BAILOUT BAROMETER

FEDERAL RESERVE BANK OF RICHMOND
Richmond • Baltimore • Charlotte

2015 Estimate

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Published January 2017

Bailout Barometer as of Dec. 31, 2015

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, the dollar value of money market mutual fund shares, as well as a subset of the liabilities of other financial firms.

Our current estimate (using data as of Dec. 31, 2015), 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 2015 there were 42 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 42 largest holding companies because: 1) there are "no past government actions" indicating how SPOE might be applied (indeed, as of this writing, SPOE is just 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 38 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. Similarly, some market participants might imagine that in a future financial crisis the government could abstain from offering to protect all Money Market Mutual Fund (MMF) investors (in contrast to its actions in 2008 when it offered to protect all MMF investors). Market participants might well believe that some MMFs might need no government assistance even in the worst financial crises (such as those that invest largely in Treasury securities) or that some smaller MMFs might be allowed to suffer losses.

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, 2015

Financial Firms (in billions)	**Explicitly Guaranteed Liabilities (A)**	**Implicitly Guaranteed Liabilities (B)**	**Bailout Barometer (A+B)**	**Total Liabilities**
Banking & Saving Firms (includes BHCs & SLHCs)	$6,531	$7,218	$13,749	$17,849
	36.6%	40.4%	77.0%	
Credit Unions	$961	$10	$971	$1,036
	92.8%	0.9%	93.7%	
GSEs				
Fannie Mae	$3,218		$3,218	$3,218
Freddie Mac	$1,983		$1,983	$1,983
Farm Credit System		$270	$270	$270
Federal Home Loan Banks		$921	$921	$921
Total	$5,201	$1,191	$6,392	$6,392
	81.4%	18.6%	100.0%	
Private Employer Pension Funds	$3,111		$3,111	$3,307
	94.1%		94.1%	
Money Market Mutual Funds		$2,755	$2,755	$2,755
		100.0%	100.0%	
Other Financial Firms		$76	$76	$12,560
		0.6%	0.6%	
Total for Financial Firms	**$15,804**	**$11,249**	**$27,053**	**$43,898**
Percentage of Total Liabilities	**36.0%**	**25.6%**	**61.6%**	**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 38 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) 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 2015, and each has total consolidated BHC assets exceeding $1 trillion.[9]
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> 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. Both bank holding companies 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. Moreover, all bank holding companies with assets greater than $50 billion have been designated as systemically important financial institutions (SIFIs). While a SIFI designation 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.
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> 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,[10] total liabilities of banks and thrifts not owned by BHCs or SLHCs,[11] plus total liabilities of U.S insured branches of foreign banks.[12]

Credit Unions

Explicitly Guaranteed Liabilities – Total credit union shares (deposits) up to the $250,000 NCUA insurance coverage limit.[13]

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.[14]

Short-term liabilities – Financial institutions of this size are likely to be considered for OLA treatment if they experience financial distress.[15] 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, 2015.[16]

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.[17] Given this explicit promise of support, explicitly guaranteed liabilities will include:

Fannie Mae (Federal National Mortgage Association) – Total liabilities.[18]

Freddie Mac (Federal Home Loan Mortgage Corporation) – Total liabilities.[19]

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.[20] 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.[21]

Federal Home Loan Banks – Total liabilities.[22]

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."[23] We use this 98 percent asset coverage as a proxy for liability coverage and multiply our 2015 total liability figure for private defined benefit pension plans ($3,307 billion – see below for description) by 0.98 to reach $3,241 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.[24] We thus multiply the figure for liabilities of PBGC-guaranteed plans ($3,241 billion) by 0.96 to yield $3,111 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"). The Flow of Funds obtains this figure from the Bureau of Economic Analysis (BEA), which bases its estimates on Form 5500 filings from employee benefit plans.

Money Market Mutual Funds

Implicitly Guaranteed Liabilities – Total net assets of money market mutual funds (MMFs).[25] Included because the federal government protection that was granted to MMFs in 2008 implies that market participants could view MMFs as being likely to receive government protection in future financial crises. New SEC rules, which take effect in 2016, may minimize the danger of runs on some MMFs and therefore the market's perception of federal government protection.[26] The new rules would require institutional "prime" MMFs and institutional municipal MMFs to float their net asset values (NAVs) rather than use stable NAVs as they are currently permitted to do. Commentators maintain that stable NAVs contribute to the likelihood of runs, and therefore encourage government intervention.

Other Financial Firms

Implicitly Guaranteed Liabilities – Short-term liabilities (repo, commercial paper, and other short-term liabilities with original 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 2015 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 and SLHCs are obtained from SNL Financial.[27] Total liability figures for Issuers of Asset-Backed Securities, Finance Companies, Real Estate Investment Trust, 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 or SLHCs, 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 or SLHC 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- or SLHC-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 designated as systemically important financial institutions (SIFIs). Although several savings and loan holding companies have more than $50 billion in assets, they are not automatically designated as SIFIs 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

[4] For a 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: http://www.gao.gov/assets/670/665162.pdf; http://www.federalreserve.gov/newsevents/speech/stein20130417a.htm; http://www.wsj.com/articles/fed-fdic-rebuke-bankruptcy-plans-of-11-of-nations-biggest-banks-1407270607; http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2334&context=key_workplace (p.30); http://www.nypost.com/p/news/opinion/opedcolumnists/too_big_to_fail_grows_cVFocOFPEAJyQ4LgCR2ilO; 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 2015 list of the 30 global systemically important banks can be found at: http://www.fsb.org/wp-content/uploads/2015-update-of-list-of-global-systemically-important-banks-G-SIBs.pdf

[10] From FR Y9C and FR Y9SP.

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

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

[13] NCUA 2015 Annual Report, page 95, published March 2016.

[14] One credit union – Navy Federal Credit Union – had assets exceeding $50 billion as of Dec. 31, 2015.

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

[16] 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." http://www.federalreserve.gov/releases/z1/current/z1.pdf (September 16, 2016).

[17] "Statement by Secretary Henry M. Paulson, Jr. on Treasury and Federal Housing Finance Agency Action to Protect Financial Markets and Taxpayers." Washington, DC. 9 July 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, 2015, p. 27-28.
https://www.sec.gov/Archives/edgar/data/310522/000031052216000453/fanniemae201510k.htm
Freddie Mac Form 10-K. Dec. 31, 2015, p. 157-158.
https://www.sec.gov/Archives/edgar/data/1026214/000102621416000103/a201510k.htm

[18] Fannie Mae Form 10-K. Dec. 31, 2015, p. F-3.
https://www.sec.gov/Archives/edgar/data/310522/000031052216000453/fanniemae201510k.htm

[19] Freddie Mac Form 10-K. Dec. 31, 2015, p. 208.
https://www.sec.gov/Archives/edgar/data/1026214/000102621416000103/a201510k.htm

[20] 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

[21] Farm Credit System total liabilities from "2015 Annual Information Statement of the Farm Credit System," March 7, 2016, p. 3. http://www.farmcreditfunding.com/ffcb_live/serve/public/pressre/finin/report.pdf?assetId=294294. 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 "2015 Annual Information Statement of the Farm Credit System"). Farmer Mac total liabilities found in Farmer Mac Form 10-K. Dec. 31, 2015, p. 63. https://www.sec.gov/Archives/edgar/data/845877/000084587716000187/a201510-k.htm.

[22]Federal Home Loan Banks "Combined Financial Report for the Year Ended December 31, 2015." March 27, 2015, p. F-3. http://www.fhlb-of.com/ofweb_userWeb/resources/2015Q4CFR.PDF.

[23] 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.

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

[25] Investment Company Institute Total Net Assets of Money Market Funds, "2016 Investment Company Fact Book." p. 206. http://www.icifactbook.org/deployedfiles/FactBook/Site%20Properties/pdf/2016_factbook.pdf.

[26] See July 23, 2014, SEC press release announcing the final money market fund reform rule, found at: http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370542347679#.VNDj5S7GrVY.

[27] Note that those insurance companies and securities brokers and dealers owned by BHCs and SLHCs 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 December 19, 2016