BAILOUT BAROMETER

FEDERAL RESERVE BANK OF RICHMOND
Richmond • Baltimore • Charlotte

2016 Estimate

Liz Marshall, Sabrina Pellerin,
and John Walter

Federal Reserve Bank of Richmond
Richmond, VA 23261

Published September 2017

This document can be downloaded without charge at
http://www.richmondfed.org/publications/research/special_reports/safety_net/

Bailout Barometer as of Dec. 31, 2016

The Bailout Barometer is an estimate by Richmond Fed researchers Liz Marshall, Sabrina Pellerin and John Walter of the share of private financial system liabilities backed by either an explicit or implicit federal government guarantee.[*] The current estimate follows methods developed by Walter and Weinberg (2002) and Malysheva and Walter (2010), whereby "government guarantee" means a federal government commitment to protect lenders from losses due to a borrower's default. Following this definition, we include in our estimate of the size of the safety net (which we call our "Bailout Barometer") insured bank and thrift deposits, certain other banking company liabilities, some government-sponsored enterprise (GSE) liabilities, selected private employer pension liabilities, as well as a subset of the liabilities of other financial firms.

Our current estimate (using data as of Dec. 31, 2016), like past estimates, includes a mixture of elements. To start, we include all liabilities that are *explicitly* guaranteed by the federal government. These liabilities make up over a third of all financial sector liabilities. Some other liabilities are *believed* by many market participants to be *implicitly* guaranteed by the federal government. Examples of implicitly guaranteed liabilities include short-term liabilities of the largest banking companies, some deposit balances not explicitly covered by deposit insurance, and the liabilities of certain government-sponsored enterprises. Our approach to estimating implicit guarantees is to ask, "Based on past government actions, what might market participants reasonably expect future government actions to be?" Our "Bailout Barometer" includes explicitly guaranteed liabilities and our estimate of implicitly guaranteed liabilities.

Of course, market expectations cannot be precisely estimated given that they will vary with circumstances – more severe financial problems would likely lead to more widespread bailouts – and, for a given set of circumstances, will vary among market participants – with some participants perceiving more widespread guarantees than others. Therefore, our Bailout Barometer should be thought of as an informed approximation with a margin of error created by the variety of possible market expectations.

To illustrate one way in which market expectations could exceed our estimate: Some participants may imagine that the government would be likely to protect all non-parent holding company liabilities of the largest bank and savings and loan holding companies[1] – as of 2016 there were 43 holding companies with assets greater than $50 billion.[2] A reason for such an expectation arises from the FDIC's announced intention to use its Single-Point-of-Entry (SPOE) resolution procedure to ensure that subsidiaries of important financial companies continue operating even after the company has experienced financial difficulties.[3] We have not chosen to include all non-parent liabilities of the 43 largest holding companies because: 1) there are "no past government actions" indicating how SPOE might be applied (indeed, as of this writing, SPOE remains but a proposal);[4] 2) the FDIC has indicated in its SPOE proposal that it plans to allow non-parent creditors of holding companies resolved using the SPOE process to suffer losses (see page 76623 of the proposal); and 3) the SPOE proposal (footnote 5 on page 76618 and footnote 10 on

[*] To learn more about the Bailout Barometer, its history, frequently asked questions, and related research, see: https://www.richmondfed.org/publications/research/special_reports/safety_net.

page 76622) and the final FDIC resolution rule (page 41644) have indicated an emphasis on only granting special treatment for short-term creditors. Therefore, our estimate includes all the liabilities of the largest four bank holding companies (for reasons explained on page 4 of this document) but only the short-term liabilities of the remaining 39 firms. As another example, we include in our implicit measure only the short-term liabilities of securities brokers and dealers (broker-dealers) owned by large domestic bank and savings and loan holding companies, and none from stand-alone or foreign-owned broker-dealers. Some fairly large broker-dealers, however, are not in domestic holding companies, and some market participants might expect that such broker-dealers would also receive government protection if troubled.

Likewise, market expectations of the amount of liabilities likely to be protected might be smaller than our estimate. One can imagine circumstances under which creditors of the largest firms would be provided no government assistance. For example, if the failure of one of the largest four firms were to occur because of problems only at that firm and not because of financial-system-wide problems (as in the case of the Barings failure in 1995) the federal government might allow the firm to go into bankruptcy and protect none of its creditors.

See the Methodology and Sources section for greater detail on what we included in our explicit and implicit categories for each liability type and why.

Bailout Barometer

Data as of December 31, 2016

Financial Firms (in billions)	Explicitly Guaranteed Liabilities (A)	Implicitly Guaranteed Liabilities (B)	Bailout Barometer (A+B)	Total Liabilities
Banking & Savings Firms (includes BHCs, SLHCs & IHCs)	$6,916 36.8%	$7,943 42.3%	$14,859 79.0%	$18,798
Credit Unions	$1,000 89.6%	$10 0.9%	$1,010 90.5%	$1,116
GSEs				
Fannie Mae	$3,282		$3,282	$3,282
Freddie Mac	$2,018		$2,018	$2,018
Farm Credit System		$283	$283	$283
Federal Home Loan Banks		$1,004	$1,004	$1,004
Total	$5,300 80.5%	$1,287 19.5%	$6,587 100.0%	$6,587
Private Employer Pension Funds	$3,180 94.1%		$3,180 94.1%	$3,380
Other Financial Firms		$39 0.3%	$39 0.3%	$12,684
Total for Financial Firms	**$16,396**	**$9,279**	**$25,675**	**$42,565**
Percentage of Total Liabilities	**38.5%**	**21.8%**	**60.3%**	**100.0%**

*Blue percentages represent the proportion of the corresponding row's total liabilities.

Methodology and Sources

Banking and Savings Firms

Explicitly Guaranteed Liabilities – FDIC-insured deposits of all commercial banks and savings institutions (domestic deposits up to the $250,000 insurance limit).

Implicitly Guaranteed Liabilities – In our Bailout Barometer, we include total liabilities of the four largest banking institutions (those larger than $1 trillion in assets)[5] minus insured domestic deposits (included in explicit column); plus short-term liabilities (fed funds, repurchase agreements ["repos"], commercial paper, and other short-term liabilities as reported in banking institution regulatory filings)[6] and uninsured domestic deposits[7] of the 39 bank and savings and loan holding companies (beyond the four largest) with assets greater than $50 billion.

> Four largest banking institutions – During the financial turmoil of 2008 and 2009, the government promised to provide capital if needed by any of the largest 19 bank holding companies (BHCs) such that their operations could continue uninterrupted, encouraging the view that all liability-holders of these firms would be protected. However, the Orderly Liquidation Authority (OLA) provisions in the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) of 2010 may reduce the likelihood that these companies would receive capital injections to allow their uninterrupted operation. Nevertheless, one can imagine that many market participants will remain skeptical that the government would allow operations of the very largest and most systemically important institutions to be disrupted, even if the interruption might be minimized and carefully managed by the OLA process.[8] As a result, our Bailout Barometer includes all of the liabilities of the four largest companies. These four companies were each designated as global systemically important banks by the Financial Stability Board and the Basel Committee on Banking Supervision in 2016, and each has total consolidated BHC assets exceeding $1 trillion.[9]
>
> Short-term liabilities – Market participants might expect that the short-term liabilities of large financial firms would be protected if the firms are resolved under the OLA. Bank holding companies, intermediate holding companies (IHCs) and savings and loan holding companies (SLHCs) with assets greater than $50 billion are likely to be considered for OLA treatment if they experience financial distress.[10] Moreover, as noted earlier, all bank holding companies with assets greater than $50 billion are subject to enhanced supervision because of systemic risk concerns (we will therefore call them systemically important financial institutions – SIFIs). While fitting in this SIFI category does not necessarily imply OLA treatment in resolution, market participants are likely to expect that these institutions would not be allowed to enter bankruptcy because it seems ill-suited to handle the failure of SIFIs (Pellerin and Walter 2012, p. 14–16). The OLA provisions of the Dodd-Frank Act permit the FDIC to pay some creditors more than bankruptcy might allow (Pellerin and Walter 2012, p. 16) and the FDIC's OLA implementing rule suggests that this treatment could apply to short-term creditors (FDIC final rule, July 15, 2011, 12 CFR 380, p. 41644). Therefore, we include the short-term liabilities of all BHCs and SLHCs with assets exceeding $50 billion in our Bailout Barometer.

Uninsured domestic deposits – Historically, uninsured depositors in the largest institutions have been protected (Walter and Weinberg, 2002, p. 380). Additionally, most uninsured depositors were protected during the bank failures that occurred following the financial crisis that began in 2008. Given these facts, market participants are likely to expect uninsured depositors at the largest banking companies (those with over $50 billion in assets) to be protected from losses in future financial crises.

Total Liabilities – Includes total consolidated liabilities of BHCs and SLHCs,[11] total liabilities of banks and thrifts not owned by BHCs or SLHCs,[12] plus total liabilities of U.S insured branches of foreign banks.[13]

Credit Unions

Explicitly Guaranteed Liabilities – Total credit union shares (deposits) up to the $250,000 NCUA insurance coverage limit.[14]

Implicitly Guaranteed Liabilities – In our Bailout Barometer, we include the short-term liabilities and uninsured deposits of credit unions with assets greater than $50 billion.[15]

Short-term liabilities – Financial institutions of this size are likely to be considered for OLA treatment if they experience financial distress.[16] The OLA provisions of the Dodd-Frank Act permit the FDIC to pay some creditors more than bankruptcy might allow (Pellerin and Walter 2012, p. 16) and the FDIC's OLA implementing rule suggests that this treatment could apply to short-term creditors (FDIC final rule, July 15, 2011, 12 CFR 380, p. 41644). Therefore, we include short-term liabilities of these credit unions in our Bailout Barometer.

Uninsured deposits – Historically, uninsured depositors in the largest institutions have been protected (Walter and Weinberg, 2002, p. 380). Therefore, market participants may expect uninsured depositors at the largest credit unions (those with over $50 billion in assets) to be protected from losses in future financial crises.

Total Liabilities – Total credit union liabilities as of Dec. 31, 2016.[17]

GSEs

Explicitly Guaranteed Liabilities:

Since Sept. 6, 2008, Fannie Mae and Freddie Mac have been in conservatorship under the Federal Housing Finance Agency (FHFA). Under the agreements associated with the conservatorship, the Treasury has committed to ensuring that each entity maintains a positive net worth.[18] Given this explicit promise of support, explicitly guaranteed liabilities will include:

Fannie Mae (Federal National Mortgage Association) – Total liabilities.[19]

Freddie Mac (Federal Home Loan Mortgage Corporation) – Total liabilities.[20]

Implicitly Guaranteed Liabilities:

Both Fannie Mae and the Farm Credit System were bailed out with federal government loans when they experienced financial trouble in the 1980s.[21] Furthermore, the bailout of Fannie Mae and Freddie Mac in 2008 during the financial crisis reinforced the perception that all of the large, systemically important GSEs will be bailed out in the event of financial trouble. Therefore, we include the liabilities of the remaining two GSEs in our Bailout Barometer:

Farm Credit System – Total liabilities.[22]

Federal Home Loan Banks – Total liabilities.[23]

Pension Funds

Explicitly Guaranteed Liabilities – According to a paper co-authored by staff members at the International Monetary Fund and the BEA, "as a percentage of assets held by private [defined benefit] pension plans, over 98 percent of the plans are covered under the Pension Benefit Guarantee Corporation (PBGC) in recent years."[24] We use this 98 percent asset coverage as a proxy for liability coverage and multiply our 2016 total liability figure for private defined benefit pension plans ($3,380 billion – see below for description) by 0.98 to reach $3,313 billion in liabilities of PBGC-guaranteed plans. Since the PBGC covers pensions only up to a specified maximum payment per year, the portion of beneficiaries' pensions that exceed the maximum is not guaranteed by the PBGC. The PBGC estimates that this portion is 4 percent.[25] We thus multiply the figure for liabilities of PBGC-guaranteed plans ($3,313 billion) by 0.96 to yield $3,180 billion to arrive at the explicitly guaranteed portion of PBGC-guaranteed pension funds.

Total Liabilities- Includes total liabilities of defined benefit plans held by private pension funds, as reported by the Board of Governor's Financial Accounts of the United States ("Flow of Funds").[26]

Other Financial Firms

Implicitly Guaranteed Liabilities – Short-term liabilities (repo, commercial paper, and other short-term liabilities with maturities less than or equal to one year) of those nonbank financial companies that have been designated as SIFIs by the Financial Stability Oversight Council.

Market participants might expect that the short-term liabilities of large financial firms that are designated as SIFIs would be protected if the firm is resolved under the OLA. While a SIFI designation does not necessarily imply OLA treatment in resolution, market participants are likely to expect that these institutions will not be allowed to enter bankruptcy because it seems ill-suited to handle the failure of SIFIs (Pellerin and Walter 2012, p. 14-16). The OLA provisions of the Dodd-Frank Act permit the FDIC to pay some creditors more than bankruptcy might allow (Pellerin and Walter 2012, p. 16), and the FDIC's OLA implementing rule suggests that this treatment could apply to short-term creditors (FDIC final rule, July 15, 2011, 12 CFR 380, p. 41644). Therefore, we include short-term liabilities of these SIFI-designated firms in our Bailout Barometer.

Total Liabilities – Includes the aggregate amount of liabilities outstanding as of December 2016 from each nonbank financial sector, including:

- Property-Casualty Insurance Companies
- Life Insurance Companies
- Security Brokers and Dealers
- Issuers of Asset-Backed Securities
- Finance Companies
- Real Estate Investment Trusts
- Funding Corporations

Total liabilities figures for those Property-Casualty Insurance Companies, Life Insurance Companies, and Security Brokers and Dealers that are not owned by BHCs, SLHCs and IHCs are obtained from SNL Financial.[27] Total liability figures for Issuers of Asset-Backed Securities, Finance Companies, Real Estate Investment Trusts, or Funding Corporations ("remaining financial sectors") are obtained from the Board of Governor's "Financial Accounts of the United States" statistical release. Some firms in the remaining financial sectors are directly owned by U.S. BHCs, SLHCs or IHCs, and their liabilities are thus already included in our Total Liability figure for Banking and Savings Firms; however, nonbank firms that are directly owned by a BHC, SLHC, or IHC are (with some exceptions – such as for the smallest of these firms) required to file a Y-11 or Y-11S report (Financial Statements of U.S. Nonbank Subsidiaries of U.S. Bank Holding Companies). We thus avoid double counting the liabilities in these BHC-, SLHC-, or IHC-owned firms by subtracting the liabilities of Y-11/Y-11S filers that we believe to be Issuers of Asset-Backed Securities, Finance Companies, Real Estate Investment Trusts, or Funding Corporations from the total liabilities of the remaining financial sectors.[28]

[1] See, for example: http://www.americanbanker.com/bankthink/single-point-of-entry-plan-ensures-more-megabank-bailouts-1075421-1.html

[2] According to the Dodd-Frank Act, all bank holding companies with assets greater than $50 billion are subjected to "enhanced supervision and prudential standards" because of concerns that the failure of such companies could pose risks to the "financial stability of the United States" (section 165 of the Act). Although several savings and loan holding companies have more than $50 billion in assets, they are not automatically subject to enhanced treatment like bank holding companies.

[3] Federal Deposit Insurance Corporation, "Resolution of Systemically Important Financial Institutions: The Single Point of Entry Strategy," *Federal Register*, Notice, Vol. 78, No. 243, Dec. 18, 2013, http://www.gpo.gov/fdsys/pkg/FR-2013-12-18/pdf/2013-30057.pdf. The supervisors also consider the so-called Multiple Point of Entry (MPOE) resolution scenario to be a viable option for some systemic firms. See footnote 29 on page 21 of the Total Loss-Absorbency Capacity (TLAC) final rule for a brief description of the SPOE and MPOE resolution scenarios: https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20161215a1.pdf.

[4] For an FDIC statement indicating that SPOE remains a proposal, see footnote 3 in "The Relative Role of Debt in Bank Resiliency and Resolvability." Remarks by FDIC Vice Chairman Thomas M. Hoenig. Presented to the Peterson Institute for International Economics, Washington, DC. January 20, 2016. Available at: https://www.fdic.gov/news/news/speeches/spjan2016.html

[5] Consolidated Statements for Bank Holding Companies (FR Y9C)

[6] Short-term liability data are from FR Y9C regulatory filings of holding companies. We use the quarterly average for fed funds and repurchase agreements, and year-end figures for commercial paper and other borrowed money with a remaining maturity of less than one year (averages are not available for the two latter figures).

[7] "Deposits held in domestic offices" minus "estimated insured deposits" from the FDIC's report that collects data from individual call reports of the insured subsidiaries of a BHC or SLHC.

[8] See, for example: https://www.nytimes.com/2016/04/14/business/dealbook/living-wills-of-5-banks-fail-to-pass-muster.html; http://www.investopedia.com/articles/markets-economy/062516/top-5-banks-are-too-big-fail-jpm-bac.asp; http://www.latimes.com/business/la-fi-banks-bailout-cushion-20161215-story.html; http://www.gao.gov/assets/670/665162.pdf; http://www.federalreserve.gov/newsevents/speech/stein20130417a.htm; http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2334&context=key_workplace (p.30); http://www.reuters.com/article/2011/07/12/financial-regulation-research-idUSN1E76B1II20110712; and https://www.law.upenn.edu/blogs/regblog/2012/09/11-lipson-orderly-liquidation-authority.html.

[9] The November 2016 list of the 30 global systemically important banks can be found at: http://www.fsb.org/2016/11/2016-list-of-global-systemically-important-banks-g-sibs/

[10] According to the Board of Governors press release announcing the final rule requiring foreign banking organizations to establish intermediate holding companies: "Foreign banking organizations with U.S. non-branch assets of $50 billion or more will be required to establish a U.S. intermediate holding company over their U.S. subsidiaries. The foreign owned U.S. intermediate holding company generally will be subject to the same risk-based and leverage capital standards applicable to U.S. bank holding companies. The intermediate holding companies also will be subject to the Federal Reserve's rules requiring regular capital plans and stress tests." Note there is one IHC that does not include a U.S. bank, though its foreign parent is a banking firm.

[11] From FR Y9C and FR Y9SP.

[12] Bank and thrift data from Consolidated Reports of Condition and Income for a Bank, FFIEC 031, FFIEC 041 and FFIEC 051.

[13] FFIEC 002 Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks.

[14] NCUA 2016 Annual Report, pages 7 and 96, published March 13, 2017. https://www.ncua.gov/Legal/Documents/Reports/annual-report-2016.pdf

[15] One credit union – Navy Federal Credit Union – had assets exceeding $50 billion as of Dec. 31, 2016.

[16] http://us.practicallaw.com/6-532-5109?source=relatedcontent

[17] Board of Governors of the Federal Reserve System. Credit Unions, Table L.114 in Federal Reserve Statistical Release Z.1, "Financial Accounts of the United States." https://www.federalreserve.gov/releases/z1/current/z1.pdf (June 8, 2017).

[18] "Statement by Secretary Henry M. Paulson, Jr. on Treasury and Federal Housing Finance Agency Action to Protect Financial Markets and Taxpayers." Washington, DC. Sept. 7, 2008. U.S. Department of the Treasury. http://www.treasury.gov/press-center/press-releases/Pages/hp1129.aspx.
Fannie Mae Form 10-K. Dec. 31, 2016, p. 16-17.
https://www.sec.gov/Archives/edgar/data/310522/000031052217000096/fanniemae201610k.htm
Freddie Mac Form 10-K. Dec. 31, 2016, p. 163-164.
https://www.sec.gov/Archives/edgar/data/1026214/000102621417000018/a201610k.htm

[19] Fannie Mae Form 10-K. Dec. 31, 2016, p. F-3.
https://www.sec.gov/Archives/edgar/data/310522/000031052217000096/fanniemae201610k.htm

[20] Freddie Mac Form 10-K. Dec. 31, 2016, p. 216.
https://www.sec.gov/Archives/edgar/data/1026214/000102621417000018/a201610k.htm

[21] See Owens, Raymond E. 1993. "Government-Sponsored Enterprises." Federal Reserve Bank of Richmond, *Instruments of the Money Market*, Chapter 11, p. 153. Available at:
https://www.richmondfed.org/~/media/richmondfedorg/publications/research/special_reports/instruments_of_the_money_market/pdf/chapter_11.pdf

[22] Farm Credit System total liabilities from "2016 Annual Information Statement of the Farm Credit System," March 1, 2017, p. 3.https://www.farmcreditfunding.com/ffcb_live/serve/public/pressre/finin/report.pdf?assetId=318396. In addition, Farmer Mac is part of the Farm Credit System, but its financial information is not included in the combined financial statements of the Farm Credit System (see page 12 of the "2016 Annual Information Statement of the Farm Credit System"). Farmer Mac total liabilities found in Farmer Mac Form 10-K. Dec. 31, 2016, p. 64. https://www.sec.gov/Archives/edgar/data/845877/000084587717000018/a201610-k.htm.

[23]Federal Home Loan Banks "Combined Financial Report for the Year Ended December 31, 2016." March 28, 2017, p. F-3. http://www.fhlb-of.com/ofweb_userWeb/resources/2016Q4CFR.pdf.

[24] Reinsdorf, Marshall, David Lenze, and Dylan Rassier. "Bringing Actuarial Measures of Defined Benefit Pensions into the U.S. National Accounts." Page 10. Paper Prepared for the IARIW 33rd General Conference. 2014. http://www.iariw.org/papers/2014/ReinsdorfPaper.pdf

[25] Pension Benefit Guaranty Corporation. "PBGC's Guarantee Limits – An Update." September 2008. Page 9, footnote 13. https://www.pbgc.gov/documents/guaranteelimits.pdf . And,
Pension Benefit Guaranty Corporation. "Pension Insurance Data Book 2006." Page 20, footnote 11.
http://www.pbgc.gov/documents/2006databook.pdf.

[26] Board of Governors of the Federal Reserve System. Credit Unions, Table L.118, line 20, in Federal Reserve Statistical Release Z.1, "Financial Accounts of the United States."
https://www.federalreserve.gov/releases/z1/current/z1.pdf (June 8, 2017).

[27] Note that those insurance companies and securities brokers and dealers owned by BHCs, SLHCs and IHCs are included in the total liabilities figure for banking and savings firms.

[28] Nonbank firms that are directly owned by banks or thrifts are not required to file a Y-11, which could mean that we are double-counting some liabilities of these nonbank firms.

Last updated August 16, 2017