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Monetary policy – conventional and unconventional: taming the financial crisis¹

Abstract: Induced by the Great Recession of 2007–2009, and especially by the 2008 financial crisis, the Federal Reserve (Fed) undertook unconventional policies that probably saved the financial system from meltdown, but may have effected far-reaching consequences for years ahead. Quite apart from fulfilling its mandates to promote economic growth and maintain stable prices, the Fed made loans to specific financial institutions, accepted hitherto ineligible collateral, and purchased bonds that vastly enlarged its balance sheet and created unprecedented levels of excess bank reserves. How these events came to pass and their possible consequences – including potential inflation and loss of the Federal Reserve independence – are described in this article.

Keywords: Federal Reserve, financial crisis, monetary policy, the United States.

JEL codes: E44, E52, G01, N12, O51.

Introduction

To review and appraise economic policy making at any time is a challenge; but the current national and global context is one of bewildering complexity. Not only is the nation in the aftermath of an economic downturn deservedly called the ‘Great Recession’, accompanied by an unprecedented financial crisis, one of our most important trading partners, Japan, is slowly recovering from a devastating earthquake and tsunami. Moreover, this year our nation has had to cope with unusually violent spring storms and resulting floods. Europe’s economy endured the recession and financial crisis that originated in the United States and is coping with unsettling sovereign debt issues in several countries. Rounding out the terrible list, armed re-

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billions with uncertain outcomes are taking place in a number of Middle Eastern and North African countries.

In this frightening scenario, a lingering, disappointing U.S. economic recovery calls for an appraisal of policies and their underpinnings. Now two years old, the recovery has not come close to attaining its prerecession peak in growth or employment. Figures 1 and 2 show the paths of GDP and nonfarm employment through

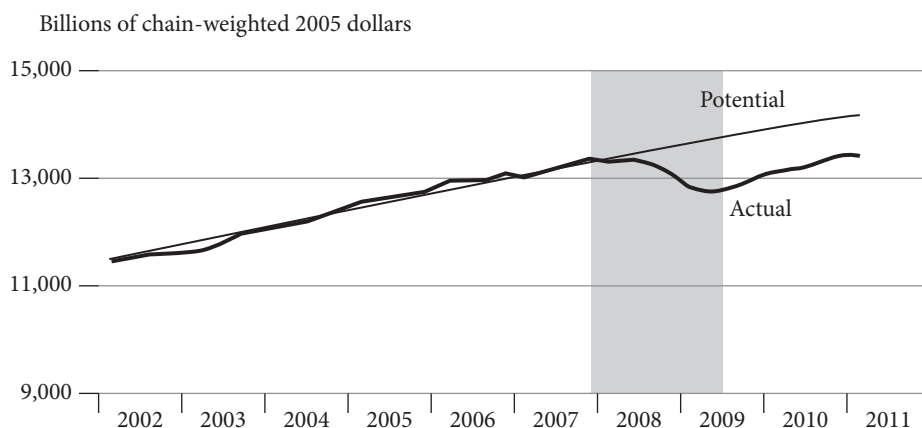


Figure 1. Actual and potential real GDP
Source: [Federal Reserve Bank of St. Louis 2011a]

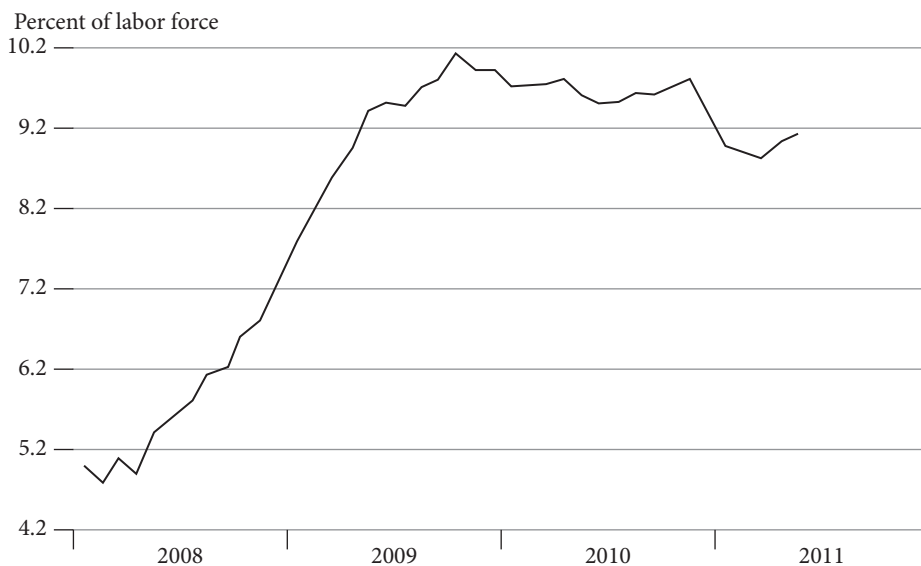


Figure 2. Unemployment rate [% of labor force]
Source: [St. Louis Federal Reserve Bank 2011b]

May 2011 [Federal Reserve Bank of St. Louis 2011a, 2011b]. GDP has not closed the gap between actual and potential GDP, and unemployment stands at 9.1% [Federal Reserve Bank of St. Louis 2011a, 2011b].

1. Background of the crisis

Indications of a fragile economy appeared several years before the expansion's December 2007 peak. But the period 2002 to 2006 was the scene of a frenzied real estate boom with cheap and easily obtained credit, rapidly rising home prices, buying and flipping, speculation and ultimately burst of the bubble. Figure 3 illustrates this process. As the bubble burst and prices declined precipitously, mortgage backed securities (MBS), which had been broadly marketed, in the United States and abroad, and mistakenly highly rated by rating agencies, took the greatest hit. As the CaseShiller Index shows [Standard and Poor's 2011], the impact was crushing; the price index peaked in 2005–2006 when mortgage lenders began tightening standards, higher interest rates on mortgages kicked in, foreclosures skyrocketed and financial distress extended globally. What became the “Great Recession” lasted for 18 months – the longest in the post World War II period – and the deepest, with a loss of 4.1 percent of real GDP by the sixth quarter after the recession began.

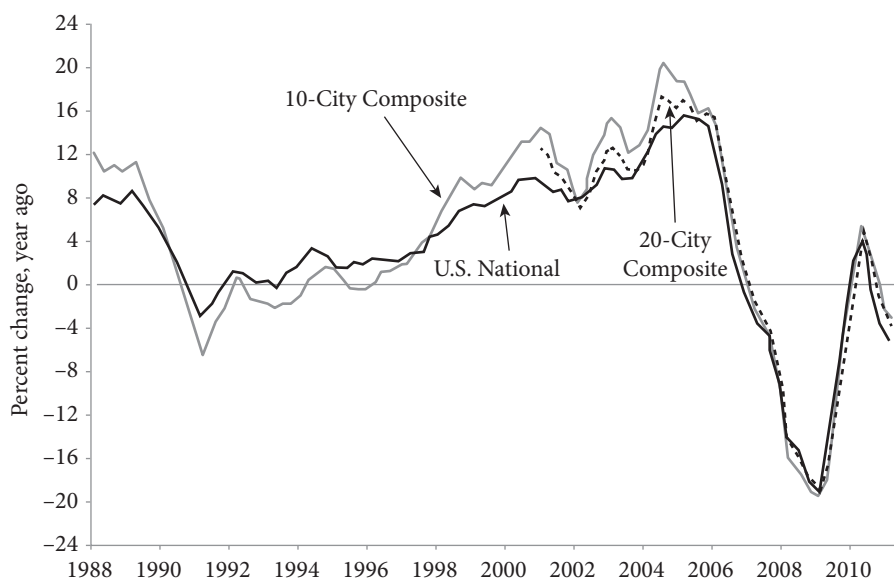


Figure 3. S&P/Case-Shiller Home Price Indices

Source: Standard & Poor's 2011

Despite the early warnings of problems in the economy the crisis came as a surprise; if any mood characterized the era ushered in by Volcker's subduing inflation and Reagan's renewing prosperity, it was optimism. Over nearly a quarter century stock prices increased eleven fold. House values grew four fold. Indeed, the deeply held belief that home prices would continue to rise prompted lenders to ignore borrower's credit deficiencies and borrowers to assume repayment obligations they could not afford. Increased home equity values became the source of borrowed money – a 'piggy bank' – from which homeowners mounted a consumption spree.

While the optimistic mood of the country provided the context for behavior that virtually assured the real estate bubble would burst, the failure of the financial institutions, regulators, underwriters, economists, journalists and others to recognize the accumulating risks to certain financial instruments and their holders, is difficult to understand. For example, derivative securities are ingenious instruments able to turn an asset such as a mortgage loan document that had traditionally been held by the lender to maturity or repayment – into a security that could be packaged with other similar securities and sold. The lender gains liquidity and lending institutions could be better managed. But the value of asset backed securitized instruments is derived from the value of the underlying asset such as the house in the case of a mortgage backed security. Thus, when the housing market collapses, the value of the MBS collapses too.

In the financial crisis, the securitization principle was extended to a wide variety of innovative financial transactions – even to instruments called credit default swaps (CDS) that basically were bets on whether failure of a financial institution would take place. Risk management techniques to deal with these new instruments lagged far behind.

Derivative securities, in spite of their novelty and complexity, were vigorously marketed globally – the attraction being their comparatively higher return and high quality ratings, often AAA. High ratings were assigned even to MBSs backed by subprime and AltA mortgages, which were the first to fail. Financial institutions worldwide came under severe stress as the market for these 'toxic assets' dried up. Early casualties of the MBS collapse included two Bear Stearns hedge funds that failed in August 2007.

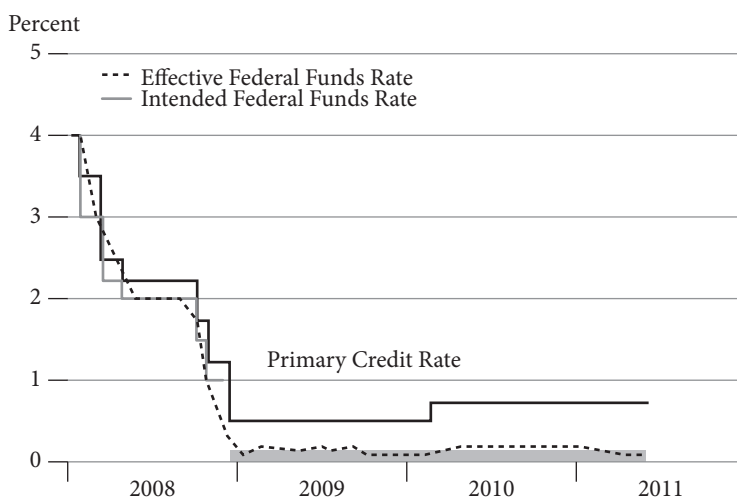
2. The Federal Reserve and the crisis

So serious were the liquidity drains on financial firms in the late spring of 2007 – six months before the economy peaked that the Fed was immediately drawn into providing liquidity programs to stave off further damage [Bernanke 2008].

Commercial banks, primary dealers and currency swaps with other central banks were beneficiaries of Fed accommodation. To assuage the perceived stigma of borrowing from the Fed (and being assumed ‘in trouble’), the Fed developed a Term Auction Facility (TAF) that afforded banks some anonymity [Thornton 2009].

Accommodation was extended to issuers of commercial paper, an important source of financing for inventories, accounts receivable and payrolls. When a Money Market Mutual Fund (MMMF) was unable to maintain its \$1 net asset value (‘broke the buck’), a run was induced on other MMMFs (MMMFs held trillions of dollars on behalf of individuals, businesses, pension funds, municipalities and others). Liquidity needs of MMMFs and other term investors led to a decrease in demand for Commercial Paper investments. To stem this shrinkage, the Fed set up a Special Purpose Vehicle (SPV), the Federal Reserve Bank of New York, as a liquidity backstop for Commercial Paper Issuers – The Commercial Paper Funding Facility (CPFF), which purchased three-month unsecured and asset backed commercial Paper from U.S. issuers. Fund holders could withdraw Asset backed Commercial Paper from their MMMFs. To enable the MMMFs to meet these withdrawals, the Fed established a Money Market Mutual Fund Liquidity Facility (AMLF) to enable the funds to meet these withdrawals.

In an effort to restore the market for asset backed securities, the Fed made loans to eligible investors to buy AAARated asset backed securities. Initially restricted to new or nearly new automobile loans, credit card loans and Small Business Administration guaranteed loans, eligible paper was later extended to other loans. By September



Note: Effective December 16, 2008, FOMC reports the intended Federal Funds Rate as a range

Figure 4. Federal Reserve market rates

Source: [Federal Reserve Bank of St. Louis 2011a]

2008, as the financial crisis deepened, the Fed began reducing its federal funds rate (cf. Figure 4, the Federal Funds rate is the interest rate on overnight loans between banks) and open market operations brought the overnight rate down from 4.25 percent to a range of 0 to 0.25 percent.

Figure 4 shows the series of steps taken by the Fed to accomplish this result [Federal Reserve Bank of St. Louis 2011a].

3. Direct lending to borrowers and investors

With the assumption of a role in direct lending, the Fed had entered into a realm of unconventional monetary policy. CPFF, The Troubled Asset Loan Facility (TALF) and TAF provided longer term 'loans of last resort' not usual in the Fed's conventional accommodation role. In general these loans provided for the Fed to swap liquid assets, such as U.S. Treasury securities, for illiquid assets owned by financial institutions. If the financial institutions required liquid assets, rather than sell their illiquid assets possibly at 'fire sale' discounted prices, they could get full value for their Treasury securities. Banks with illiquid Mortgage-Backed Securities exchanged them for Fed assets through TALF.

Fed support was also extended to special institutions in financial difficulty. In 2008 the Fed, in cooperation with the U.S. Treasury, facilitated the purchase of Bear Stearns by J.P. Morgan Chase at a cost of \$30 billion. And, to prevent a bankruptcy and potential disruption to the financial system, the Fed made a loan of \$85 billion to American International Group, which had underwritten huge amounts of insurance for creditors against default (CDS) of other firms. Still another financial support, a Targeted Investment Program (TIP), was arranged for Citigroup and Bank of America [Fisher 2010].

4. Causes and consequences of the financial crisis

As the financial crisis began wreaking its havoc on the financial markets, there arose in the Congress, the media and academic circles attempts to assess blame and offer remedies for what was happening. Many participants in these discussions expressed shock and amazement, apparently not appreciating or understanding the relevance to this crisis of the Savings and Loan crisis of the 1980s, the Enron/Tyco/Worldcom malfeasances – and the resulting Sarbanes Oxley Act, 2002 [Senate Committee on Banking and Urban Affairs 2009] – or the Long Term Capital Management fiasco of 1998.

In January 2010, the Congress appointed a ten-member commission, The Financial Crisis Inquiry Commission, to investigate the causes of the crisis. After more than a year of deliberations, holding 19 hearings and interviewing more than 700 witnesses, the Commission delivered its Report, a 550 page document [Financial Crisis Inquiry Commission 2010]. More a description of events in the crisis than an analysis of its causes, the Report was contentious; four of its members published dissents that make up 127 pages of the volume. Among the bases for dissent were the roles of government policy and the GSEs (Freddie Mac and Fannie Mae) in the crisis, and the failure of the Congress to have asked for policy recommendations [Wallison & Calamari 2008; Wallison 2009]. In the end the Commission came to these conclusions:

- We conclude the financial crisis was avoidable.
- We conclude widespread failures in financial regulation and supervision proved devastating to the stability of the nation’s financial markets.
- We conclude drastic failures in corporate governance and risk management at many systemically important financial institutions were a key cause of the crisis.
- We conclude a combination of excessive borrowing, risky investments and lack of transparency put the financial system on a collision course with crisis.
- We conclude the government was ill-prepared for the crisis and its inconsistent response added to the uncertainty in the financial markets.
- We conclude there was a systemic breakdown in accountability and ethics.
- Collapsing mortgage lending standards and the mortgage securitization pipeline lit and spread the flame of contagion and crisis.
- OTC derivatives contributed significantly to the crisis.
- The failures of credit agencies were essential cogs in the wheel of financial destruction.

Absent from this list is the role played by public policy in promoting “affordable housing”. Beginning with the Community Reinvestment Act (CRAB1977), public policy required insured banks and other depository institutions to allocate funds for mortgage applicants whose income was below the community median. Congress considered and usually passed amendments to CRA in ten of the years from 1989 to 2010.

In 2004, under Congressional pressure, the Government Sponsored Enterprises (GSEs) Fannie Mae and Freddie Mac committed to increased financing of “affordable housing”. They lowered their credit standards on home loans, and expanded their program of packaging and selling loans into the secondary market becoming the largest buyers of subprime and AltA mortgages eventually exceeding \$1 trillion. Peter Wallison wrote in a 2009 Wall Street Journal Op Ed piece: “Almost two-thirds of all bad mortgages in our financial system were bought by government agencies or required by government regulations” [Wallison 2009]. When the market for mortgages and MBSs collapsed, the GSEs collapsed as well and the Government took them over in September 2008.

In the Commission Report, the roles of public policy, including “affordable house” and CRA, receive considerable discussion but are relegated to marginal significance as factors in the financial crisis. As we try to account for the causal elements that brought the financial crisis, a combination has to be considered: government policy of ‘affordable housing’, a society intoxicated with optimism, indifferent or uninformed regulators, unethical conduct, interest rates kept too low for too long and corporate governance inattentive to incentives and risk management.

Inevitably, in response to the economic and financial debacle, Congress brought forth a law: the Wall Street Reform and Consumer Protection Law, 2010, referred to as the Dodd–Frank Act after its authors, Senator Chris Dodd and Representative

Brief summary of the Dodd–Frank reform and consumer protection act

– Establishes a Consumer Protection Bureau that has Authority and Independence
Creates a new, independent watchdog agency housed within the Federal Reserve to provide consumers clear, accurate information that they need to provide shop for mortgages, credit cards and other financial products and to protect them from abusive practices
– Imposes Capital and Leverage Requirements in an effort to avoid “Too-big-to-fail” and taxpayer-financed bailouts
Ends the possibility that taxpayers will be asked to write a check to bail out financial firms that threaten the economy. A safe way is created to liquidate failed financial firms; new capital and leverage requirements are put in place; the Fed’s authority to allow system-wide support but not prop up individual firms is updated
– Creates an Advance Warning System to Identify and Address Systematic Risks
Sets up a council to identify and address systemic risks posed by large, complex companies, products and activities before they threaten the stability of the economy
– Requires Transparency and Accountability for Exotic Financial Instruments
Eliminates loopholes that allow risky and abusive practices to go unnoticed and unregulated. including over-the-counter derivatives, asset-backed securities, hedge funds, mortgage brokers and payday lenders
– Examines Executive Compensation and Corporate Governance
Permits shareholders a “Say on Pay” and other corporate affairs via a nonbinding vote on executive compensation and golden parachutes
– Enacts new rules for Credit Rating Agency Transparency and Accountability
Provides new rules for transparency and accountability for credit rating agencies to protect consumers and businesses
– Calls for Enforcement of Regulations Already on the Books
Strengthens oversight and empowers regulators to aggressively pursue financial fraud, conflicts of interest and manipulation of the system

Source: Adapted by the author from Senate Committee on Banking and Urban Affairs.

Barney Frank [Senate Committee on Banking and Urban Affairs 2009]. Table presents a single-page adaptation of the Senate Banking and Urban Affairs Committee's sixteen-page "brief summary" of the Act.

Few if any of the issues brought up in the hearings and reports that informed the Act are missing in its titles. New agencies are created (such as an independent consumer protection agency within the Federal Reserve); new information mandated – possibly leading to high costs for financial institutions and information overload; restrictions imposed on financial products such as derivatives; and regulation of corporate compensation. If the Dodd–Frank law seems not to have titles related to the conclusions in the Commission's Report or our combination of factors implicated in the financial crisis, there is a reason: the Congress passed, and the President signed the Dodd–Frank Act in July, 2010, six months before the Commission report was published! Congress and the President presumed to know the causes of the crisis without Commission input! Implementing the Act is already proving a challenge but a profoundly changed financial system is likely to emerge in the end [Bernanke 2011a].

5. Monetary policy and the Fed in the aftermath of the financial crisis

Issues affecting monetary policies that were produced by, induced from or unintended consequences of the Great Recession and financial crisis, or policies invoked to cope with them, are numerous. We have discussed the unconventional tools used for the first time by the Fed in coping with this crisis – notably loans and other financial support to specific financial institutions and the acceptance of hitherto unacceptable collateral for loans. Of considerable importance is the 'financial debris' remaining from policies used for the first time in coping with this crisis: large additions to the Fed's balance sheet [Bernanke 2009] and its resulting composition [Carlson & Lindner 2009], much enlarged bank reserves, and assets and liabilities on the balance sheets of financial institutions worldwide – especially securitized assets. Most of these assets are of a risky kind that financial managers or financial regulators would alter if they were operating under more friendly financial market conditions.

Figure 5 shows the precrisis and postcrisis composition of the Fed's balance sheet [Federal Reserve Board of Governors 2011c]. Precrisis the Fed's balance sheet consisted of traditional assets of about \$800 billion; postcrisis assets were \$2.7 trillion and composed principally of Federal agency mortgagebacked securities and longterm treasury securities. Matching the Fed's balance sheet is an enormous increase in excess reserves of member banks [Gascon 2009]. Because economic conditions are currently not leading to large expansion of loans and the money supply

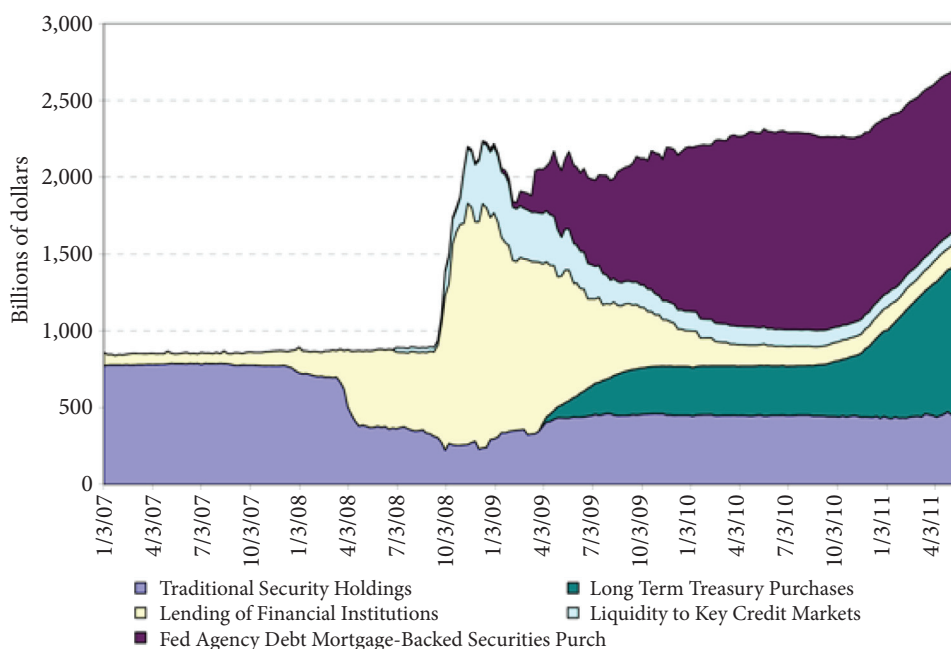


Figure 5. Federal Reserve balance sheet asset composition

Source: [Federal Reserve Bank of Cleveland 2011]

[Kliesen 2009], they are potential problems, but of a size and composition not previously encountered by the Fed.

To reduce the assets on the Fed's balance sheet, they must either be sold or held until maturity or repayment. Were an expansion of bank lending to occur, the potential for a rapid rise in inflation would have to be considered.

6. Independence of the Federal Reserve System

Most important is the precedent established by the Fed's unconventional monetary policy and cooperation with the Treasury including venturing into fiscal policy. In the event of another financial crisis, it could be reasoned that there is no way back to restricting the Fed to conventional monetary policy. The mold has been broken!

Into this discussion must be admitted the federal government's deficit and its service charges, i.e. paying interest to the lenders. Recently the Congressional Budget Office (CBO) has developed forecasts of the interest payment that could develop under different government policies and interest rates [Congressional Budget Office 2011]. Figure 6 presents this information assuming no changes occur in govern-

ment policy but increased interest rates to four percent. Over the next nine years the cumulative deficit is estimated to be \$6.2 trillion. Borrowing to finance this level of deficit, assuming rising interest rates, would lead to a fourfold increase in net interest payments – from \$197 billion to \$778 billion – over the next ten years.

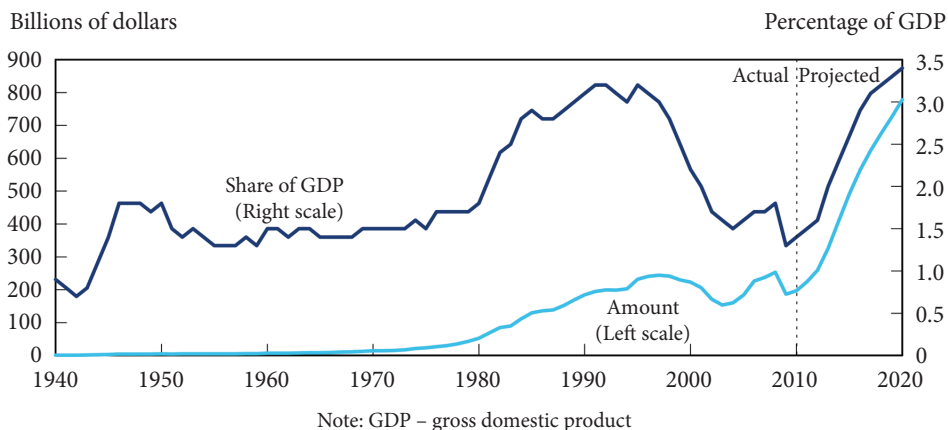


Figure 6. Net interest outlays, 1940–2020

Source: [Congressional Budget Office 2011], historical data are based on information from the Office of Management and Budget

Clearly no government is going to look forward to allocating revenue in the \$800 billion range – much of it to foreign bondholders – to meet interest payment on the federal debt. One option likely, even at much lower interest rate levels, is Treasury pressure on the Fed to maintain low interest rates by continuing to buy Treasury paper, whether such policy is in the nation’s economic interest or not. In such an encounter, the Fed might lose and as a consequence lose its independence as well. Resolving the federal debt-related controversy, given this prospect, is of the highest priority.

In the aftermath of the crisis, policymakers face a slow recovery and volatile financial markets [Bernanke 2011b]. With lowest-rung interest rates, commercial banks flush with excess reserves and low demand for loans by qualified borrowers the scope for traditional monetary policy is narrow indeed. Virtually all sectors of the economy are deleveraging and the policy needs are of a kind that would provide incentives for saving and investment, which result in real economic growth. Appropriate fiscal policy would reduce tax barriers to savings and investment. This is the realm of structural reform, especially of the fisc, the revenue, expenditure and debt management systems. In the interest of longterm growth, the sooner fiscal reform is our preoccupation the better.

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