How Much Do Guarantees and Bailouts Cost the Government?

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Federal Reserve Bank of Atlanta
28th annual Financial Markets Conference,
May 19–22, 2024 Amelia Island, FL

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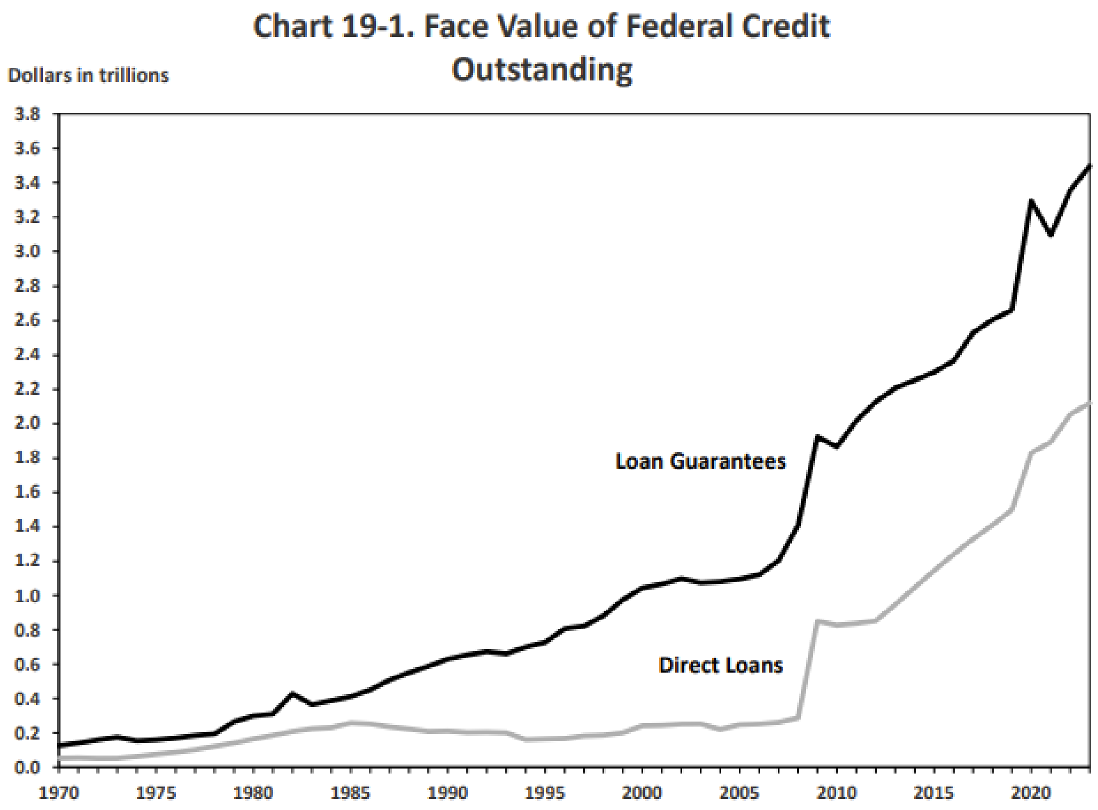
Exponential growth in US government's credit risk exposures

Source: Federal Budget 2023 Analytical Perspectives



Note: Excludes Fannie & Freddie, deposit insurance, pension benefit guarantee corporation, federal home loan banks

Traditional credit programs ≈ $5 trillion outstanding (2021)

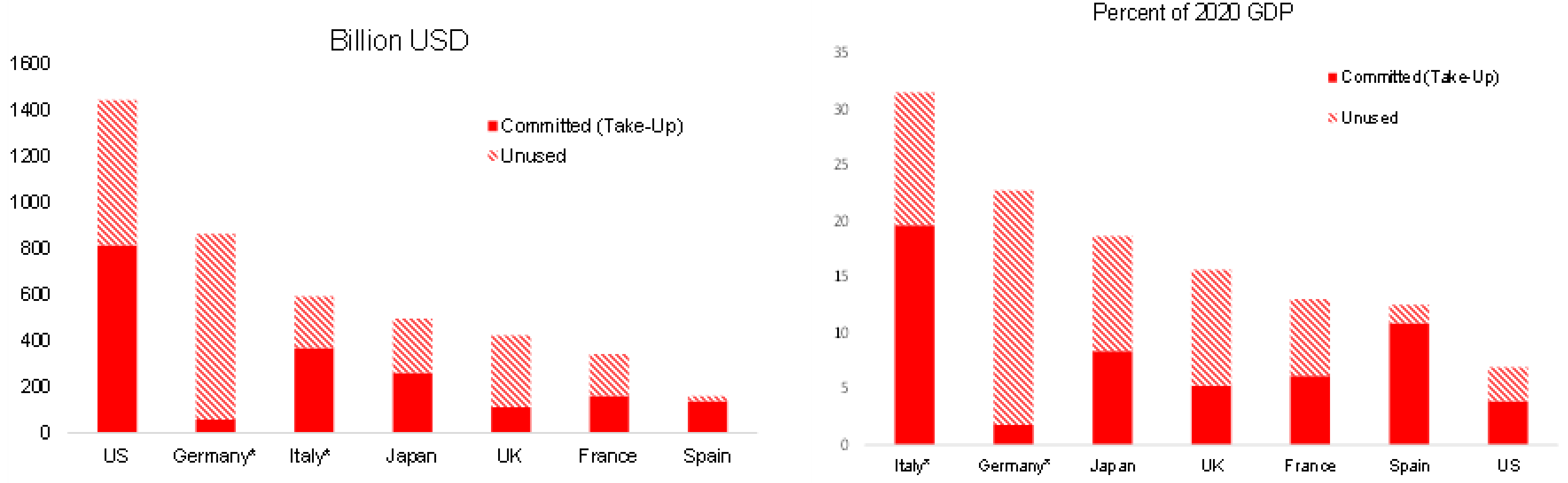
e.g., student loans, low income mortgages, farm credit, small business loans…

Including Fannie & Freddie (i.e., most U.S. mortgages) deposit insurance, private pension fund insurance, etc., brings total to > **$20 trillion**

Note sharp expansions during the GFC/Great Recession and COVID-19

Government credit exposures surged globally during the pandemic

Credit Support Programs during COVID-19: Unused vs. Committed



Source: Official sources for each country, IMF Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic, and Anderson et al. (2021).

The IMF reports that the amount of pandemic credit support made available in advanced economies (“credit envelope”) was about equal to size of traditional fiscal policies

The “credit envelope” > USD 4 trillion (11% GDP)

Take-up was much lower. It varied across countries.

In general, less reliance on standing credit programs in rest of world than in U.S.
Perhaps because preferred channel for credit market interventions is via banks

Why is it imperative to improve cost measurement?

- Governments obfuscate the cost and risk of their contingent liabilities
  - Many dimensions to mistakes in budgetary and accounting practices:
    - Credit support is often outside of the normal budget process (=> zero upfront cost)
    - Cash basis accounting (=> costly guarantees can show an upfront profit)
    - Accruals calculated using gov’t borrowing rates for discounting (=> costly actions appear profitable)
  - **All of these significantly understate cost relative to market or fair value approaches**

- Understated cost creates a strong incentive for policymakers to overuse guarantees
  - Policymakers are rarely punished for overuse because bad outcomes are infrequent, though very costly.
  - Aversion to bailouts is not enough to discourage use of “cheap” guarantee policies; upfront cost recognition is essential

Why is it imperative to improve cost measurement?

- Opacity and over-use of guarantees can lead to:
  - A build-up of risk exposures that diminish fiscal capacity to respond to future crises
  - Distortions in the incentives of financial institutions and other private actors

- Essential for credible cost-benefit analysis of policy actions and alternatives
  - 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)

Why a fair value framework?

- Fair values, which are based on market prices or approximations thereto, are the best available indicator of social cost
  - A "grant-equivalent measure"; other government expenditures are measured at market prices
  - Reflective of the market price of risk, which represents a real cost to the government

Why the government's borrowing cost isn't its cost of capital:

- Market value gov't balance sheet for **risky loans** with required return "r_A"

Assets	Liabilities
Risky loans (A)	Government Debt (D) **Taxpayer Equity (*E*)**

- Debt earns gov't rate "r_f". Rate is low because of taxpayer backing; it is unrelated to the risk of loans made.
- **Taxpayers & public are *de facto* equity holders in risky gov't investments**—they absorb any gains or losses. If they earn less than fair return on the risk capital that is provided, there is a subsidy
- Hence, the government's cost of capital is logically a weighted average of the cost of debt and equity (as for a private sector firm).

Why a fair value framework?

- Bailouts and guarantees generate risky cash flows over long horizons. Accounting for horizon and risk => it is important to:
  - Use accrual (not cash) accounting to capture lifetime, forward-looking cost
  - Reflect entire distribution of possible future outcomes
  - Identify risk-adjusted interest rates (not Treasury rates!) to capture cost of market risk
  - Calculate NPV of projected cash flows at risk-adjusted rates

- For the government, guarantees are equivalent to put options, which concentrate large amounts of market risk on their provider

- Well-established private-sector practices and resources provide discipline

- Feasible to produce credible estimates in the public sector too!

Cost estimates and incidence of benefits

- For US Global Financial Crisis (GFC) bailouts
- For international Covid19 pandemic credit guarantees

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.

- 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's not paid for…**
    - It involves **a value transfer from gov't arising from a subsidized 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 it's paid for…**
    - 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 in a guarantee scheme is involuntary

What is the relation between bailouts and credit guarantees?

- Governments make explicit and implicit credit guarantees that give rise to trillions of dollars of **contingent liabilities**
- Typically, these government guarantees are subsidized
  - Providing a subsidized guarantee is a *fiscal* action
    - An alternative to traditional fiscal assistance (tax cuts or cash assistance)
- When a subsidized guarantee results in a large government payout, it is viewed as a bailout
  - Bailouts are also fiscal actions
- Often, a slippery line between bailouts and guarantees
  - As when additional subsidized guarantees are granted as part of a bailout

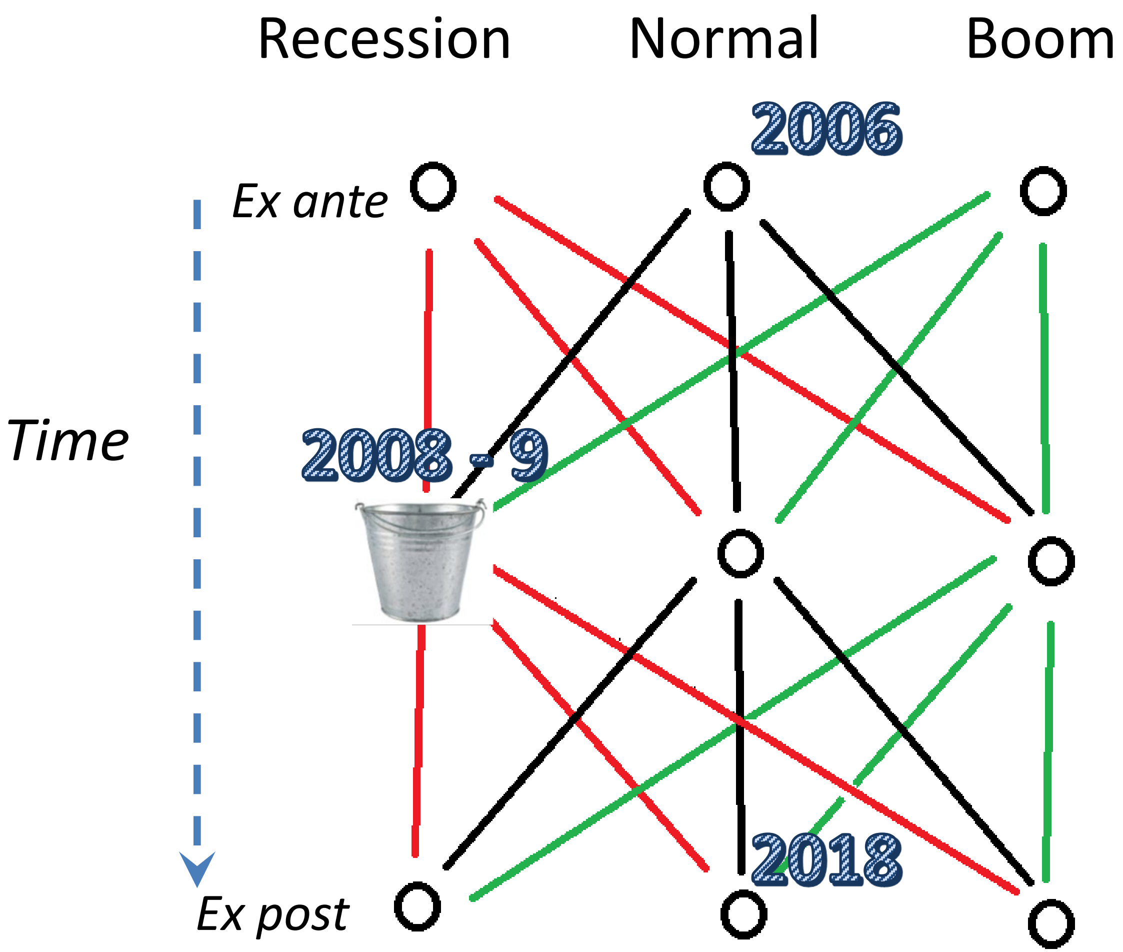
What does a bailout cost? Answer depends on when cost is assessed

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

- Each provide starkly different answers
  1. The focus here
  2. Also useful information
  3. Commonly reported but highly misleading

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

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**

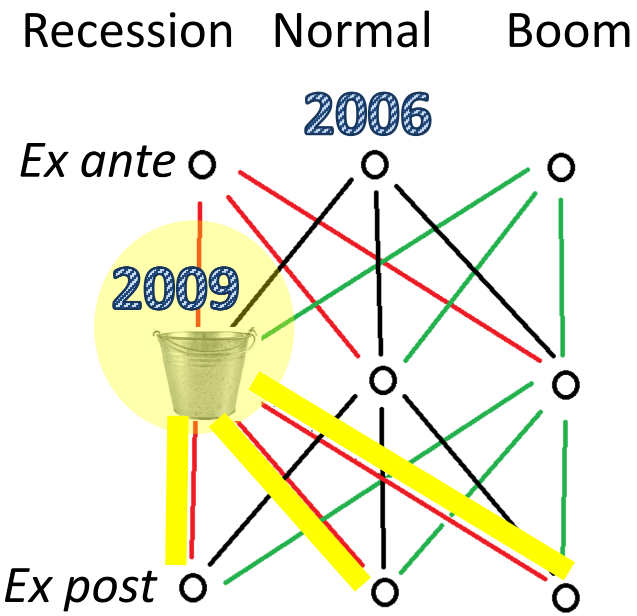
Summary of GFC bailout costs

Estimates of fair value cost **at time of bailout**

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

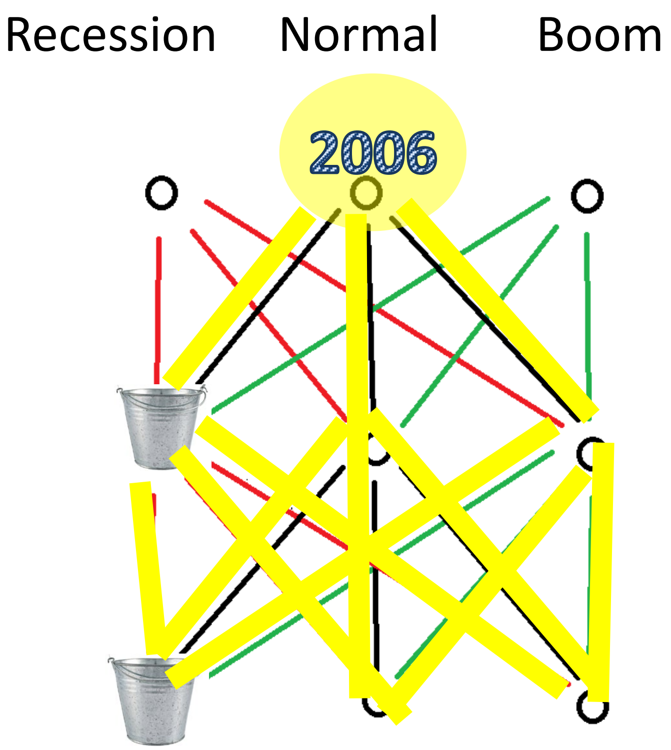
Total is about 3.5% of 2009 GDP

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



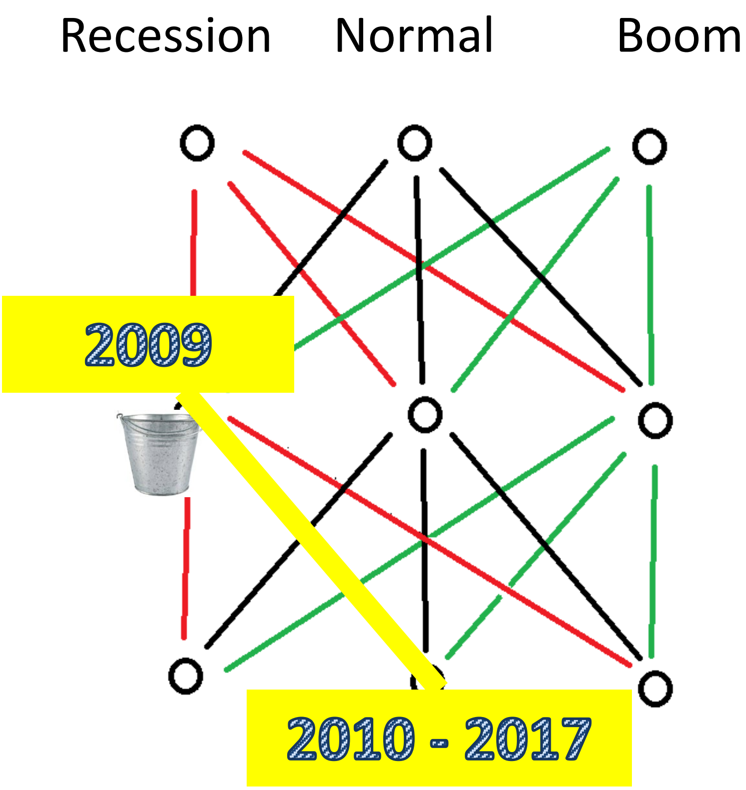
- Housing & Economic Recovery Act of 2008 (HERA) initially gave Treasury power to buy unlimited securities to stabilize market
    - Used to put F&F into conservatorship and to set up preferred stock purchase agreements
- CBO estimated **cost of $291 billion for existing $5 trillion book through end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

Politicians and the press tend to report *ex post* cash outcomes

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"Gov't Profits" $86 billion

Bailout Tracker

Tracking Every Dollar and Every Recipient

"We got back every dime used to rescue the banks."

— *Barack Obama on Thursday, October 18th, 2012 in a campaign speech in*

"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 claimed many $ trillions of costs based on commitments

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 ✓ $311 billion
- Federal Housing Administration (FHA)
- TARP
- Federal Reserve emergency facilities
- FDIC expanded coverage
- Small Business Lending Fund
- Expansion of income-driven repayment on student loans

Cost at bailout for Federal Housing Administration: **$60 billion**

- **How did this large sum go virtually unnoticed by press, policymakers and public?**
  - A silent bailout, accomplished using highly subsidized old and new guarantee authority
  - Opaque accounting, unlimited budget authority for credit program re-estimates, benefits to borrowers not to Wall Street

- Beneficiaries were mortgage borrowers; and the financial institutions that were able to get subprime mortgages off their books

Cost at bailout for TARP: **$90 billion**

- Enacted in Oct. 2018; the Troubled Asset Relief Program (TARP) provided broad authority to make asset purchases to stabilize financial system of up to $700 billion

- Financial and other institutions received cash support in exchange for preferred stock and warrants granted to the government.
  - Cost is difference between amounts received and fair value of stock and warrants

- Contrast to *ex post* cost on cash basis for TARP of $30 billion (and claims of profits by some)

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

Cost at bailout of Federal Reserve facilities: **$21 billion**

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

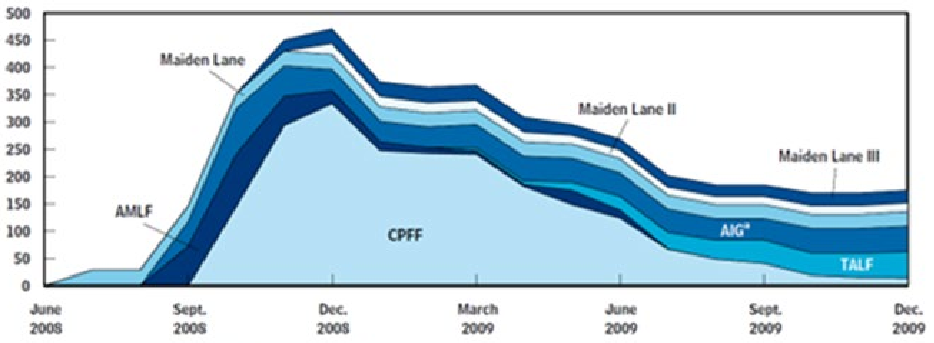
- However, for most of those emergency programs, by design the Federal Reserve was not at risk
  - Some risk absorbed by Treasury (with TARP funding),
  - Some facilities had sufficient collateral short, maturities
  - Others entailed risk but the pricing was fair(ish), notably Maiden Lane

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

- Fed probably "made money" on an ex post cash basis

Figure 2: Funding Provided through Selected Federal Reserve Programs

(Billions of dollars)



Source: Congressional Budget Office based on data from the Federal Reserve.

Notes: Further information on the programs can be found in Appendix A.

TALF = Term Asset-Backed Securities Loan Facility; AMLF = Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility; CPFF = Commercial Paper Funding Facility.

a. The data for the American International Group (AIG) comprise the outstanding balance on the line of credit plus equity holdings in AIA Aurora Limited Liability Company (LLC) and ALICO Holdings LLC.

- See "The Budgetary Impact and Subsidy Costs of the Federal Reserve's Actions During the Financial Crisis," CBO Report, May 2010

Cost of Covid-19 Credit Guarantees

- Governments internationally offered generous loan guarantees to assure a continued flow of credit to businesses and households
  - Also extensive use of forbearance policies that are effectively temporary guarantees
- Fair value cost estimates, as of time programs were introduced
  - For 7 countries; 17 sub-programs analyzed (Hong and Lucas, 2023)
  - Total risk exposure or credit envelope of about $4 trillion; total fair value cost of about $300 billion
  - "Subsidy element" is present value of subsidy divided by principal of guaranteed loan. Varies with program design.

Figure 5: Total Subsidy Element by Country (USD Billions and Percent of GDP)

Role of Federal Reserve in Covid-19 Credit Guarantees

- The Federal Reserve introduced 13 emergency facilities, most reintroductions of its GFC facilities
- As during the GFC, the riskier programs were structured so that the Treasury rather than the Federal Reserve would absorb most credit losses
  - Other central banks running credit programs similarly were shielded from credit losses by backing from fiscal authorities
- Most notably, the Main Street Lending Program (MSLP) provided subsidized loans to small and mid-sized businesses and involved the largest subsidies
  - Involved picking winner and losers to receive subsidized primary market loans
- Secondary market municipal and private sector bond purchases were made at approximately fair value so little subsidy
  - Like the MSLP this was a break from the Fed’s policy of purchasing only Treasuries, and Treasury-backed MBS

Takeaways

- The direct cost of GFC bailouts was around $500 billion
  - Not $ trillions; but certainly not a free lunch
  - Big enough to question 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
  - Unbiased cost estimates are vital to assessing policy tradeoffs
- Unsecured creditors were the direct beneficiaries of most of the bailouts
  - Most significantly, creditors of Fannie & Freddie. Also of Citigroup and AIG
  - Equity holders benefited less than the popular perception; many were wiped out
- Today's subsidized guarantees are potentially tomorrow's bailouts
  - Direct beneficiaries initially are shareholders and customers of financial institutions
  - Timely and comprehensive cost measurement is essential to discourage excessive use

Conclusions

- Thank you!

APPENDIX

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**