Off-Balance-Sheet Federal Liabilities

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ABSTRACT

Much attention has been given to the recent growth of the U.S. federal debt. This paper examines the growth of federal liabilities that are not included in the official debt numbers. Those numbers take the form of implicit or explicit government guarantees and commitments. The five major categories surveyed are support for housing, other loan guarantees, deposit insurance, Federal Reserve actions, and government trust funds. The total dollar value of notional off-balance-sheet commitments came to $70 trillion as of 2012, or six times the size of the reported on-balance-sheet debt. This paper reviews the potential costs and benefits of those off-balance-sheet commitments and their role in precipitating or mitigating the financial crisis of 2008.

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1. INTRODUCTION

U.S. federal debt has exploded in recent years, growing from $5 trillion (or 36 percent of gross domestic product [GDP]) in 2007 to an estimated $12 trillion (72 percent of GDP) by the end of 2013. Making the interest payments on that debt poses a permanent burden on future taxpayers. At the moment, interest rates are at historic lows, with the government paying an average rate of only 2 percent to service its outstanding debt.[1] That rate contrasts with an average rate of 4.5 percent paid over 2000–2009 and 6.6 percent over 1990–1999.

Most projections call for interest rates to rise back to more usual historical levels over the next several years. For example, the consensus Blue Chip Financial Forecast anticipates a yield on 10-year Treasury bonds of 4.7 percent by 2017 (Bernanke 2013). Returning to those levels of interest rates or the even higher rates seen on average during the 1990s would mean a doubling or tripling of the government's current annual interest expense, bringing it to 2.8–4.2 percent of GDP, even without further increases in federal debt from now on. The Congressional Budget Office (CBO) currently anticipates that net interest expense will exceed the entire defense budget by 2021.[2]

But the officially reported debt is only one aspect in which current policy has left a burden for future taxpayers. In addition, the government has made a number of implicit and explicit commitments that are not included in the net debt figures just reported, but that could potentially require much larger adjustments in future spending or taxes than those associated with paying interest on the official debt itself. The biggest items in that category come from Social Security

[1] Federal net interest expense in 2012 was $220 billion, which was 2 percent of the $11,281 billion in debt held by the public. Data are from the Congressional Budget Office, "Historical Budget Data," May 2013, http://www.cbo.gov/publication/44197.

[2] Congressional Budget Office, "Updated Budget Projections: Fiscal Years 2013–2023," May 2013, http://www.cbo.gov/sites/default/files/cbofiles/attachments/44172-Baseline2.pdf.

and Medicare, which, if current policy is maintained, will require enormous sacrifices from future taxpayers. Gokhale (2013) and the 2013 Trustees Reports for Social Security and Medicare have provided updates on the size of those commitments. However, a number of other government guarantees and implicit commitments are also quite significant.

This paper tabulates the growth of the major categories of off-balance-sheet commitments, with a particular focus on their possible role in precipitating or mitigating the financial crisis of 2008. Adding all the off-balance-sheet liabilities together, I calculate that total federal off-balance-sheet commitments came to $70.1 trillion as of 2012, or about six times the size of the on-balance-sheet debt. In other words, the budget impact associated with an aging population and other challenges could turn out to have much more significant fiscal consequences than even the mountain of on-balance-sheet debt already accumulated.

This paper begins with an examination of the motivations for off-balance-sheet commitments. Those motivations include prevention of or response to financial crises, subsidization of socially desired activities, and commitments to retirees. I then review five of the most important current sources of federal off-balance-sheet liabilities: support for housing, other loan guarantees, deposit insurance, Federal Reserve actions, and government trust funds. I explore how those commitments have changed over the last six years and their possible role in contributing to or mitigating the financial strains associated with the Great Recession. A final section briefly draws on some other historical episodes to offer some concluding thoughts on how concerned we should be about the growth of off-balance-sheet federal liabilities.

2. REASONS FOR OFF-BALANCE-SHEET COMMITMENTS

There are three traditional motivations for the government to make commitments in addition to the explicit liabilities embodied in outstanding sovereign debt. In this section, I briefly review those motivations.

2.1 Prevention of, and Response to, Financial Crises

Financial institutions like banks function as intermediaries between potential lenders and borrowers. The lenders value such intermediation because they desire to hold their assets in highly liquid form,

such as bank deposits that could be withdrawn at any time. The borrowers have longer-term investment projects with incompletely observed fundamentals. As a result, the bank's loans are inherently illiquid. The financial sector issues short-term liquid liabilities to the lenders and holds long-term, illiquid assets (claims against the borrowers), thereby earning a profit on the interest rate spread.

Diamond and Dybvig (1983) suggest that such arrangements are inherently unstable. If all the bank's depositors were ever to want their money back at the same time, an immediate sale of the bank's assets would involve a loss as a necessary result of their illiquid character. In such an event, depositors would not get all their money back, and a bank run could be self-fulfilling. Diamond and Dybvig show that this problem can be prevented if the government guarantees all deposits on the basis of its taxing authority, which ideally would never need to be invoked in equilibrium.

Other economists have argued that deposit insurance could itself introduce a moral hazard problem, causing banks to make riskier loans than they would have in the absence of a government guarantee; see, for example, Kareken and Wallace (1978) and the surveys in Bhattacharya, Boot, and Thakor (1998) and Santos (2001). Moreover, bank runs could alternatively be prevented by requiring the bank to carry a level of equity—initial capital provided by the bank's owners rather than obtained from depositors or short-term lenders—that is sufficient to cover the losses should the bank be forced to liquidate. This situation involves a potential efficiency loss relative to government deposit insurance in that it requires capital to be tied up as reserves as a contingency against liquidity needs; for discussion, see Diamond and Rajan (2000) and Cooper and Ross (2002).

An alternative role for the government could arise *ex post* in deciding how to respond to a financial panic if one were to occur. If banks are forced to sell off their illiquid assets at the height of a financial panic, such "fire sales" would depress the market price of illiquid assets even further. There would be social benefits in such a setting from having the government or central bank offer emergency loans, which the banks would be able to repay over time through a more orderly sale of bank assets. A classic discussion of the role for government lending in such a situation was provided by Bagehot (1873); see Flannery (1996) and Brunnermeier and Sannikov (2012) for modern assessments.

2.2 Subsidization of Socially Desired Activities

It is also possible to make a case for government loans or loan guarantees as a steady-state policy even if bank runs are not a concern. The government is able to borrow at lower rates than any private borrower. To the extent that the government can do this because of private-lending frictions (such as principal-agent problems or credit rationing), it may be welfare improving to have the government directly provide loans or guarantees to many private borrowers. Nevertheless, moral hazard and other problems could again cause such government assistance to be counterproductive; see for example Chaney and Thakor (1985), Smith and Stutzer (1989), and Bencivenga and Smith (1993).

Alternatively, a social planner might choose to direct more capital to certain activities than would be the outcome in an unregulated market if those activities are associated with positive economic externalities. For example, homeownership may be perceived to lower crime rates and increase community involvement, and education could provide a range of external social benefits. Such arguments could serve as possible justification for the large government participation in housing and student loans discussed in Section 3. In that discussion, I will also review the potential downside of such programs.

2.3 Commitments to Retirees

Finally, the government would need to offer retirement benefits to many of its employees in order to compete with private-sector employers for workers. The government's existing commitment to its future retired workers may take the form of off-balance-sheet liabilities. More broadly, the U.S. government has also undertaken limited provision for almost all retired and many disabled workers in the form of the Social Security Trust Fund. Such government involvement in retirement assistance to private-sector workers could be motivated on the basis of a perceived public good. As a nation, we do not want to see the elderly suffer, even if it is a result of their own decision not to save when they were working. Assisting such individuals is a public good in the sense that providing the good for me (giving me the satisfaction that Person X is adequately cared for) does not reduce the benefit to you of that same good. Such programs could be regarded as an off-balance-sheet liability if existing policies commit the government to offering a certain level of assistance to retirees in years to come.

3. KEY U.S. OFF-BALANCE-SHEET COMMITMENTS

In Section 2, I discussed some general reasons why the United States has assumed its many off-balance-sheet obligations. In this section, I examine those obligations specifically and attempt to gauge their size.

3.1 Housing

One of the most important areas of federal off-balance-sheet commitments involves assistance to the housing market. Those programs began in 1934 when Congress established the Federal Housing Administration (FHA), which insures approved mortgages. Such insurance creates a contingent liability of the federal government that is not counted as part of the federal debt and, if the loan is repaid, never shows up on the Treasury's income or balance sheet. Since its inception, the FHA has insured 40 million loans. During 2012, the FHA insured $213 billion in new mortgages, bringing its total portfolio of insured mortgages to $1.3 trillion (U.S. Department of Housing and Urban Development 2012).

In 1938, Congress created the Federal National Mortgage Association, commonly known as Fannie Mae, as a separate entity to purchase the loans that were guaranteed by the FHA. Although originally created through an act of Congress, Fannie Mae has for much of its history had some of the characteristics of a private corporation, with the Federal National Mortgage Association Charter Act of 1954 giving the federal government and private stockholders mixed ownership of the enterprise. In 1968, Fannie Mae was split into two separate entities: the Government National Mortgage Association (Ginnie Mae) was to be an entirely government-owned corporation intended particularly to assist lower-income households, while the remainder (which continued to be referred to as Fannie Mae) was intended to function mostly as a private enterprise separate from the government. In 1970, Congress chartered the Federal Home Loan Mortgage Corporation (Freddie Mac) to serve a similar role and act as a competitor to Fannie Mae.

Because both Fannie Mae and Freddie Mac were originally created by an act of Congress, they are referred to as "government-sponsored enterprises" (GSEs). For a number of reasons, it is difficult to regard them as ever being truly private companies. They were exempt from all state and local taxes other than property taxes, and bankruptcy procedures were never clear. The Federal National Mortgage

Association Charter Act did specify that, in issuing any debt, Fannie Mae "shall insert appropriate language in all of its obligations issued under this subsection clearly indicating that such obligations, together with the interest thereon, are not guaranteed by the United States and do not constitute a debt or obligation of the United States or of any agency or instrumentality thereof other than the corporation" (Section 304.2.b). But lenders to the GSEs did not act as if they actually believed that. For example, a 2001 CBO assessment estimated that the GSEs would have had to pay an average interest rate that would be 41 basis points higher than the rate they actually paid to borrow if lenders did not perceive a significant probability that the U.S. Treasury would step in, if necessary, to prevent a GSE default on the debt. See Haffner (2008) for further discussion.

Fannie and Freddie used the funds borrowed at advantageous rates to purchase significant volumes of new mortgages. As seen in Figure 1, their combined holdings increased by almost $1.3 trillion between 1994 and 2004, or over a 300 percent increase; U.S. nominal GDP increased only 67 percent over that same period. As of the end of 2009, Fannie owed $780 billion in short-term and long-term debt, which it used to finance $736 billion in mortgages that it held at the time.[3] Freddie owed $781 billion and held $718 billion in mortgages.[4]

Other GSEs were also using funds borrowed at favorable rates to purchase mortgages. For example, at the end of 2009, the Federal Home Loan Banks held $616 billion in financial assets, and the Farm Credit System held $80 billion.[5] Those four enterprises, along with the Financing Corporation and the Resolution Funding Corporation, had total debt outstanding of $2.7 trillion as of the end of 2009 (Federal Reserve Board, *Flow of Funds*, Table L.1).

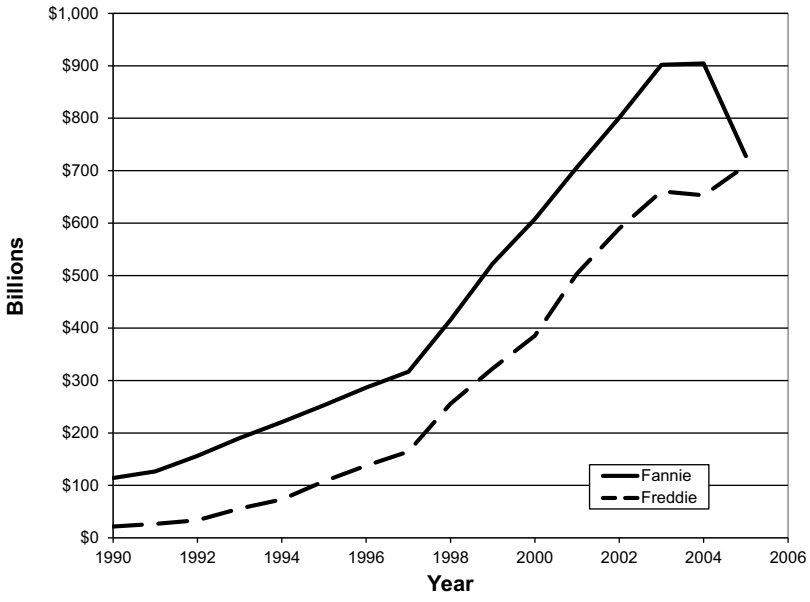
Even more important in dollar terms were the guarantees that Fannie and Freddie provided for a vastly larger volume of loans. The system worked as follows: A private entity would lend its own funds to a household for the purpose of buying a house and would then sell the mortgage to Fannie or Freddie. The GSE would then bundle a set

[3] This number refers to the sum of mortgages and mortgage-backed securities held for trading, available for sale, and held for investment. Data are from 2010 Fannie Mae Annual Report, p. F-3.

[4] Data are from 2010 Freddie Mac Annual Report, p. 175.

[5] See Federal Reserve Board, *Flow of Funds*, Table L.122, "Government-Sponsored Enterprises."

Figure 1
Retained Mortgage Portfolios of Fannie Mae and Freddie Mac
(first quarter, 1990 to third quarter, 2006)



Source: Hamilton (2007b).

of loans into an asset known as a mortgage-backed security (MBS) and sell the bundle to individual investors. Fannie described its business model as follows:[6]

> We support market liquidity by securitizing mortgage loans, which means we place loans in a trust and Fannie Mae MBS backed by the mortgage loans are then issued. We guarantee to the MBS trust that we will supplement amounts received by the MBS trust as required to permit timely payment of principal and interest on the trust certificates. In return for this guaranty, we receive guaranty fees.

Although those guarantees represented a liability of the GSE, they were not counted as part of the GSE's own balance sheet. They were,

[6] From Fannie Mae 2011 Annual Report, p. 22.

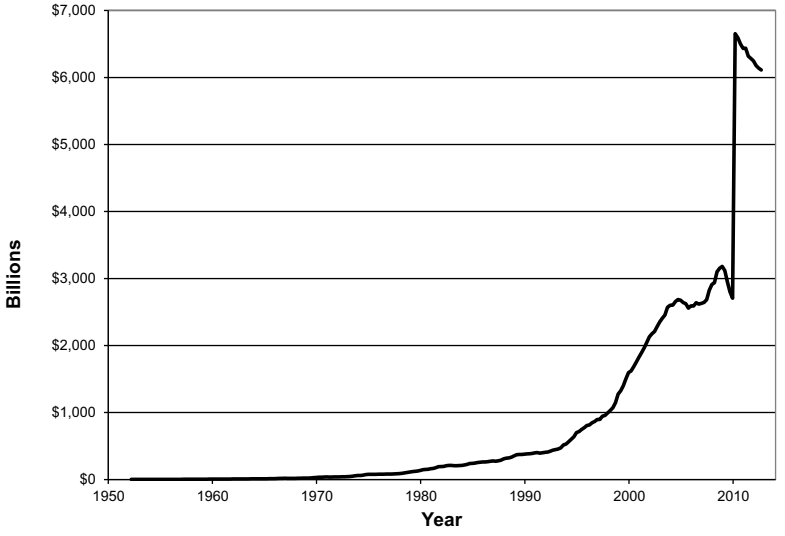
in effect, an off-balance-sheet liability of an enterprise that could itself be regarded as an off-balance-sheet liability of the federal government. As of the end of 2009, the assets in agency-backed and GSE-backed mortgage pools came to $5.4 trillion (Federal Reserve Board, *Flow of Funds*, Table L.1).

The combined net equity of Fannie and Freddie that could be used to honor this guarantee came to only $70 billion as of 2006. That such enterprises would be capable by themselves of actually guaranteeing such a vast sum stretches credulity. As housing prices began to fall after 2006, the GSEs' net equity turned negative, and the federal government placed both Fannie and Freddie into conservatorship. Beginning in 2010, the guarantees began to be reported as on-balance-sheet liabilities of the GSEs (see Figure 2).

Having been originally created through an act of Congress, and with the federal government today being the sole owner of Fannie and Freddie, it seems appropriate to consider both the direct debt obligations of the GSEs and other government housing agencies, as well as their outstanding mortgage guarantees, as an off-balance-sheet liability of the federal government. It should be recognized that such liabilities do not have the same status as the direct debt obligations of the Treasury itself. For one thing, there are some offsetting assets, namely, the mortgages held outright. The value of the mortgages would never fall to zero, so using the notional exposure is a significant overstatement of the conceivable net outlays that would be required from the federal government to honor these commitments. Nevertheless, it seems a useful exercise to calculate the total notional value of these off-balance-sheet debts and guarantees.

Line 2 of Table 1 reports the par value of the outstanding value of the direct debt of Fannie, Freddie, Federal Home Loan Banks, Farm Credit System, Federal Agricultural Mortgage Corporation (Farmer Mac), Financing Corporation, and Resolution Funding Corporation at the end of various fiscal years, while line 3 reports the notional value of the separate mortgage guarantees issued by Fannie, Freddie, Ginnie, and the Farmers Home Administration, plus mortgages held outright by the Federal Financing Bank. The big jump in line 2 and the fall in line 3 after September 2008 represent the accounting decision to move Fannie's and Freddie's guarantees on balance sheet. Lines 2 and 3 sum to $7.5 trillion as of the end of fiscal year 2012, two-thirds as big as the entire stock of Treasury debt held by the

Figure 2
Total On-Balance-Sheet Liabilities of GSEs
(first quarter, 1990 to third quarter, 2006)



Source: Federal Reserve Board, *Flow of Funds*, Table L.122.
Note: Includes Federal Home Loan Banks, Fannie Mae, Freddie Mac, Federal Agricultural Mortgage Corporation (Farmer Mac), Farm Credit System, the Financing Corporation, and Resolution Funding Corporation. The Student Loan Marketing Association (Sallie Mae) was included until it was fully privatized in the fourth quarter of 2004. Beginning in the first quarter of 2010, almost all Fannie and Freddie mortgage pools are consolidated on Fannie's and Freddie's balance sheets.

public. Note that we have left out of this calculation the $1.3 trillion in loan guarantees[7] issued by the Federal Housing Administration, Veterans Housing Benefit Programs, and Rural Housing Service, on the assumption that most of those loans ended up being held as assets or part of the guaranteed pools of the GSEs and agencies that are already included in lines 2 and 3 of Table 1.

Panel A of Figure 3 provides historical perspective by plotting the combined mortgage debt either held outright by the GSEs or held in

[7] This number comes from Government Accountability Office, "Financial Statements of the United States Government: Notes to Financial Statements," Fiscal Year 2012.

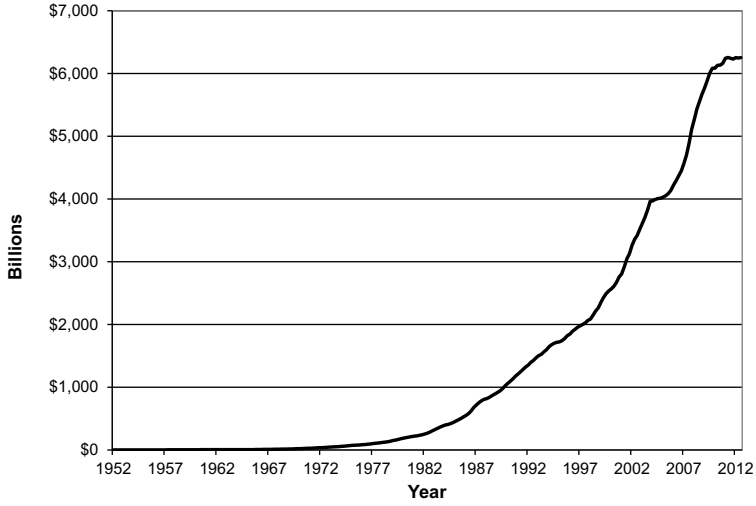
Table 1
Treasury Debt Held by the Public and Contribution of Guarantees and Obligations of GSEs to Off-Balance-Sheet Federal Liabilities (fiscal year, in billions of dollars)

	2006	2008	2010	2012
1. Treasury debt held by public	$4,867	$5,837	$9,052	$11,299
2. Direct debt obligations of government-sponsored enterprises	$2,618	$3,153	$6,498	$6,112
3. MBS guaranteed by agencies and GSEs	$3,769	$4,883	$1,096	$1,408
4. Total off-balance-sheet commitment to housing	**$6,386**	**$8,036**	**$7,594**	**$7,520**
5. Student loan guarantees	$321	$405	$382	$285
6. Less: student loan guarantees already imputed to on-budget federal debt	$0	−$11	−$137	−$165
7. Other loan guarantees	$147	$153	$174	$205
8. Combined GSE debt and loan guarantees	**$6,854**	**$8,583**	**$8,013**	**$7,845**

Sources and Notes: **Line 1:** Public debt securities and agency securities held by the public from Table FD-1 ("Summary of Federal Debt"), *Treasury Bulletin*, December 2008 and December 2012. **Line 2:** Short-term and long-term debt issued by Freddie, Fannie, Federal Home Loan Banks, Farm Credit System, Farmer Mac, Financing Corporation, and Resolution Funding Corporation. After September 2008, this debt also includes MBS guarantees of Fannie and Freddie. From line 14 ("credit market debt owed by GSEs"), Table L.1 ("Credit Market Debt Outstanding"), *Flow of Funds*, Federal Reserve Board. **Line 3:** Mortgages held in pools from Ginnie, Freddie, Fannie, and Farmers Home Administration plus mortgages held by Federal Financing Bank. After 2008, Fannie and Freddie MBS are included in line 2 but not line 3. From line 28 ("agency and GSE-backed mortgage pools"), Table L.217 ("Total Mortgages"), *Flow of Funds*, Federal Reserve Board. **Line 4:** Sum of lines 2 and 3. **Line 5:** Principal amount guaranteed by the government for Federal Family Education Loans, from Government Accountability Office, "Financial Statements of the United States Government: Notes to Financial Statements," indicated fiscal years. **Line 6:** Debt owed by Department of Education to Department of the Treasury associated with Federal Family Education Loans. From columns (3)–(6) of Table 2. **Line 7:** Principal amounts guaranteed by the government for programs other than FHA, Rural Housing Services, Veterans Housing Benefit Programs, and education loans, from Government Accountability Office, "Financial Statements of the United States Government: Notes to Financial Statements," indicated fiscal years. **Line 8:** Sum of lines 4–7.

Figure 3
Mortgage Debt Held by GSEs or in Agency-Backed or GSE-Backed Mortgage Pools
(first quarter, 1952 to third quarter, 2012)

Panel A. Amount held



Panel B. Amount as a percentage of U.S. GDP

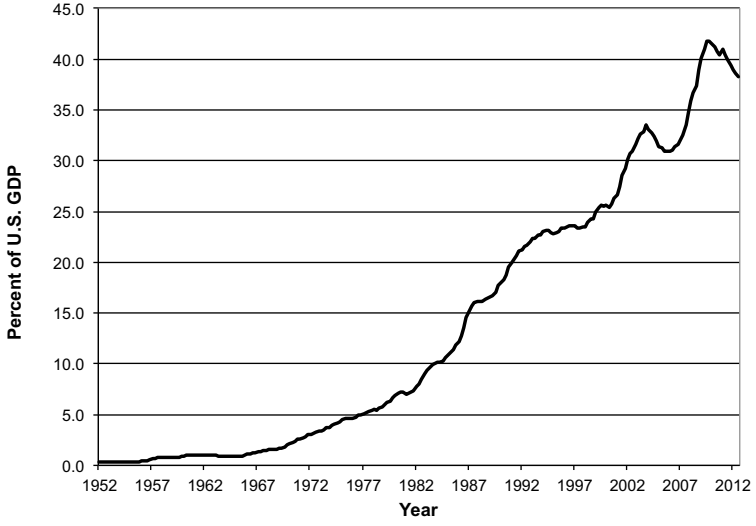
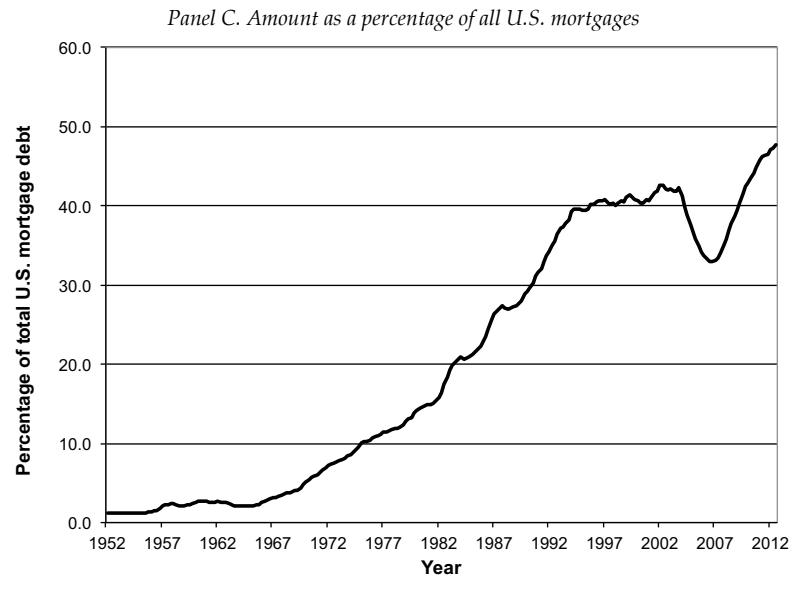


Figure 3
(*continued*)



Source: Federal Reserve Board, *Flow of Funds*, Table L.217.

mortgage pools that were guaranteed by the GSEs or other federal agencies. That combined debt nearly quadrupled between 1991 and 2006, and it more than doubled as a percentage of GDP over those 15 years (see Panel B of Figure 3).

What have been the public benefits of that off-balance-sheet commitment? One goal of those policies was to increase the homeownership rate. There was indeed a significant rise in homeownership from 64 percent in 1994 to 69 percent by 2005. However, those gains proved to be temporary, as they were mostly wiped out by the housing crash and Great Recession (see Figure 4).

Before the crash, however, the U.S. housing boom was pretty spectacular. Household mortgage debt grew significantly faster than GDP in the decade leading up to the crash (Figure 5). U.S. real house prices, which according to data by Shiller (2000) had been relatively

Figure 4
U.S. Homeownership Rate
(1965–2012, fourth quarter of each year)

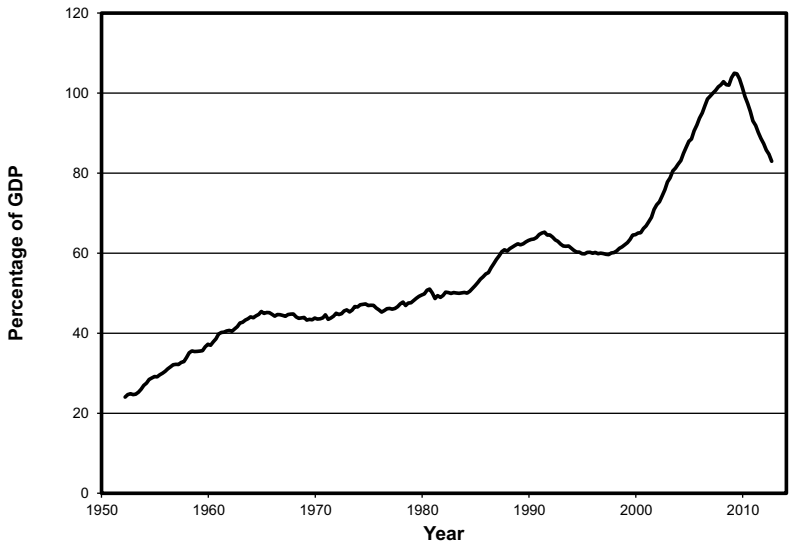
Source: United States Census Bureau, Historical Table 14, http://www.census.gov/housing/hvs/data/histtabs.html.

stable for a century, nearly doubled within the span of a decade before crashing just as dramatically (Figure 6).

That the tremendous growth in implicit federal guarantees contributed to the housing bubble seems difficult to deny. However, it is important to recognize that an even bigger contribution came from outside the GSEs and federal agencies. As seen in Panel C of Figure 3, despite the rapid growth of mortgage debt held or guaranteed by the GSEs, the fraction of mortgage debt associated with the GSEs climbed only modestly between 1995 and 2003, after which it began to decline as a result of an even faster growth in private-label MBS.[8] Those private-label MBS represented an adaptation of the Fannie and Freddie model. As with the GSEs, a mortgage originator

[8] See Ashcraft and Schuermann (2007) for a description of private-label MBS.

Figure 5
Total Mortgage Debt as a Percentage of GDP
(first quarter, 1952 to third quarter, 2012)

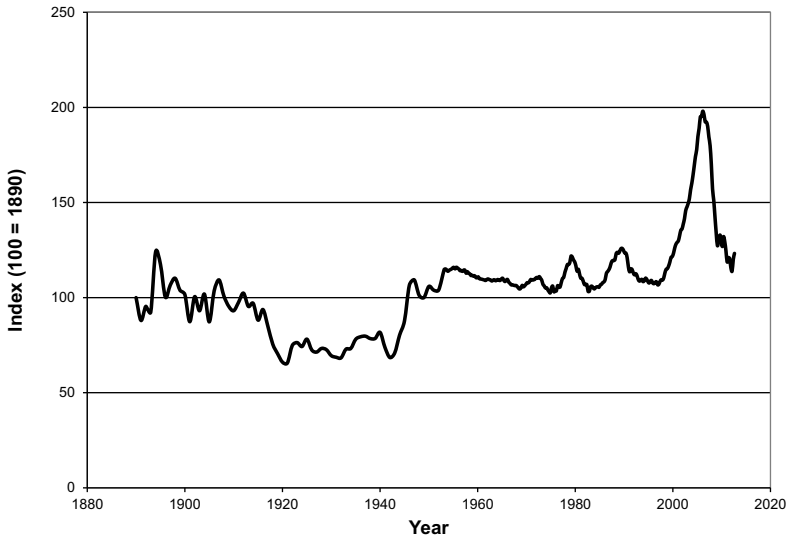


Source: Federal Reserve Board, *Flow of Funds*, Table L.217.

would make the initial loan to a household. But rather than sell the mortgage to Fannie or Freddie, the originator would sell the loan to a private loan aggregator, such as New Century Financial (which went bankrupt in 2007) or Countrywide Financial (which became distressed and was purchased by Bank of America in 2008). The aggregator would collect a group of thousands of mortgages into a pool, and the income flows resulting from interest payments on the pool were then assigned to tranches, with the more senior tranches guaranteed to be paid first.

The theory was that the diversification provided by pooling, along with the protection provided by a more senior position in the tranche system, could make such securities safe even without an explicit guarantee from a GSE. That belief gained acceptance despite the fact that the creditworthiness of the borrowers was substantially worse than that required for securitization by a GSE.

Figure 6
Shiller's Real House Price Index
(1890–2012)

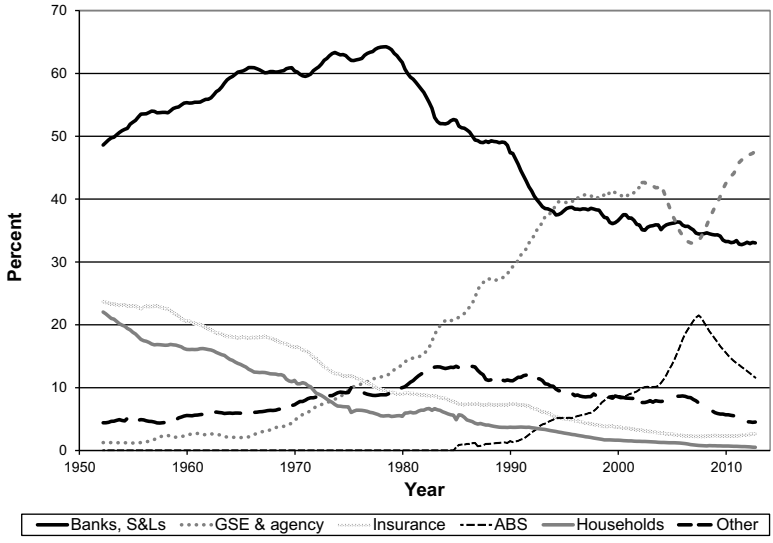


Source: Shiller (2000), as updated at http://www.irrationalexuberance.com/index.htm.

Figure 7 summarizes changing funding sources for U.S. mortgages over time. During the 1980s, GSE pools gradually displaced private banks and savings and loans as the dominant provider of mortgage funds in the United States. During the 1990s, the GSE share increased only modestly as private-label MBS grew rapidly. The private-label MBS were far more important than the GSEs in the explosion of U.S. mortgage debt in the 2000s.

One could, nevertheless, argue that the implicit guarantees associated with the GSE and agency mortgages made an indirect contribution to the explosion of private-label MBS. The primary risk for both private and GSE MBS was that of a crash in real-estate prices. As long as prices kept rising, even the poor-quality subprime loans had very low default rates because borrowers could refinance at a profit, thus turning their initial position of zero or even negative net equity into a handsome profit. As noted earlier, the potential federal

Figure 7
Percentage of U.S. Mortgage Debt Financed by Different Sectors
(first quarter, 1952 to third quarter, 2012)



Source: Federal Reserve Board, *Flow of Funds*, Table L.217.
Note: *ABS:* Mortgages held in the form of privately issued asset-backed securities. *Banks, S&Ls:* Sum of U.S.-chartered depository institutions, foreign banking offices in the United States, in U.S.-affiliated areas, and unions. *GSE & agency:* Sum of mortgages held by GSEs and in agency-backed and GSE-backed mortgage pools. *Households:* Mortgages owned by U.S. household sector. *Insurance:* Sum of mortgages held by property-casualty insurance companies and life insurance companies. *Other:* All other mortgage holdings.

losses from a major real-estate meltdown were quite significant. Some might have believed that, insofar as the government would do whatever necessary to prevent significant losses on the GSE debt and guarantees, the same policies would help the issuers of private MBS keep their noses above water (Hamilton 2007a).

3.2 Other Federal Loan Guarantees

There are a number of important federal loan guarantee programs in addition to those involving housing. One of the most important

programs involves loans for post-high-school education. Lee (2013) estimates from household-level credit data that the outstanding stock of student loans grew from a little over $300 billion in 2004 to nearly $1 trillion by 2012. Federal loans and loan guarantees have played a key role in funding that explosion of student debt.

The U.S. Department of Education has historically provided assistance through two programs. Under the Federal Family Education Loan Program (FFEL), the Department of Education guaranteed certain loans issued by state governments or private entities. There were $493 billion in outstanding student loan guarantees at the program's peak in 2009.[9] The program was discontinued in July 2010 with the intention of replacing it with greater reliance on direct loans from the Department of Education.

The financing for the latter works as follows: The U.S. Treasury borrows from the public through its general auctions and earmarks some of those funds for the Department of Education. One of the things the Department of Education then does with those funds is make direct loans to students. Treasury borrowings earmarked for the Department of Education grew from $104 billion at the end of FY 2007 to $714 billion at the end of FY 2012.[10] That $714 billion is already included in the $11,299 billion Treasury debt reported in line 1 of Table 1 as being held by the public at the end of FY 2012, and indeed it accounts by itself for 6 percent of the total publicly held debt. It is thus already on balance sheet as far as the reported debt is concerned. Interestingly, this activity is off balance sheet from the perspective of the reported deficit. Treasury borrowing earmarked for student loans is one of the reasons that the reported growth in publicly held debt in recent years has been bigger than the reported deficit.

Insofar as that borrowing for student loans has been associated with the acquisition of an asset (namely, the promise by the students to repay the loans), one can make a case that the $714 billion in Department of Education debt should also be moved off balance

[9] Government Accountability Office, "Federal Student Loan Programs: Opportunities Exist to Improve Audit Requirements and Oversight Procedures," Report no. GAO-10-668, July 2010.

[10] This sum is reported in Table FD-7 of the *Treasury Bulletin* (U.S. Treasury) as an entry in the category "Treasury holdings of securities issued by government corporations and other agencies."

sheet. On the other hand, there is growing evidence of problems with those loans. Lee's (2013) analysis of micro data suggests that of the nearly $1 trillion in outstanding student loans, 44 percent of loans are not being asked to make any payment yet, and for more than two-thirds of those, the outstanding balance due is growing. Of the 56 percent that are supposed to be in repayment, about one-third of loans are delinquent. Presumably, the Department of Education has much more information on exactly why so little is being collected on outstanding students loans, though I have not found an official report of the relevant data.

However, the financial notes to the Department of Education's annual reports of the Federal Student Aid (FSA) programs contain some interesting details. Of the $714 billion in Treasury borrowing at the end of FY 2012 that had been earmarked for the Department of Education, only $549 billion actually went to direct student loans.[11] Another $165 billion was associated with FFEL, which, as noted above, had been discontinued in July 2010.

It is interesting to trace how that sum earmarked for FFEL has grown and continues to grow over time. In August 2008, the Department of Education began buying certain FFEL loans directly under programs such as the Loan Participation Purchase Program and Loan Purchase Commitment Program "to ensure credit market disruptions did not deny eligible students and parents access to federal student loans for the 2008–09 academic year" (FSA 2012 *Annual Report*, p. 10). The dollar value of loans purchased in those programs is summarized in Table 2. Although they are described in the FSA passage just cited as if they were a temporary response to the financial instability in the fall of 2008, the balances have declined very little in the four years since then, and they still stand at $119 billion at the end of FY 2012. Even more interesting is the category for "Guaranteed Loan Program." New loans extended in that category since October 2010 totaled $32 billion; recall that the guaranteed loan program officially ended in July 2010.

I could find little explanation for those entries provided in the financial statements. The natural inference is that the Department of Education has been using funds borrowed from the Treasury to buy up nonperforming guaranteed student loans not only during

[11] See Note 10: Debt, in FSA 2012 Annual Report.

Table 2
Treasury Debt Owed by the Department of Education
(totals and contributions of separate components as of end of the indicated fiscal year, in billions of dollars)

	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Year	Treasury Debt Owed by Dept. of Education	Direct Loan Program	Loan Purchase Commitment	Loan Participation Program	Guaranteed Loan Program	Other
2005	$104	$104	$0	$0	$0	$0
2006	$105	$105	$0	$0	$0	$0
2007	$104	$104	$0	$0	$0	$0
2008	$128	$117	$0	$11	$0	$0
2009	$235	$154	$25	$54	$1	$1
2010	$374	$237	$45	$80	$11	$1
2011	$546	$392	$44	$79	$29	$2
2012	$714	$549	$42	$77	$43	$3

Sources: Financial notes to *Federal Student Aid Annual Reports*, 2010 and 2012, U.S. Department of Education.

the financial crisis but also every year since. To the extent that is the case, the Department of Education has been gradually moving those obligations from the category of off-balance-sheet liabilities (debt guarantees) to on-balance-sheet liabilities (debt owed by the U.S. Treasury to the public).

Lines 5 and 6 of Table 1 summarize the net implications of the student loan program for total off-balance-sheet federal liabilities. Line 5 is an estimate of the outstanding student loan guarantees. Line 6 subtracts out that portion of guaranteed debt that I calculate has now de facto been included in the officially reported on-balance-sheet debt of the U.S. Treasury.

The Government Accountability Office recognizes a few other categories of explicit loan guarantees as official off-balance-sheet liabilities of the U.S. government. The biggest of them are small business loans and loans from the Export-Import Bank of the United States. Those loans added $205 billion to the off-balance-sheet total, as seen in line 7 of Table 1.

3.3 FDIC

The Federal Deposit Insurance Corporation (FDIC) is a government corporation that was created as part of the Banking Act of 1933. The FDIC's role was to insure small depositors against losses if their banks became insolvent. As noted in Section 2.1, in the Diamond-Dybvig (1983) model such insurance could help prevent bank runs, which had been a significant problem in the United States in the initial years of the Great Depression (1929–1933). Deposits insured by the FDIC grew from $2.8 trillion in 1990 to $7.4 trillion at the end of 2012 (see Panel A of Figure 8).

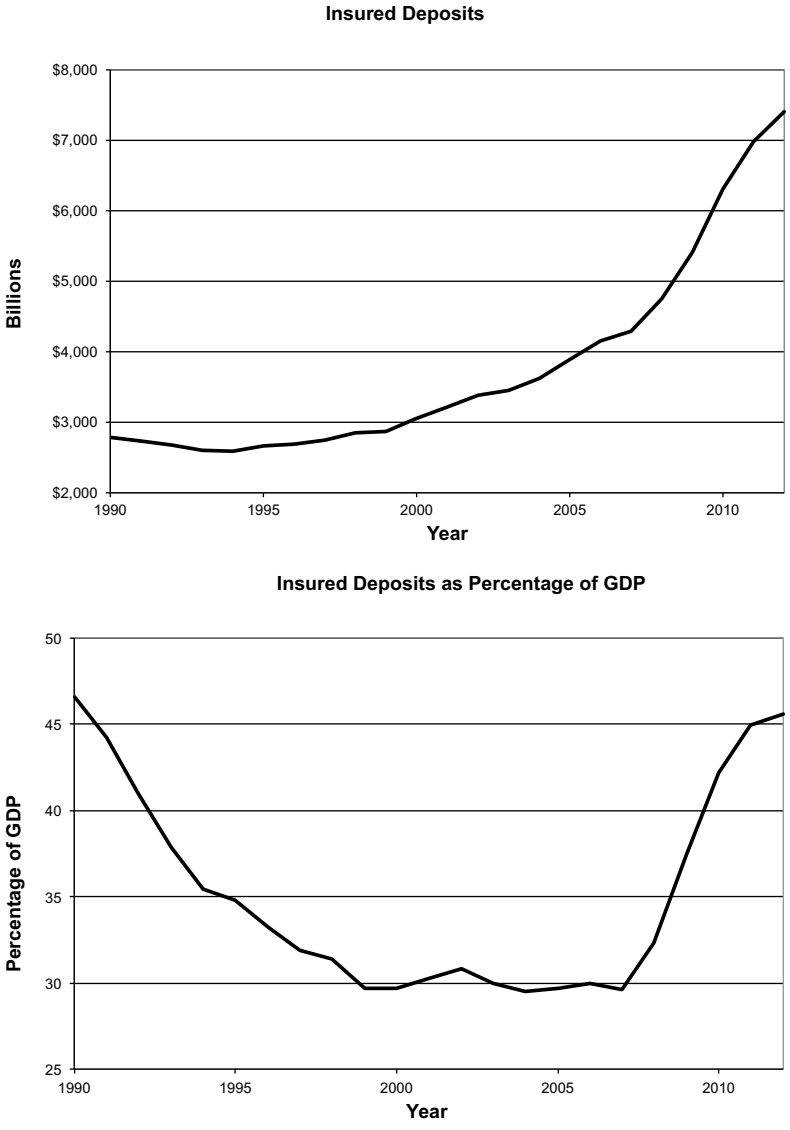
The insurance is funded by a fee on banks. As of the end of 2012, the Deposit Insurance Fund had $33 billion in assets, primarily in the form of debt obligations from the U.S. Treasury that are not included in the $11.3 trillion debt held by the public. Even if the $33 billion represented assets other than the future taxation authority of the Treasury, that equity alone would hardly be sufficient to cover losses should there be a major nationwide bank panic. The Competitive Equality Banking Act of 1987 reaffirmed that "deposits up to the statutorily prescribed amount in federally insured depository institutions are backed by the full faith and credit of the United States." For that reason, those insured deposits are added in our tally of off-balance-sheet federal liabilities in line 1 of Table 3.

As seen in Panel B of Figure 8, FDIC-insured deposits declined as a percentage of GDP up until 2007, but they climbed swiftly during and after the financial crisis. The Diamond-Dybvig logic suggests that large depositors would have the same incentives to withdraw funds as small depositors, meaning that FDIC insurance of small depositors might not be enough to prevent bank runs. On October 3, 2008, Congress raised the limit on deposit insurance from $100,000 to $250,000, and on October 14, the FDIC instituted the Temporary Liquidity Guarantee Program, which consisted of two components.

One component was the Transaction Account Guarantee Program, which "guaranteed in full all domestic noninterest-bearing transaction deposits, low-interest NOW [negotiable order of withdrawal] accounts, and Interest on Lawyers Trust Accounts . . . held at participating banks and thrifts."[12] The program was

[12] Federal Deposit Insurance Corporation, "Temporary Liquidity Guarantee Program," February 27, 2013, http://www.fdic.gov/regulations/resources/TLGP/index.html.

Figure 8
Total FDIC-Insured Deposits (1990–2012)



Source: FDIC, "Statistics at a Glance," December 2012, http://www.fdic.gov/bank/statistical/stats/index.html.

Table 3
Contribution of FDIC and Federal Reserve to Off-Balance-Sheet Federal Liabilities
(as of end of indicated calendar year, in billions of dollars)

	2006	2008	2010	2012
1. Insured deposits	4,154	4,751	6,308	7,406
2. Plus: debt guarantee program	0	224	267	0
3. Net contribution of FDIC	**4,154**	**4,975**	**6,575**	**7,406**
4. Reserve balances held by member banks	6	856	1,019	1,533
5. Less: Treasury securities held by Federal Reserve	−779	−476	−1,016	−1,657
6. Less: agency debt held by Federal Reserve	0	−20	−147	−77
7. Less: MBS debt held by Federal Reserve	0	0	−992	−927
8. Net contribution of Federal Reserve	**−773**	**360**	**−1,136**	**−1,128**

Sources: **Line 1:** FDIC-insured deposits, from FDIC "Statistics at a Glance," December 2012, http://www.fdic.gov/bank/statistical/stats/index.html. **Line 2:** From FDIC, *Annual Reports*, 2008 and 2010. **Line 3:** Sum of lines 1–2. **Lines 4–7:** From Federal Reserve Release H.4.1 ("Factors Affecting Reserve Balances"), balance as of the last Wednesday of calendar year. **Line 8:** Sum of lines 4–7.

initially intended to expire at the end of 2009. It was later extended twice—to run through the end of 2010—and was replaced by the Dodd-Frank Act with a full guarantee that ran through the end of 2012. Deposits that were insured under Dodd-Frank in excess of the $250,000 limit grew from $854 billion at the end of 2010 to $1,492 billion at the end of 2012.[13] Note that this number is included in the $7,406 billion in total FDIC-insured deposits as of the end of 2012 mentioned earlier. That coverage ended on December 31, 2012, so that the current figure for total FDIC-insured deposits would be approximately $5.9 trillion.

The second component of the Temporary Liquidity Guarantee Program was an FDIC guarantee on certain senior unsecured debt issued between October 14, 2008, and October 31, 2009. The FDIC was guaranteeing an additional $346 billion in debt through

[13] Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, fourth quarter, 2012, Table 1.

the program at its peak. Those guarantees ended on December 31, 2012. The FDIC reports that total fees collected under the Temporary Liquidity Guarantee Program exceeded expenses, and bank runs by depositors were never experienced during the financial crisis.[14]

To summarize, FDIC guarantees in themselves are currently about half as large as the officially reported on-balance-sheet federal debt. However, the stresses of the most recent financial crisis were not enough to cause those guarantees to result in direct cash outflows from the U.S. Treasury, and the program seems to have worked in this instance as intended.

3.4 Federal Reserve

The Federal Reserve System was created by an act of Congress in 1913. Although it is a government entity, it maintains a separate balance sheet of assets and liabilities from the U.S. Treasury. Up until 2007, the Fed's contributions to net government indebtedness were quite straightforward. As the housing decline threatened more financial institutions, the Federal Reserve came to play a much more active role in financial markets. In this subsection, I review those recent developments and discuss their implications for overall federal liabilities.

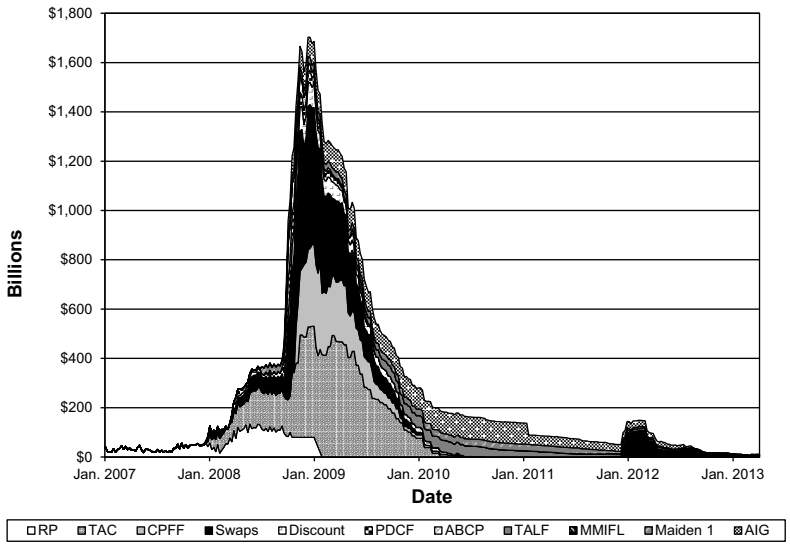
Before 2007, the primary actions of the Federal Reserve consisted of simple open-market operations in which the Fed would buy a debt obligation previously issued by the Treasury, paying for it by crediting the account that the seller maintained with the Federal Reserve System. Those newly created Federal Reserve deposits (which I will refer to as "reserves") represent claims on the Federal Reserve that the bank could, if it wished, subsequently ask to be delivered in the form of currency. Historically, the volume of reserves was very small, averaging $10 billion in 2006. New Fed purchases of Treasury bills were usually followed by conversion of the newly created reserves into currency. One can thus think of the primary function of the Federal Reserve over this period to be swapping one federal liability (T-bills) for another (currency held by the public). The Fed would also occasionally create reserves in order to make short-term loans to banks through the discount window or through a repurchase

[14] Federal Deposit Insurance Corporation, "Temporary Liquidity Guarantee Program," February 27, 2013, http://www.fdic.gov/regulations/resources/TLGP/index.html.

agreement (repo), where the latter can be viewed as a collateralized short-term loan from the Fed. Those loans also were typically quite small, averaging $0.4 billion and $26 billion, respectively, in 2006.

As financial conditions deteriorated in 2008, the Fed made much greater use of existing lending facilities as well as introduced a number of new emergency programs, as seen in Figure 9. Most important

Figure 9
Fed Emergency Lending
(seasonally unadjusted, from January 1, 2007, to April 3, 2013)



Source: Federal Reserve. "Factors Affecting Reserve Balances." *H41 Release*. 2007–2013.
Note: *ABCP:* Loans extended to Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility. *AIG:* Sum of credit extended to American International Group Inc. plus net portfolio holdings of Maiden Lane II and III plus preferred interest in AIA Aurora LLC and ALICO Holdings LLC. *CPFF:* Net portfolio holdings of LLCs funded through the Commercial Paper Funding Facility. *Discount:* Sum of primary credit, secondary credit, and seasonal credit. *Maiden 1:* Net portfolio holdings of Maiden Lane LLC. *MMIFL:* Net portfolio holdings of LLCs funded through the Money Market Investor Funding Facility. *PDCF:* Loans extended to primary dealer and other broker-dealer credit. *RP:* Repurchase agreements. *Swaps:* Central bank liquidity swaps. *TAC:* Term auction credit. *TALF:* Loans extended through Term Asset-Backed Securities Loan Facility plus net portfolio holdings of TALF LLC.

among those programs were currency swaps (agreements in which the Fed temporarily made dollar loans to foreign central banks, collateralized with foreign currency), term auction credit (which supplemented traditional discount borrowing with longer-term collateralized loans to depository institutions), and the Commercial Paper Funding Facility, through which the Fed financed unsecured and asset-backed commercial paper. Some analysts have greatly exaggerated the size of those programs by adding together loans made by the Federal Reserve at different points in time.

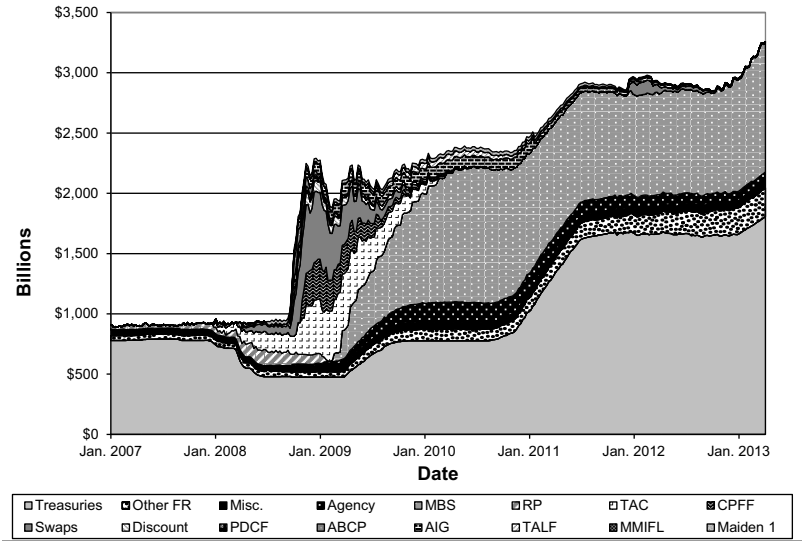
Such accounting is clearly inappropriate, since it would count an overnight loan that is rolled over each day for a month as involving 30 times as much lending as would a single 30-day loan for the exact same amount to the same institution. The accurate measure of the Fed's total exposure through the emergency lending programs is given by the total outstanding loans as of any indicated date, which corresponds to the height of the top line plotted in Figure 9. Total emergency lending reached a maximum of $1,703 billion on December 17, 2008, at which point currency swaps outstanding were $583 billion; term auction credit, $448 billion; commercial paper lending, $319 billion; and all other emergency lending, $353 billion.

As financial conditions eased, the Fed wound down loans and sold off assets associated with all of the programs shown in Figure 9. As a result, the Fed and the Treasury ended up making a profit, with receipts from interest and loan repayments exceeding the total amount lent (Hamilton 2012).

Although those programs were wound down, the Fed's balance sheet did not return to its pre-crisis values, but instead subsequently grew considerably through a series of operations popularly referred to as "quantitative easing" or "large-scale asset purchases." The hope of those programs was that by buying a large enough volume of long-term securities, the Fed might be able to lower the long-term interest rate and thereby stimulate aggregate demand (Hamilton and Wu 2012). Total Federal Reserve assets stood at $3,259 billion on April 3, 2013, of which $1,806 billion consisted of Treasury securities, $1,071 billion mortgage-backed securities with federal agency or GSE guarantees, and $382 billion other assets (see Figure 10).

How do those various Federal Reserve actions affect the net liabilities of the combined Treasury-Fed balance sheet? Consider first an open-market purchase of a T-bill. As noted earlier, that purchase

Figure 10
All Federal Reserve Assets
(seasonally unadjusted, from January 1, 2007, to April 3, 2013)



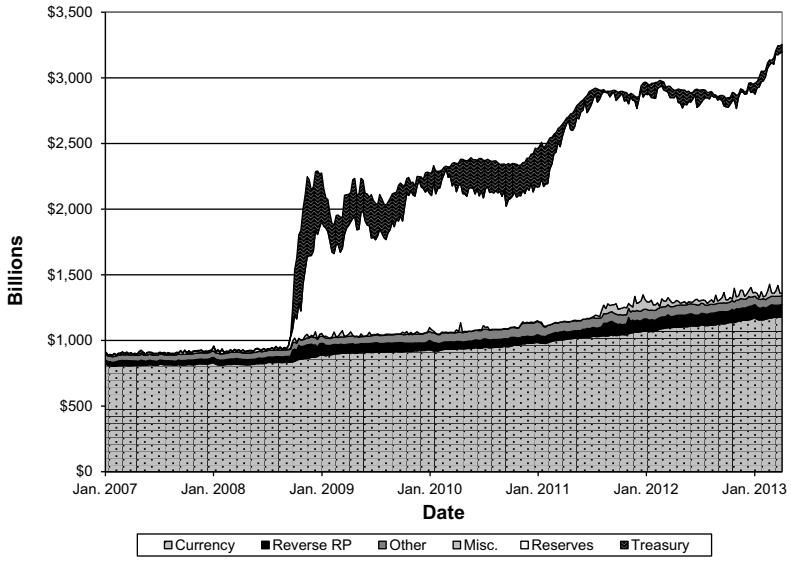
Source: Federal Reserve, "Factors Affecting Reserve Balances," *H41 Release*, 2007–2013.
Note: *ABCP:* Loans extended to Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility. *Agency:* Federal agency debt securities held outright. *AIG:* Sum of credit extended to American International Group Inc. plus net portfolio holdings of Maiden Lane II and III plus preferred interest in AIA Aurora LLC and ALICO Holdings LLC. *CPFF:* Net portfolio holdings of LLCs funded through the Commercial Paper Funding Facility. *Discount:* Sum of primary credit, secondary credit, and seasonal credit. *Maiden 1:* Net portfolio holdings of Maiden Lane LLC. *MBS:* Mortgage-backed securities held outright. *Misc.:* Sum of float, gold stock, special drawing rights certificate account, and Treasury currency outstanding. *MMIFL:* Net portfolio holdings of LLCs funded through the Money Market Investor Funding Facility. *Other FR:* Other Federal Reserve assets. *PDCF:* Loans extended to primary dealer and other broker-dealer credit. *RP:* Repurchase agreements. *Swaps:* Central bank liquidity swaps. *TAC:* Term auction credit. *TALF:* Loans extended through Term Asset-Backed Securities Loan Facility plus net portfolio holdings of TALF LLC. *Treasuries:* U.S. Treasury securities held outright.

swaps one government liability (the T-bill) for another (currency held by the public). Should the latter be viewed as an actual or potential liability of the U.S. government? In the early days of currency issue, it was an actual liability: the public was holding the paper on an explicit understanding that it could be redeemed for gold or silver on demand or at a future announced fiscal date. In the modern era, the public appears willing to hold currency indefinitely, though one could imagine circumstances in which a drop in currency demand might force the Federal Reserve to sell some assets (in effect, redeem the currency for other assets) in order to prevent inflation. For example, Judson (2012) estimates that about half the growth in U.S. currency demand between 1988 and 2011 came from holders outside the United States. Similarly, if the Federal Reserve were to take a loss on its loans to the private sector or its holdings of long-term assets, real resources in the form of Treasury tax revenues might be necessary to recapitalize the Fed, again to prevent inflation.

As noted earlier, the Fed has made a profit rather than a loss on its emergency lending. However, Bernanke (2013) notes that recent interest rate forecasts made by the CBO, Blue Chip consensus forecast, Survey of Professional Forecasters, and the Fed's interest rate models all suggested long-term rates could rise in the next few years. Analyses by Carpenter et al. (2013), Greenlaw et al. (2013), and Hall and Reis (2013) all note that if that were to happen, the Fed would realize substantial losses on its current holdings of MBS and long-term treasuries. On the other hand, the Fed also has significant unrealized capital gains on its gold holdings, currently valued at $42.22 an ounce. In the calculations for this project, I have decided to treat currency held by the public as entailing zero net off-balance-sheet liabilities for the Treasury or the Federal Reserve, meaning that I regard a standard open-market purchase of a Treasury security that ends up as more currency held by the public as reducing outstanding federal indebtedness by the amount of the purchase.

However, currency is no longer the most important entry on the liability side of the Fed's balance sheet. Figure 11 plots total Fed liabilities. Note that the height of that graph is by definition every week exactly equal to the height of the graph of total assets in Figure 10. As of April 3, 2013, currency held by the public came to $1,180 billion, whereas reserves were $1,838 billion, and all other liabilities $242 billion. Most of the reserves that the Fed created to

Figure 11
All Federal Reserve Liabilities
(seasonally unadjusted, from January 1, 2007, to April 3, 2013)



Source: Federal Reserve, "Factors Affecting Reserve Balances," *H41 Release*, 2007–2013.
Note: *Currency:* Currency in circulation. *Misc.:* Sum of Treasury cash holdings, foreign official accounts, and other deposits. *Other:* Other liabilities and capital. *Reserves:* Reserve balances with Federal Reserve Banks. *Reverse RP:* Reverse repurchase agreements. *Treasury:* Sum of U.S. Treasury general and supplementary funding accounts.

pay for its large-scale asset purchases are being held idle in banks' accounts with the Fed at the end of each day.

One key reason why banks are content to hold that huge new volume of reserves is that the deposits now earn interest. Granted, the rate is quite low: 25 basis points, or a 0.25 percent annual rate. However, with T-bills only paying 7 basis points as of April 2013, reserves are a more attractive asset than T-bills. As interest rates rise, the Fed will have to pay a higher interest rate in order to persuade banks to continue to hold the deposits with the Fed overnight. Purchasing a 10-year Treasury bond with newly created interest-bearing reserves is thus just a swap of one form of government debt

(a 10-year bond) for another (in effect, an overnight interest-bearing loan from the bank to the Fed). If we are going to subtract the Fed's holdings of T-bonds from net government indebtedness, we need to add reserve deposits with the Fed as an alternative new liability of the combined Treasury-Fed balance sheet.

Lines 4–7 of Table 3 show how the actions of the Federal Reserve change the on- and off-balance-sheet liabilities of the federal government. In line 4, we add reserve balances held by member banks. Although that is an unambiguous liability of the U.S. government, it is appropriate to treat it as an off-balance-sheet item because it is matched by corresponding assets. We then subtract that part of Treasury debt that is held by the Federal Reserve (line 5), as well as subtract agency debt and MBS purchased by the Federal Reserve (lines 6 and 7). We do so because we have already been counting the latter as part of our off-balance-sheet total, and thus view the Fed's purchase of MBS as swapping one off-balance-sheet liability (the government's implicit MBS guarantee) for another (interest-bearing reserves created by the Federal Reserve). If, however, one had not been persuaded that the MBS were already a federal liability, the Fed's actions should be viewed as making them more so, insofar as interest-bearing reserves are a more direct federal liability than the mortgage guarantees.

The bottom line is that the Federal Reserve's net contribution to off-balance-sheet liabilities (line 8) changed from −$773 billion in 2006 to +$360 billion at the end of 2008, a net swing of $1,133 billion. In other words, the net effect of the Fed's emergency lending between 2006 and 2008 was to increase the net indebtedness of the federal government by over $1 trillion, balanced by acquisition of corresponding assets (the emergency loans). As emergency lending was phased out, the Fed has returned to a position of on-balance-sheet liabilities reducing total government liabilities by $1,128 billion. Although the Fed's assets are greatly expanded relative to their historical levels, most of those new assets were already on- or off-balance-sheet liabilities of the broader federal government, so swapping them for reserves left total off-balance-sheet federal liabilities unchanged.

3.5 Federal Government Trust Funds

In addition to the $11,582 billion in Treasury debt held by the public at the end of calendar year 2012, the Treasury had issued an

additional $4,851 billion in obligations that were regarded as an asset held by other federal government entities. By far the most important of those obligations is the Social Security Trust Fund, which held $2,610 billion, a little more than half of the intragovernmental total. That sum is counted as a liability by the Treasury and as an asset by the Social Security Trust Fund. One perspective is that the sum is, therefore, money that the government owes to itself and, as a consequence, should not be included in a sensible accounting of net government indebtedness. But if we are to take the entirely reasonable position that the $2.6 trillion in Treasury securities held by the Social Security Trust Fund should not be counted as a net federal liability, we are forced also to regard the Social Security Trust Fund as holding no assets. However, there is a reason that Social Security wants to regard those Treasury obligations as an asset: the program anticipates significant liabilities associated with payments expected by current and future retirees.

It is true that those liabilities do not rise to the status of the "full faith and credit of the United States." The federal government might well choose to reduce payments to beneficiaries relative to those anticipated under the program's current practice, or else it might increase future payroll taxes. However, those are the same options that the government would consider in figuring out how to honor its official on-balance-sheet liabilities. The political difficulties that the government might face in making changes to the public's perceived Social Security obligations should reasonably be regarded as an important influence on the government's ability to honor its on-balance-sheet liabilities. For that reason, it seems entirely appropriate to include those implicit commitments in an accounting of the federal government's combined off-balance-sheet liabilities.

The Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds makes several efforts to estimate the present value of those obligations along with their offsetting tax receipts. Obviously, a lot of guesswork goes into such calculations, and the results can be extremely sensitive to assumptions. For example, if one were to use an interest rate for discounting that is less than the assumed growth rate, the concept of present value calculated over an infinite horizon does not even exist. For an interest rate only slightly bigger than the growth rate, small changes can produce big effects in long-horizon calculations.

Nevertheless, for a sense of scale if nothing else, I use one of the present-value concepts that has been used in both the Social Security and Medicare annual reports, which is to calculate the present value of future benefits to be paid to all current participants (that is, all Americans currently ages 15 or older). The annual reports also calculate the present value of future Social Security taxes to be paid by that same group. As of the end of calendar year 2012, the difference between the two—or the present value of the unfunded obligation for current participants—came to $26.5 trillion, up from $16.5 trillion in 2006 (see line 1 of Table 4).

Note that the numbers reported in Tables 1 and 3 refer to gross off-balance-sheet liabilities with no effort made to subtract offsetting assets. By contrast, the $26.5 trillion in Table 4 already subtracts the off-balance-sheet asset of Social Security represented by future tax revenues targeted for the program. However, insofar as these tax revenues are indeed used for this purpose, they will not be available for servicing the costs of the $11.3 trillion on-balance-sheet debt. For that reason, a case could be made for using the gross Social Security liability of $52.0 trillion, rather than the net liability of $26.5 trillion reported in Table 4, in our tabulation of total off-balance-sheet federal liabilities.

These numbers are so huge that it is hard to discuss them in a coherent way. As noted earlier, the calculations that go into them are easily challenged. But although one can quarrel with the specific numbers, they reflect an undeniably important reality: the U.S. population is aging, and an aging population means fewer people paying in and more people expecting benefits. That reality is unambiguously going to be a key constraint on the sustainability of fiscal policy for the United States. One would think that we as a nation should be saving today in preparation for retirement. If, in fact, we are not, the currently enormous on-balance-sheet federal debt is all the more of a concern.

Similar calculations are reported by the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Medicare Part A (hospital insurance) reported a present value of unfunded obligations for current program participants of $14.5 trillion as of the end of 2008. The Health Care and Education Reconciliation Act of 2010 added new revenues and reduced the Trustees' anticipated costs so that the unfunded

Table 4
Contribution of Government Trust Funds to Off-Balance-Sheet Federal Liabilities (as of end of indicated calendar year, in billions of dollars)

	2006	2008	2010	2012
1. Social Security	$16,500	$18,700	$21,400	$26,500
2. Medicare Part A (hospital insurance)	$11,800	$14,500	$8,000	$9,600
3. Medicare Part B (medical insurance)	$10,400	$13,500	$11,500	$13,100
4. Medicare Part D (prescription drug insurance)	$6,300	$5,200	$5,400	$4,900
5. Sum of Medicare liabilities	**$28,500**	**$33,200**	**$24,900**	**$27,600**
6. Other government trust funds	$1,308	$1,487	$1,646	$1,862
7. Combined contribution of government trust funds	**$46,308**	**$53,387**	**$47,946**	**$55,962**

Sources: **Line 1:** Present value of future Old Age, Survivor, and Disability Insurance cost less future taxes for current participants. From Table IV.B7, "Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Funds," 2007, 2009, 2011, and 2013. **Line 2:** Present value of future expenditures less income for current participants in Medicare Part A. From Table III.B11 or V.G2, "Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds," 2007, 2009, 2011, and 2013. **Line 3:** Present value of future contributions for current participants in Medicare Part B coming from general federal revenues. From Tables III.C16, III.C12, or V.G4, "Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds," 2007, 2009, 2011, and 2013. **Line 4:** Present value of future contributions for current participants in Medicare Part D coming from general federal revenues. From Tables III.C24, III.D8, or V.G6, "Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds," 2007, 2009, 2011, and 2013. **Line 5:** Sum of lines 2–4. **Line 6:** Government account series held by Airport and Airway Trust Fund, Employees Life Insurance Fund, Exchange Stabilization Fund, federal employees retirement funds, FSLC Resolution Fund, Highway Trust Fund, National Service Life Insurance Fund, Postal Service Fund, Railroad Retirement Account, Unemployment Trust Fund, and other. From Table FD-3, *Treasury Bulletin*, December 2008 and December 2012. **Line 7:** Sum of lines 1, 5, and 6. Note: Social Security and Medicare entries represent values as of end of calendar year, except the last entry, which is the end of calendar year 2011, the most recently available as of the time this article was written. Other government trust funds represent values as of end of indicated fiscal year.

obligation fell to $8.0 trillion by the end of 2010, but it subsequently rose to $9.6 trillion by the end of 2012 (see line 2 of Table 4). Medicare Part B (medical insurance) added an additional unfunded liability of $13.1 trillion as of the end of 2012, while Part D (prescription drug insurance) added another $4.9 trillion, for a total of $27.6 trillion in unfunded obligations currently reported for Medicare.

Again, these numbers represent the *net* off-balance-sheet liabilities associated with Medicare. For the gross liabilities (that is, without subtracting anticipated tax revenue), we would add $4.8 trillion to the total for Medicare Part B and $1.1 trillion for Part D. The Trustees Report does not itemize separately the numbers behind the net calculations for Part A, but it is clear that the upward adjustment necessary to arrive at a gross figure would be quite substantial. For example, in 2013 alone, Part A is expecting to collect $231.2 billion from payroll taxes and taxation of Hospital Insurance Benefits. By 2022, the annual number is expected to grow to $410.8 billion (see Table III.B4 of the Trustees Report). A projection of these future revenues has already been subtracted from the future outlays in arriving at the $9.6 trillion unfunded liability for Part A reported in Table 4.

A number of other government trust funds, like Social Security and Medicare, also claim as their assets debt obligations of the U.S. Treasury that are not included in the $11.3 trillion in Treasury debt held by the public. Like the Social Security Trust Fund, they are neither an asset nor a liability of a unified federal balance sheet, but they are simply an "IOU" from one arm of the government to another. But like Social Security and Medicare, although the government has no assets backing these funds, they may entail significant future fiscal obligations.

The largest of these funds are the Civil Service Retirement and Disability Fund, which claimed $904 billion in Treasury obligations among its assets as of the end of calendar year 2012, and the Military Retirement Fund, to which the Treasury owes $429 billion. Rather than try to go through each of the programs and assess the implicit or explicit commitments the government has made through them, I have taken the conservative approach (and I suspect, a recklessly conservative approach) of assuming that the programs are actuarially balanced—that is, assuming that the present value of commitments associated with the Civil Service Retirement and Disability Fund is exactly $904 billion. Since there are no assets to back

these commitments, future tax increases or spending cuts will be necessary to honor them, so I count this trust fund as adding $904 billion to the 2012 off-balance-sheet federal liabilities. Adding together all the government trust funds not treated elsewhere in this analysis, I calculate the contribution of these commitments to total off-balance-sheet liabilities to have been $1,862 billion as of 2012. The combined contribution of Social Security, Medicare, and other trust funds to the total off-balance-sheet federal liabilities is $55,962 billion, as shown in Table 4.

3.6 Other Off-Balance-Sheet Liabilities

A number of other off-balance-sheet commitments are potentially substantial, but they are not included in the totals given earlier. One that could prove to be quite important is the Pension Benefit Guaranty Corporation (PBGC), an independent agency of the U.S. government that was created by the Employee Retirement Income Security Act of 1974. The PBGC guarantees basic pension benefits for about 43 million Americans participating in 26,000 private-sector defined-benefit pension plans. The potential notional liabilities are enormous, but they are very difficult to assign a dollar value to. The federal government has never declared the guarantees to be backed by the full faith and credit of the U.S. government, and unlike Fannie and Freddie, the PBGC is not in conservatorship. For these reasons, I have not attempted to include pension guarantees as a current off-balance-sheet liability of the U.S. government. But that omission does not mean that pension benefits will not prove to develop into a very important fiscal challenge at the federal, state, and local government levels.

Another important commitment involves veterans' benefits. A 2010 assessment by the CBO estimates that by 2020, the annual cost of providing health care services to veterans who seek benefits through the Department of Veterans Affairs could be $69 billion to $85 billion, which would represent increases of 45–75 percent over 2010 levels.

Federal flood insurance is another potentially important off-balance-sheet federal liability. King (2013) estimates that government payouts for Hurricane Sandy under the National Flood Insurance Program could be $12 billion to $15 billion, in comparison with the $4 billion cash assets of the program. A study by the CBO (2007) estimates that as of February 2007, the 5.4 million policies issued through

the Federal Emergency Management Agency had a total coverage of $1 trillion. Again, I have made no effort to include the potential liabilities of these and other programs in the totals reported in this paper.

4. HOW CONCERNED SHOULD WE BE?

Table 5 summarizes the contributions of the various components surveyed in Section 3. I calculate total off-balance-sheet federal liabilities to have been $70.1 trillion as of 2012, six times the size of the federal debt itself. That total comes from a range of different programs, each of which is associated with its own benefits and its own concerns. In the case of the FDIC guarantees and emergency Fed lending, they seemed to accomplish what they were intended and in my opinion do not pose significant risks to taxpayers in the current environment. Other programs, such as the federal government's big role in lending for housing and education, have less clear benefits and have been associated with more tangible costs. The biggest off-balance-sheet liabilities come from recognition of the fiscal stress that will come in the form of an aging population and rising medical expenditures.

Table 5
Treasury Debt Held by the Public and
Combined Federal Off-Balance-Sheet Liabilities
(in billions of dollars)

	2006	2008	2010	2012
1. Treasury debt held by public	$4,867	$5,837	$9,052	$11,299
2. Housing-related commitments	$6,386	$8,036	$7,594	$7,520
3. Student and other loan guarantees	$468	$547	$419	$325
4. FDIC	$4,154	$4,975	$6,575	$7,406
5. Federal Reserve	−$773	$360	−$1,136	−$1,128
6. Social Security	$16,500	$18,700	$21,400	$26,500
7. Medicare	$28,500	$33,200	$24,900	$27,600
8. Other government trust funds	$1,308	$1,487	$1,646	$1,862
9. Total off-balance-sheet commitments	**$56,544**	**$67,305**	**$61,398**	**$70,085**

Sources: **Line 1:** From line 1 of Table 1. **Line 2:** From line 4 of Table 1. **Line 3:** Sum of lines 5–7 of Table 1. **Line 4:** From line 3 of Table 3. **Line 5:** From line 8 of Table 3. **Line 6:** From line 1 of Table 4. **Line 7:** From line 5 of Table 4. **Line 8:** From line 6 of Table 4. Sum of lines 2–8 in Table 5.

It is worth noting that there are many historical episodes in which off-balance-sheet liabilities ended up having quite significant on-balance-sheet implications. One example is provided by the problems with savings and loans in the 1980s. Losses at those institutions ended up dwarfing the capabilities of the now-defunct Federal Savings and Loan Insurance Corporation to honor its promise to guarantee depositors. Curry and Shibut (2000) estimate that the final on-balance-sheet cost to U.S. taxpayers of honoring those off-balance-sheet guarantees comes to $124 billion.

Some economists see the Asian crisis of 1997 as providing a more dramatic illustration. A number of Asian countries experienced rapid and dramatic currency depreciation and spiking interest rates that led to significant drops in real economic activity. According to Burnside, Eichenbaum, and Rebelo (2001), "A principal cause of the 1997 Asian currency crisis was large prospective deficits associated with implicit bailout guarantees to failing banking systems." The authors note, for example, that the costs of restructuring and recapitalizing the banking system in those episodes amounted to 65 percent of GDP for Indonesia, 24 percent of GDP for South Korea, 22 percent for Malaysia, and 35 percent for Thailand. The authors suggest that market perceptions of the prospective deficits associated with bailing out problem banks were the trigger for the rapid capital flight from those countries.

More recently, the Irish government entered the Great Recession in a seemingly very strong fiscal position, with gross government debt totaling only 25 percent of GDP. But on September 30, 2008, in response to developing strains on the financial system, the government guaranteed all deposits, covered bonds, senior debt, and dated subordinated debt of the country's six largest banks. By July 2011, Ireland needed to inject 64 billion euros (45 percent of 2010 GDP) into the banking system. As a result, the Irish government budget deficit for 2010 amounted to 31 percent of the country's GDP, and its debt level rose above 100 percent of GDP. The interest rate on 10-year Irish government bonds went from 4.2 percent in 2008 to 14 percent in July 2011 as investors fled Irish sovereign debt.

I am not predicting that a similar crisis is on the verge of unfolding for the United States. Some may argue that the current off-balance-sheet liabilities of the U.S. federal government are smaller than those tabulated here; others could arrive at larger numbers. These off-balance-sheet concerns may or may not translate into

significant on-balance-sheet problems. But one thing seems undeniable: they are huge. And implicit or explicit commitments of such a huge size have the potential to have huge economic consequences, perhaps for the better, perhaps for the worse. Acknowledging their size is a necessary first step for making wise policy decisions.

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Comment

Douglas Holtz-Eakin

James Hamilton has provided an outstanding overview of the level and recent growth of federal off-balance-sheet (OBS) liabilities. His striking conclusion is that those obligations exceed $70 trillion, nearly six times as much as the official federal debt outstanding. In addition to tabulating the size of those liabilities, Hamilton examines the conventional reasons for their existence and analyzes the threat they pose to the United States. It is an extremely valuable, timely overview.

My comments will focus on issues of valuation, the timing of those obligations, and their economic significance. In general, the OBS liabilities pose some difficult issues in valuation. To start, notice that under current law Social Security benefits will be cut roughly 25 percent across the board when the trust fund exhausts (currently estimated to occur in 2033). At that point, benefits are to be reduced to match inflows of payroll taxes; as a result, no new net liability is created.

Alternatively, one could argue that the current benefits *policy* represents the commitment. If so, future benefits will exceed future payroll taxes by roughly 2 percent of gross domestic product in perpetuity, with a correspondingly large off-balance-sheet liability. If, as Hamilton discusses, the OBS liabilities are a measure of commitment to retirees, the latter may be a better measure.

Medicare (and Medicaid) presents a different issue. Medicare spending is projected to rise at annual rates of 5–7 percent. At present, that projection exceeds any plausible discount rate that might

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be applied to OBS liability growth.[1] Mechanically, that means that the scale of those liabilities is *infinite*. To compute a present value, most analysts assume that the growth in health care cost will slow. However, the *date* at which the slowing begins, the *pace* at which it ultimately grows, and the *long-run growth rate* are often quite arbitrary decisions. At the same time, those decisions fundamentally determine the scale of the OBS liability.

Housing programs present slightly different valuation problems. For years leading up to the bursting of the housing bubble and financial crisis, it was widely recognized that Fannie Mae and Freddie Mac benefited from the perception of implicit taxpayer backing. One way to estimate the value provided is to view the taxpayer subsidy as an implicit option for Fannie Mae and Freddie Mac to "put" their debt obligations in the event of financial distress.

From that perspective, the OBS liability is simply the value of that put option.[2] *Ex post*, the value is quite different, as the federal government has assumed the obligation to back nearly $5 trillion in debt outstanding for the housing government-sponsored enterprises.

The upshot is that the reader should pay a great deal of attention to the overall scale of OBS liabilities. But the degree of precision is necessarily limited, and particular values should be taken with a grain of salt.

The second issue related to valuation is the pace at which the liabilities accumulate. Present-value calculations (such as those presented by Hamilton) are designed to eliminate matters of timing—a present-value dollar in 2013 is treated the same as a present-value dollar in 2033. However, the reality of the budget process is that

[1] Recent data have shown an overall slowing in the growth of national health care spending, raising the possibility that this problem could be over. There is reason to be skeptical of this seemingly good news, however. First, the Great Recession dampened the growth of prices and spending across the economy; health care is no different. As the economy recovers, one would expect the pace to pick back up. Second, many times in the past, health care spending grew at the pace of gross domestic product or slower—exactly what is happening right now—notably in the late 1990s. In each case, the pace turned right around and picked back up. Finally, as the Patient Protection and Affordable Care Act (more commonly known as Obamacare) is implemented, it will cover millions more people with health insurance precisely for the purpose of making sure they spend more on health care—a recipe to see current trends reversed.

[2] See Congressional Budget Office, "Updated Estimates of the Subsidies to the Housing GSEs," April 8, 2004, http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/53xx/doc5368/04-08-gse.pdf.

timing does matter. As the baby boom generation retires, many of the OBS liabilities will be transformed to on-budget demands for taxpayer resources. That transformation has been widely anticipated for quite some time. However, it was not anticipated that the transformation would occur in the immediate aftermath of a large run-up in the other OBS liabilities.

That brings me to my final point: how dangerous are the OBS liabilities? Hamilton expresses concern, but I see the fiscal situation as much more dangerous. Given the high levels of U.S. official debt, any transformation of OBS liabilities into additional debt will guarantee that debt service will eliminate budgetary flexibility. In addition, the cash-flow deficits engendered would require substantial increases in the level of taxation, a move that would suppress growth and lower standards of living. And even with higher levels of taxation, the United States would face a substantial probability of the loss of international investor confidence and a sovereign debt crisis. In short, modifying spending programs to reduce the scale of OBS liabilities should be at the top of any policymaker's to-do list.

To summarize, Hamilton has provided a valuable insight into an important fiscal threat. It is a must-read for the policy community.

Comment

Phillip Swagel

The United States' long-term fiscal challenge is the product of government promises that represent enormous implicit liabilities. A response to that challenge requires making difficult policy choices. Understanding the magnitude of those liabilities is a vital first step—a prerequisite, really—for coming up with good policies. James Hamilton, in his paper, provides a valuable public service by assembling a comprehensive listing and discussion of the $70 trillion of U.S. implicit liabilities.

There are a limited number of fundamental policy choices that can be used to resolve the U.S. fiscal imbalance—even while there are myriad fine choices within broad policy categories. Broadly speaking, addressing the long-term fiscal challenge involves some combination of

- increased revenue from taxes within an entitlement program, such as Social Security or Medicare;
- increased revenue from other sources, such as income taxes;
- decreased spending within a given program that has implicit liabilities; and
- decreased spending elsewhere in the government sector to free up resources.

More simply, the choices are to adjust revenues or spending, whether inside or outside the particular programs with the implicit liabilities. Steps meant to increase macroeconomic growth fit within those choices in the sense that stronger growth would lead to increased revenues and perhaps changes in spending, such as lower transfer payments. In any case, the actuarial reports for Social

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Security and Medicare make clear that even an optimistic increase in economic growth is not likely to stabilize those programs' finances. There is no "third way" option that avoids difficult choices regarding spending and revenues.

Calculating the magnitude of those obligations as Hamilton has done makes clear that the choices involved are neither modest nor easy. If there were simple or painless choices involved, they would have been made already. Similar considerations hold for other implicit liabilities, such as implicit government guarantees.

Judgments regarding who should bear the adjustments' burden ultimately will guide the policy choices, regardless of whether they lean toward decreased spending or increased revenue. In the context of entitlements such as Medicare and Social Security, someone in the future will either receive fewer benefits than currently promised or face higher taxes than today. This choice can be seen as a counterpart to the question of who will or should benefit from the obligations that correspond to the implicit liabilities. The answer to each has important implications for the potential policy options that are available to address the liabilities. My comments on Hamilton's paper focus on how the nature and magnitude of the implicit liabilities influence the policy choices.

(Lack of) Transparency—A Common Motivation

Implicit liabilities arise for many reasons, including (a) to prevent or respond to crises, such as financial panics; (b) to subsidize targeted activities, such as affordable housing and college loans; and (c) to provide retirement security or health care to retirees. Those reasons can be seen as laudable goals.

A common factor, however, in taking on implicit rather than explicit liabilities is the desire to avoid transparency for the obligation. In the recent financial crisis, for instance, the Federal Reserve's balance sheet became a part of the financial rescue through the use of nonrecourse lending. The Fed lent money to entities against specified collateral, but without the ability to call on other assets of the borrower if losses exceeded the value of the collateral. In effect, the U.S. government owned at least the downside of the risky assets involved. This device was used in a variety of ways, including for the rescues of Bear Stearns, AIG, the Commercial Paper Funding Facility, and the Term Asset-Backed Securities Loan Facility. In each

of those cases, the Fed provided liquidity to help stabilize firms it considered to be systemically important or else to unfreeze particular credit channels. But the Fed did that in a way that involved a greater risk of loss than is typical with its lending activities. The key reason for using nonrecourse lending was that doing so was politically possible, while using other government resources generally would have required an act of Congress (in the case of Bear Stearns or AIG, both of which went into distress before the advent of the Troubled Asset Relief Program [TARP]) or would have meant drawing heavily on the limited amount of funds that could be obligated through TARP.

As a case in point, consider the Fed involvement with the J. P. Morgan–Bear Stearns transaction. Its involvement was born out of necessity, since policymakers felt that it was essential to prevent a collapse of Bear Stearns on account of its position in the triparty repo system (this position seemed reasonable at the time, but it remains a point of controversy). The Fed lent money to a limited liability corporation that, in turn, purchased $30 billion of securities that J. P. Morgan did not want to accept as part of its acquisition of Bear Stearns' assets. J. P. Morgan agreed to cover the first $1 billion of the loss, meaning that the Fed was exposed to $29 billion of risk if the value of the securities used as collateral went to zero. In the end, the Fed was paid back (and then some) for its loans, but that success was far from certain in March 2008 when the loans were first made.

By structuring the activities as an implicit guarantee through nonrecourse lending, the Fed's involvement was nontransparent, particularly to members of Congress. Lawmakers did not immediately understand that the Fed had taken on the downside of $29 billion of assets that were too risky for J. P. Morgan. By the fall of 2008, so many interventions were structured in this way that the continued use of nonrecourse financing no longer seemed unusual, even though each instance exposed taxpayers to loss and, therefore, could be seen as an implicit liability (along with the asset of the collateral).

In the policy areas of education and housing finance, the lack of transparency is with regard to the accounting treatment of the federal liabilities. Student loans and guarantees for mortgages provided by the Federal Housing Administration (FHA) are scored on the federal budget using the accounting treatment specified in the Fair Credit Reform Act (FCRA), which considerably underestimates the risk being taken on by the federal government. The FCRA accounting

treatment sometimes allows a financial activity to show a profit for the federal government when a private company would book a loss. It is hard to believe that the federal government is intrinsically better at a financial activity than the private sector; if anything, the opposite is more likely the case. Any claim of profitability of federal guarantees on student loans and of FHA guarantees on new mortgages could be a figment of the accounting—indeed, that is the calculation of the Congressional Budget Office when restating the federal exposure using the more appropriate standard of fair value accounting. The eventual losses, however, will be all too real.

Use of fair value accounting provides a more accurate assessment of risk and thus of the financial implications of implicit liabilities. But it elicits considerable opposition. In the context of housing, for example, proponents of an expansive role for the federal government argue against fair value accounting, presumably out of concern that writing down the full cost of the federal government's support for housing would lead to less political and popular support for these programs. In the case of student loans, the federal takeover of student lending was justified as a way for the federal government to make money—again, because of the understatement of risks involved with the Fair Credit Reform Act's accounting treatment. It will not be a surprise in the future when the bill comes due.

Similar considerations can be seen with implicit pension liabilities, where the lack of transparency is a political boon—a way to spend money without transparency. The future pension liabilities eventually become those of the present, as promises made to current workers turn into checks to be written to retirees. Still, the temptation to turn to implicit liabilities is clear.

At the federal level, entitlement reform policy has similar elements of nontransparency as a virtue (using that word loosely and with some distaste). In Social Security, for example, the focus on a 75-year horizon over which to assess the actuarial condition of the program's finances gives rise to "solutions" that bring in revenues up front but then result in expenditures down the road. This distorted view takes advantage of the structure of Social Security funding in which individuals pay taxes while working and then draw contributions in retirement. Using a limited horizon—even a long one such as 75 years—skews the analysis of ways to solve the implicit liabilities because policies with up-front revenues will

Table 1
Impact on Social Security Actuarial Balance as a Percentage of Taxable Payroll over 75 Years and in the 75th Year

Provision	Change over 75 Years	Change in 75th Year Only
Chain-weighted by Consumer Price Index	0.54	0.73
Progressive indexation of benefits	1.43	4.10
Cover state and local employees	0.16	−0.17
Increase retirement age slowly from 67 to 68	0.32	0.72
Increase retirement age quickly from 67 to 68	0.42	0.72
Tax all earnings, and allow benefits to accrue	1.92	1.64
Tax all earnings but without benefit accrual	2.36	2.49
Balance 2012 trustees' intermediate assumptions	−2.67	−4.50

appear to make more progress in addressing the fiscal imbalance than is actually the case.

This phenomenon can be seen by examining the effect of various policy proposals in improving the financial condition of Social Security, thereby comparing the average impact over 75 years with the improvement in the 75th year alone. Table 1 shows the improvement in the financial position of Social Security expressed in percentage points of the taxable wage base. The table also shows several policy proposals. The first column shows the effect on the total imbalance over 75 years, while the second column shows the impact in the 75th year only. A policy with a greater impact on average over the 75 years than in the 75th year will be one with the property noted earlier, thus overstating the contribution toward sustainable solvency of Social Security by limiting the time horizon considered.

The first two proposals involve slowing the growth of benefits by changing the price index used to calculate benefits changes over time. The chain-weighted Consumer Price Index would take into account the substitution across consumption items to be expected in response to price changes, while the progressive indexation would result in slower benefit growth for people with high lifetime incomes than for people with low lifetime incomes. As the table shows, both policy options have the characteristic that the improvement in Social

Security finances grows over time, as the correction from the index change translates into persistently slower expenditure growth. Retirees into the future will pay the same amount, but they will receive increasingly more modest benefits than those now promised (but which cannot be afforded under the current system).

A similar phenomenon can be seen for the proposals in the table to increase the retirement age from 67 to 68: the impact in narrowing the financial gap increases over time, with the progress in the 75th year greater than on average over the 75 years. An increase in the retirement age is akin to a reduction in benefits—in this case, for everyone. Note that the speed of the change to a higher retirement age affects the average improvement over 75 years but not in the 75th year, because by 75 years out both changes will have increased the retirement age by the full year. The fiscal improvement of the more rapid increase in the retirement age results from making more generations of retirees subject to a higher retirement age.

In contrast, the policy option to subject all earnings to the Social Security tax has the property that the fiscal improvement in the 75th year is smaller than the average over all 75 years. This fiscal improvement comes about because removing the taxable wage cap initially brings in new revenues, while the associated benefits are accrued but not yet paid out. As workers retire over time and collect the benefits associated with their higher contributions, however, the net improvement wanes. Note that the fiscal improvement does not shrink over time in the alternative shown in the table in which workers do not accrue benefits for their additional taxes above the current maximum, though this variant would break the link between contributions and benefits that is a hallmark of the Social Security program. If one considers options to shore up the finances of Social Security, revenues can be added or benefit growth slowed. But the intergenerational nature of the implicit liabilities in the system tends to skew the policy debate by making some options seem more effective over a limited horizon than they are when a longer one is considered.

Recent policy changes that purport to strengthen Medicare likewise take advantage of accounting limitations with regard to the tracking of the financial status of the program. Medicare spending was reduced as part of the Patient Protection and Affordable Care Act (PPACA), with the lower payments to Medicare being reallocated to fund the costs of expanding health insurance coverage.

The accounting for Medicare, however, looks only within the system and not at the external payments for PPACA. That approach means that within the narrow purview of Medicare finances, the system appears to be strengthened by payment reductions when, in fact, the economic resources that are notionally freed up are meant to be devoted in the legislation to providing new benefits under PPACA.

It is naturally tempting for policymakers to take advantage of this complication. The 2013 press statement from the Treasury Department made at the time of the release of the Medicare Trustees report does exactly that, asserting that PPACA has extended the life of the trust fund: "Medicare's Hospital Insurance (HI) Trust Fund is projected to exhaust its assets in 2026, two years later than was projected in last year's report, and nine years later than was projected in the last report released prior to passage of the Affordable Care Act."[1]

That assertion is misleading in that the economic resources are being used to pay for PPACA. The Trust Fund exhausts its assets later only because of the lack of transparency in the accounting for the implicit liabilities. Of course, that is what makes it so attractive from a political perspective to use cuts in Medicare to pay for new programs such as PPACA.

How Will These Implicit Liabilities Be Resolved?

The broader point of noting the nontransparency of implicit liabilities is that this characteristic makes them politically attractive as a financing source. The difficult choices are postponed while political credit is taken up front. Eventually, however, difficult choices must be made to deal with the fiscal imbalance.

For state-level liabilities, I believe that a relatively straightforward algorithm explains how critical implicit liabilities will be addressed: taxes will be increased as much as is politically feasible, and only then will spending be cut. This algorithm results from my observation that the largest state-level fiscal imbalances are in so-called blue states—those controlled by governors and legislators aligned with the Democratic Party. In those states, the political system is less averse to tax increases than spending cuts that hit government-aligned political constituencies.

[1] U.S. Department of the Treasury, "Statement by Secretary Lew on the Releases of Social Security and Medicare Trustees Reports," news release, May 31, 2013, http://www.treasury.gov/press-center/press-releases/Pages/jl1963.aspx.

California and Illinois provide cases in point. The fiscal imbalances in both states are chronic situations that only occasionally rise into the public debate. In Illinois, a modest change to public pensions was made in the fall of 2013, but only after large tax increases over several years. In California, on which Hamilton has written extensively, media reports say the fiscal situation has improved and is heading to surpluses, but this result obtains only because the figures ignore unfunded pension liabilities. Taxes were raised first, in the form of Proposition 30, which was advertised as providing new funding for education. However, in the end, much of the resources generated from the higher taxes will go to fund pensions. That change is not exactly what voters thought they were getting in voting for Proposition 30, but it is an inevitable consequence of the use of implicit liabilities to fund promises made in the past.

Broadly speaking, resolution of state-level implicit liabilities will result from a negotiation between governors, taxpayers, and interest groups, notably public-sector unions. The outcome will be to raise taxes as much as possible and then to cut spending as slowly as possible. Meanwhile, the composition of state spending will be affected by the drain from current revenues. In California, for example, the need to cover pension costs appears to affect a variety of social outcomes, including the quality of the education system through higher student-to-teacher ratios and crime rates through prisoner releases dictated by prison underfunding.

At the federal level, Hamilton's paper makes clear that dealing with the fiscal challenge requires addressing the Social Security and Medicare entitlements. That is the case even though the overall fiscal outlook has improved in the past year through (a) a combination of stronger economic growth and thus tax revenues, (b) higher tax rates as a result of the "fiscal cliff" tax deal that took hold in January 2013, and (c) lower spending brought about by the federal sequester. The Congressional Budget Office reports that the 75-year fiscal gap is down to 1.7 percent of U.S. gross domestic product—not a large enough amount to seem urgent or a threat to fiscal and macroeconomic stability.

The problem with this fiscal gap estimate is that it assumes that current law holds, even though a variety of spending cuts and tax increases embedded in current law are unlikely to be allowed to take place. For example, reductions to the payments physicians receive

for treating Medicare patients have been repeatedly averted, and a wide range of business tax cuts likewise have been repeatedly extended (indeed, they are known as the "tax extenders"). PPACA adds additional payment "cliffs," including substantial reductions in payments for Medicaid providers, such as doctors who treat Medicaid recipients. If the temporarily higher payments put into place with PPACA are not allowed to expire—and presumably there will be pressure to avoid payment reductions that could make it difficult for patients to receive care—then the actual fiscal imbalance is higher. In this sense, the lack of progress in addressing the fiscal imbalance represented by implicit liabilities can be seen as a political approach of "whistling past the graveyard."

The use of implicit liabilities affects policies in financial markets. The Federal Deposit Insurance Corporation (FDIC), for example, has the legal authority to borrow from the Treasury if the FDIC's deposit insurance fund is low, with the deficit to be made up in the future through higher insurance premiums. In practice, however, the FDIC works hard to avoid having to tap the Treasury, in large part because that would present a bureaucratic loss of face. Instead, the FDIC has taken other steps to shore up the deposit insurance fund, including having banks make advance payments on their insurance premiums, even while policymakers were concerned about the potentially adverse effects on lending from banks with inadequate capital.

Implicit liabilities are also accumulated through the orderly liquidation fund created in Title II of the Dodd-Frank financial regulatory reform legislation. That fund allows policymakers to put public money into a failing financial institution in order to continue its operations, while imposing any losses on shareholders and bondholders of the institutions and then ultimately on other financial firms, if needed, to ensure that taxpayers do not take losses. In contrast to the approach taken with the FDIC, a resolution fund is not built up in advance, but instead costs are imposed on industry participants, who should know in advance that they are at risk (for example, bondholders should know that they face the possibility of having haircuts imposed and should build that into the yields they require to lend to banks). This structure is reminiscent of the approach taken by the Federal Reserve in providing support for Bear Stearns and AIG, as discussed earlier.

The use of implicit liabilities influenced the policy choice for the government takeover of Fannie Mae and Freddie Mac. The agreements struck between the Treasury and each firm provided for taxpayer capital to be made available as needed to ensure solvency. Taxpayers were thus on the hook for any losses embedded in the government-sponsored enterprises. The obligation is explicit, but the amount of support is unknown and is not paid for in advance. The policy choice can thus be seen as involving an implicit liability, even while making explicit the previously implicit commitment of taxpayers to support Fannie and Freddie.

The experience during the crisis suggests that additional implicit liabilities would be created by a future housing finance reform that creates an ostensibly private housing finance system. The reason is because future policymakers would doubtless feel obliged to intervene if mortgage financing became difficult to obtain. An ostensibly private housing finance system would thus re-create the implicit government guarantee of the previous failed system.

Conclusion

The use of implicit liabilities is politically attractive in a range of areas. In housing finance, for example, implicit commitments in the past allowed lawmakers to avoid paying for the implicit claims arising from the support that the federal government was expected to provide for Fannie Mae and Freddie Mac if those firms became distressed. That need for taxpayer assistance ultimately materialized in the fall of 2008. Looking forward, policymakers can claim that newly adopted housing finance reform provides for a private system, but, in fact, there is implicit taxpayer exposure that is unpriced.

In general, implicit liabilities have the feature that the full budgetary costs are obscured. This lack of transparency is a political boon for policymakers, who can provide benefits without having to face the attendant costs—at least not yet. Hamilton's paper is thus invaluable in listing and assessing those costs.