, 16144) = 0.06
  - P-value = 0.8066

- Significantly lower likelihood of being financially fragile with increasing education.
- Effect is highly significant even after controlling for income.
- Implying that there are components of education that influence financial fragility beyond the effect of income (skill to manage finances and engage with markets, flexibility to change jobs).
### NFCS subsample regressions – Education

<table>
<thead>
<tr>
<th></th>
<th>High school or less</th>
<th>Some college, no degree</th>
<th>Bachelor’s degree</th>
<th>Post-graduate degree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial literacy:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First three questions correct (interest, inflation, risk)</td>
<td>-0.069***</td>
<td>-0.044***</td>
<td>-0.025*</td>
<td>-0.025</td>
</tr>
<tr>
<td></td>
<td>(0.023)</td>
<td>(0.014)</td>
<td>(0.015)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Controls</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>3,541</td>
<td>6,109</td>
<td>4,179</td>
<td>2,345</td>
</tr>
<tr>
<td>R²</td>
<td>0.234</td>
<td>0.261</td>
<td>0.206</td>
<td>0.190</td>
</tr>
</tbody>
</table>

Source: NFCS 2015

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

**Chi2 – Test of equal coefficients**

<table>
<thead>
<tr>
<th></th>
<th>High school or less</th>
<th>Some college, no degree</th>
<th>Bachelor’s degree</th>
<th>Post-graduate degree</th>
<th>chi2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First three questions correct (interest, inflation, risk)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>2.92</td>
<td>0.4038</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>0.4384</td>
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<td>Y</td>
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<td>Y</td>
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<td>0.00</td>
<td>0.9767</td>
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<tr>
<td></td>
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<td>Y</td>
<td>Y</td>
<td>2.10</td>
<td>0.1475</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>2.02</td>
<td>0.1549</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>0.88</td>
<td>0.3469</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>0.82</td>
<td>0.3657</td>
</tr>
</tbody>
</table>

- There is an educational divide showing lower statistical significance for the financial literacy coefficient with higher educational attainment.
### NFCS regressions – Gender

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
<td>0.064***</td>
<td>0.056***</td>
<td>0.053***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.008)</td>
<td>(0.008)</td>
</tr>
<tr>
<td><strong>Demographic variables</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Job variables</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Financial literacy</strong></td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Financial distress</strong></td>
<td>-</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>16,174</td>
<td>16,174</td>
<td>16,174</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.247</td>
<td>0.250</td>
<td>0.280</td>
</tr>
</tbody>
</table>

Source: NFCS 2015, 25- to 60-year-olds

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

- Women are significantly more likely to be financially fragile than men (all other characteristics held constant).
- Significant gender difference seen in all subsample regressions.
- Note: Question asks about the confidence of the respondent to be able to cope with a $2,000 shock.
# NFCS subsample regressions – Gender

<table>
<thead>
<tr>
<th>Household Characteristics:</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>-0.049***</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Financially dependent children</td>
<td>0.000</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.006)</td>
</tr>
</tbody>
</table>

| Financial literacy:         |                 |                |
| First three questions correct (interest, inflation, risk) | -0.070***       | -0.023*        |
|                             | (0.012)         | (0.012)        |

| Controls                    | Yes             | Yes            |
| R²                          | 0.284           | 0.258          |

| Observations                | 8,960           | 7,214          |

Chi2 – Test of equal coefficients

<table>
<thead>
<tr>
<th>Chi2 – Test of equal coefficients</th>
<th>Female</th>
<th>Male</th>
<th>chi2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>Y</td>
<td>Y</td>
<td>10.02</td>
<td>0.0015</td>
</tr>
<tr>
<td>Financially dependent children</td>
<td>Y</td>
<td>Y</td>
<td>0.09</td>
<td>0.7657</td>
</tr>
<tr>
<td>First three questions correct (interest, inflation, risk)</td>
<td>Y</td>
<td>Y</td>
<td>7.50</td>
<td>0.0062</td>
</tr>
</tbody>
</table>

Source: NFCS 2015
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1
Empirical Findings -

(B) Financial fragility is multi-faceted
Data from the 2015 NFCS, the 2015 SHED, and observations from focus groups show that financial fragility can be attributed to three factors:
### NFCS regressions – Financial literacy

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial literacy</td>
<td></td>
<td>-0.063***</td>
<td>-0.041***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.009)</td>
<td>(0.009)</td>
</tr>
<tr>
<td>Demographic variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Job variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Financial distress</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
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</tr>
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<td>0.280</td>
</tr>
</tbody>
</table>

Source: NFCS 2015, 25- to 60-year-olds

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

- People who are financially literate are more than 4 percentage points less likely to be financially fragile.
- This effect of financial literacy is independent of the effect that overall educational attainment has on fragility.
- Financial literacy is also discussed in focus group interviews, as the need for financial education and that participants do not seek financial advice because it is not tailored to their needs.
NFCS factor analysis – Lack of assets and indebtedness

Include observable variables that proxy for financial fragility.

Two main factors explain close to 100% of the total variance observed in the variables.

Financial fragility is correlated with both factors.

Fragility behaves similar to lack of precautionary savings.

Indicators for too much debt:
- High-cost borrowing
- Having student loans
- Perceived over-indebtedness
- Dealing with unpaid bills

Indicators for lack of assets:
- Lack of precautionary savings
- Lack of bank account and credit card
- Lack of assets such as house and retirement plan
- Lack of health insurance
We see a substantial role played by asset levels in explaining the incidence of financial fragility.
Indebtedness plays a complementary role to asset levels in explaining financial fragility. Thus, we see that fragility can be a consequence of not only too few assets but also too much debt.
Focus Groups -

(B) Financial fragility is multi-faceted
Financially fragile respondents in the focus groups represented a wide variety of employment income profiles (part-time vs. full-time, single earner vs. dual-income households, salaried vs. hourly positions, seasonal vs. continuous employment).

**Income characteristics:**

- Multiple low-paying, part-time jobs as opposed to doing stable full-time work.
- Others had full-time but seasonal or hourly employment, often supplemented by additional side jobs.
- Variability in income and employment. Low and non-guaranteed income aligns with uncertainty about capacity to make ends meet.
- In addition to employment, some households receive various forms of public assistance (disability income, SNAP), rental/sublet income, or child support payments.
Expenses:

- Asked to list their typical expense categories:
  - Rent or mortgage payments largest part of monthly paycheck (50% of income).
  - Besides housing respondents also mentioned auto-related expenses, health insurance costs, and child care costs.
  - Caregiving for elders and children (especially in female focus group).

- Spending on potentially avoidable expenses (such as cable TV) to maintain a sense of status.
  - “I love cars. I have four cars.”
  - “I have three dogs that have health insurance.”
  - “We could all make cutbacks, I could save $1,500 a year by giving up cable, but I wouldn’t want to.”

- Credit card debt is a large burden on the balance sheet.
  - “I’ve had the same amount of money owed on one card for 5 years. That thing is going to follow me until I get a big raise.”
  - “I had 9 credit cards by the time I was 23 and I was $18,000 in debt. It took me 7 years to get out.”
Making ends meet:

- Overall, respondents appeared to be engaged in a constant balancing act to make ends meet.
- Majority attributed their financial difficulties to too many expenses, rather than lack of income.
- In general, respondents seemed to think they could manage their “normal” expenses, but did not appear to plan for “unexpected” expenses (which occur fairly frequently).
  - “I had to replace the A/C in my house, so I cashed out what little money I had in my 401(k).”
- There was a shared perception that costs-of-living continue to rise, but incomes are not increasing.
- A common strategy for making ends meet was prioritizing which bills to pay and when to pay them. Highest priority was given to rent and mortgage payments.
- People reported being able to cut down on expenses such as cable, eating out or shopping when needed.
- Respondents seemed to be more willing to cut back on food expenses as one way to make ends meet.
Overall, working and borrowing were the most common strategies for covering unexpected expenses (asked about how to cope with $2,000 within the next month).

- Increase income by working longer or taking on more jobs
- Borrowing from a network of family and friends
- Loans from various sources including from 401(k) accounts, car title loans
- Using credit card debt
- Withdrawal from retirement accounts
Coping mechanisms of the financially fragile – 2015 SHED

Note: In this graph, we only look at the coping mechanisms of those who are financially fragile.

Source: SHED 2015
Q. Based on your current financial situation, what is the largest emergency expense that you could pay right now using cash or money in your checking/savings account?

- A large proportion of people who cannot even come up with $100 immediately.
- Some report being able to come up with more than $400 despite earlier saying that they would not use cash or their savings accounts to cope with a $400 expense.
Financially fragile respondents found it difficult to save for a number of reasons.

- Desire to save, but not able because there are too many (unforeseen) expenses they need to take care of first.

- No desire to save (focus on the short-term):
  - “I want to enjoy. I want to go out at least once a week. Deal with the consequences later. I call that the Future Me problem.”
  - “You can’t live your life expecting something terrible to happen. You have to live your life.”

- Saving for the long term (401(k)), but not emergencies (event is not foreseen).

- Respondents tended to rationalize spending as “rewards” that they deserve for their hard work (mental break from struggling with financial bills and working multiple jobs even when this includes skipping a bill).

- What they would do with a windfall of $1,000 or $100:
  - Most respondents tended to divide the money between luxuries and necessities.
  - Smaller amount mainly used for short-term spending as a reward for themselves.

- Few make a budget (difficult because of variability of income).
Empirical Findings -

(C) Financial fragility has long-term consequences
The full regression model is

\[ R = \beta_0 + \beta_F F + \beta_D' D + \beta_W' W + \beta_L L + \beta_S' S + \vartheta \]

where

- **R**: Retirement planning (dummy variable = 1 if tried to figure out how much to save for retirement)
- **F**: Financial fragility (dummy variable)
- **D**: Demographic and family characteristics
  - Age, gender, race or ethnicity, education, married, children
- **W**: Job variables
  - Income brackets, employment status
- **L**: Financial literacy
  - First three questions correct (interest, inflation, risk)
- **S**: Financial distress variables
  - Income shock (large unexpected drop in income in the previous 12 months)
  - Outstanding medical bills (unpaid medical bills that are past due)
## NFCS regressions – Retirement planning

<table>
<thead>
<tr>
<th>Model</th>
<th>Financially fragile</th>
<th>Financially literate people are more likely to plan for their retirement.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Financially fragile</td>
<td>-0.175*** (0.011)</td>
</tr>
<tr>
<td></td>
<td>Education (BL: High school or less):</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some college, no degree</td>
<td>0.063*** (0.011)</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s degree</td>
<td>0.111*** (0.013)</td>
</tr>
<tr>
<td></td>
<td>Post-grad degree</td>
<td>0.104*** (0.016)</td>
</tr>
<tr>
<td></td>
<td>Financial literacy</td>
<td>0.102*** (0.010)</td>
</tr>
<tr>
<td>Demographic variables</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Job variables</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Financial literacy</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Financial distress</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>16,107</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.181</td>
<td></td>
</tr>
</tbody>
</table>

Reported significance levels:

- *** p<0.01
- ** p<0.05
- * p<0.1

Source: NFCS 2015, 25- to 60-year-olds

Robust standard errors in parentheses.
Implications for retirement planning

• The oldest age group (55-60 years) is most likely to plan for retirement relative to the youngest cohort (25-29 years).

• However, there is a significant drop in the likelihood to plan for retirement for those who belong in the 35-39 years age group and individuals who are 45-49 years old (compared to the youngest cohort).

• Women are less likely to plan for retirement.

• Significantly positive effect of facing an income shock or having outstanding medical bills, with both proxies for financial distress making respondents more likely to report that they plan for retirement.

• Especially for those who experienced an income shock, the probability of planning for retirement rises by almost 13 percentage points.
• Financial fragility is prevalent among large demographic groups.

• Financial fragility can be attributed to lack of assets, high indebtedness, and lack of financial literacy.

• This simple question is a rich measure of the resources people have or have access to.

• Besides being less prepared to deal with emergency expenses in the short term, financial fragility also has repercussions for the long term.

• Recommendations:
  - Financial education in schools, colleges, and the workplace, especially targeting the vulnerable subgroups.
  - Tools that incentivize precautionary savings: Institutionalizing short-term savings in a manner similar to retirement accounts
  - Promoting financial planning to help reduce debt levels
Thank you!

Questions? Contact us at gflec@gwu.edu