Two views of the crisis
Household deleveraging

• Household debt increased in the 2000s

• Why? Low interest rates, lax credit standards, overoptimistic expectations of house appreciations [also interesting to distinguish these stories]

• Starting in 2006 house prices start to go down, making it harder to use home refinancing to raise cash

• Combination of wealth effects and lower collateral values led to drop in consumption
Household deleveraging

- FNMA Delinquency Rate (Left)
- Mortgage Debt Service-to-Income Ratio (Right)
Role of credit supply

- Bernanke 2019
- Balance sheets of some entities are impaired
- This reduces the flow of credit to the economy
- Both borrowers directly affected and reduce demand for credit and lenders (banks) affected and reduce supply of credit
- Summary measure: external finance premium
- If you have $1 of internal funds they yield $x$
- Yield on comparable, safe, liquid asset traded is $y$
- EFP is $x - y$
Measures of external finance premium
Stages of financial crisis

- Stage 1: bad news from housing and subprime markets
- Stage 2: difficulty of funding (borrowing short term) for banks
- Stage 3: contagion to non-mortgage credit, pullback from securitized assets, runs
- Stage 4: capital losses at banks, need to recapitalize
Four stages of the crisis
Factor analysis

Factor 1 and the Housing Factor

Factor 2 and the Non-Mortgage Credit Factor

Standard Deviation from Mean

Full Model - Factor 1
Partial Model - Housing

Full Model - Factor 2
Partial Model - Credit
Factor analysis (continued)
The credit factor

- Important open issue

- How to interpret credit factor?

- Recession -> weak balance sheets for households and firms -> high spreads on credit to households and firms

- Important to argue that factor reflects forces coming from weak intermediation/credit supply
### Real effects

Table 2. F-Statistics for Inclusion of Each Factor in Prediction Equations

<table>
<thead>
<tr>
<th>Forecasted variable</th>
<th>Factor 1 (Housing)</th>
<th>Factor 2 (Credit)</th>
<th>Factor 3 (Funding)</th>
<th>Factor 4 (Banks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>0.06</td>
<td>4.89***</td>
<td>3.27**</td>
<td>0.63</td>
</tr>
<tr>
<td>Industrial Production</td>
<td>0.40</td>
<td>7.06***</td>
<td>4.87***</td>
<td>1.50</td>
</tr>
<tr>
<td>Employment Ex Construction</td>
<td>1.29</td>
<td>9.61***</td>
<td>2.52*</td>
<td>0.61</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1.60</td>
<td>11.33***</td>
<td>2.56*</td>
<td>1.26</td>
</tr>
</tbody>
</table>
Real effects (continued)
Real effects (continued)
Open issues

- Panic factors seem to explain well acute phase of recession

- But weak recovery seems better explained by slow deleveraging

- How do “fast” and “slow” forces interact in crises?
  - Slow forces cause buildup of fragility that exposes economy to panic event
  - Slow forces mean that after acute event economy takes time to recover
• Additional readings:

• Krugman

• Baker
What is a run?

- Covitz, Liang, Suarez (JEF 2013)
- Anatomy of runs, focusing on Asset Backed Commercial Paper programs
- Entities with simple balance sheet:
  - assets: some portfolio of asset backed securities
  - liabilities short-term commercial paper
Collapse in ABCP issuance
• Why did they stop issuing?

• What is a “run”?

• ABCP rely on rollovers, when CP matures new CP is issued

• But investors may not trust the value of the assets in the event of a liquidation, so refuse to rollover

• Run: “new issuances = 0 in a week in which more than 10% of outstanding paper is maturing”

• When that happens ABCP can receive liquidity support from one or more bank, or can, in some cases, extend the maturity of the paper already issued
Runs on ABCP
Fragility

- Some characteristic of the program make it more exposed

- E.g.: weakness of bank providing liquidity backstop

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Extendibility</td>
<td>−0.010</td>
<td>−0.009</td>
<td>0.462***</td>
<td>0.467***</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.028)</td>
<td>(0.116)</td>
<td>(0.116)</td>
</tr>
<tr>
<td>Number of liquidity providers</td>
<td>−0.022**</td>
<td>−0.022**</td>
<td>−0.008</td>
<td>−0.008</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.010)</td>
<td>(0.007)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>CDS spread of main liquidity provider</td>
<td>0.236*</td>
<td>0.273</td>
<td>0.359***</td>
<td>0.277**</td>
</tr>
<tr>
<td></td>
<td>(0.131)</td>
<td>(0.167)</td>
<td>(0.119)</td>
<td>(0.117)</td>
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<tr>
<td>Lower rating dropped</td>
<td>dropped</td>
<td>dropped</td>
<td>0.345***</td>
<td>0.345***</td>
</tr>
<tr>
<td></td>
<td>(perf. pred.)</td>
<td>(perf. pred.)</td>
<td>(0.118)</td>
<td>(0.121)</td>
</tr>
<tr>
<td>Credit support</td>
<td>0.010</td>
<td>0.009</td>
<td>0.092</td>
<td>0.094</td>
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<tr>
<td></td>
<td>(0.030)</td>
<td>(0.029)</td>
<td>(0.121)</td>
<td>(0.122)</td>
</tr>
<tr>
<td>Initial average maturity of</td>
<td>−0.001</td>
<td>−0.001</td>
<td>0.001</td>
<td>0.001</td>
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<tr>
<td>outstandings</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
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</tbody>
</table>