Measuring the Cost of Bailouts

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2008 Financial Crisis: A Ten-Year Review
New York, NY, November 8-9, 2018

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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)

What is (and isn’t) a bailout?

- **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.

WIKIPEDIA
The Free Encyclopedia

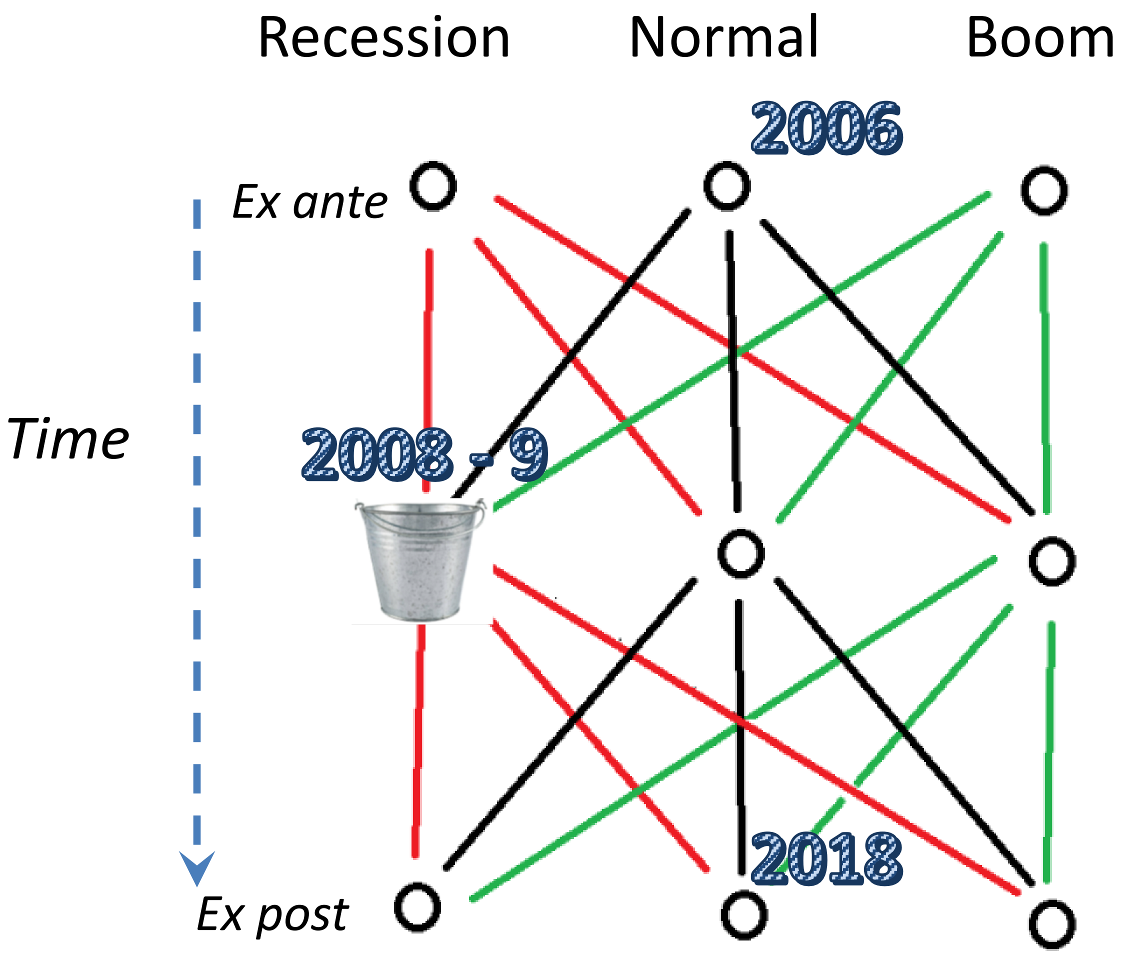
What is (and isn't) a bailout?

- 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**

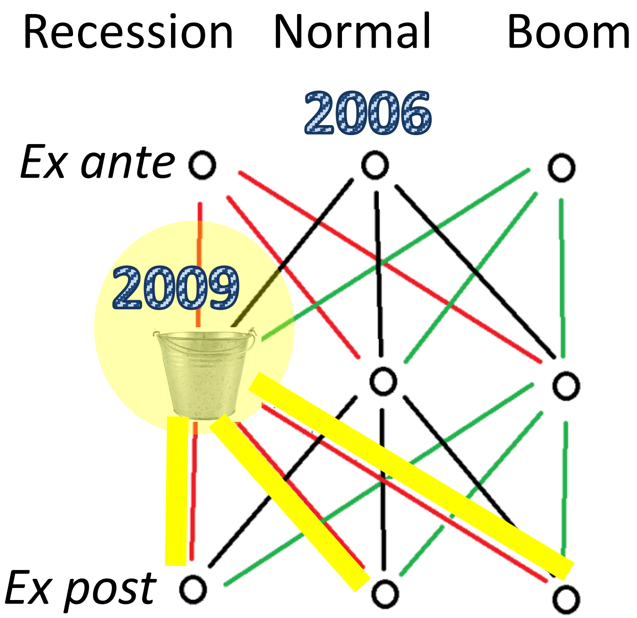
What does a bailout cost? Alternative metric

- 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

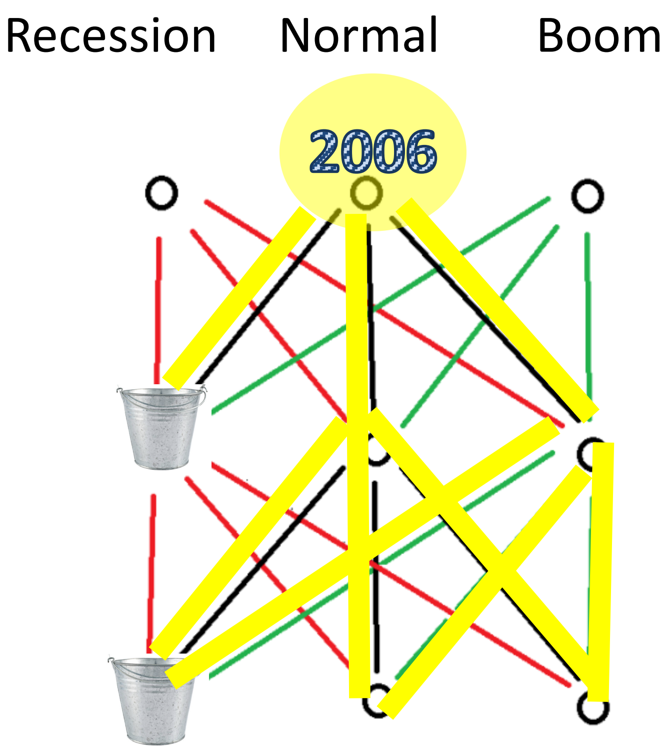
- Analysis of bailout cost for Fannie & Freddie illustrates the conceptual and quantitative differences

Cost at bailout for Fannie & Freddie: **$311 billion**



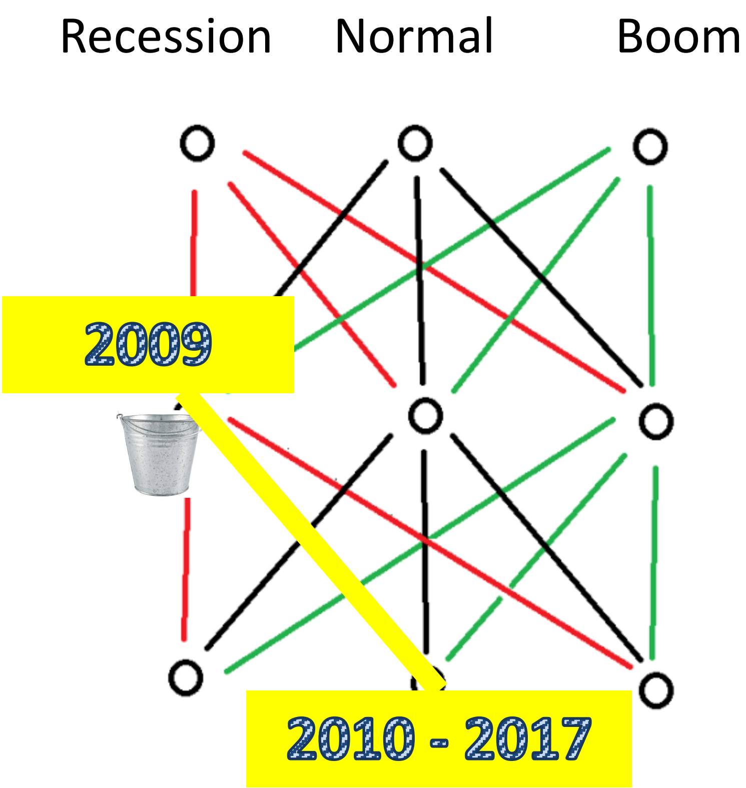
- Housing & Economic Recovery Act of 2008 (HERA) initially gave Treasury power to buy unlimited securities to stabilize market
  - Used to put F&F into conservatorship and to set up preferred stock purchase agreements
- CBO estimated cost of $291 billion for existing $5 trillion book through end 2009; 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**



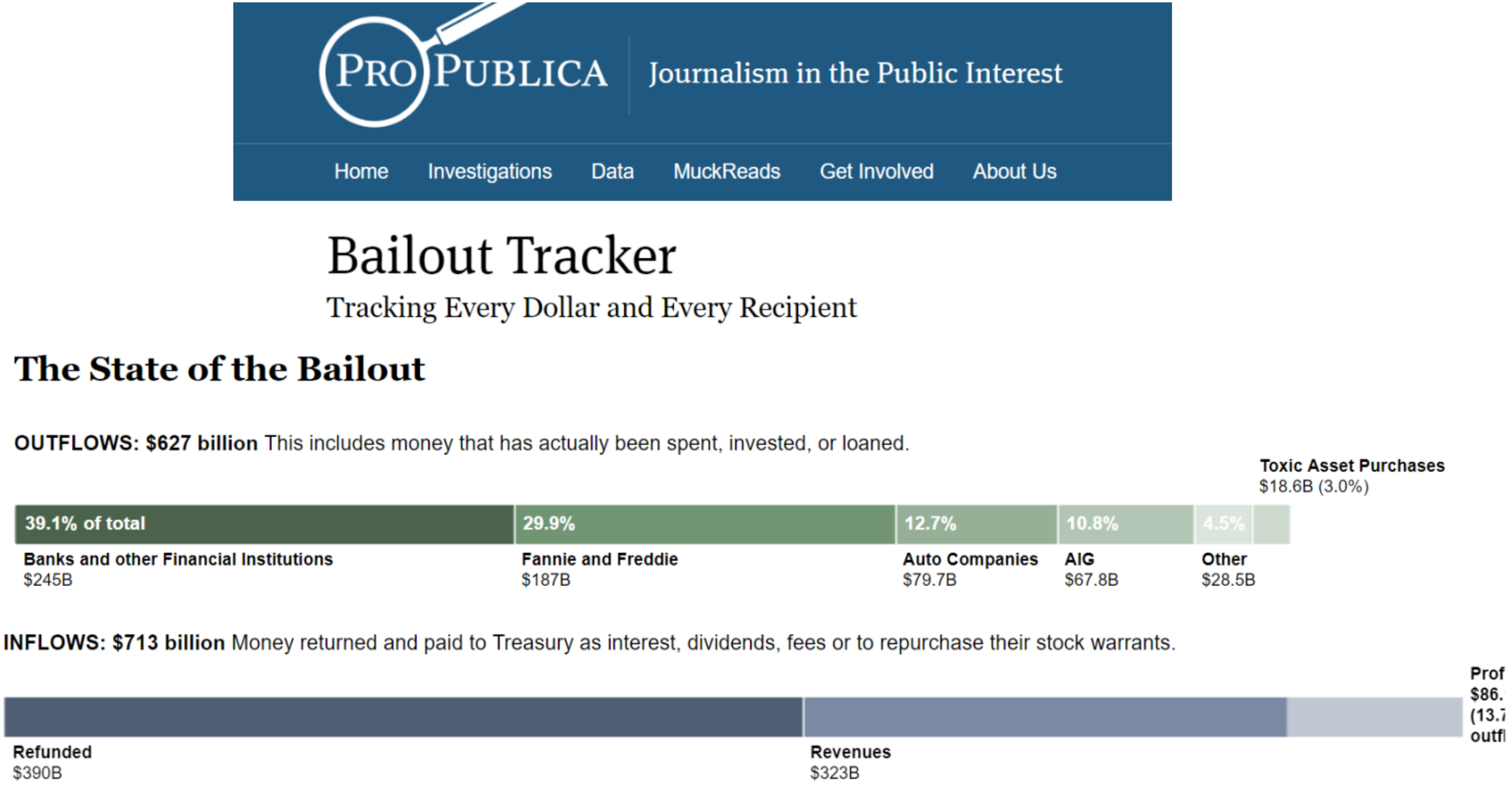
- Prior to HERA federal guarantee was implicit
- Lucas and McDonald (2006) estimate the cost of the guarantee over a 10-yr horizon in 2006 at **$8 billion**
- Contingent claims methodology calibrated w/ stock prices and firm data in 2006
- *Ex ante* direct benefits to shareholders & customers via rents 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



"Gov't Profits" $86 billion

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

POLITICS & POLICY

Overselling TARP: The Myth of the $15 Billion Profit

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

NATIONAL REVIEW

The Big Bank Bailout

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

Forbes

$16.8 trillion(!)

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

Institution	Cost (billions)
Fannie & Freddie	$311
FHA	$ 60
TARP	$ 90
Federal Reserve	$ 21
FDIC	$ 10
Small Business Lending Fund	$6
TOTAL	**$498**

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

Cost at bailout for FHA: **$60 billion**

- 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. 2018; 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**

TARP subsidies to large financial institutions		
Institution	Capital Infusion (billions)	Subsidy (billions)
AIG	$40.0	$25.20
Bank of America	$15.0	$2.55
Citigroup	$25.0	$9.50
Citigroup	$20.0	$10.0
Goldman Sachs	$10.0	$2.50
JPMorgan Chase	$25.0	$4.38
Morgan Stanley	$10.0	$4.25
PNC	$7.6	$2.05
U.S. Bancorp	$6.6	$0.30
Wells Fargo	$25.0	$1.75
	Total cost:	$62.47

- 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 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**

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

Takeaways

- 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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