Measuring the Cost of Bailouts

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Outline

- What is (and what isn’t) a bailout?
- What do bailouts cost? theory vs. practice
  - and why it matters
- Which policy actions precipitated by the 2008 financial crisis were (and were not) bailouts?
  - An inventory of bailout actions and their direct costs
- What were the direct costs of those bailouts?
  - Who were the direct beneficiaries?
  - Who paid?
- Implications for policy analysis
Why accurate cost assessment matters

- Essential for credible cost-benefit analysis
  - Retrospectively, “did the benefits justify the costs?” and “could the results have been achieved at a lower cost?”
  - Also for ongoing rule making, “Do the costs of regulations to reduce likelihood of future bailouts exceed the benefits?”

- Reduce political and policy discord
  - Helps reconcile widely divergent perceptions about fairness, and the size and incidence of costs (and benefits)
A bailout is a *colloquial term* for the provision of financial help to a corporation or country which otherwise would be on the brink of failure or bankruptcy.

- The term is maritime in origin and describes the act of removing water from a sinking vessel using a bucket.
What is (and isn’t) a bailout?

• What if your house is privately insured and the insurance company pays to rebuild it?

• What if your house is uninsured and your rich uncle Sam pays to rebuild it?
What is (and isn’t) a bailout?

- **Working definition**
  - **It’s a bailout if**
    - It involves a value transfer from gov’t arising from a subsidy or implicit guarantee, or
    - It involves a value transfer arising from new legislation passed in response to significant financial distress
  - **It’s not a bailout if**
    - A fair or market value insurance premium was assessed and collected ex ante, or
    - There is a credible structure in place for recovering the full value of government payouts from the industry ex post
    - Caveats apply when participation is involuntary
What does a bailout cost? Theory

A much more subtle question than most people imagine

Best understood via an Arrow-Debreu state-price framework

Best operationalized with a fair value approach
What does a bailout cost? Alternative metric

- Three possibilities:
  - Fair value cost as of the time of bailout
  - Fair value cost *ex ante*, as of the time a subsidized guarantee is granted
  - Sum up *ex post* realized cash flows

- Starkly different answers

- Analysis of bailout cost for Fannie & Freddie illustrates the conceptual and quantitative differences
Cost at bailout for Fannie & Freddie: **$311 billion**

- **Housing & Economic Recovery Act of 2008 (HERA)** initially gave Treasury power to buy unlimited securities to stabilize market
  - Used to put F&F into conservatorship and to set up preferred stock purchase agreements

- CBO estimated cost of $291 billion for existing $5 trillion book through end 2009; and $20 billion for subsidized guarantees made in 2010

- Methodology was to project CFs incorporating defaults, recoveries & prepayments; discounting at rates inferred from jumbo market spreads

- Direct benefits initially went to F&F’s existing bond holders; subsequent benefits went to new mortgage borrowers
Cost *ex ante* for Fannie & Freddie: $8 billion

- Prior to HERA federal guarantee was implicit
- Lucas and McDonald (2006) estimate the cost of the guarantee over a 10-yr horizon in 2006 at $8 billion
- Contingent claims methodology calibrated w/ stock prices and firm data in 2006
- *Ex ante* direct benefits to shareholders & customers via rents from lower borrowing costs and enhanced value of guarantees
Ex post “profit” for Fannie & Freddie: +$58 billion

- Total cash payout of $116 billion to Fannie and $71 billion to Freddie from Treasury
- Total cash collected of $147 billion from Fannie and $98 billion from Freddie
- Net cash gain to government of $58 billion.

Note: This treats the ongoing protection from the Treasury’s preferred stock purchase agreements as costless.
The press tends to report *ex post* cash outcomes

**Bailout Tracker**

Tracking Every Dollar and Every Recipient

**The State of the Bailout**

**OUTFLOWS:** $627 billion This includes money that has actually been spent, invested, or loaned.

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks and other Financial Institutions</td>
<td>$245B</td>
</tr>
<tr>
<td>Fannie and Freddie</td>
<td>$187B</td>
</tr>
<tr>
<td>Auto Companies</td>
<td>$79.7B</td>
</tr>
<tr>
<td>AIG</td>
<td>$67.8B</td>
</tr>
<tr>
<td>Other</td>
<td>$28.5B</td>
</tr>
</tbody>
</table>

**Toxic Asset Purchases**

$18.8B (3.0%)  

**INFLOWS:** $713 billion Money returned and paid to Treasury as interest, dividends, fees or to repurchase their stock warrants.

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refunded</td>
<td>$390B</td>
</tr>
<tr>
<td>Revenues</td>
<td>$323B</td>
</tr>
</tbody>
</table>

**“Gov’t Profits”** $86 billion
"We got back every dime used to rescue the banks."

— Barack Obama on Thursday, October 18th, 2012 in a campaign speech in Manchester, N.H.

"The auto companies have now repaid taxpayers every dime and more of what my administration invested in."

— Barack Obama on Wednesday, January 7th, 2015 in a speech in Detroit
Others claim higher costs, but analyses often lack rigor

**Overselling TARP: The Myth of the $15 Billion Profit**

By MATT PALUMBO | January 6, 2015 9:11 PM

**The Big Bank Bailout**

Mike Collins contributor
Reinventing America
I write about manufacturing and government policies

Most people think that the big bank bailout was the $700 billion that the treasury department used to save the banks during the financial crash in September of 2008. But this is a long way from the truth because the bailout is still ongoing. The Special Inspector General for TARP summary of the bailout says that the total commitment of government is $16.8 trillion dollars with the $4.6 trillion already paid out. Yes, it was trillions not billions and the banks are
U.S. bailouts in response to the financial crisis

- Fannie & Freddie
- Federal Housing Administration (FHA)
- TARP
- Federal Reserve emergency facilities
- FDIC expanded coverage
- Small Business Lending Fund
- Expansion of income-driven repayment on student loans
## Summary of Findings

### Fair value costs at time of bailout

<table>
<thead>
<tr>
<th>Institution</th>
<th>Cost (billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fannie &amp; Freddie</td>
<td>$311</td>
</tr>
<tr>
<td>FHA</td>
<td>$ 60</td>
</tr>
<tr>
<td>TARP</td>
<td>$ 90</td>
</tr>
<tr>
<td>Federal Reserve</td>
<td>$ 21</td>
</tr>
<tr>
<td>FDIC</td>
<td>$ 10</td>
</tr>
<tr>
<td>Small Business Lending Fund</td>
<td>$ 6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$498</strong></td>
</tr>
</tbody>
</table>

Total is about 3.5% of 2009 GDP
FHA guarantees mortgages for low income and first-time homebuyers

Taxpayer risk exposures from FHA were like those from Fannie and Freddie, but it is not a typical bailout

- Guarantees were in place and costs partially recognized in the budget
- Private investors were not the beneficiaries, mortgage borrowers were

Its uncompensated risk exposures ballooned during the crisis

- *Ex ante* underpriced guarantees on $332 billion outstanding => significant ongoing subsidy
- FHA guaranteed $868 billion of mortgages between 2008-10 at highly subsidized rates
- Emergency legislation (HERA) expanded borrower eligibility
  - Maximum insured mortgage up from $362,790 to $625,000
  - Authorized $300 billion in guarantees for subprime borrowers to refinance if lenders wrote down principal balances to 90% of appraised value
Breakdown of costs

- Refinancing of subprime borrowers
  - Fair value subsidy depends on how much of additional HERA authority would be used and fair value subsidy rate on the incremental guarantees
  - **Bailout cost of about $1 billion** based on volume of $16.8 billion and subsidy rate of 5.5%

- *ex ante* underpriced guarantees
  - Subsidy rate of 3.5% on $332 billion implies **ex ante bailout cost of $11 billion**

- 2008-2010 underpriced guarantees
  - Subsidy rate of 5.5% on $868 billion implies **cost at time of bailout of $47.7 billion**

How did this large sum go virtually unnoticed by press, policymakers and public?

- Opaque accounting, unlimited budget authority for credit program re-estimates, benefits to borrowers not Wall Street
Cost at bailout for TARP: $90 billion

- Enacted in Oct. 2008; provided broad authority to make asset purchases to stabilize financial system of up to $700 billion

- CBO’s 2009 TARP report put fair value cost at $64 billion through 12/31/08
  - Based on difference between value of cash paid & preferred stock and warrants received
  - At that time disbursements were $247 billion

- Congressional Oversight Panel independently put fair value at $53 to $72 billion

- These figures were low because (1) More purchases were still likely, and (2) TARP was used to back large contingent liabilities, e.g., from the Fed

- Assuming $100 billion more would be distributed at the same average subsidy rate puts fair value cost at the time of the bailout at $90 billion

- Direct beneficiaries were primarily uninsured creditors of financial institutions
Cost at bailout for TARP: $90 billion

<table>
<thead>
<tr>
<th>Institution</th>
<th>Capital Infusion (billions)</th>
<th>Subsidy (billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIG</td>
<td>$40.0</td>
<td>$25.20</td>
</tr>
<tr>
<td>Bank of America</td>
<td>$15.0</td>
<td>$2.55</td>
</tr>
<tr>
<td>Citigroup</td>
<td>$25.0</td>
<td>$9.50</td>
</tr>
<tr>
<td>Citigroup</td>
<td>$20.0</td>
<td>$10.0</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>$10.0</td>
<td>$2.50</td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>$25.0</td>
<td>$4.38</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>$10.0</td>
<td>$4.25</td>
</tr>
<tr>
<td>PNC</td>
<td>$7.6</td>
<td>$2.05</td>
</tr>
<tr>
<td>U.S. Bancorp</td>
<td>$6.6</td>
<td>$0.30</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td>$25.0</td>
<td>$1.75</td>
</tr>
<tr>
<td><strong>Total cost:</strong></td>
<td><strong>$62.47</strong></td>
<td></td>
</tr>
</tbody>
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- Direct beneficiaries were primarily uninsured/unsecured debt holders
Ex post cost on cash basis for TARP: $30 billion

- $442 billion was ultimately disbursed through various programs
- Most funds were fully repaid, with exceptions of AIG, mortgage grant support programs, autos
- Total net outlays of $30 billion through 2016 (reported by CBO)
Cost at bailout for Fed programs: $21 billion

- Federal Reserve emergency actions during the crisis created potentially enormous exposures

- However, for most of those emergency programs, the Federal Reserve was not at risk
  - Some risk absorbed by Treasury (with TARP funding),
  - Some facilities had sufficient collateral short, maturities
  - Others entailed risk but the pricing was fair(ish), notably Maiden Lane

- Largest exception was TALF, which had insufficient Treasury backing to cover cost

- Probably made money on a cash basis

- See “The Budgetary Impact and Subsidy Costs of the Federal Reserve’s Actions During the Financial Crisis,” CBO Report, May 2010
Deposit insurance increased from $100k to $250k, 10/08
  - Later made permanent by Dodd Frank

Temporary Liquidity Guarantee Program, finalized 11/08
  - Debt Guarantee Program
    - Guarantee on newly issued debt, hence benefit is to stock holders
  - Transaction Account Guarantee Program
    - Unlimited coverage of transaction accounts
    - Initially no cost for short period, then fees

Credit line from Treasury usually set at $100 billion, increased to $500 billion during crisis

But taxpayer losses limited by statutory requirement that FDIC recover losses from solvent institutions

Cost at bailout of new FDIC coverage: $10 billion
Cost of tail event that Treasury is not repaid is hard to estimate

But wrong to assign zero cost just because large uncertainty

A rough subsidy calculation:

- Assume that on the expanded Treasury line there was a 10% chance that the entire amount would be drawn and only 80% (in PV terms) recovered

- Implies cost at bailout of $10 billion

Cost at bailout of new FDIC coverage: $10 billion
Smaller bailouts

- **Small Business Jobs Act (2010)**
  - Created Small Business Lending Fund (SBLF) to provide capital to qualified community banks and community development loan funds
  - Provided preferred stock with dividend contingent on amount of small business lending (mini TARP)
  - **Cost on a fair value basis at time of bailout** estimated at $6.2 billion by CBO
  - Beneficiaries are small bank equity holders & their customers

- **Expansion using administrative authority of Income-Driven Repayment on Federal Student Loans (2009 and 2010)**
  - Beneficiaries are borrowers with student loans
• Largest direct beneficiaries of bailouts were the unsecured creditors of large financial institutions
  • Most significantly, of Fannie & Freddie. Also Citigroup, AIG
  • Equity holders benefited less than the popular perception; many were wiped out

• The direct cost of bailouts arising from the 2008 U.S. financial crisis was around $500 billion
  • Not $ trillions
  • Not free
  • Big enough to raise questions about whether taxpayers could have been better protected
  • Small enough to take seriously the tradeoffs between the costs & benefits of new regulations to reduce the chance of future bailouts
Conclusions

• Thank you!
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  – Innovative educational materials and curricula that will make state-of-the-art financial tools relevant and accessible to students of public policy, employees of public institutions, and policymakers

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