Measuring the Cost of Bailouts

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2008 Financial Crisis: A Ten-Year Review
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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?
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.

- **39.1% of total**
  - Banks and other Financial Institutions: $245B
  - Fannie and Freddie: $167B
  - Auto Companies: $79.7B
  - AIG: $67.8B
  - Other: $28.5B

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

- Refunded: $390B
- Revenues: $323B

**“Gov’t Profits”** $86 billion

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Those misleading figures are picked up by politicians...

"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 lacks 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

Forbes $16.8 trillion(!)
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
Federal Housing Administration guarantees (FHA)

- 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></td>
<td><strong>$62.47</strong></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
Cost at bailout of new FDIC coverage: $10 billion

- 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 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
- 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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