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FAILED INTERVENTIONS: The Increasing Ineffectiveness of
Monetary and Fiscal Policies in High-Debt Environments

by Katelyn Christ



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ABSTRACT

Macroeconomic stabilization policies are implemented to smooth the real effects of periodically recurring business cycles. However, since empirical evidence proves that economic policy can itself confer negative costs onto societies, the effectiveness of monetary and fiscal policies is often questioned. Of crucial importance today, increasing public and private debt levels pose huge challenges for policy implementation. As such, this thesis utilizes post-recession stabilization experiences in the United States since the 1970s, with particular emphasis on the reflationary efforts of the current economic crisis, and looks to other countries that have high sovereign debt levels who have gone into or are approaching bankruptcy to illustrate that the sustained use of monetary and fiscal policies in increasing high public- and private-debt environments further frustrate the ability of macroeconomic stabilization to steady economic activity.

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Mercatus Policy Essay

By

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The Mercatus Center at George Mason University
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Chapter 1: Has Macroeconomic Stabilization Policy Succeeded?

Swings in economic activity are macroeconomic phenomena that occur in virtually all-modern industrialized economies. Countries, institutions, and financial instruments may differ, after all, but human nature does not (Reinhart and Rogoff 2009). In years of prosperity, unemployment is low and industries are booming; in periods of economic decline, unemployment is high and most industries are operating well below capacity (Romer 2008). Since it is widely accepted that government can and should intervene to stabilize the ebbs and flow of economic activity (Tobin 1974, Blinder 1997: 12, Mankiw 2010), economic stabilization is therefore most often a question of coordinating monetary and fiscal policies.

How efficient have stabilization policies actually been in achieving these goals? Given the continued debates about the effectiveness of stabilization policies and empirical evidence that economic policy can itself unintentionally contribute to instability, this question is important now more than ever.¹ In light of these concerns, this thesis examines how monetary and fiscal stabilization policies are increasingly ineffective in high public and private debt environments.²

The effectiveness of monetary and fiscal stabilization policies is often measured by their ability to moderate expansions and recessions. However, persistent and increased

¹ Hostility towards fine-tuning is partly explained by the notion that the variances of inflation around its target or output around its natural level cannot be entirely eliminated. Monetary policy, so the argument goes, often causes high rates of inflation over extended periods and fiscal policy often causes persistent high budget deficits that are both higher than is “socially optimal” (Lambertini and Rovelli 2003).

² In most countries today short-run stabilization is done mainly by monetary rather than fiscal policy. Actually, recent developments in macroeconomics, the so-called “new consensus,” view fiscal policy as essentially ineffective. As such this paper will focus more on monetary rather than fiscal policy. For more

use of fiscal and monetary stimulus may become less effective or even counterproductive when debt levels are high enough. As we will see high-debt environments therefore ultimately become self-defeating at some point.

U.S. national debt accumulates when the Treasury sells bonds in the market. Notably, deficits have grown in recent years to unprecedented peacetime levels and debt held by the public is set to reach a new high of 60 percent of GDP by FY end 2010. Monetary policy, on the other hand, stimulates economic activity primarily by inducing private individuals and companies to borrow and invest funds according to the “credit channel view.”³

Coincidentally, the Fed’s reliance on interest rate targeting and quantitative easing methods has increased right alongside total private U.S. debt, which was at a high of about 188.6percent GDP in 2009.

An extreme example of increased policy use contributing to increased debt levels is the response of the U.S. to the current financial crisis. Over the last few years, fiscal policies have been implemented at an accelerated scope and magnitude. Moreover, the Fed has more than doubled the monetary base while holding its target interest rate close to zero for the first time ever to try to spur economic recovery. Although excessively easy monetary policies are used to combat deflationary recessions in the short term, the Fed’s short-term stimulative actions actually accumulate debt.

information see Arestis, P. & Sawyer, M. (2003). “Reinventing Fiscal Policy.” *Journal of Post Keynesian Economics*: 26(1): 3- 25 <http://www.jstor.org/stable/4538859>

³ Bernanke, B.S. & Gertler, M. (1995). “Inside the Black Box: The Credit Channel of Monetary Policy Transmission,” *The Journal of Economic Perspectives* 9(4): 27- 48. <http://www.jstor.org/stable/2138389>

Mainly, the Fed's reliance on easy monetary policy has increased private-sector debt by artificially reducing interest rates below equilibrium levels. However, as we will see, these manipulated interest rates understate actual loan risk, which implies "malinvestment" and subsequent future loan failures in an Austrian sense. Total private debt therefore increases between business cycles and much of this artificially created debt resolves in the deleveraging of bad loans.

Moreover, low target interest rates also understate the true cost of debt, which allows Congress to carry increased debt at an artificially reduced carry cost. Since the government takes on more debt than it can likely repay, its creditworthiness is decreased in the process. These actions, in turn, allow the Congress to expand public debt beyond sustainable levels. As such, the Fed's easy monetary policies are also embraced by fiscal spending advocates in Congress who rely on deficit spending to garner political support.

The negative effects of these policies on social welfare are numerous.⁴ For instance, continuing on this path could very well lead to inflationary consequences caused by overly accommodative Fed policies. What's more, the risk of inflation adds a premium to the real interest rate the government must pay when selling unindexed bonds. It is therefore vital now more than ever for policymakers to understand that an increased reliance on stabilization policies contributes to already increasing debt levels, which

⁴ Such problems will only likely appear after Fed intervention ends and equilibrium real interest rates at every maturity are restored to their positive real value, which is defined in this paper as the "price of money" (*supra* note 75). Only at this time, after all, will public and private loans used to "reflate," or stimulate, a post- recession economy reflect true market risk.

makes fiscal stimulus, quantitative easing, and excessive interest rate reduction even more ineffective at influencing real economic variables.

In the discussion that follows, fairly recent evidence from high-debt countries indicates that stabilization efforts that aim to increase lending in the private sector do so not only by artificially cheapening credit. Rather, their downward manipulation of interest rates also facilitates excess public borrowing by reducing the carry cost of debt and thereby making it easier for public debt to be explained in the process. This circular relationship between stabilization efforts and debt accumulation yields destructive economic consequences that policy reform would be mindful to address.

This chapter provides background information on the nature of macroeconomic stabilization and debt. The first section lays out the basics of monetary and fiscal policy in the U.S and how their relative importance has changed over time. The second section gives brief reference to schools of thought in economics that illustrate how economists disagree on the cause of business cycles and the need for macroeconomic stabilization. The third section describes “high-debt environments” and outlines stabilization problems related to unsustainable debt accumulation before describing the outline of this paper.

Macroeconomic Stabilization Policy

Monetary Policy

Since central bank actions are the most important government policies affecting economic activity from year to year, monetary policy is among the most complex fields

of public policy today.⁵ In the U.S., through its regulation of the supply of money and credit, the Federal Reserve System, or Fed, has a dual mandate to promote “maximum” output and employment and “stable” prices. Additional goals include fostering a financial climate favorable to forces of economic growth and maintaining a relatively stable value for the dollar (Jacoby 1958).

Since the Fed cannot control “price-setting” or influence output and employment directly, two means have been traditionally used to measure the posture of monetary policy: the growth rate of the money supply and market interest rates, particularly the federal funds rate. Although neither of these two indicators provides an unambiguous measure of the posture of monetary policy, they are instructive nonetheless.

The growth in aggregate demand, or money spending, depends heavily on the growth in the supply of money, so it would be logical to measure the posture of monetary policy by the growth rate of the supply of money.⁶ Using this indicator, monetary policy is said to be easy when, during a sustained period, the supply of money increases at a rate that is higher or rising relative to a recent trend. Alternatively, policy is said to be tight when the rate of money growth is low or falling relative to a trend. Unfortunately, however, none of the three common measures of money (M0, M1, or M2) appear to

⁵ For a short but thorough treatment of U.S. monetary policy see Tobin, J. (2008). “Monetary Policy,” *The Concise Encyclopedia of Economics*: Library of Economics and Liberty. <http://www.econlib.org/library/Enc/MonetaryPolicy.html>

⁶ A standard approach to analyzing this connection is found in the following form of the growth rate, or dynamic, version of the “equation of exchange:” $gP + gY = gM + gV$. This equation states that the growth rate of the velocity of money equals the rate of inflation plus the rate of growth of real income. For more information see White, L. W. (2008). “Inflation,” *The Concise Encyclopedia of Economics*. Library of Economics and Liberty. <http://www.econlib.org/library/Enc/Inflation.html>

provide clear information about the posture of monetary policy today. The Fed therefore executes monetary policy by setting a target for an overnight interest rate called the federal funds rate, or FFR, which is the interest rate that one bank charges another for reserves that are lent on an overnight basis (Labonte and Makinen 2006: viii–6).

The interest rate relevant for these decisions is not the market, or nominal, rate but the short-term real rate, or the market rate less the expected rate of inflation.⁷ Changes in real interest rates affect the public's demand for goods and services mainly by altering borrowing costs, the availability of bank loans, the wealth of households, and foreign exchange rates (Labonte and Makinen 2006: 8). Rising real rates are interpreted as a sign of tight monetary policy while falling real rates signal a move toward an easier monetary policy.

Changes in the real FFR affect primarily short-term interest rates, and through these changes, money spending.⁸ More specifically, the interest rate is an important link by which changes in the money supply influence consumer and investment spending in the real economy. That is, changes in money-supply growth lead to adjustments in

⁷ Short-term real interest rates are a natural variable to consider as a policy indicator because the Fed generally does not set nominal rates for longer-term instruments. However, the Fed cannot set these real short-term interest rates either because it only operates in the market for bank reserves and cannot set inflation expectations directly. For the most part, then, the demand for goods and services is not related to the nominal, or market, interest rates quoted by the Fed in the financial pages of newspapers. For more information see FRBSF's "About the Fed:"

<http://www.frbsf.org/publications/federalreserve/monetary/affect.html>

⁸ The so-called "liquidity effect" describes the negative relationship between some measure of money (like M1 or M2) and an open-market interest rate (like the yield on three-month Treasury bills or the FFR). The economics literature has no shortage of papers that investigate this type of relationship. However, the methodologies and the results are mixed; some researchers have not found a consistent relationship while other researchers have. For a summary of relevant works, see Carpenter, S. & Demiralp, S. (2004). "The Liquidity Effect in the Federal Funds Market: Evidence from Daily Open Market Operations," The Board of Governors of the Federal Reserve System Working Paper No. 2004- 61.

www.federalreserve.gov/pubs/feds/2004/200461/200461pap.pdf

market interest rates which, in turn, influence households in their decisions to take out loans to buy homes, automobiles appliances, and the like, and businesses in their decisions regarding inventories and plant and equipment purchases (Labonte and Makinen 2006: 7–8).

An important experience that has shaped the thinking of U.S. monetary policy makers was the “Great Contraction” of 1929–1933, when the money stock, output, prices, and employment dropped by record rates. In the worlds of scholarship and policy alike, the “money does not matter” opinion prevailed and the emphasis on governmental fiscal action and direct intervention was increased. However, in actuality, the drastic decline in the quantity of money and the occurrence of an unprecedentedly severe banking panic reflected the absence of power on the part of the Federal Reserve to prevent the liquidity crisis, which illustrates that the contraction was in fact a “tragic testimonial to the importance of monetary forces” (Friedman and Schwartz: [1963] (1973)).

A second major episode to influence U.S. monetary doctrines was the “Great Inflation” of the mid 1960s through early 1980s, when the need to end out-of-control inflation became the most pressing issue for monetary policy makers. Namely, from 1960 to 1979 annual U.S. inflation increased from a negligible 1.4 percent to a staggering 13.3 percent (Samuelson [2008] (2010): 4). The lessons drawn from this episode was first, “never again runaway inflation” and, secondly, that “there are limits to what the federal government can achieve through expansionary macroeconomic policies” when it comes to boosting employment and output (Gustavson 2010: 8). Not surprisingly, both

these groundbreaking episodes were followed by major changes in macroeconomic thinking as well, as we shall see.

Hailed by Reinhart & Rogoff (2009) as the “Second Great Contraction,” the global financial crisis of the late 2000s also promises to reshape economic thought as well. Though a few years back many people would have said that “improvements in financial engineering and the conduct of monetary policy” had done much to tame the business cycle and limit the risk of financial contagion, the recent global financial crisis has proven them wrong (199). The crisis, the most serious global financial recession since the Great Depression, has been a transformative moment in global economic history that will likely reshape monetary policy for years to come.

Fiscal Policy

In economics, fiscal policy is “the use of government spending and taxation to influence the economy” (Weil 1993). Those who believe fiscal policy can influence output by affecting aggregate demand view it as a potential tool for economic stabilization.⁹ In a recession the government can engage in deficit spending, thus helping to restore output to its normal level and to put unemployed workers back to work. During a boom, when inflation is perceived to be a greater problem than unemployment,

⁹ With Monetarism came the resurgence of the quantity theory of money and subsequent renewal of interest in the “crowding out” effect of private spending. Skepticism of the basic Keynesian principle that government spending could alter the aggregate level of employment arose once again. Still, economists remain divided over the ability of fiscal policy to affect aggregate demand. For more information see Blinder, A.S. & Solow, R. M. (1972). “Does Fiscal Policy Matter?” <http://ideas.repec.org/a/eee/pubeco/v2y1973i4p319-337.html>

the government can run a budget surplus, helping to slow down the economy. Such a countercyclical policy would allow the budget to be balanced on average.

Deficit financing can be preferable to increasing taxation during recessions for tax-smoothing reasons. However, while countercyclical deficit spending does not necessarily create problems in the short term, chronic deficit spending during non-recession periods reduces budgetary flexibility and may ultimately lead us down an unsustainable fiscal path (GAO 2004: 7). The deficits created by expansionary fiscal policy throughout recent history threaten to increase total debt to an unsustainable level.

The U.S. Experience

Monetary and fiscal interventions took a long time to be adopted in U.S. policy making. Actually, mainstream implementation of Keynesian policies was not made until the 1950s–1960s, when monetary and fiscal discretions appeared as new, straightforward methods to fix economic problems.¹⁰ Ironically though, once initiated, these policies immediately led to one of the worst domestic policy blunders of the postwar era: the infamous “Stagflation” of the 1970s in which mostly Keynesianism lost much of its credibility (Samuelson [2010] (2008)).

Due to this experience, a new rationale formed that government’s monetary authority could conduct countercyclical policy, or the stabilizing of prices, output, and

¹⁰ For more information see Tymoigne, Eric. (2008). “Minsky and Economic Policy: “Keynesianism” All Over Again?” The Levy Economic Institute of Bard College Working Paper No. 547: www.levy.org/pubs/wp_547.pdf

inflation.¹¹ Monetary policy became widely considered as a “much more potent tool for influencing the business cycle and real variables such as output and employment in the short run than traditional post-war Keynesian fiscal remedies” (Gustavson 2010: 14). A key realization that dawned upon most activist economists and policy makers during this period was that monetary policy could cut interest rates and boost aggregate demand on short notice without the potential political pitfalls and duress that accompany budgetary appropriations.

Moreover, the agreed upon consensus at the time was that a fiscal stimulus was inherently messy, difficult, and slow to get passed through Congress and actually work, and that government spending was hard to reverse once the downturn was over.

According to Oliver Blanchard, the reason for this newfound skepticism of fiscal policy was concern about “lags and political influences in the design and implementation of fiscal policy; and the need to stabilize and reduce typically high debt levels,” the latter comment referring the rapid build-up of debt among industrial countries in the 1970s (Blanchard, Dell’Ariccia, and Mauro 2010).

Following the heyday of Keynesian in the 1950s and 1960s and the high inflation of the 1970s, fiscal policy therefore became secondary to activist monetary policy for the

¹¹ The primary model for the monetary policy maker at this time was the so-called “Phillips Curve,” which illustrates an inverse relationship between the rate of unemployment and inflation. However, the conclusions of Milton Friedman (1968: 11), along with those of Edmund Phelps (1967) and others, have had a profound impact on the analysis and implementation of stabilization policy by paving the way for the “rational- expectations revolution.” Particularly, the “expectations- augmented Phillips Curve” implies that a higher current inflation rate typically leads to higher inflation expectations in the future, so that it then becomes more difficult to achieve the objectives of stabilization policy. For more information, see Hoover, K.D. (2008). “Phillips Curve,” *The Concise Encyclopedia of Economics*. Library of Economics and Liberty. <http://www.ecnolib.org/library/Enc/PhillipsCurve.html>

next two to three decades. Paul Samuelson predicted: “Over the foreseeable future, stabilization policy will be primarily handled by Federal Reserve monetary policy” (Skousen 2005). Paul Samuelson’s insights have played out quite realistically over the past decade or so.

Schools of Thought

Business Cycle Theories

The explanation of fluctuations in aggregate economic activity is one of the primary concerns of macroeconomics. For instance, early 20th-century economist William Stanley Jevons attributed “business cycles to solar activity, comparing the ebbs and flows of the business world to the recurrent pattern of sun-spots” (Jevons 1878). Yet another theory that actually caught on in economic circles was Joseph Schumpeter’s, which attributed the cycle not to banking but to technological innovation, linking it to his notion of “creative destruction” (Rees-Mogg 2008).

The most commonly used monetary framework for explaining business cycle fluctuations, however, was conceived by British economist John Maynard Keynes (1936).¹² If the economy is operating under full capacity, Keynesian theory states that monetary policy and especially fiscal policy can have a positive role to play in smoothing the fluctuations of the business cycle. Surges in private and public spending are therefore

¹² Many theories today argue that non-monetary factors give rise to business cycles. Notably, Finn Kydland and Edward Prescott proposed the “Real Business Cycle” theory (1982), so-called “coordination failures” are promoted by Russell Cooper and Andrew John (1985) and Roger Farmer and Jess Benhabib put forward the model of “Increasing Returns” (1994). For a well-known survey of essays on the topic, see Kydland, F. E. ed. (1995). *Business Cycle Theory*. Brookfield, Vermont: Edward Publishing Company.

key aspects of Keynesian business cycle theory. For example, if the government increases spending without raising taxes, or a wave of optimism lures consumers into spending more money and firms into building more factories than usual, the economy may expand more rapidly than normal. Likewise, a substantial cut in government spending or a wave of pessimism among consumers and firms may cause the output of all types of goods to fall, leading to recessions or depressions (Gowa 1988:5).

At the other end of the spectrum, economists of the Austrian school primarily argue that business cycles are caused by monetary expansion. Pioneered by the likes of Knut Wicksell (1936), Ludwig von Mises [1953 (1912)], and Friedrich A. Hayek (1931), the most prominent contemporary critic of Keynes, Austrian theory describes how a boom arises chiefly when the availability of artificially cheap credit, extended independently by the central bank either mistakenly or under the influence of political pressure, tempts individuals to invest in unsustainable projects. Relatively lower interest rates encourage more consumption because “consumer credit is cheaper...” and “the reward to saving is diminished” (White 2009a: 92).

With both investment and consumption rising, a boom ensues. However, the unsustainable boom gives way to a bust when overzealous investors come to see that the projects they started cannot be completed as planned due to a lack of actual savings available. Hayek saw this boom/ bust cycle as harmful since driving the market interest rate below the equilibrium or natural rate creates disequilibrium between the plans of savers and investors, and thereby causes real negative effects on economic activity

through “malinvestment.”¹³

The central bank prints more money through buying assets in the “open market” and paying for them with newly created money, or, to be more precise, “it credits the banks it is dealing with in the private banks’ accounts at the central bank” (Gustavson 2010: 42). This way, commercial banks increase their reserves, which make it possible in turn for them to further expand the money supply by extending loans to the public. This process gives rise to an expansion of the amount of credit in the economy, which drives down interest rates, thereby encouraging investors, producers, and households to take out more loans.

“Credit expands, asset prices grow, and a general feeling of prosperity arises” (Gustavson 2010: 42). This situation will go on as long as new credit keeps flowing into the system and interest rates remain low. However, when interest rates rise, which it inevitably will, it will suddenly dawn upon those who took out loans that they are not able to continue profitably financing their projects. Some investment projects undertaken during the boom prove to be unsustainable and many projects therefore go into liquidation.

Hayek argues that “the “mistakes made during the boom are the difficult things to explain” (White 2009a: 88). Interestingly, Reinhart and Rogoff (2009) claim that the most common theme in business cycles over the last eight centuries is that excessive debt accumulation, whether public or private, often poses greater systemic risks than it seems during a boom. Specifically, easy credit can make a government look like it is providing

¹³ White, L.H. (2010). “Larry White on Hayek and Money.” *Econtalk.org* with Russell Roberts.

greater growth to its economy than it really is and private-sector borrowing binges can inflate housing and stock prices far beyond their long-run sustainable levels, and make banks seem more stable and profitable they really are.¹⁴ Accordingly, most of these booms end badly: such was certainly the case of the U.S. in the late 2000s.

When the boom turns bust, a severe recession often follows in its trail. According to Hayek, however, recessions are merely periods that follow the market's normal tendency toward equilibrium. Recessions then serve as corrective periods in which "needed re-adjustments take place" without policy interventions. "The more rapidly the economy adjusts prices and resource allocations, the shorter the recession will be" (White 2009a: 88).

Macroeconomic Stabilization Theories

The net effects and welfare implications of macroeconomic stabilization policies are just as disputed as business cycle theory. For instance, the 1930s gave birth to the "Keynesian" revolution, which, according to Paul Samuelson, "was the most significant event in 20th-century economic science" (Mankiw 2006: 4). On the theoretical side, "the reference *dujour*" for these changes was, again, John Maynard Keynes's *The General Theory* (1936), which set the tone for at least the next half-century (Gallaway 2000: 19).

http://www.econtalk.org/archives/2010/02/larry_white_on.html

¹⁴ Debt-fueled booms all too often provide false affirmation of "a government's policies, a financial institution's ability to make outsized profits, or a country's standard of living" (Reinhart and Rogoff 2009: xxv). So, although debt instruments are crucial to all economies, balancing the risks and opportunities of debt is always a challenge—a challenge that policy makers, investors, and ordinary citizens must never forget.

Based mainly off the fear of reliving the Great Depression era, Keynesian theory focused on the need for government to conduct “countercyclical” policies and “fine tune” unemployment and output to avoid severe recessions, based on the fear of reliving the economic trauma that was experienced during the Great Depression (Gustavson 2010: 8). Specifically, in the middle to late years of the 20th century it became commonplace in mainstream economics to claim that labor market adjustments were grossly inadequate as a corrective mechanism for business cycle downturns. The implicit assumption behind Keynesian thought was that markets do not clear, even in the short run.

Since economic adjustment was slow, argued Keynes, waiting for the economy to recover from recessions by itself was irresponsible: he saw an active fiscal policy as essential to return to high employment. Fiscal policy was therefore particularly pursued “with a view to stabilizing national economies” (RØste 2008:2). Though monetary policy was less important than fiscal policy to Keynes, he did claim that “liquidity preference,” or the demand for money, explained how monetary policy could affect interest rates and aggregate demand (RØste 2008:1).¹⁵

Within academia this experience gave rise to the “Chicago school counter-revolution,” which discarded many of the basic Keynesian tenets and lead to new developments within macroeconomic thought and policymaking in the 1980s. Mainly,

¹⁵ According to the Keynesian theory, increasing the money supply reduces interest rates through a money demand equation: $M^d = P * L(R, Y)$. However, a core part of Keynes’s theory was the “liquidity trap” concept, which describes a situation in which the short-term nominal interest rate is zero. In this case, Keynes argued that increasing money in circulation has no effect on either output or prices (1936). By this reasoning, monetary policy would be completely ineffective if an economy fell into a “liquidity trap.” The “liquidity trap” concept is often contrasted with the “quantitative theory of money,” which maintains that prices and output are roughly proportional to the money supply. See, for instance, Fisher, I. ([1911](1926)). *Purchasing Power of Money*. New York: The Macmillan Company.

Milton Friedman and the Monetarists were early to point to the high demands on the policy maker's knowledge and information implied by active monetary stabilization policies. Specifically, they argued that a policy maker would need to know how agents react to changes in policy and form expectations about the future in order to be successful.

Recalling Hayek's critique, the "theory which has been guiding monetary and financial policy" is largely the product of overambitious macroeconomic goals that lead to painful mistakes based on economists' "pretence of knowledge."¹⁶ Regarding the role given to central bankers, the men held responsible for the health of economies, it is "is an absurd assignment for any government to give, an absurd assignment for anyone to accept, and an absurd assignment for the rest of us to take seriously" (White 2010:2). Stabilization attempts undertaken without sufficient information and analytical skills are of little value and in serious instances, even amplify business cycles (RØste 2008: 3).

The Monetarist counter-revolution of the late 1960s and early 1970s dampened the optimism with regard to the pursuit of active Keynesian stabilization policies of the early 1960s.¹⁷ Still, although "Monetarism" gained some influence, especially in the 1980s in U.S. and the UK, as monetary policy makers were trying to tame inflation, central banks mainly used monetarist ideas only on pragmatic grounds. In 1983, Friedman criticized these actions, saying the "rhetoric of the monetary authorities has

¹⁶ Hayek, F.A. (1974). "The Pretense of Knowledge." *Nobel Prize Lecture*.
http://nobelprize.org/nobel_prizes/economics/laureates/1974/hayek-lecture.html

¹⁷ Cagan, P. (1989). "Monetarism," in Eatwell, J., Milgate, M., and Newman, P., Eds. (1994). *The New Palgrave: A Dictionary of Economics*: (2): London: Macmillan: 719- 724.

indeed been monetarist, but their policies have not been—or, to be generous, have been only partly so.”¹⁸

Monetarism soon fell out of fashion as monetary targets became harder to pin down and the relationship between monetary aggregates and prices became harder to predict in the 1980s. Luckily, at about the same time more insights emerged from the Chicago-school, also “stemming from Friedman’s critique of postwar Keynesian policy-making” (Gustavson 2010:9) that claimed the tenants of Keynesian thought were “wildly incorrect” and “fundamentally flawed” (Lucas and Sargent 1978). This criticism mainly related to the critique of the government’s attempts at fighting unemployment through activist expansionary policies.

Robert Lucas and others expanded this strand of thought into a whole theoretical paradigm based on the notion of “rational expectations.” “New Classical” economists, as the followers of Lucas came to be known, questioned most of the central tenets of postwar Keynesian thought. As such they “largely discarded notions of market imperfections and the need for government stabilization policies” (Mankiw 2006).

The idea of rational expectations was widely accepted by the mainstream economics profession, including the new generation of would-be economic “engineers” that wished to revive some of the basic assumptions of Keynesianism while simultaneously incorporating New Classical ideals to affect policy decisions (Mankiw 2006: 4). In other words, Keynesian and New Classical economics were fused into a new

¹⁸ Friedman, M. (1983). “Monetarism in Rhetoric and in Practice,” *Monetary and Economic Studies*, Bank of Japan: 1. www.imes.boj.or.jp/english/publication/mes/1983/me1-2-1.pdf

set of thinking, a synthesis named “New Keynesian” economics.

Analyses of macroeconomic stabilization policies continue to abound. However, economists today still seem to agree that the real economy adjusts slowly, which at least in theory implies room for improved outcomes through the pursuit of economic policy. Actually, according to some, like former Vice Fed Chairman Alan Blinder, central banks have retained the traditional Keynesian models throughout the period leading up to the recent financial crisis.¹⁹ Indeed, most monetary and fiscal policy prescriptions given today unfortunately seem to be rooted in some form of Keynesianism.

The Debt Factor²⁰

Total Public and Private U.S. Debt²¹

According to the Congressional Budget Office, or CBO, in fiscal year 2010, the gross federal debt will amount to \$13.2 trillion.²² This gross federal debt is comprised of the debt held by the public, \$8.8 trillion, plus the debt held by intra-governmental accounts such as the money paid by taxpayers for Social Security and Medicare, \$4.5 trillion. Together, this gross federal debt represents over 90 percent of U.S. GDP. Within

¹⁹ For more information see Blinder, A.S. (1988). “The Fall and Rise of Keynesian Economics,” *The Economic Record*: 64(187):278=94.

²⁰ The discussions in this section focus more on gross federal debt than on U.S. private debt because the literature on sustainability, stabilization, and risk is more developed for the former. One reason for this may be that federal debt has far more often been the unifying problem across a wide range of financial crises than private debt because it can accumulate massively and for long periods without being put in check by markets (Reinhart and Rogoff 2009).

²¹ See APPENDIX 1 for more details on public and private U.S. debt.

²² Interestingly, Reinhart and Rogoff (2009) find that, on average, government debt rises by 86 percent in most countries during the three years immediately following banking crises.

this total, the debt held by the public represents 60 percent of GDP, a stark contrast with its 36 percent of GDP in fiscal year 2007.²³

By comparison, total private U.S. debt was \$26.9 trillion in 2009, or about 188.6 percent GDP.²⁴ This private debt figure represents total nonfinancial borrowing of households and businesses. Although the 2009 debt/ GDP ratio of 188.6 percent in 2009 is not as compelling a contrast to the higher 189 percent GDP ratio in FY 2007, which represents about \$26.5 trillion in private debt, private U.S. debt trends display an upward trend, on average, as well.

In the long run, the relationship between the growth rate of these debt levels and the overall rate of economic growth is critical to economic stability. As long as the gross federal debt grows more rapidly than output, for instance, the ratio of this debt to GDP will rise. Perpetual debt growth in excess of economic growth is inherently unsustainable (CRS 2009: 6). Economists do not have a simple formula for calculating how much debt as a share of U.S. GDP is unsustainable because sustainability depends on how much increased public sector debt raises the real interest rate on the debt. However, nearly all warn that devoting an ever-larger share of GDP to paying off interest on the debt is not healthy.

Debt: Defining Unsustainable

Few people would be surprised to learn that emerging market countries with

²³ de Rugy, Veronique. (2010). "What Unsustainable Looks Like," *The American: The Journal of the American Enterprise Institute*. http://www.american.com/archive/2010/march/what-unsustainable-looks-like/article_print

overall ratios of public debt/ GDP ratios exceeding 100 percent run a significant risk of default. Even among advanced countries, Japan's near 200 percent debt/ GDP ratio is considered problematic.²⁵ However, does that mean default at low levels of debt to income ratios is improbable, maybe even impossible? Not so, say Reinhart and Rogoff (2009).

According to the European Union's Stability and Growth Pact, or SGP, for instance, a high public debt environment is when gross national debt exceeds 60 percent of GDP for its member countries.²⁶ However, Reinhart and Rogoff (2009) find that default often occurs at levels of debt well below the 60 percent ratio of debt to GDP enshrined in Europe's Maastricht Treaty. In fact, more than half of the defaults made by countries they studied²⁷ occurred at levels of public debt relative to GDP below 60 percent (54).

More specifically, default or restructuring occurred at 100 percent of GNP²⁸ in only 16 percent episodes they studied, which means that more than half of all defaults

²⁴ Total U.S. private indebtedness is calculated from the most current Federal Reserve's Flow of Funds Data: (2010: 9) <http://www.federalreserve.gov/releases/z1/>

²⁵ This figure changes depending on what definition of debt is used. Japan holds massive foreign exchange reserves, but even its current net level of debt of about 104.6 percent GDP is still very high. For more information see OECD. (2009). "Economic Survey of Japan 2009: The Fiscal Policy Response to the Crisis and Achieving Fiscal Sustainability." http://www.oecd.org/document/37/0,3343,en_2649_34595_43783525_1_1_1_1,00.html

²⁶ This SGP ensures that member states continue to observe the debt target of 60 percent adopted in 1992 from the EU Maastricht Treaty (1992), a clause intended to protect the euro system from government defaults. See Fitoussi, J.P. (2002). "The Stability (and Growth) Pact and Monetary Policy." European Parliament: Committee for Economic and Monetary Affairs, Briefing Paper: 4-15. <http://ideas.repec.org/p/ner/sciepo/infodl2441-5002.html>

²⁷ Their study spanned two centuries and covered sixty six countries that account for 90 percent of world GDP.

²⁸ GNP measures the total amount of goods and services that a country's citizens produce regardless of where they produce them. GDP, on the other hand, measures the total amount of goods and services that are produced within a country's geographic borders. Although the differences between these national

occurred at levels below 60 percent, and that there were defaults against debt levels that were below 40 percent of GNP in nearly 20 percent of all cases (Reinhart and Savastano 2003). According to their theory then, high debt levels lead to “multiple equilibria” in which the debt levels might be sustained—or might not be.²⁹

Reinhart and Rogoff (2009) respond by constructing a model of debt intolerance to gauge how susceptible a nation is to serial default. The simple point underlying their findings is that countries with a history of institutional weakness leading to recurrent default tend to be at high risk of experiencing “symptoms” of debt intolerance even at relatively low levels of debt.³⁰ They also find that safe debt thresholds turn out to depend heavily on a country’s record of default and inflation (21).

So when will U.S. debt levels be unsustainable? Whether or not the debt-to-GDP ratio is on such a path depends on the budget deficit, of course, but also on the rate of interest and the rate of growth in GDP.³¹ As the amount of a debt grows larger, the payment of interest it promises to lenders increases. As such, Sargent and Wallace (1981) claim that “when the demand for government bonds implies an interest rate on bonds greater than the economy’s rate of growth” we will be in trouble (2). At this point

income measures is a matter of the nationality of the producers and the location of production, for most of the EU countries and the U.S., GDP and GNP are fairly close.

²⁹ For a classical article on “multiple equilibria” and financial fragility see Calvo, G. (1988). “Servicing the Public Debt: The Role of Expectations,” *American Economic Review* 78: 647- 661.

³⁰ Over half of the default observations for countries with a sound credit history are at levels of external debt to GNP below 35 percent. By contrast, for those countries with a relatively tarnished credit history, levels of external debt to GNP above 40 percent are required to capture the majority of default observations (Reinhart and Rogoff 2009: 25).

³¹ If the interest rate is higher than the growth rate of GDP, then the debt would grow faster than GDP and the ratio of debt to GDP would rise. If, instead, the interest rate stays below the economic growth rate, then the ratio of debt to GDP would fall (CRS 2009: 6).

the fiscal path becomes unsustainable because debt starts to compound faster than the government's ability to service it with tax revenues.

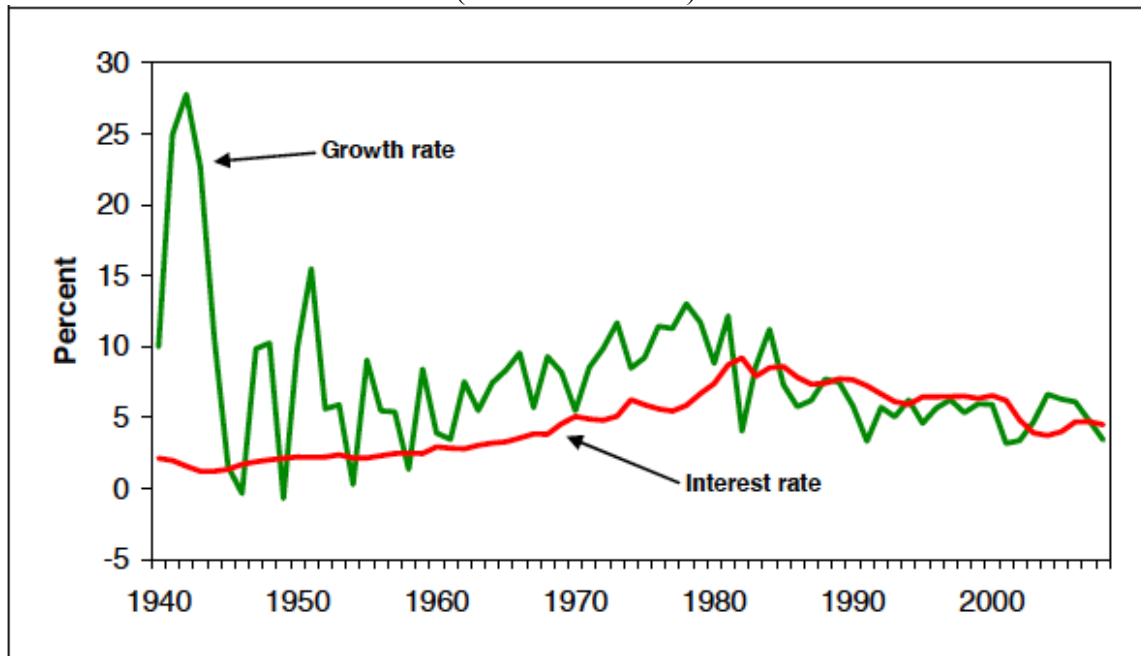
In rejoinder, Darby (1984) claims that Sargent and Wallace's (1981) propositions should not be applied to the analysis of the U.S. or any similar economy. In particular, he argues that the Fed is not forced to monetize increased deficits because the real after-tax yield on government bonds is generally considerably less than the growth rate of the economy. Miller and Sargent (1984) respond to Darby with an air of caution though, warning that we should "remain concerned about the longer- term monetary implications of high prospective federal budget deficits" (1). Their admonition may be true now more than ever.

Figure 1 compares the average interest rate on the federal debt held by the public with the growth rate of nominal GDP. This measure of economic growth reflects changes in both real output and inflation.³² The green line shows the annual growth rate of nominal GDP and the red line shows the average interest rate on the outstanding federal debt held by the public.³³

³² This measure of economic growth reflects changes in both real output and inflation. The solid line shows the annual growth rate of nominal GDP, and the dashed line shows the average nominal interest rate on the outstanding federal debt held by the public. This accumulation of interest rates is likely calculated on a yield to maturity basis.

³³ There is no one interest rate on the federal debt held; interest rates vary with the specific type of debt security. For more information on average interest rates on Treasury securities at different maturities see Federal Reserve Statistical Release H. 15. "Selected Interest Rates, Historical Data." (2004). Washington D.C. <http://www.federalreserve.gov/releases/h15/data.htm>. Some, like Sargent and Wallace (2010), however, claim that the return on U.S. Treasury debt is lower on average and considerably more volatile than these official reported interest costs when certain factors are taken into account. For more information see Hall, G.J. & Sargent, T.J. (2010). "Interest Rate Risk and Other Determinates of Post-WWII U.S. Government Debt/ GDP Dynamics." NBER Working Paper No. 15702. <http://www.nber.org/papers/w15702>.

Figure 1: Economic Growth and Interest on U.S. Federal Debt Held by the Public (1940–Late 2000s)



Source: Department of Commerce, Bureau of Economic Analysis, Office of Management and Budget, www.fas.org/sgp/crs/misc/RL31590.pdf

For most of the period between 1940 and 1980, the interest rate remained well below the growth rate of the economy. For much of the past 25 years, however, figure 1 shows that the interest rate has been above the growth rate, which through the mid-1990s contributed to the rising debt-to-GDP ratio. If the interest rate is less than the growth rate, it is possible for the debt ratio to fall even with a modest budget deficit. However, when the interest rate is above the growth rate, a surplus is required to keep the debt-to-GDP ratio from rising (CRS 2009: 6–7). Unfortunately, with debt levels at an all time

high, reaching a surplus is not likely to happen any time soon.

*Risks of Rising Debt*³⁴

As the size of public debt as a share of GDP rises, two factors make the interest rate on government debt rise. Firstly, the government's demand for loanable funds, or funds available for borrowing, shifts along an upward-sloping supply curve and, secondly, the risk of a government's default rises as well. At some point, Sargent and Wallace's (1981) "unpleasant monetarist arithmetic" sets in such that marginal revenue from additional borrowing, net of debt service, becomes negative. The risks perceived by the public will also become too high to be compensated with higher interest rates and the public stops lending. If surpluses cannot be run, then default or hyperinflation become the only options. This has happened to a number of mismanaged and reckless countries in the past. "Russia, for example, famously defaulted on its foreign held debt in 1998."³⁵

Further, although deficit financing is often seen as preferable to reducing spending or increasing taxation during recessions, in the long run deficit financing comes at the expense of investment. The funds lent to the government come from savings and capital markets at the expense of other uses of those funds. An additional worry, considered in detail below, however, is that traditional Keynesian fiscal and monetary

³⁴ This caution about the excessive government debt burdens is different from the admonitions of traditional Public Choice economists [see, for instance, (Buchanan and Wagner 1977)], who warn about the shortsightedness of governments in running fiscal deficits and their chronic failure to weight the long-run burden that servicing debt will force on their citizens. Actually, excessive debt burdens often generate problems in the nearer term "precisely because investors may have doubts about the country's will to finance the debt over the longer term" (Reinhart and Rogoff 2009:xliii).

³⁵ Coats, W. (2010). "Is there any solution to the debt crisis?" *The Daily Caller*.
<http://dailycaller.com/2010/02/16/is-there-any-solution-to-the-debt-crisis/>

stimulus measures lose their effectiveness in high debt environments. If so, governments' objectives to re-stimulate economic growth with stabilization policies are severely compromised when instituted in high public- and private-debt environments.

Government Debt Stabilization

While growth in debt measures does not necessarily create problems in the short term, continued growth reduces future budgetary flexibility and can ultimately lead countries down unsustainable fiscal paths (GAO 2004: 7). Reinhart and Rogoff (2008) show that the total domestic debt of 66 countries averages 40–80 percent during a time period of 1900–2006 (4). It follows that government debt stabilization has been and continues to be an important policy issue for many countries.

Essentially, stabilization of government debt can be achieved by decreasing primary fiscal deficits or by increasing base money creation (Aarle 1995: 4). A conflict between fiscal and monetary authorities therefore typically arises regarding whether fiscal or monetary instruments should be adjusted to stabilize government debt. To “formalize” this conflict, Tabellini (1986) constructed a differential game between fiscal and monetary authorities. Aarle, et al. (1995) extend Tabellini’s model by allowing the fiscal authority to account for monetary objectives and by introducing a specific debt target.

In their exercise, Aarle, et al. (1995) recognize that while monetary and fiscal policies are delegated to different institutions, their policies are interdependent because a

government budget constraint is in place.³⁶ This “dynamic government budget constraint” shows the relation between government debt accumulation $d(t)$, interest payments on government debt, $rd(t)$, primary fiscal deficits, $f(t)$, and monetization, $m(t)$:³⁷

$$(1) \quad d(t) = rd(t) + f(t) - m(t)$$

Essentially, the difference between $f(t)+rd(t)$ and $m(t)$, which is assumed to be positive, is an important determinant of government debt accumulation: it measures the gap between the desired financing by the fiscal authority, $f(t)+rd(t)$, and the desired accommodation by the monetary authorities, $m(t)$. As such, this equation implies a link between monetary and fiscal policies and the accumulation of government debt that is useful for describing the arguments in this paper.

Basically, if the initial stock of debt is large and carries a high interest rate, government debt stabilization requires larger policy efforts than it would if there was a low initial stock of debt and low interest rates. In other words, when a government has a large debt service requirement, or carrying cost, its ability to pay down the debt is decreased. It is therefore in the government’s interest to reduce interest rates to decrease the carrying cost of the debt, $rd(t)$. The artificial interest rate regime constructed in chapter 3 of this paper fits this pattern.

³⁶ The more standard, static government budget constraint equation is an accounting identity linking the monetary authority’s choice of money growth and the fiscal authority’s choices of spending, taxation and borrowing at a particular point in time. For instance: $G = T + \Delta D + \Delta M0$ (where G : Total Government expenditures, T : tax revenue, ΔD : change in government bond debt held by private sector and $\Delta M0$: change in government bond debt held by the central bank, or “seigniorage” revenue). For more information, see Leeper, E.M. & Nason, J.M. (2008), “Government Budget Constraint,” *The New Palgrave Dictionary of Economics*, Second Edition. http://www.dictionaryofeconomics.com/article?id=pde2008_G000161#div1

³⁷ $d(t)$, $f(t)$ and $m(t)$ are expressed as fractions of GDP.

Thesis Organization

The chapters that follow develop a theory of how the sustained use of monetary and fiscal policies in increasing high public- and private-debt environments further frustrates the ability of macroeconomic stabilization strategies to steady economic activity.

Chapter 2 briefly outlines the five main disinflationary recessions in the U.S. since the 1970s and the subsequent “reflationary” efforts³⁸ that followed each downturn. Experience over this roughly 40-year period suggests that monetary and fiscal tools have become increasingly ineffective at stimulating real variables in the increasingly debt-ridden environment of the U.S. public sector. Special attention is given to the real annual FFR and whether or not it was discounted below inflation to a “negative” rate by excessive monetary stimulus after recessions. The increase in gross debt as a percentage of GDP is also outlined and explained for respective time periods, and it is shown that it takes more and more gross debt growth to get a dollar of GDP growth.³⁹

Chapter 3 explores why the Federal Reserve’s efforts to re-stimulate economic growth with excessively easy money policy in the wake of the current and most severe financial crisis have been severely complicated by current high private debt

³⁸ Throughout this paper a “reflationary” period is defined as the period beginning when the Fed lowers the FFR rate to stimulate the economy and ending when the Fed raises the FFR rate to discontinue stimulus.

³⁹ This may in fact provide further evidence that the fiscal policy multiplier, which is used as a general indicator of the impact of fiscal expansions and contractions on output, is less than one in high debt environments. Empirically, the IMF ULTIMOD model has proven that for government spending shocks, impact effects are all positive, but range between 0.1-0.9. Further, in all studies the positive effect of higher spending on output wears off over time; in one case the effect on GDP is negative five years after the shock. Impact effects are smaller for tax cuts. See Hemming, R., Kell, M., & Mahfouz, S. (2002). “The Effectiveness of Fiscal Policy in Stimulating Economic Activity: A Review of the Literature.” *IMF Working Paper No. 02/208*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=880868.

environments. Not only are all of the Fed's policy responses shown to be of questionable effectiveness, but they are also proven to cause a further increase in the debt imbalance.

Chapter 4 shows evidence that other countries which have gone into or are approaching bankruptcy had or currently have high sovereign debt levels: the notorious Argentine Debt Crisis of 2001 and the current situation of Europe's PIGGS are investigated. The lowering of sovereign debt ratings in these countries and the subsequent increase in their interest rates and insurance on their defaults are all illustrated. Lessons that the U.S. can learn are then highlighted.

Chapter 5 concludes by calling for a need for the drastic need for stabilization policy reform. Specifically, any sound attempt at reconstituting stabilization policies in the wake of the current crisis must focus directly on restraining excessive debt accumulation.

Chapter 2: U.S. “Reflationary” Efforts in Increasingly High-Debt Environments

Expansionary Policy

Expansionary Fiscal Contraction

The textbook economic story is that fiscal deficits can increase aggregate real output when it is below trend and surpluses can decrease it when it is above trend (Romer 2006: 466). Fiscal contractions are therefore conventionally thought of as times when deficit-reducing policies have negative effects on aggregate demand and output. Accordingly, deficit reduction is often seen as a balancing act between “the achievement of financial goals and the containment of the negative effects on the real economy” (Barry and Devereux 2003: 2). Against this conventional wisdom, however, is what has been called the “German” view of the impact of fiscal spending reductions, originally advocated by the German treasury in the early 1980s (Fels and Froehlich 1986).

This view contends that credible, permanent government spending reduction programs can actually stimulate large increases in private demand—a phenomenon called expansionary fiscal contraction, or EFC for short. Barry and Devereux (1995, 2003) set up models that explore whether government spending has a positive or negative impact on private-sector consumption, employment, and real GDP. A general theme emerges from their studies whereby a permanent contraction in government spending actually leads to a fall in the real interest rate and an immediate increase in employment, capital stock, and GDP. Furthermore, the process is distinctly non-linear: when the share of government spending in GDP is very high, government spending cutbacks may have

substantially positive effects on output (Barry and Devereux 2003: 2–3).

These results are not just theoretical. In the 1970s, for instance, Denmark and Ireland experienced not only large budget deficits but also high rates of inflation and currency depreciation. During the recoveries of the Irish economy between 1987 and 1990⁴⁰ and the Danish economy between 1983 and 1986,⁴¹ however, deficits fell right alongside inflation, unemployment and interest rates. Private-sector consumption and investment boomed mainly because the political parties in these countries cut spending and raised taxes (Giavazzi and Pagano 1990: 83). This is taken by Giavazzi and Pagano (1990) and Bertola and Drazen (1993) as *prima facie* evidence for EFC.

Monetary Expansion

Along the same lines, monetary contractions are commonly thought to decrease the money supply, which reduces bank lending and, in turn, economy activity (when unanticipated). Expansionary monetary policy is then thought of as a useful tool for

⁴⁰ In 1981, the primary budget deficit in Ireland was 8.4 percent of GDP and total national debt was 87 percent of GDP.

In February 1987, the Irish government launched the “toughest austerity program the country had witnessed” ((1987). “Survey on Ireland,” *Financial Times*). As a result, the general government deficit declined from 8.5 percent of GDP in 1987 to 2.3 percent of GDP in 1994. The debt/GDP ratio, which reached 117 percent in 1986, fell steadily to 76 percent in 1996. (See O’Donnell, R. (1998). “Ireland’s Economic Transformation.” CWES/ EU Working Paper No. 2. www.aei.pitt.edu/27/01/Odonnell.pdf)

⁴¹ In 1982 Danish public debt as a percentage of GDP was growing rapidly— 29 percent of GDP at beginning of 1980 to 65 percent of GDP at end of 1982. In response, “a Conservative coalition formed a new government, and adopted a draconian program of fiscal retrenchment” (Giavazzi and Pagano 1990: 84- 85). Within four years, the turnaround in the full-employment primary budget was as large as 10 percent of GDP. Improvement in the actual primary budget was an even more dramatic 15.4 percent of GDP. Rather than reducing aggregate demand and income, the severe Danish contraction was accompanied by an average growth of 3.6 percent in real

managing low-growth periods in the business cycle. By increasing the monetary base, decreasing the reserve requirement of banks, extending discount window lending or manipulating interest rates downwards, the Fed can increase the money supply in the U.S. economy.⁴² However, as with expansionary fiscal policy, expansionary monetary policy should not be confused with actual economic expansion, or an increase in economic output in the real economy, as well will see.⁴³

Figure 2 shows the upward trend in the U.S. monetary base—the narrowest definition of money supply—from 1970–2010. Judging from the drastic upward tick in the graph around 2008, Chairman Bernanke, or “Helicopter Ben,” has clearly lived up to his nickname lately.⁴⁴ The usually stable graph of monetary base, or M0 for short, shot virtually straight up for the remainder of the year, creating a “hockey stick” shape at the tail end [see figure 2]. Virtually nothing of this scale has ever been attempted before in the U.S. In a mere four months from September–December 2008, the Fed has doubled the U.S. monetary base.⁴⁵

GDP and a declining debt-to-GDP ratio over the years from 1983 to 1986 (ibid).

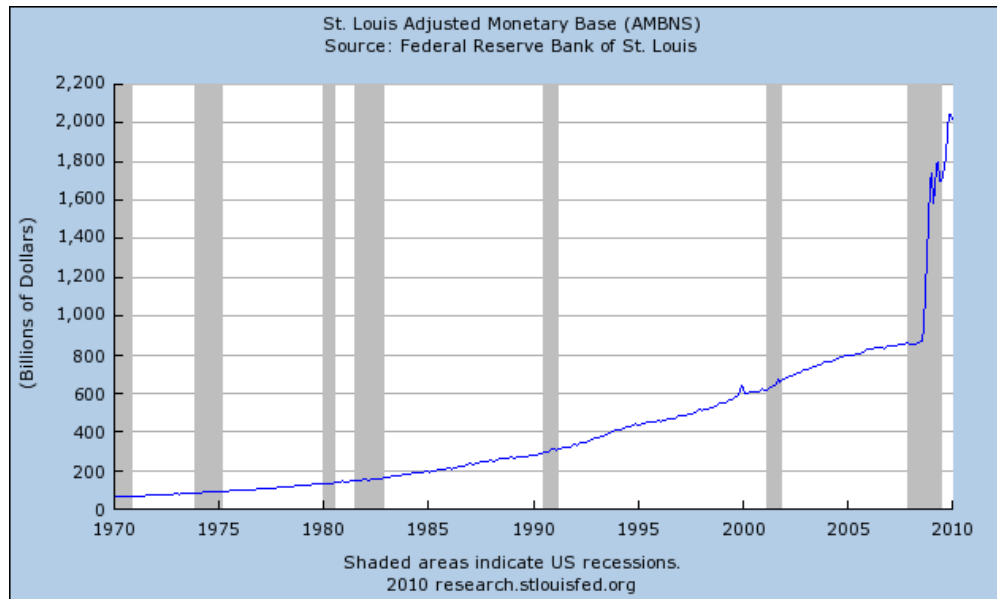
⁴² Tobin (2008), *supra* note 3

⁴³ Among other issues, any change to the real economy resulting from an expansionary monetary policy is subject to time lags and effects from other economic variables. Additionally, there are possible side effects of expansion, including inflation.

⁴⁴ This following statement won Bernanke the nickname of ‘Helicopter Ben’ even though it was Milton Friedman who first modeled money creation as if it were manna dropped from a heavenly procession of helicopters: “If we do fall into deflation, however, we can take comfort that the logic of the printing press example must assert itself, and sufficient injections of money will ultimately always reverse a deflation” See Bernanke, B. S. (2002). “Deflation: Making Sure ‘It’ Doesn’t Happen Here.” www.federalreserve.gov/boardDocs/speeches/2002/20021121/default.htm

⁴⁵ Greenley, Larry. (2009). “The Fed’s Hockey Stick Chart.” *The New American*. <http://www.thenewamerican.com/economy/28-commentary/768>

Figure 2: “The Fed’s Hockey Stick Chart:” U.S. Monetary Base (1970–2010)



Source: Federal Reserve Bank of St. Louis,
https://research.stlouisfed.org/fred2/graph/?graph_id=24586&category_id=0

The Fed controls the supply of the monetary base by buying and selling assets through open market operations. Purchases of any and all assets, for instance, increase the monetary base when the Fed pays for such assets with increased central-bank deposit liabilities.⁴⁶ Increasing the monetary base will normally lead to an increase in the money supply (M1 and M2) through the multiplier process. Once this new money is in the system, standard theory predicts that consumers spend and businesses profit.

A money multiplier is calculated simply by dividing either M1 or M2 by the monetary base. For example, a multiplier reading of 2.0 would indicate that for every \$1 the Fed puts into the system, \$2 are created. Therefore, the higher the number the more

⁴⁶ Anderson, R.G. (2006). “The Monetary Base.” Federal Reserve Bank of St. Louis Working Paper Series

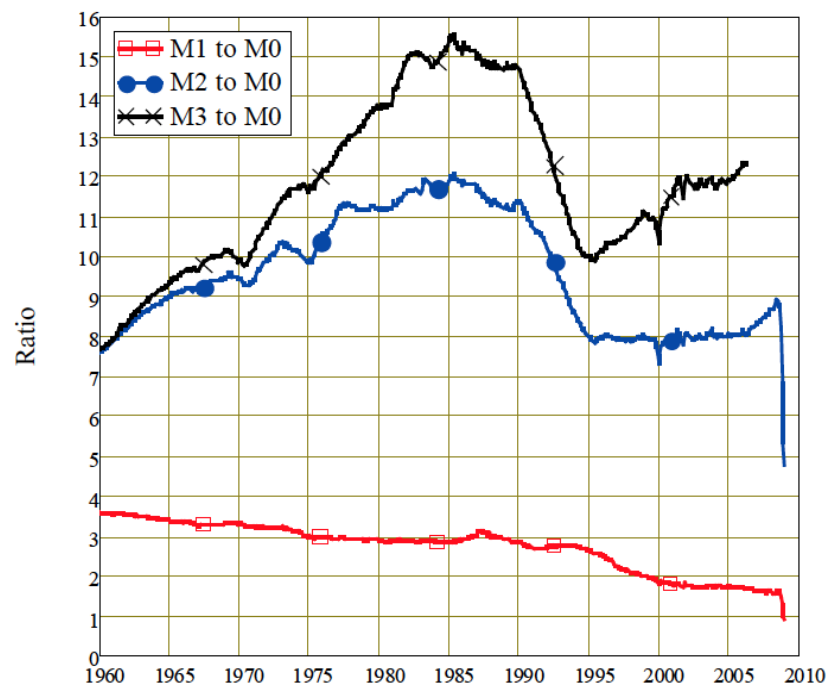
sensitive is the Fed's "gas pedal."⁴⁷

From the perspective of conventional macroeconomics—whether old Keynesian, or neoclassical “new Keynesian”—monetary actions of the scale represented in the latter months of 2009 [see figure 2] should have lead to a substantial rise in the money supply since the “money multiplier” supposedly “weaves its magic and amplifies the amount of money in circulation relative to the quantity of goods” (Keen 2009: 7). However, “as well as having reached the zero bound on official interest rates—with little impact on actual lending rates,” the “money multipliers” have ironically “collapsed” (Keen 2009: 7).

2006-049A: <http://research.stlouisfed.org/wp/2006/2006-049.pdf>

⁴⁷ Kelly, Brian. (2009). “M1 Multiplier Indicates The Fed's Gas Pedal is Broken.” <http://www.istockanalyst.com/article/viewarticle/articleid/3108593>

Figure 3: The “Collapse” of U.S. Money Multipliers (1960–2010)



Source: Board of Governors of the Federal Reserve,
<http://www.federalreserve.gov/releases/h3/hist/h3hist1.txt>

It is not that money supply has not grown: M1, for instance, averaged \$1.5 T in 2008, \$1.6 T in 2009 and \$1.7 T so far in 2010.⁴⁸ However, the growth of the money supply has not grown enough to keep pace with decreases in the velocity, or turn over, associated with these monetary aggregates.⁴⁹ The dramatic increase in M0 has therefore

⁴⁸ Recent seasonally adjusted, or SA, annual percentage changes for M2: Dec 2009- Mar 2010: -1.5 percent, Sep.

2009- Mar. 2010: 1.4 percent, Mar. 2009- Mar. 2010: 1.5 percent. For more information on changes in and levels of

M1 and M2 see Federal Reserve Statistical Release. H.6. (2010). “Money Stock Measures.”

<http://www.federalreserve.gov/releases/h6/current/>

⁴⁹ In the famous monetary identity, $M \cdot V$ represents the nominal value of transactions. Rearranging the identity we get $V = \text{nominal value of transactions} / M$. All else equal, if M is declining or growing slowly, the nominal value of transactions will follow suit. An increase in V can offset a decline in M . However, velocity has been on the decline recently. See “Velocity: Nominal GDP/ MZM, Nominal GDP/ M2” in Federal Reserve Bank of St. Louis. (2010). “Money Supply, Credit Expansion and Housing Price Inflation.” *Monetary Trends*: 12. www.research.stlouisfed.org/publications/es/10/ES1006.pdf

had almost virtually no effect on the amount of money in circulation to date. This is most pronounced in the M1 multiplier, which has dropped to less than one in late 2008. Since January 2009, the M1 money multiplier has actually crashed further to .789 in the U.S. as of February 24, 2010.⁵⁰

Why is M1 “crashing”? Among others, Harvard University economist Greg Mankiw claims that the fairly recent Fed policy to pay interest on required and excess reserve balances is the main culprit.⁵¹ So, it is not necessarily that traditional monetary measures have not worked because of the declining multiplier relationship,⁵² but rather the opposite: unorthodox Fed policy has actually reduced money multipliers by paying interest on excess reserves.

According to Fed Vice Chairman Donald Kohn, the Fed started this policy in October 2008 because it would help provide a floor for the FFR, as it does for other central banks.⁵³ However, since money multipliers describe the creation of new money by excess reserves, the real costs of this program on the U.S. economy have been staggering.

According to Constance Hunter, economist at hedge- fund firm Galtere, for

⁵⁰ Federal Reserve Bank of St. Louis. “M1 Money Multiplier.”

<http://research.stlouisfed.org/fred2/data/MULT.txt>

⁵¹ Mankiw, G. (2010). “The Fed is Responsible for the Crash in the Money Multiplier... And the Failure of the Economy to Recover,” *Washington’s Blog*. <http://www.washingtonsblog.com/2010/03/m1-moneymultiplier-still-crashing-each.html>

⁵² Kelly, Brian. (2009). “M1 Multiplier Indicates The Fed’s Gas Pedal is Broken.” <http://www.istockanalyst.com/article/viewarticle/articleid/3108593>

⁵³ Since the Fed now pays interest on excess reserves, it can “raise short-term interest rates even with an extraordinarily large volume of reserves in the banking system.” According to Kohn, increasing the rate the Fed offers to banks on deposits at the Fed “will put upward pressure on all short-term interest rates.” For more information see Kohn, D. L. (2009). “Monetary Policy in the Financial Crisis,” Speech at Conference in Honor of Dewey Daane: Nashville, Tennessee. www.bis.org/review/r090422e.pdf

instance, the multiplier's decline “corresponds so exactly to the expansion of the Fed's balance sheet.” “Until [the multiplier] expands,” he continues, “we can't get sustainable growth of credit, jobs, consumption, [or] housing.”⁵⁴

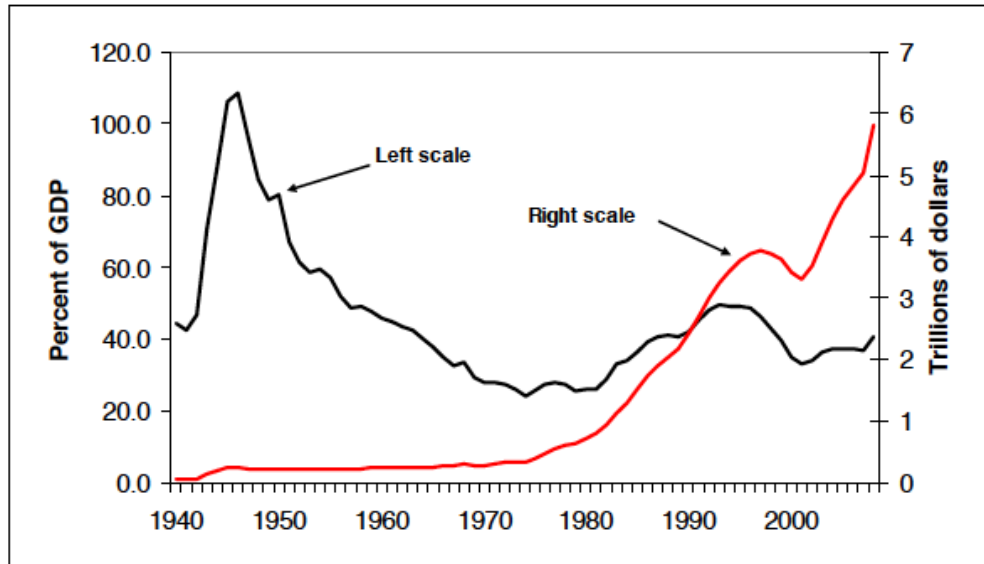
Implications for High-Debt Environments

The “increasing disillusionment with fiscal policy” (Friedman 1968: 3) and the declining effectiveness of monetary policy described above have important implications for countries like the U.S. that are burdened with debt problems. Actually, Romer (2006: 578) claims that former President Clinton’s Omnibus Budget Reconciliation Act—or Deficit Reduction Act—of 1993 indicates that effective EFC can be implemented in the U.S.⁵⁵ Further, the use of monetary policy in high-debt environments may very well explain why our monetary authority has been forced to engage in successively larger and larger open market purchases, which is explained in greater detail below. However, to get us back on track today, deficit reduction policies and effective monetary policy reform need to be pursued in earnest, as the daunting national debt levels in the figure 4 suggest.

⁵⁴ If banks were lending, the multiplier would probably be much higher than it currently is. Before Lehman Brothers collapsed in September 2008, for instance, “it usually ranged between 1.5 and 1.7.” See Blumenthal, R. G. (2010). “Reserved Banking,” *Barron’s*. <http://online.barrons.com/article/SB126843827248361291.html>

⁵⁵ Romer and Romer (2007) conclude that this bill increased revenues in FY 1995 (the first full fiscal year the changes were in effect) by \$41.5 billion and caused substantial spending cuts of \$255 billion over five years. Overall, they observe that “tax increases to finance deficit reduction appear to have little negative impact on output” and interpret this as evidence for EFC. For more information see Romer, C.D. & Romer, D. H. (2007). “The Macroeconomic Effects of Tax Changes,” NBER Working Paper No. 13264. www.econ.berkeley.edu/~cromer/RomerDraft307.pdf

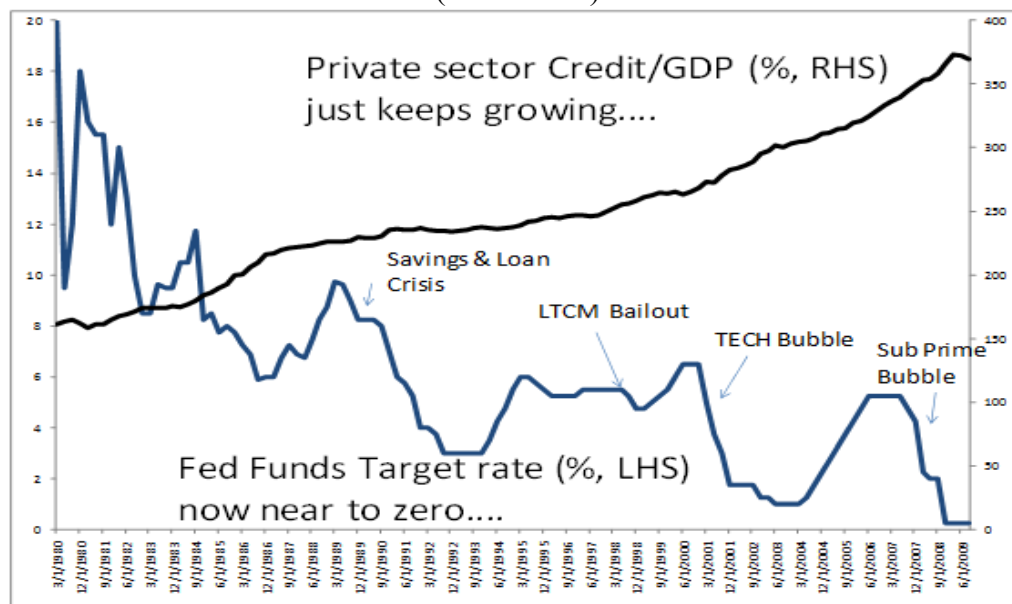
Figure 4: U.S. Federal Debt Held by the Public (1940–Late 2000s)



Source: Congressional Budget Office, www.fas.org/sgp/crs/misc/RL31590.pdf

Unfortunately, as our debt levels mount, we seem to respond more quickly with more aggressive stabilization policies. Actually, London School of Economics economists Peter Boone and Simon Johnson think that we could be stuck in a “doomsday cycle.”⁵⁶ Each time the vastly growing U.S. system runs into problems, they argue, the Fed quickly lowers interest rates and Congress enacts fiscal policies to revive it. However, by trying to cushion off every downturn and stop market corrections from running their full course though, policy makers seems only to lay the groundwork for a new vicious round of boom and bust cycles. This vicious cycle only seems to get more and more volatile, as the fluctuations seem to get wider and more frequent. What’s more, each time, the amount of stimulus and bailouts needed only seem to grow.

Figure 5: U.S. Private Sector Credit/ GDP (percent) vs. Fed Funds Target Rate (percent)
(1980–2009)



Source: Bloomberg, Department of Commerce, <http://cep.lse.ac.uk/centrepiece/>

In other words, our governments' attempts at cushioning off economic downturns and stimulating the economy "back on track" have actually laid the groundwork for subsequent crises. This development is hardly sustainable, and at some time the whole policy regime must come crashing down, not unlike what happened to the post-war Keynesian policy regime during the 1970s.⁵⁷ If each cycle requires greater and greater public intervention as Boone and Johnson predict, surely we will reach a limit, if we have not already.

⁵⁶ Boone, P. & Johnson, S. (2009-10). "The Doomsday Cycle." *CenterPiece*.
<http://www.cep.lse.ac.uk/pubs/download/cp300.pdf>

⁵⁷ Gustavson, M. (2010). "A Doomsday Cycle." *Atlas Sound Money Project Blog*.
<http://www.soundmoneyproject.org/?p=849>

Evidence from the United States

The 1973–75 Recession

The U.S. recession of the 1970s marked a period of economic stagnation that put an end to the general post-World War II economic expansion. According to the NBER, it lasted sixteen months: from November 1973 to March 1975. During the recession, U.S. GDP fell 3.2 percent. Though the recession ended in March 1975, the unemployment rate did not peak for several months until May 1975, when it reached a high of 9 percent (BLS). The recession “was the longest and most severe of the post-World War II business declines (Sorkin 1988:66).

The reflationary period following the 1970s recession, which lasted from approximately 1974–1980, was keynoted by vigorous use of monetary expansion to stimulate the economy. Starting in January 1974, seasonally adjusted M1 was at \$ 263.8 B and M2 stood at about \$860 B. By January 1980, however M1 levels had risen to \$386 B and M2 to about \$1,483 B.⁵⁸ During six of seven years from 1974–1980, the average real FFR actually remained negative, meaning that the government essentially paid banking intermediaries to borrow money in real terms [table 1: Real FFR].⁵⁹ For instance, the Fed lowered the FFR from an average of 10.5 percent in 1974 to an average of 5.82 percent in 1975, an astonishing 3.28 percent below the prevailing inflation rate of about 9.1 percent.

⁵⁸ Federal Reserve Statistical Release. H.6. (2010). “Table 1: Monthly Historical Money Stock Tables.” <http://www.federalreserve.gov/releases/h6/hist/>

⁵⁹ It is assumed that when the FFR is set below the inflation rate to stimulate the economy in recessions, the Fed essentially incentivizes banks to loan by “paying” them to borrow funds. Conversely, it is assumed that when the Fed wants to choke off loans to slow economic activity it sets the FFR above inflation, so that there is actually some positive charge to borrowing funds.

With too much money chasing too few goods, the consequence was an inflationary period from 1979–1982, which necessitated an immediate increase in the FFR in real terms from about 1981–1984 [table 1: Real FFR]. Although the economy expanded from 1975 to the early 1980s recession, inflation remained high for the rest of the decade and spiked from 1979–1981 (Sorkin 1988: 68). Throughout the entire “Great Inflation” period, inflation’s climb and collapse exerted a dominant influence over the entire economy (Samuelson 2008: 4).

Gross debt as a percentage of GDP during this reflationary period actually decreased from 33.6 percent in 1974 to 33.4 percent in 1980. However, debt held by the public rose from 23.9 percent in 1974 to 26.1 percent in 1980. This trend soon devolved into unrelenting growth as the public debt carried forward expanded at an increasing rate in each of the next four reflationary periods [table 2: Debt Held by the Public/GDP].

The Early 1980s Recessions

There were technically two recessions in the early 1980s, the shorter one lasting from January–July of 1980 and the longer, more severe recession persisting from July 1981–November 1982 (NBER). Surging unemployment rates finally peaked at 10.8 percent in November 1982. GDP declined –2.2 percent in 1980 and fell by about –2.7 percent from 1981–1982 (BLS).

The primary cause of these recessions is thought to be contractionary monetary policy instituted by the Fed to control inflation, which had soared to a high of 13.5

percent in 1980.⁶⁰ Determined to wring inflation out of the economy, Fed Chairman Paul Volcker “slowed the rate of growth of the money supply and raised interest rates.”⁶¹ Specifically, the nominal FFR, which was about 11.19 percent in 1979, rose to nearly 20 percent by June 1981. Real FFRs had the highest positive values from 1981–1984 for the entire period under consideration [table 1: Real FFR].

The recovery period following these two recessions, which lasted from approximately 1985–1990, did not rely on decreases in the FFR. It follows that a positive real difference existed on average between inflation and the FFR from 1981–1984, a trend that continued from 1985–1988, though to a lesser extent [table 1]. Unlike his predecessor, President Reagan, who held office from 1981–1989, attacked the problem of “reflating” after the 1980s recessions with structural fiscal policy.

Reagan instituted across-the-board tax cuts, thereby stimulating employment by ushering in “the longest period of peacetime economic growth” in U.S. history. Since this method of “supply-side” stimulus relied on cutting marginal tax rates it effectively avoided the unintended consequences of inflation from monetary stimulation in the process.⁶² Still, since the Reagan administration lacked the political will to cut expenses, this reduction in taxes, or revenue, still added to the gross national debt.⁶³

⁶⁰ Congressional Budget Office, CBO. (1982). “The Prospects for Economic Recovery.” <http://www.cbo.gov/ftpdocs/51xx/doc5135/doc03b-Entire.pdf>

⁶¹ Cowan, E. (1981). “Bank Lending Rate Set at Record 14 percent by Federal Reserve.” *The New York Times*. Financial Desk. <http://www.nytimes.com/1981/05/05/business/bank-lending-rate-set-at-record-14-by-federal-reserve.html>

⁶² Mitchell, D.J. (1996). “The Historical Lessons of Lower Tax Rates.” *Background #1086*, The Heritage Foundation. <http://www.heritage.org/Research/Taxes/BG1086.cfm>

⁶³ Indeed, Reagan’s tax cut has been estimated by the CBO (1983) and the Treasury (Tempalski 1998) to have reduced revenues by between 4.2 and 5.6 percent of GDP. [CBO. (1983). “Baseline Budget Projections for Fiscal Years 1984-1988.” Washington, D.C.: U.S. Government Printing Office

The large positive real FFRs that were instituted from 1981–1984 to choke off high inflation likely offset the dramatic easing efforts that proceeded them. Although these rate increases enlarged the carry cost of debt, since the government did not need to borrow more at the time, debt growth was kept to a minimum between the first two recessions. Still, the benefits of higher GDP growth and employment that this era brought were somewhat subdued by a rising gross debt/ GDP ratio, which increased mostly because the Reagan tax cuts of the period contributed to large deficits. In 1981 the ratio of public debt/ GDP was 25.8 percent but by 1990, at the onset of the third recession, it had increased to 42.1 percent [table 2: Debt Held by the Public/ GDP].

The Early 1990s Recession

The next key recession of the early 1990s lasted for only eight months, from July 1990–March 1991 (NBER), and was chiefly caused by the S&L Crisis of 1989. Unemployment peaked at 7.8 percent in June 1992 and GDP growth declined –1.4 percent throughout the recession (BLS).

The recovery period following this recession seems to have lasted roughly from 1991–1994, when the real FFR stood at 1.49 percent, .52 percent, .02 percent and 1.6 percent respectively, to stimulate the economy [table 1: Real FFR]. Further, the introduction of the Resolution Trust Corp., or RTC, greatly expanded the gross debt

<http://www.cbo.gov/doc.cfm?index=5055>; Tempalski, J. (2006). “Revenue Effects of Major Tax Bills.” Office of Tax Analysis Paper 81. www.ustreas.gov/offices/tax-policy/library/ota81.pdf.]

brought forward from the previous recessionary period by at least \$145.7 billion.⁶⁴ More specifically, in 1995 “Debt held by the Public” as a percentage of GDP had risen to 49.1 percent, while total debt/ GDP rose to 67 percent, a vast increase of 20 percent in merely 5 years [table 2: Debt/GDP ratio].

There was a slightly more than doubling of the “Debt held by the Public”/ GDP ratio from 23.9 percent in 1974 to 49.1 percent in 1995. Excluding a somewhat anomalous break from debt expansion from 1995–1999, the same fast-paced increases in both public and gross debt have resumed from 2000 to the present. Interestingly, politicians from neither party have broadcasted this decline in effectiveness because they are both partial to spending.

The Early 2000s Recession

The fourth deflationary recession of the early 2000s lasted eight months, from March- November 2001 (NBER). GDP declined –0.3 percent and unemployment reached 5.7 percent during this recession, but rose even further to 6.3 percent in June 2003 (BLS). While debt as a percentage of GDP at the end of 2005 stood at 63.5 percent it advanced steadily to 69.2 percent in 2008. Following suit, public debt/ GDP climbed from 36.9 percent to 40.2 percent as well [table 2: Debt/ GDP ratios].

During the reflationary period of 2001–2005, the Greenspan Fed launched an extended period of negative real FFRs that had not been seen since the 1974–1980

⁶⁴ Curry, T. and Shibut, L. (2000). “The Cost of the Savings and Loan Crisis: Truth and Consequences,” *FDIC Banking Review*: 32. http://www.fdic.gov/bank/analytical/banking/2000dec/brv13n2_2.pdf

reflationary period. This excessively easy monetary policy was complemented by the Bush administration's spending programs, which extended unemployment payments among other things.⁶⁵ Ironically, the combination of monetary, fiscal, and regulatory stimuli that were crafted to lift the economy out of the 2001 recession merely set the stage for the next bubble that caused the current deflationary recession when it burst.

The Late 2000s Recession

The current financial crisis that started in Q4 2007 is the most severe discussed thus far in several respects. GDP has declined an average of 3.9 percent while the unemployment rate jumped from 4.9 percent in December 2007 to 10.2 percent in October 2009 and is still marginally increasing (BLS). The extremely liberal use of the FFR that followed the initial downturn from 2002–2005 was greatly expanded from 2007 to the present.

Traditional monetary policy tools effectively “collapsed” during the reflationary period that started in 2008, when the FFR sat at 0 percent for the first time ever. From 2002–2009, the Greenspan/ Bernanke Feds actually decreased the FFR to new lows that also sat below the prevailing inflation rates for six out of these eight years. For instance, the Fed set the FFR at about 0.25 percent for most of 2009, even with the expected inflation rate sat at about 2 percent, which projects a –1.75 percent real FFR. These negative rates are eerily similar to those of the 1974–1980 reflationary period, which

⁶⁵ Foertsch, T. & Rector, R.A. (2007). “The 2001 and 2003 Bush Tax Cuts: Economic Effects of Permanent Extension,” *Webmemo # 1361*, The Heritage Foundation.
<http://www.heritage.org/research/taxes/wm1361.cfm>

fostered double-digit inflation, and to those of the 2001–2004, which fostered the housing bubble.

Due to the excessive use of this traditional monetary policy tool, more emphasis has been placed on using fiscal policy to affect economic outcomes. A hugely expanded use of fiscal policy was deemed necessary to yield noticeable effects on growth, income, and employment in the wake of the recent financial crisis. Most notably, this period has been earmarked by an unprecedented degree of fiscal stimulus, including but not limited to the Recovery and Reinvestment Act, the Troubled Asset Relief Program, the federal “Cash for Clunkers” program, the provision of first-time homebuyer tax credits and an extension of 3 percent down payments by FHA,⁶⁶ and (although usually listed under monetary policy) the Fed’s creation of various liquidity “facilities” for lending to and buying illiquid or toxic assets from non- banks.⁶⁷

On November 10, 2009, gross federal debt as a percentage of GDP sat at 88.7 percent and is expected to reach \$13.2 trillion by 2010. Once again, 60 percent of this gross federal debt, or \$8.8 trillion, is comprised of debt held by the public. The rate has risen remarkably from to its level at 36 percent of GDP in fiscal year 2007.⁶⁸

Conclusion

How successful have traditional monetary and fiscal policy tools been in recent

⁶⁶ Times Topics. (2010). “Economic Stimulus.” *The New York Times*.
http://topics.nytimes.com/top/reference/timestopics/subjects/u/united_states_economy/economic_stimulus/index.html

⁶⁷ For a more thorough discussion on the Federal Reserve’s various liquidity facilities, see APPENDIX II.

⁶⁸ de Rugy (2010), *supra* note 21

U.S. history? Examining the duration and magnitude of traditional fiscal and monetary interventions during five “reflationary” efforts in connection with five deflationary recessions since 1972 above illustrates an irrefutable trend towards higher public debt levels and more sluggish economic growth [tables 1, 2]. Moreover, the declining monetary and fiscal stimuli appear to have also been negatively correlated to increasing public debt. While causation is not correlation, since 1974, total federal public debt as a percent of GDP has almost tripled from 30.9 percent to 90 percent, and is expected to go above 100 percent within a year.

As shown in table 1, monetary stimulation after each deflationary recession takes a longer time and requires a deeper discount to stimulate economic activity. Moreover, the recurring use of “negative” real FFRs has depressed the spectrum of nominal rates: negative real FFRs from 1974–1980 averaged about 8.3 percent compared with the average nominal FFR from 2001–2009 of about 2.6 percent, a decline of 69 percent. The low nominal rates in 2009 of 0.125 percent and 0–0.25 percent in 2010 have essentially stripped the Fed of its ability to further stimulate by lowering the nominal FFR.

Table 1: U.S. Monetary Policy (1971–2010)

Year	Federal Funds Rate ⁶⁹	Inflation Rate ⁷⁰	Real FFR	Discounted Price ⁷¹
1971	4.66	4.4	0.26	−1.74
1972	5.5	3.2	2.3	.3
1973	8.23	6.2	2.03	.03
1974	10.5	11.0	−0.5	−2.5
1975	5.82	9.1	−3.28	−5.28
1976	5.05	5.8	−.75	−2.75
1977	5.54	6.5	−.96	−2.96
1978	7.93	7.6	.33	−1.67
1979	11.19	11.3	−.11	−2.11
1980	13.36	13.5	−.14	−2.14
1981	16.38	10.3	6.08	4.08
1982	12.26	6.2	6.06	4.06
1983	9.09	3.2	5.89	3.89
1984	10.22	4.3	5.92	3.92
1985	7.41	3.6	3.81	1.81
1986	7.3	1.9	5.4	3.4
1987	6.66	3.6	3.06	1.06
1988	7.57	4.1	3.47	1.47
1989	9.22	4.8	4.42	2.42
1990	8.1	5.4	2.7	0.7
1991	5.69	4.2	1.49	−0.51
1992	3.52	3.0	.52	−1.48
1993	3.02	3.0	.02	−1.98
1994	4.2	2.6	1.6	−0.4
1995	5.84	2.8	3.04	1.04
1996	5.3	3.0	2.3	0.3
1997	5.46	2.3	3.16	1.16
1998	5.35	1.6	3.75	1.75
1999	4.97	2.2	2.77	0.77
2000	6.0	3.4	2.6	0.6
Year	Funds Rate	Inflation Rate	FFR	Price
2001	3.77	2.8	.97	−1.03
2002	1.25	1.6	−.35	−2.35
2003	1.0	2.3	−1.3	−3.3

⁶⁹ Nominal, annual averages, Federal Reserve Board,

http://www.federalreserve.gov/releases/h15/data/Monthly/H15_FF_O.txt

⁷⁰ Annual averages, Bureau of Labor Statistics, BLS. <ftp://ftp.bls.gov/pub/special.requests/cpi/cpi.ai.txt>

⁷¹ To get the “real price of money,” 2 percent is added to the prevailing inflation rate, or I, for each year.

This

value is then subtracted from the FFR to obtain the “discounted price.” [Real FFR- 2 percent = Discounted Price].

2004	1.75	2.7	−.95	−2.95
2005	3.375	3.4	−.025	−2.025
2006	4.975	3.2	1.775	−0.225
2007	4.5	2.8	1.7	−0.3
2008	2.21	3.8	−1.59	−3.59
2009	0−0.25	−.77	1.02	−1.98
2010	0−0.25	−.77	1.02	−1.98

Table 2 supports the idea that this dramatic decline in nominal FFR is inversely related to the dramatic increase in gross debt as a percent of GDP.

Table 2: U.S. Fiscal Policy (1971–2010)⁷²

Year	Gross Federal Debt	percent GDP	Held by the Public
<u>percentGDP⁷³</u>		<u>(Millions)</u>	<u>(Millions)</u>
1971	408,176	37.8	303,037
1972	435,936	37.1	322,377
1973	466,291	35.6	340,910
1974	483,893	33.6	343,699
1975	541,925	34.7	394,700
1976	628,970	36.2	477,404
1977	706,398	35.8	549,104
1978	776,602	35.0	607,126
1979	829,467	33.2	640,306
1980	909,041	33.4	711,923
1981	994,828	32.5	789,410
1982	1,137,315	35.3	924,575
1983	1,371,660	39.9	1,137,268
1984	1,564,586	40.7	1,306,975
1985	1,817,423	43.8	1,507,260
1986	2,120,501	48.2	1,740,623
1987	2,345,956	50.4	1,889,753
Year	Gross Federal Debt	percent GDP	Held by the Public
<u>percentGDP</u>			
1988	2,601,104	51.9	2,051,616
1989	2,867,800	53.1	2,190,716

⁷² Office of Management and Budget, (OMB). “Table 7.1: Federal Debt at the End of Year: 1940- 2015.” <http://www.whitehouse.gov/omb/budget/historicals/>

⁷³ GDP Bureau of Economic Analysis, (BEA). “GDP and the National Income and Product Account (NIPA) Historical Tables.” <http://www.bea.gov/national/index.htm#gdp>

1990	3,206,290	55.9	2,411,558	42.1
1991	3,598,178	60.7	2,688,999	45.3
1992	4,001,787	64.1	2,999,737	48.1
1993	4,351,044	66.1	3,248,396	49.3
1994	4,643,307	66.6	3,433,065	49.2
1995	4,920,586	67.0	3,604,378	49.1
1996	5,181,465	67.1	3,734,073	48.4
1997	5,369,206	65.4	3,772,344	45.9
1998	5,478,189	63.2	3,721,099	43.0
1999	5,605,523	60.9	3,632,363	39.4
2000	5,628,700	57.3	3,409,804	34.7
2001	5,769,881	56.4	3,319,615	32.5
2002	6,198,401	58.8	3,540,427	33.6
2003	6,760,014	61.6	3,913,443	35.6
2004	7,354,657	62.9	4,295,544	36.8
2005	7,905,300	63.5	4,592,212	36.9
2006	8,451,350	63.9	4,828,972	36.5
2007	8,950,744	64.4	5,035,129	36.2
2008	9,986,082	69.2	5,803,050	40.2
2009	11,875,851	83.4	7,544,707	53.0
2010-est.	13,786,615	94.3	9,297,653	63.6

Chapter 3: The Fed and the Current Crisis: Mispriced Risk and Debt Financing

Initial cuts in interest rates through April 2008

Since the current financial crisis first erupted in the summer of 2007, the Fed has sought to contain negative spillovers into the real economy by “dramatically loosening monetary policy” (Bernanke 2009a). Not surprisingly, their first policy response involved the use of traditional monetary policy tools to influence the interest rate structure of the economy. As previously mentioned, in a mere four months (from September–December 2008) the Fed radically increased the U.S. monetary base, or M0—which is comprised of currency in circulation, member bank reserves held at the Fed and vault cash—by a little less than \$1 trillion [figure 2].⁷⁴ This percentage increase in M0 was “the largest increase in the past 50 years by a factor of 10.”⁷⁵

The Fed then opted to reduce the discount rate, rather than the more influential federal funds rate, or FFR, figuring that it would help banks in temporary need of funding without further stoking inflation in August of 2007. Still, as liquidity pressures on financial markets increased from late 2007–2008, Wall Street implored the Fed to act aggressively by lowering the target FFR by 50 basis points from 5.25 percent to 4.75 percent “to mitigate the risk that decreased liquidity would . . . dampen economic activity” (Bernanke 2009a). As indications of economic strain proliferated, the FOMC

⁷⁴ This drastic increase in the money supply is also reflected by the increase of other monetary aggregates. SA M1 averaged \$1.5 T in 2008, \$1.6 T in 2009 and \$1.7 T up to March 2010. SA M2 averaged \$7.1 T in 2008, \$8.4T in 2009 and \$8.5 T from January- March 2010. For more information see Federal Reserve Statistical Release. H.6. (2010). “Money Stock Measures.”

<http://www.federalreserve.gov/releases/h6/current/>

⁷⁵ Laffer, A. B. (2009). “Get Ready for Inflation and Higher Interest Rates,” *The Wall Street Journal*.

continued to respond, bringing down its target for the FFR by a cumulative 325 basis points by the spring of 2008.

Actually, the overall reduction in the target FFR since late 2007 has been dramatic, going from 5.25 percent in September 2007 to a range of 0–0.25 percent on Dec. 16, 2008–present (Bernanke 2009b), the first time ever that an effective zero interest rate policy had been implemented by an American central bank (Bragues 2009). Despite these rapid interest rate cuts, however, the threats facing the economy continued to grow rather than contract. Several theories help to explain why this may be the case in the wake of present high public- and private-debt environments.

Mispricing Risk

Interest Rate Theory

As shown previously [table 1], monetary policy has the potential to distort interest rates. Following Mises, F.A. Hayek’s belief that investment should be guided by the interest rate that equilibrates the supply of real savings and the demand for capital was built on the capital and interest theory of the earlier Austrian economist Eugen von Böhm-Bawerk and later developed by Knut Wicksell. In Böhm-Bawerk’s theory the equilibrium interest rate is determined by the interaction of savers’ time-preferences with the investors’ anticipated returns to longer periods of production. Knut Wicksell revised and restated this interest theory with greater clarity. He importantly distinguished the “natural rate” of interest, the equilibrium rate as determined by market forces, from the

“market rate” of interest which is subject to arbitrary variation by the banking system (White 2009a: 99– 100).

Should the natural rate rise about the market rate prices will rise as credit is more easily available, via the lower market rate, than would be justified by the preferences of savers and borrowers, reflected by the natural rate. Conversely, should the natural rate be below the market rate, prices would fall, as money in the form of credit would be in short supply in comparison to the preferences indicated by the natural rate. If the two rates were equal, then the price level would be stabilized, for Wicksell the desired goal of monetary policy (Horwitz 2000: 76).

Since the natural rate of interest is a theoretical construct and not a phenomenon observable in any real market, however, we have to rely on the banking system to produce rates of interest that track the natural rate. The preceding analysis of interest rates can be translated fairly directly into Wicksellian terms: the monetary authority can make the market rate less than the natural rate in the short run by expansionary monetary policy (Friedman 1968: 7). This is why the neutrality criterion for monetary policy is so important: if the divergence between the market and natural rates is the source of the problem, we need to be assured to the degree possible that the banking system can accurately translate consumer and producer time-preferences into the appropriate level of investment and money supply (Horwitz 2000: 127). So what has Fed policy actually been?

*The “Price of Money”*⁷⁶

In an open economic system, money should have a positive value associated with the interest rate in question. The “price of money,” (PM), can therefore be expressed as the sum of the existing inflation rate (I) plus some positive time value of money (PV).

When compensation for a risk of default (D) exists:

$$(2) \quad PM = I + (PV) + D^{77}$$

From 1954 through 2000, inclusive, the average real FFR was 1.97 percent [see table 3].

For the purposes of this discussion it is therefore assumed to have a real positive value of about 2 percent. In other words, it is assumed that 2 percent is the time value of money (PV) for a near riskless FFR. Moreover, since sovereign, or government, debt is assumed to be nearly “riskless,” and since the maturity of the FFR is nearly instant, unlike 10, or 20 year government bonds, for instance, D, or risk of repayment, is assumed to be zero for the FFR. It follows that the equilibrium risk-free interest rate should be set close to the real “price of money” (2 percent plus prevailing inflation), which is the real value of the FFR at any given point in time.

⁷⁶ The term “price of money” is meant to illustrate money’s positive, real value and should not be confused with actual definitions of a currency’s “price” or store of value.

⁷⁷ This hypothetical “price of money” equation differs from standard “equilibrium interest rate” equations (i.e. $i = r + gPe + R$ where i : nominal interest rate, r : the real interest rate, gPe : expected inflation and R : default risk premium). For the purposes of this paper, tangible variables are necessary because changes in actual FFR values are examined. A different frame of reference is therefore required. As such gPe is replaced by prevailing I . Further, since this standard equation does not account for the time cost of money, PV is included. Finally, and perhaps most importantly, r does not imply that money has inherent value (as a store of value, a medium of exchange and a unit of account) independent of the risk associated with its interest rate. Taken comprehensively, the “price of money” term implies a positive, real value of money.

Table 3: Historic Real and Nominal FFR Averages (percent) (1954–2010)

- 1) From 1954 through 1970, 17 years, real FFR averaged merely 1.45 percent and nominal FFR averaged 3.68 percent.
- 2) From 1971 through 1980, 10 years, real FFR averaged a negative **<-.28 percent>** and nominal FFR averaged **7.78 percent**.
- 3) From 1981 through 1990, 10 years, real FFR jumped to 4.68 percent and nominal FFR went up to 9.42 percent.
- 4) From 1991 through 2000, 10 years, real FFR averaged merely 2.1 percent and nominal FFR dropped to 4.93 percent.
- 5) From 2001 through 2010 (to date) real FFR went negative again at **<-.23 percent>** and nominal FFR declined to a 57 year average low of **2.3 percent**

Source: The Board of Governors of the Federal Reserve,
http://www.federalreserve.gov/releases/h15/data/Annual/H15_FF_O.txt

As seen in chapter 2, however, the Fed often stimulates the economy by artificially lowering the FFR quite regularly. This process often artificially discounts the positive “price of money.” As such, it would be helpful to have a guidepost to gauge just how expansionary or contractionary Fed policy has been, which is where the so-called “discounted price” comes in. Subtracting 2 percent, or the PM, from prevailing real FFRs, yields the so-called “discounted price.” If the discount is so great that the FFR falls below the inflation rate, the real FFR becomes negative, meaning that the Fed is valuing loans to member banks below zero percent, or essentially paying banking institutions to borrow funds. The difference between the actual FFR set each year and this hypothetical “discounted price” therefore serves as a useful indicator for how stimulative or contractionary monetary policy was over the time period [table 1].

The implications of this exercise are that if we are unable to sustain a positive nominal value for the FFR in the future, a positive “price of money” will not be maintained. When the Fed purposely holds the PM at or near zero for a sustained period, this changes the nature of private sector borrowing. During a “reflationary period,” the Fed is focused on increasing the quantity of loans and not whether the borrowed funds go into bad investments. So when the Fed “prices money” below the rate of inflation, for instance, the reduced cost of federal funds understates real economic risks in the market price. As we will see shortly, this interest rate distortion is greater the longer and deeper the use of negative interest rates. As table 3 indicates, the real FFR is currently negative.

Restoring interest rates to their “natural” levels does imply short-term pain. After all, reinstituting a positive “price of money” means banks will have to realize the full cost of carrying their loans. Artificially supported investments will collapse and the market will clear, but not without severe restructuring. According to Austrian economist Joseph Schumpeter, however, the lifeblood of capitalism is creative destruction, meaning that companies rising and falling unleash innovation to make the economy stronger. Schumpeter knew that the process is messy, often tied to business downturns, and therefore argued that this type of economic restructuring was “a good cold shower.”⁷⁸ Restoring low interest rates to their optimal levels is important now more than ever because recovery is being artificially propped up.

⁷⁸ Heilbroner, R. (1999). *The Worldly Philosophers: The Lives, Times and Ideas of the Great Economic Thinkers: Revised 7th Edition*. New York: Simon & Schuster: 288- 310.

Quantifying “Discount”

Low interest rates induce, and the expansion of credit finances, the undertaking of new investment projects (White 2009a: 83). The newly perceived profitability of these projects, however, vanishes when the interest rate returns to equilibrium. The problem caused by the interest rate distortion is therefore a mismatching of the plans of savers and investors. As Hayek sometimes put it, the distorted interest rate fails to equalize the supply with the demand for real capital, as echoed in chapter 1.

Once again, when stimulating a depressed economy the Fed lowers the FFR during “reflationary periods,” thereby artificially discounting the “price of money” [table 2]. Since individuals and companies borrow primarily based on the cost to borrow, when the cost of federal funds is negatively discounted, the true scarcity of loanable funds is not conveyed. What does this look like?

This distortion of the real interest rate by the Fed lulls borrowers into borrowing too much, “overinvestment,” but more importantly encourages investment in uneconomic projects, “malinvestment,” which directly leads to unsustainability or bubble creation.

The problem, then, is not only that there is too much investment, but also that the wrong type of investment is taking place (Horwitz 2000: 126). The bust occurs when investment projects that cannot be profitably completed—because the public does not voluntarily save enough to finance their completion at low interest rates—are finally recognized to be non-viable and are terminated (White 2009a: 87).

Table 4: Quantifying Discount (percent)

<u>“Reflationary” Yrs</u>	<u>Nominal FFR</u> <u>(Period Average)</u>	<u>“Price of Money”</u>	<u>Misallocation</u> <u>(percent)</u>
1974–1980 percent	8.48	2 percent + 9.26+ = 11.26	24.7
2001–2006 42.83 percent	2.69	2 percent+2.67= 4.67	
2008 –2010 80.75 percent	.82	2 percent+2.26 = 4.26 percent	

Source: Federal Reserve Board,
http://www.federalreserve.gov/releases/h15/data/Monthly/H15_FF_O.txt;
Bureau of Labor Statistics, <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>

Table 4 outlines three instances in recent U.S. history (since 1970) where the Fed “discounted” the FFR below prevailing inflation rate. The “Distortion (percent)” column measures the actual degree of this reduction. It does so by comparing the average nominal FFR that was in place during these periods with the “price of money” defined above (which, again, assumes that the FFR should have a 2 percent real value above inflation based on a 47-year average of actual Fed policy).

This “distortion” therefore represents the magnitude of the “discount” imposed by the Fed during these “reflationary periods” in percentage terms based on this hypothetical “real rate regime” defined in this paper. Importantly, the increasing percentages suggest that it took a greater proportional reduction of the FFR below the “discount price to stimulate the economy after each of these deflationary recessions.

The greater the degree of discount and longer the period the “discounted rate” is in place, the greater the magnitude of “distortion” there will be in the economy. For instance, the huge FFR discounts from 1974–1980 resulted in staggering inflation levels

and the substantial FFR discounts from 2001–2006 contributed to the recent housing bubble. Do we have reason to expect that today’s discounting (2008–present) will produce anything different? Artificially and temporarily low interest rates are masking an unsustainable buildup of sovereign debt. We should be worried.

“Lending Falls at Epic Rates”

Central banks have a more limited role in meeting the potential capital needs of banks and strengthening their capacity for new lending. Therefore, “although many mature market banks have increased their capital adequacy via public and private capital raising,” not enough capital has been raised to support lending and the economic recovery adequately (Srinivansan 2009). Bank lending to the private, nonfinancial sector remains strained across major advanced economies.

Although an increase in money supply will always stimulate nominal spending,⁷⁹ extremely low FFRs likely stimulate economic activity less when debt levels in the private sector are high. If consumers are already saddled with debt, after all, they will be less willing and able to take on more obligations and will therefore be less likely to borrow, even at extremely depressed interest rates. Further, if debt levels in the private sector are high enough, as they are today [table 4], there will be a period of deleveraging when loan balances are paid down net of new loans or when loans disappear altogether

⁷⁹ A “liquidity trap” (*supra* note 13) is used in Keynesian economics to refer to a situation where the demand for money becomes infinitely elastic so that further injections of money into the economy will not serve to further lower interest rates. The argument that follows does not attempt to bolster this theory but rather suggests that economic growth may be stimulated to a somewhat lesser degree when debt levels are higher.

due to default or bankruptcy of the borrower.⁸⁰

Table 5: Total U.S. Private Debt (1999–2009)

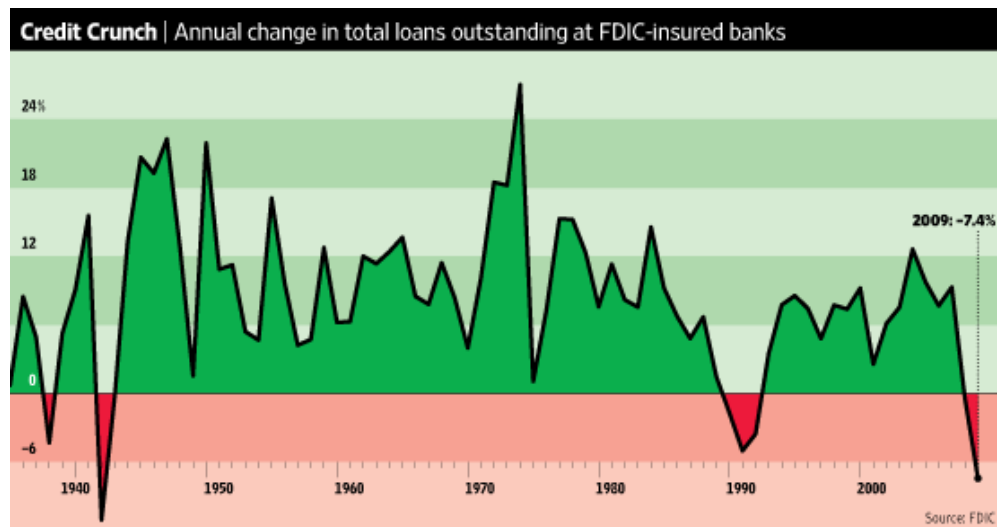
<u>Year</u>	<u>Private Debt</u>	<u>Private Debt/ GDP</u>
1999	13610.7	145.5 percent
2000	14782.2	148.5 percent
2001	15922.8	154.8 percent
2002	17073.2	160.4 percent
2003	18387.3	165.0 percent
2004	20032	168.8 percent
2005	22054.3	174.5 percent
2006	24266.1	181.1 percent
2007	26572.1	188.8 percent
2008	27203.3	188.4 percent
2009	26896.9	188.6 percent

Source: Federal Reserve’s Flow of Funds Account. www.federalreserve.gov/releases/z1/

Notably, during the deleveraging process of the current crisis, cumulative private sector loans have seen their sharpest decline since 1942, “suggesting that the industry’s continued slide is making it harder for the economy to recover” (Crittenden 2010). As shown in figure 6 below, the total decrease in private sector loan demand suggests that the Fed’s over-easy money policies have been nearly ineffective at increasing total private-sector loans and thus stimulating economic activity. Actually, the Fed’s “negative rates” have artificially reduced the cost of outstanding loans, thereby allowing loans that would otherwise default to linger! Highly stimulative FFRs are therefore ineffective until the deleveraging process has significantly reduced loan balances.

⁸⁰ For more information see Saft, J. (2008). “Deleveraging, Now in the Early Stages, Will Transform the Banking Industry,” *The New York Times*.
<http://www.nytimes.com/2008/06/26/business/worldbusiness/26iht-col27.1.14006619.html>

Figure 6: Lending Falls at Epic Pace



Source: Federal Deposit Insurance Commission,
[http://online.wsj.com/article/SB10001424052748704188104575083332005461558.h
tml](http://online.wsj.com/article/SB10001424052748704188104575083332005461558.html)

The Fed's Liquidity Responses

Central banks support the money stock “while avoiding the danger of favoritism associated with making loans to specific banks on noncompetitive terms” when they purchase securities (Goodfriend 1988: in White 2009b: 120). Before 2008, the Fed seemed to understand this principle well enough. It controlled growth in monetary and credit aggregates through such open-market operations, using the FFR as an intermediate target for guiding open market operations. Furthermore, growth in the monetary aggregate that the Fed directly controls, the monetary base, was matched almost exactly by the Fed's accumulation of U.S. Treasury securities, virtually the only financial asset the Fed acquired. Towards the end of 2008, however, “things changed in a remarkable and worrisome way” (White 2009b: 121) [figure 2].

In the wake of the crisis, the Fed switched to holding massive quantities of mortgage-backed securities. “It now makes loans to, and purchases assets from, an array of financial institutions that are not commercial banks and do not issue means of payment” (White 2009b: 121). If the Fed had done that in the usual way, by creating new reserve deposits with each new loan, it claims that the supply of cash would have ballooned, bringing worries of inflation.

Instead, beginning in late 2007, Bernanke attempted to “sterilize” the new loans from the Fed, “basically selling off the Fed's Treasury holdings at the same time that it extended the new loans.” In other words, reserves increase with the loans and decrease with the sale of Treasuries, so the net result is “an increase in loans from the Fed but no change in reserve deposits” (Hamilton 2008). These exotic new Fed assets came in many shapes and sizes.⁸¹

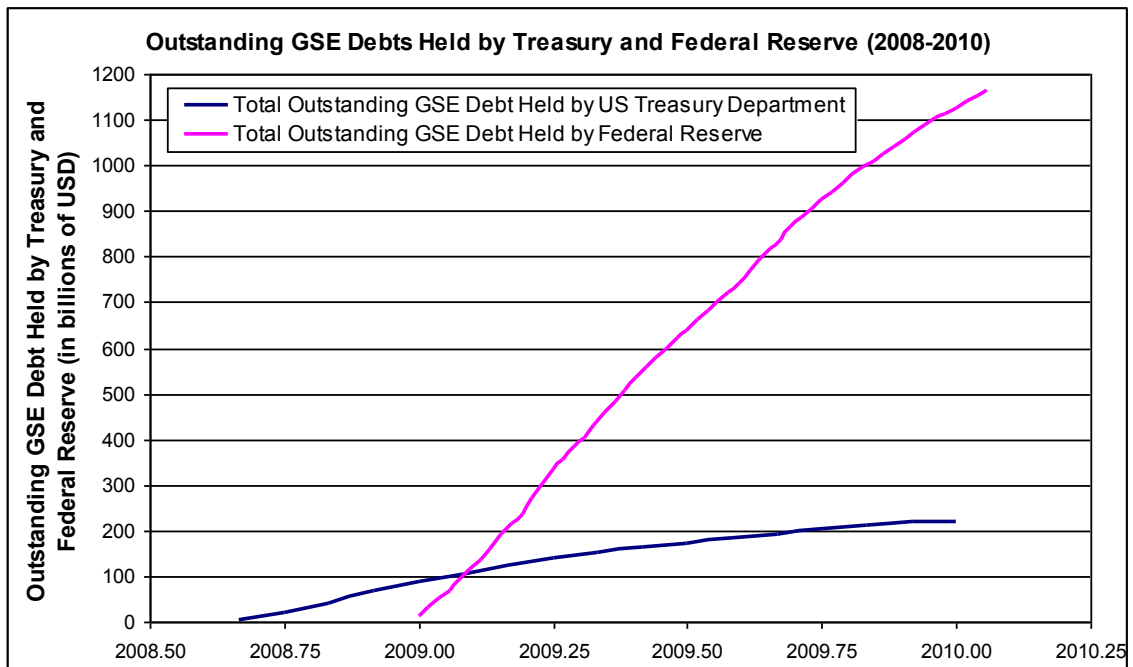
The “Post Panic” Fed

The two key measures introduced by the Fed following the severe panic period were the Term Asset-Backed Securities Loan Facility, or TALF, and the Mortgage-Backed Security, or MBS, purchase program. TALF, instituted in November 2008, is intended to lend money against asset-backed securities that are backed by student, auto, credit card, and SBA loans. If this program works as planned, it should lead to “lower rates and greater availability of consumer, business, and mortgage credit by facilitating the issuance of ABS” (Bernanke 2009b).

⁸¹ See APPENDIX II for the current state of the Federal Reserve’s liquidity facilities.

The goal of the MBS purchase program, on the other hand, is to “provide support to mortgage and housing markets and to foster improved conditions in financial markets more generally.”⁸² All told, the Fed purchased \$300 billion of Treasury securities and currently anticipates concluding purchases of \$1.25 trillion of agency MBS and about \$175 billion of agency debt by March 2010.⁸³ The current outstanding GSE debt holdings of both the Treasury and the Fed are illustrated in figure 7 below.

Figure 7: Outstanding GSE Debts Held by Treasury and Federal Reserve: 2008–2010



Source: Federal Housing and Finance Agency,
<http://www.fhfa.gov/webfiles/15387/TreasFED01282010.pdf>

⁸² FRBNY’s “FAQs: MBS Purchase Program.” http://www.newyorkfed.org/markets/mbs_FAQ.HTML

⁸³ Board of Governors of the Federal Reserve System. (2009). “Monetary Policy: Credit and Liquidity Programs and the Balance Sheet.” http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm

Exacerbating “Malinvestment”

At the start of the recent housing boom an initial imbalance existed in the market because abnormally low FFRs instituted by the Fed in the wake of the dot- com crash of 2000–2001 led to artificially low market interest rates that encouraged overinvestment in the housing market.⁸⁴ Specifically, these artificially cheaper short-term interest rates increased mortgage demand, which, in turn, raised housing prices (Schibuola and Randazzo 2010). From approximately 1997 to 2006, prices rose 87 percent and the housing bubble formed.⁸⁵

By the end of 2006, however, the cycle started to unwind as the growth in home prices decelerated. In short, when supply caught up with demand and the period of low interest rates ended, this deceleration of home prices gave rise to delinquency and default rates. Since a majority of the early mortgages defaulting were subprime, this period in 2007 is known as the subprime mortgage crisis (Schibuola and Randazzo 2010: 23–4).

In addition to the subprime mortgage crisis in 2007, concerns grew regarding the spike in interest rates on medium-term interbank loans, as measured by the three-month Libor. Since this rate is linked to “interest rates on trillions of dollars of loans and

⁸⁴ In addition to the Fed’s loose monetary policies, regulatory factors that contributed to the housing bubble include but are not limited to adjustments to Congress’ Community Reinvestment Act (CRA) of 1977, decreased lending standards at our two huge GSEs, the NRSRO status of key “quasi- government” rating agencies, the minimum risk-weighted capital ratios of commercial banks outlined in Basel II and the increased use of securitization to expanded mortgage origination. (See Friedman, J. (2009). “A Crisis of Politics, Not Economics.” *Critical Review* 21(2-3): 127- 183). Key fiscal policies include the Tax Reform Act of 1986, which “changed the treatment of income earned from renting a home to favor owner-occupied homeownership” among other things and the Taxpayer Relief Act of 1997, which “eliminated the payment of capital gains on home price appreciations” (Schibuola and Randazzo 2010: 20).

⁸⁵ U.S. Census Bureau. “Housing Starts: New Privately Owned Housing Units Started.” <http://research.stlouisfed.org/fred2/series/HOUST?cid=97> in (Schibuola & Randazzo 2010: 10).

securities,” decreasing the spread down became a major concern of policy officials at the Fed.⁸⁶ As such, the FFR was lowered once again.

This return to an artificially “depressed interest rate regime” has been followed by a host of other policies and programs.⁸⁷ Unfortunately, “these initiatives have not been successful at jump-starting a sustainable recovery in the housing sector.”⁸⁸ Take the MBS purchase program. The Fed’s role in the MBS purchase agreement actually magnifies the initial imbalance that existed in the market because “printing” more money to subsidize “toxic” mortgages artificially and indirectly supports the “malinvestments” that were made from 2003–2006.

Quantitative Easing

Since the Fed’s balance sheet is set to expand almost without limit and without regard to the level of the policy rate thanks to programs like these, the MBS purchase program is a type of quantitative easing, or QE for short.⁸⁹ The immediate effect of QE is to infuse liquidity into the financial system and, in the process, to simultaneously reduce the outstanding balance of loans in the system by buying up debt. As such, interest rates are often artificially depressed so more debt can thereby be sustained in the process.

⁸⁶ Taylor, J. B. (2009). *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*. Hoover Institution Press: Stanford, California.

⁸⁷ Other policies and programs instituted in response to the subprime meltdown of 2007 include the bailout of the government-sponsored enterprises, the First-time Homebuyer Tax Credit (FTHBC), the Making Home Affordable (MHA) programs, and foreclosure moratoriums (Schibuola and Randazzo 2010: 35).

⁸⁸ Randazzo, A. (2010). “Testimony Before the Committee on Financial Services: U.S. House of Representatives,” Housing Finance- What Should the New System Be Able to Do?: Part II- Government and Stakeholder Perspectives.

http://www.house.gov/apps/list/hearing/financialsvcs_dem/fchrn_04142010.shtml

⁸⁹ <http://blogs.ft.com/economistsforum/2008/12/quantitative-easing-lessons-from-japan/>

The Fed's use of QE to print money and buy \$1.25 trillion worth of toxic mortgages not only crowded out private sector participants from the market (Schibuola and Randazzo 2010: 48) but also magnified the initial imbalance in the mortgage market by artificially and indirectly supporting and extending the "malinvestments" that were made from 2003–2006 and giving banks the opportunity to make bad loans again. In the process the Fed also effectively subsidized mortgage rates, which distorted the "risk-return trade-off" in the mortgage market (ibid). When the MBS purchase program ended on March 31, 2010, many economists therefore predicted mortgage rates would spike. According to the latest data released from Mortgage Bankers Association, they were right: since then the average interest rate for 30-year fixed mortgages, for instance, increased from 5.04 percent to 5.31 percent.⁹⁰

Hugh Hendry, Chief Investment Officer at Eclectica, told CNBC in 2009 that central bank's efforts to introduce measures such as buying various assets and printing money as they bring their interest rates to zero will not work in countries with too high levels of debt.⁹¹ One reassuring aspect is that the U.S. entered the crisis with public debt at a relatively low level of around 40 percent of the economy, quite similar to how Japan started its crisis in 1990 or 1991. However, thanks in part to its own massive QE undertakings,⁹²

⁹⁰ <http://www.realestate.com/news/real-estate-market/mortgage-rates-spiked-following-end-of-mbspurchase-program.php>

⁹¹ CNBC. (2010). "Quantitative Easing Won't Work- Debt Too High: Hendry." http://www.cnbc.com/id/29461648/Quantitative_Easing_Won_t_Work_Debt_too_High_Hendry

⁹² The Bank of Japan also switched from reducing target short-term interest rates to QE back in 2001. However, just like the U.S., the consensus was that the resulting modest expansion in the growth rate of the

Japan's public debt approaches now 200 percent of GDP. Worries about the U.S. public debt will no doubt take center stage in the coming years as well.

money supply has had a limited expansionary impact due in part to an increasingly high debt environment. For more information see Federal Reserve Bank of San Francisco, or FRBSF, Economic Letter (2001). <http://www.frbsf.org/publications/economics/letter/2001/el2001-31.pdf> “Quantitative Easing by Japan.”

Chapter 4: Default and Bankruptcy: Evidence from Other Debt-Ridden Countries

The 2001 Argentine Debt Crisis: An Unprecedented Default

The period between 1995 and 2004 was unkind to the developing world. Though the 1990s began with a celebration of many of the world's emerging markets, by the end of the decade many of those countries had become submerged in a wave of economic stagnation and debt. Among many troubles, the decade witnessed "the devaluation of the Mexican peso and the ensuing crisis throughout Latin America," the 1997 devaluation of the Thai baht and the subsequent "Asian Flu" that triggered seven Asian currency devaluations, the 1998 default by Russia, "which ended with the sudden and painful devaluation of the Brazilian real," and finally, the "devaluation, default and near self-destruction of Argentina in 2002" (Jochnick 2006: 3). Argentina's the most severe sovereign default experience in contemporary history on several counts (Porzecanski 2006: 267).

Argentina went through an economic crisis beginning in the mid-1990s, with a full recession between 1999 and 2002. In December 2001, after four years of deepening recession and mounting social unrest, Argentina's government collapsed completely and ceased all debt payments. Argentina's default and subsequent economic crisis sliced per capita GDP in half in less than 12 months. Foreign investment immediately fled the country, and capital flow towards Argentina ceased almost completely. The currency exchange rate was floated, and the peso devalued quickly, producing massive inflation. Large-scale debt restructuring was needed urgently, since the debt had become unpayable

(Jochnick 2006:4). Further, dollar-denominated bank deposits were partially confiscated by being forcibly converted to pesos at a devalued rate. Large-scale debt restructuring was needed urgently, since the debt had become unpayable (Jochnick 2006:4).

Argentina defaulted on more than \$95 billion in external debt in December 2001 because its debt was simply too big to repay. To provide some perspective:

“In 1902, after Venezuela defaulted on its sovereign debt, German, British and Italian gunboats blockaded the country's ports until the government paid up. In 1881, after the Ottoman empire failed to honor its obligations, European powers simply seized Ottoman customs houses and helped themselves to their due . . .”⁹³

Unfortunately, the options available to the “aggrieved creditors” of Argentina were more limited: the default was ultimately managed by reducing and stretching out interest payments. After much protest, a final offer made in June 2004 amounted to a 75 percent reduction in the net present value of this debt (Hornbeck 2004: 6).⁹⁴

Large Public Debt and a Fragile Fiscal Position

Why was the Argentine economy more vulnerable than other developing economies at the time? Authorities list many sources of weakness, but high public debt is high on everyone’s list. Perry and Servén (2003), for instance, find the origins of the crisis in multiple vulnerabilities. Namely they propose that “deflationary adjustment under the hard peg,” hidden weaknesses in the financial sector and high public debt and fiscal

⁹³ *The Economist* Staff. (2005). “A Victory by Default,” *The Economist Global Agenda*. http://www.economist.com/business-finance/displaystory.cfm?story_id=3715779

⁹⁴ According to the June 2005 report by the Argentine Ministry of Economy, the total acknowledged debt of the Argentine state amounted to \$126,466 M, down by \$63,464 M as a result of this restructuring process. Of this total, 46 percent was denominated in dollars, 36 percent in pesos, and 11 percent in Euros and other currencies. Due to the full payment of the IMF's debt and several other adjustments, as of January 2006 the total figure decreased to \$124,300 M. Information on Argentina’s restructuring and the IMF can be found

fragility jointly reinforced each other in such a perverse way that they led to a much larger vulnerability to adverse external shocks than in any other country in the region (1–2).

Calvo, Izquierdo, and Talvi (2002) claim that the “major real exchange rate misalignment and fiscal problems in Argentina” were not easy to address given the country’s widespread “currency mismatches, high indebtedness, and relatively closed economy.” Mussa (2002:1) emphasizes that the fundamental cause of the disaster was the “chronic inability of the Argentine authorities to run a responsible fiscal policy” which led to a fast rise in the ratio of debt to GDP during the 1990s and up to the outburst of the crisis. His case is supported by the IMF (2003), which claims that governments that have defaulted during the past three decades have had “a more burdensome public debt in relation to current revenues and GDP” than those that have not defaulted.”⁹⁵

To support these theories, most analysts have pointed to the deterioration of fiscal balances, “both at the Federal and provincial levels,” and the corresponding increase in public debt indicators in Argentina since 1995 and, especially, since 1999 (Perry and Servén 2003). The public debt in Argentina had grown from the equivalent of less than 35 percent of GDP in the early part of that decade to over 50 percent of GDP by 2001. The figures in Table 6 clearly indicate that by the year end 1999 and certainly by 2001, debt sustainability was clearly open to question (Perry and Servén 2003: 36).

at <http://www.imf.org/external/country/ARG/>

⁹⁵ International Monetary Fund, IMF. (2003). *World Economic Outlook*, Washington, D.C.
<http://www.imf.org/external/pubs/ft/weo/2003/02/index.htm>

Table 6: Argentine Fiscal Sustainability and the Exchange Rate (1991–2001)

Year	Debt/ GDP	Debt/ GDP*
1991	32.3 percent	28 percent
1992	26.1 percent	23.9 percent
1993	28.7 percent	27.7 percent
1994	30.9 percent	29.1 percent
1995	34.8 percent	31.6 percent
1996	36.6 percent	34.9 percent
1997	40.9 percent	46.2 percent
1999	47.6 percent	63.2 percent
2000	50.9 percent	70.6 percent
2001	62.2 percent	95 percent

* Adjusted for RER Misalignment

Source: International Monetary Fund, Ministry of Economy and Production: Argentina,
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=636443

Also, during the 1990s Argentina's capacity to service its debt obligations became inextricably tied to the peculiar exchange-rate regime adopted in early 1991, whereby the value of its currency, the peso (ARS), was set equal to that of the U.S. dollar (USD). By late 2001 only 3 percent of the total public debt, and a mere 2 percent of total government bonds, were denominated in Argentine pesos, whereas more than 70 percent of obligations were contracted in U.S. dollars and the remainder in other currencies (Perry and Servén 2003: 37). Although this currency composition is likely common for countries whose currency floats against the dollar, unfortunately, this peg hid from public view the increasing precariousness of the fiscal situation in Argentina.⁹⁶

Public debt therefore represented a huge potential risk because when one peso was equal to one dollar, the public debt was roughly equivalent to some 50 percent of

⁹⁶ Though useful, the much-quoted ratios of public debt to GDP ratios often do not convey the degree of vulnerability of a sovereign to default risk because a great deal depends upon the currency denomination,

GDP, but “if ever one peso no longer purchased one dollar, then the country’s ratio ratios would instantly spiral out of control” (Porzecanski 2006: 267). For instance, at an exchange rate of 2 ARS/ USD, the burden of public debt would double to the equivalent of about 100 percent of GDP and 3 to 150 percent GDP.⁹⁷ This ensured that if there was ever a change in the currency regime involving a major devaluation, which Argentina later chose, the public sector would be rendered instantly unable to service its debt.

A “real depreciation restoring real exchange rate equilibrium” (Perry and Servén 2003: 37) therefore raises public debt ratios by a large amount, up to 20–30 percentage points of GDP in 2000–2001. Table 3 shows that once this is factored into the analysis, by 2001 government solvency would have required an additional primary surplus of about 2 percent of GDP annually. Notably, since 1999, debt/ GDP ratios adjusted for RER Misalignment have exceeded 60 percent, coincidentally violating the EU standard for a high public environment, which likely precipitated the eventual Argentine default.

The cost of Argentina’s financial collapse in long-term social and economic terms has been devastating. Argentina faced years of foreign debt repayments while it attempted to rebuild an economy with 50 percent poverty and 14 percent unemployment rates, high crime, and political unrest (Hornbeck 2004: 14). Still, countries that find themselves in similar hopeless debt situations may look to Argentina as a model for reneging on vast amounts

floating- rate nature, and maturity structure of the liabilities (Porzecanski 2006: 269).

⁹⁷ Though useful, the much- quoted ratios of public debt to GDP therefore often do not convey the degree of vulnerability of a sovereign to default risk because a great deal depends upon the currency denomination, floating- rate nature, and maturity structure of the liabilities (Porzecanski 2006: 269).

of sovereign debt.

Current Evidence from “the Financial Weaklings of Europe”

Today, the world economic crisis has entered a new stage where the overstretched finances of the U.S. and other national governments have become a major threat to economic stability. In the first weeks of 2010, renewed anxiety about the excessive levels of debt in some EU countries and, more generally, about the health of the euro, spread amongst the PIGGS, a name coined to describe Portugal, Ireland, Greece, Spain, and sometimes Italy as “the financial weaklings of Europe” (Coy 2010). Investors and traders of the global bond market lured the PIGGS into tapping abundant credit at low rates when times were good. However, when a nation borrows too much, which all the PIGGS did, the once generous investors abruptly turn into “vigilantes” who punish the country by making new loans scarce and expensive. Greece has fallen into precisely that trap recently.

Greece

Less than a year before the euro became the currency of 11 European countries in January 1999, a declaration signed by 155 German-speaking economists called for an “orderly” delay. “The prospective euro members,” they said, “had not yet reduced their debt and deficits to suit a workable monetary union” (Schrunk 2010). Notably, Greece joined later due to fiscal problems they experienced at this time. Now their predictions are coming true, however, since Greece’s casual attitudes towards deficits and “creative

accounting” methods to conceal dodgy finances have caused virtual “budget chaos.” Germany, Europe’s biggest economy and most creditworthy borrower, is ironically bearing the blunt of the blow.

Greece has spent well over half its years in default since 1800 (Reinhart and Rogoff 2009). For Greece, membership to the EU was therefore a boon because their bond markets no longer had to worry about high inflation or devaluation. What’s more, lower interest rates allowed the government to refinance debt on more favorable terms: “the ratio of net interest costs to GDP fell by 6.5 percentage points in the decade after 1995” (Venables 2010). However, these lower interest rates also spurred a spending splurge.⁹⁸ In short, Greece could borrow massive amounts of money and still have the same debt service due to lower interest rates.

The economy grew by an average of 4 percent a year until 2008. However, strong GDP growth masked the underlying weakness of the public finances. Though Greece seemed to be getting its act together a decade ago when it reined in spending, reduced inflation, and cut interest rates, just after it put on the Olympics in 2004, Greece acknowledged that it had understated its budget deficits for 2000, 2001, and 2002, meaning its fiscal gap had regularly exceeded the European Union's criteria for euro zone membership (Venables 2010). Deficits continued. Last October the newly elected

⁹⁸ The Greek government has demonstrated rather “thrifless spending behavior” for years. “This was exacerbated when Greece started to pay lower interest rates on government bonds by virtue of having entered the European Economic and Monetary Union.” For more information see Bagus, P. (2010). “The Bailout of Greece and the End of the Euro.” *Mises Daily*. <http://mises.org/daily/4091>

socialist government even announced that the deficit was even far worse than the previous conservative government had let on (Coy 2010).

As shown by the figure 8, Greece's general government debt stood at 113 percent in 2009, and 125 percent of gross domestic product by January 2010, more than double the supposed EU ceiling. Eventually, all that debt “brought down the wrath of the bond-market vigilantes.. who drove up yields by betting against Greek debt” (Coy 2010).

Figure 8: Spartan Times Ahead for the PIGGS



Source: European Commission,
http://www.economist.com/world/europe/displaystory.cfm?story_id=15452594

Flexibility is great, most of the time. Still, as today's Greece vividly demonstrates, “any country that doesn't discipline itself is bound to be eventually disciplined by the bond market . . . and that's a whole lot more painful” (Venables 2010).

At best, Greece has to undergo a dramatic budgetary tightening or its fellow Europeans, or the IMF, may yet have to organize a humiliating bailout akin to the one Argentina underwent in 2001. Some even talk, probably mistakenly, of the beginning of the end of the euro area. Whatever the repercussions, it is certain that the path ahead for overstretched governments is fraught with risks.

The Rest of the PIGGS

What makes a Greek default unpalatable is the fear of contagion: “if Greece were allowed to go under, the cost of borrowing for other troubled euro members would shoot up” (Venables 2010). Moreover, if the EU helps Greece, then Portugal and Spain, whose finances are only slightly stronger, could demand similar help. In that sense the lesson learned would not only be that there is “no price to pay for not disciplining yourself, but in fact” there is a benefit, says Yale University political scientist Stathis N. Kalyvas (in Coy 2010). That would stir resentment in the richer nations such as Germany and France. Worse, it would undercut the EU’s credibility as an enforcer of fiscal rigor.

Portugal, with a current-account deficit almost as big as Greece and a public debt/GDP ratio of 77 percent and rising is likely next in line.⁹⁹ Italy has a similar public debt/GDP ratio as Greece, at about 115 percent, but its budget deficit is only half as big and its current-account deficit is relatively small. Further, the Italian bond market is the world’s third largest, which makes it less vulnerable to speculative attack than say Greece or

⁹⁹ All Public Debt/ GDP ratios are the latest available 2009 estimates from “World Fact Book 2009: Public Debt/ percent GDP.” <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html>

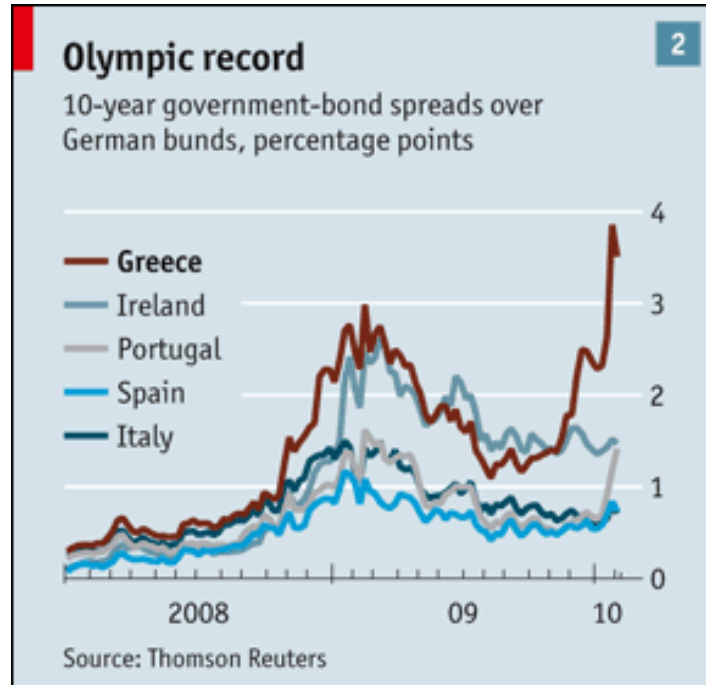
Portugal. Ireland is also small, but with an average of 66 percent public debt/ GDP and a government that has shown itself willing to take unpopular decisions to right its public finances, it is hardly off the hook. Still, the Irish economy is more flexible so its medium-term prospects seem brighter. Finally, Spain has a debt/ GDP ratio nearing 54 percent and a severe “construction bust and rigid labor markets” that seem certain to condemn it to years of economic struggle and high unemployment (Venables 2010).

Evidence

Skyrocketing Interest Rates

If you are lending money to a person whom you are certain will repay you, you charge them less than you would if you were uncertain that they would pay you back. Similarly, risk premiums in the credit market vary so that the most secure loans get the best prices. Government loans, bonds, and bills that are sold to the public to raise money have always been viewed as “a sure pay,” the virtual gold standard of loans. In regard to the PIGGS though, there are so many loans out there that there is now a question of whether or not these countries will be able to pay them back. Consequently, interest rates on their obligations have skyrocketed across the board, as shown in figure 9, making it less likely that consumers and businesses will borrow. Essentially, since these countries are indebted in the face of high interest rates, it will be more expensive and difficult for them to finance their debts.

Figure 9: PIGGS' Interest Rates Skyrocket to Olympic Records



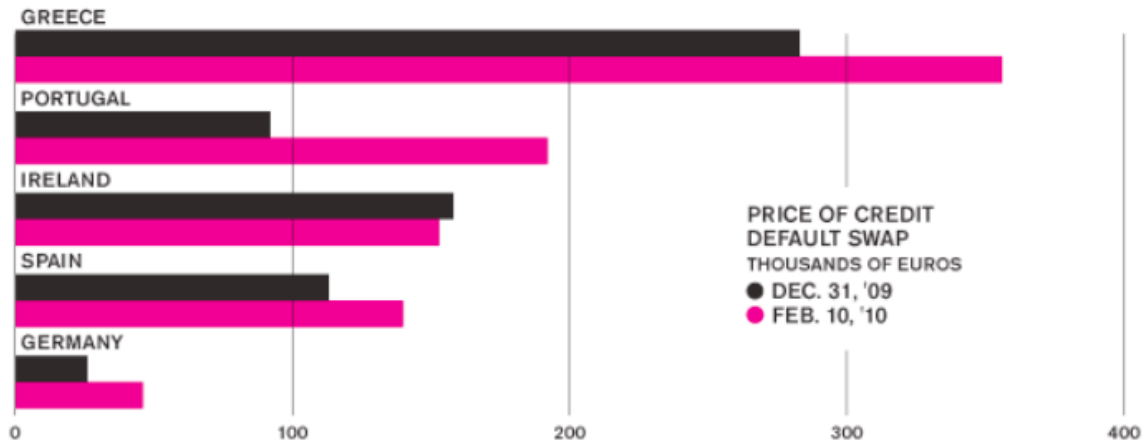
Source: Thomson Reuters,
http://www.economist.com/world/europe/displaystory.cfm?story_id=15452594

Plunging Debt Ratings and Increased Default Insurance

The risk of default in these debt-ridden countries has also led to massive downgrades by credit-rating agencies. Take Greece, for example. After it acknowledged that it had understated its budget deficits for 2000, 2001 and 2002, “two of the three main credit-rating agencies,” Fitch and Standard & Poor’s, or S&P, “cut their rating on Greek bonds and gave warning that a further downgrade was likely” (Coy 2010). Some economists see hope for Greece. Investors, though, are dubious that Greece will slash its budget deficit as a share of GDP from 12.7 percent in 2009 to under 3 percent in 2010,

which is evident from trading in credit default swaps on Greek debt, which pay buyers the full face value of a bond in case of a default. On Feb. 10, 2010, the price of default insurance was 356,000 Euros per year for five years of protection on 10 million Euros worth of debt, down 16 percent from two days earlier but still almost quadruple the price of last summer (Coy 2010). The trend for the rest of the PIGGS looks no better, as shown in figure 10.

Figure 10: Default Insurance Gets Costlier for the PIGGS



Source: CMA DataVision,
http://www.businessweek.com/magazine/content/10_08/b4167018421438.htm

Lessons for the U.S.¹⁰⁰

The European think-tank called the CEE Council has argued that the predicament that the PIGGS find themselves in today “is the result of a decade of debt-fueled

¹⁰⁰ Ironically the budget problems of most of the major developed countries poses a striking contrast with the economies of developing countries such as China and Brazil which, entered the financial crisis flush with surpluses and high savings rate, enabling them to weather global crisis pretty well. The absence of “a debt noose” around the necks of Brazil and China makes these countries attractive places to invest in next few years.

Keynesian economic policies pursued by local policy makers and complacent EU central bankers...”¹⁰¹ They recommend the imposition of a battery of corrective policies to control public debt—such as drastic austerity measures and substantially higher taxes. While these debt-ridden countries, Greece especially, may be uniquely dysfunctional, there is therefore a lesson here for any country with a heavy debt load, like Japan, the U.K. and the U.S.: “the bond market is treacherous” (Coy 2010).

For instance, for now, investors are pouring money into the U.S. Treasury market as a safe refuge. However, the U.S.'s ratio of total debt to GDP is likely to exceed 90 percent by year-end 2010, making it more indebted even than Spain and Portugal. If global investors began to demand higher yields to compensate them for the risk of a U.S. default, that would vastly increase U.S. borrowing costs. Higher debt service would worsen the nation's budget imbalance and possibly precipitate the very crisis that investors fear most.

¹⁰¹ See Firzil, N. (2010). “Bank Regulation and Financial Orthodoxy: The Lessons from the Glass-Steagall

Chapter 5: Exiting Thoughts

The Problem

U.S. debt held by the public accumulates primarily when the Treasury sells bonds in the market to fund new spending programs or to pay for past spending. Fiscal policy therefore attempts to “reflate” the economy by borrowing (other people’s) money and spending it. Monetary policy, on the other hand, tries to “reflate” the economy by motivating private individuals and companies to borrow and subsequently spend, develop, or invest funds to stimulate economic growth. Take the Federal Reserve’s response to the current financial crisis.

The Fed’s sustained, artificially lowered interest rates induce private sector individuals to borrow. Further, its more recent attempts to “print” money to buy and remove “toxic” loans from certain bank balance sheets has created additional “artificial” loan demand in the mortgage market. In the process, this QE selectively replenishes the balance sheets of the very banks that exercised bad loan judgment which provoked the housing crisis in the first place. As such, QE initiatives further impede the natural deleveraging of loans and therefore also prevent necessary “creative destruction” from taking place.

One factor that has likely thwarted the objectives of stabilization policy in the U.S. in recent history has been the increasing high private and public debt environments. Essentially, if consumers are already saddled with debt they will be less willing and able to take on more obligations and will therefore be less likely to borrow, even at extremely

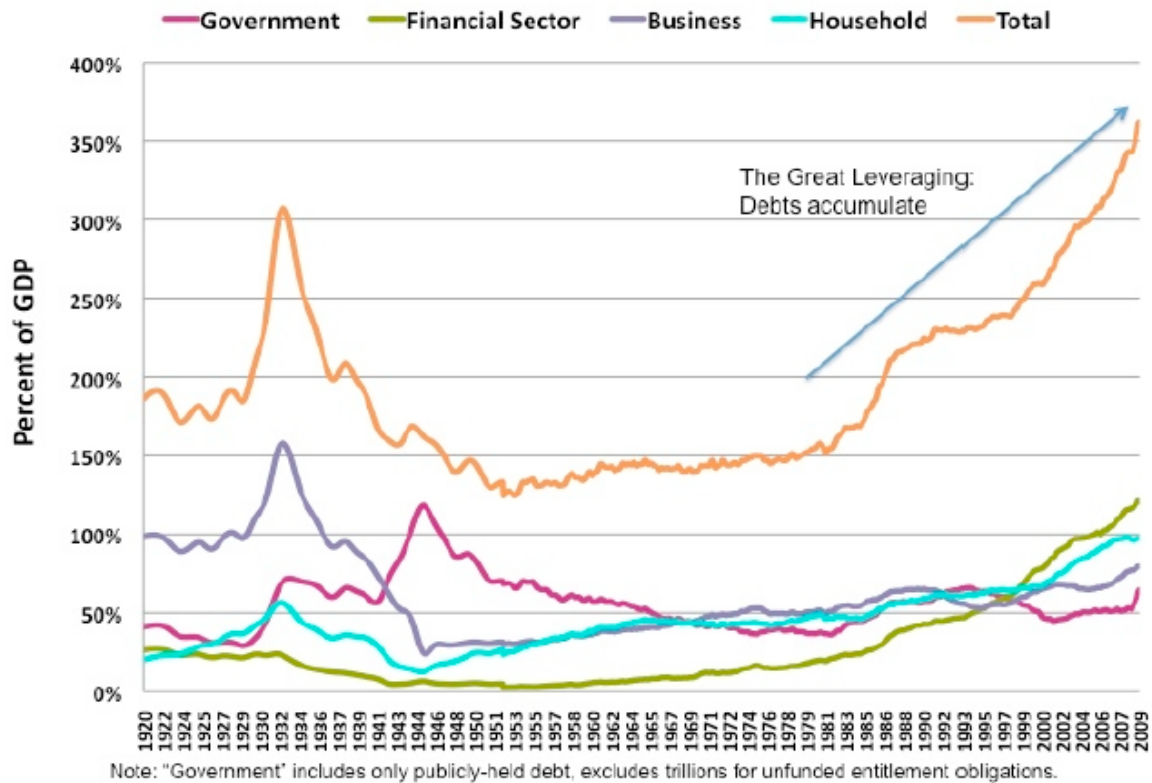
depressed interest rates and/ or with the aid of fiscal policies. Further, excessively low interest rate regimes artificially decrease the carry cost of debt, which makes it easier for our government to sustain and take on more debt because it effectively costs less for them to repay obligations.¹⁰² For these reasons, monetary interventions from recent U.S. history have actually served to stimulate debt growth in both the public and private sector.

However, when deficits pile up as they have in the U.S., [figure 12] eventually lenders will get nervous. Borrowers do not want to lend at these depressed rates, but rather demand that the price they are paid reflect the true risk of their investments. The ability of a government to take on more debt is therefore limited in the sense that people must believe they will get paid back or they would not lend to government at any interest rate, let alone a nearly negative one. A credibility issue is thereby developing that challenges the notion of U.S. as a “riskless borrower.” The fiscal outlook today will inevitably “undermine this privilege” and its risk premium on debt will increase (Hoeing 2010: 8). Consequently, the government must pay them more or “print” money to “remedy” the situation. Further, since these actions have been conducted in an increasingly unsustainable environment of artificially discounted interest rates, the strength of our currency is in question as well. As we saw, this is exactly what is

¹⁰² After a recession or even a less severe economic downturn, the private sector has to resume borrowing and lending money to jump start economic activity. However, it faces competition. Government debt is typically regarded as a sure bet. Since a high debt public sector will continue to “sell debt” to pay what it owes, like the U.S. is currently doing, it can effectively bid interest rates up because its status as a “near riskless borrower” makes it appear creditworthy. In the process, the government can therefore also crowd out private sector borrowers who have “a bottom line” and cannot just “pay anything.” See White, L.H. & Garrison, R. (1999). “Do Deficits Matter?” *The Free Market* 17(2): 3, 5-8.
<http://www.auburn.edu/~garrir/h2defmatter.htm>

happening in the U.S. right now.

Figure 11: U.S. Debt Burden: Debt Held by Public and Private (1920–2009)



Source: Federal Reserve's Flow of Funds Account, www.blog.reuters.com/rolfe-winkler

The U.S. should also recognize that similar incidents have happened in other countries. The experiences of high-debt countries like the “PIGGS” should therefore also caution the U.S. to reform its approach to stabilization policy. When these countries stimulated the economy in high-debt environments, investors began to demand higher interest rates to fund sovereign debt. As equation 1 suggests, the carrying cost of debt, $rd(t)$, increased, which created a virtual “debt spiral.” Eventually these countries lost

control of their “interest rate regime,” their currencies devalued and most went into or are approaching insolvency.

The Path Ahead

There is wide agreement about the major goals of economic policy: “high employment, stable prices, and rapid growth.”¹⁰³ However, there is less agreement that these goals are mutually compatible or, if they are, how they should be coordinated (Lambertini and Rovelli 2003). Still, there is perhaps least agreement about the role that monetary and fiscal policies can and should play in achieving policy goals (Friedman 1968, Reynolds 2001).

This paper suggests that the use of stabilization policies to stimulate economic growth is frustrated by the presence of high public and private debt. Admittedly, the degree to which public and private debt impedes economic policy is not specifically quantified. Still, evidence from reflationary efforts in the U.S. since 1970s (chapter 2), the ineffectiveness of massive responses to the current financial crisis in particular (chapter 4), and the fairly recent experiences of other countries (chapter 3) outlined in this paper clearly show that traditional monetary and fiscal tools used by policy makers to moderate economic cycles and restore growth lose their ability to stimulate in high debt environments.

This is good news in a sense because it means that government policy holds less sway to influence the economy than is typically thought. At the extreme there is Sargent

¹⁰³ Tobin (2008), *supra note 3*

and Wallace's New-Classical "policy ineffectiveness proposition" (1975). They posit that under the joint hypotheses of rational expectations and flexible prices (Muth 1961), anticipated monetary and fiscal policy should not influence real output in the short run; only surprises matter.¹⁰⁴ Taken at face value, the theory appears to be a major blow to a substantial proportion of macroeconomics, particularly Keynesian economics (McCallum 1979). As such, this paper is not alone in questioning the power of stabilization to influence real variables like output and employment.

What then of the old faith in stabilization policies? After all, it seems that there is no shaking the widely held view that policymakers should engage in excessive attempts to fine-tune the economy (Lambertini and Rovelli 2003). As Alan Blinder once remarked, "doesn't even a poor archer aim for the bull's eye, even though he doesn't expect to hit?"¹⁰⁵

While describing the proper role of monetary and fiscal policies in a developed high-debt economy like the U.S. is beyond the scope of this paper,¹⁰⁶ there is no doubt

¹⁰⁴ For instance, if the government employed monetary expansion in order to increase output, agents would foresee the effects, and wage and price expectations would be revised upwards accordingly. Real wages and prices remain constant and therefore so does output, no money illusion occurs. Only stochastic shocks to the economy can cause deviations in employment from its natural level.

¹⁰⁵ Blinder, A.S. (1997). "Distinguished Lecture on Economics in Government: What Central Bankers Could Learn from Academics- and Vice Versa," *Journal of Economics Perspectives*, 11(2): 12.

¹⁰⁶ Generally, many believe that fiscal policy in the U.S. is on an "unsustainable course." Further, many household and corporate taxes make debt "more attractive." As such, adjustments in spending and reform of the tax code should be a priority (Steil 2010). Regarding monetary policy, in the short run, establishing a clear and credible exit rule for the Fed is necessary. For instance, the FOMC could reduce reserve balances by \$100 billion for each 25 basis point increase in the FFR, which would allow the Fed "to exit unorthodoxy at the same 2 percent interest rate as it entered unorthodoxy" (Taylor 2010). Since the Fed has "no inherent advantages over many other bodies as a judge of systemic risk..." and historically has even been an important source of systemic risk in certain cases, however, it would be a mistake to assign it powers to control more levers of economic policy in the long run (Steil 2010).

that we need to reconsider the weight we place on macroeconomic stabilization methods as well as their reliability. Specifically, any sound attempt at reconstituting stabilization policies in the wake of the current crisis must focus directly on restraining excessive debt accumulation (Steil 2010: 2). The critical question to draw from this discussion however is what can monetary and fiscal policies contribute, if anything, when instituted in high-debt environments?

In the current environment of persistent negative real interest rates, innovative fiscal policies and huge and increasing public and private U.S. debt, it is more crucial than ever to raise questions regarding the efficacy of traditional Keynesian stimulus measures. Specifically, it is vital to fully understand how monetary and fiscal policies have evolved and fully grasp the effect that debt accumulation has had on impeding the already questionable effectiveness of these stabilization policies. If we do not, our continued unwarranted use of monetary and fiscal interventions may lead us into yet another preventable economic catastrophe.

The Current U.S. Fiscal Imbalance

In the aftermath of the current financial crisis, government finance is beginning to take center stage in the U.S. The heart of the problem is excessive debt accumulation (Reinhart, Rogoff, 2009). According to Thomas Hoenig,

“Fiscal measures taken to bring the economy out of recession... and other growing demands placed on the federal government have invited a massive buildup of government debt now and over the next several years”(2010: 2).

The CBO's long-term debt projections do not paint a rosy picture for the current state of fiscal policies in the U.S. In one scenario, the time when debt starts rising without any sign of stabilizing, the so called "liftoff point" for federal debt, occurs shortly after 2020. By 2035, federal debt held by the public reaches 80 percent of GDP—a level only exceeded during and just after World War II. In another, more pessimistic scenario, the liftoff in debt has already begun, with federal debt held by the public reaching 181 percent of GDP in 2035, easily exceeding the peak debt to GDP ratio of 113 percent that occurred at the end of World War II (Hoeing 2010: 6).

Adding to concerns for the nation's economic prospects is the current level of private indebtedness. As with government debt in the U.S., private nonfinancial debt has grown steadily over the post-World War II period, from 40 percent of GDP in 1945 to almost 190 percent in 2009.¹⁰⁷ As stated throughout this paper, every consumer and business that is a net borrower would benefit from lower interest rates. "Also, it should not escape our notice that rising inflation would trim the real value of their indebtedness." Thus, high private indebtedness will also contribute to the political pressure on the Federal Reserve (Hoeing 2010:6).

In time, significant and permanent fiscal reforms must occur in the U.S.—"either by force of the markets or, preferably, by choice" (Hoeing 2010: 11). Actually, in managing our nation's debt going forward, Thomas Hoeing, President of the Federal Reserve Bank of Kansas City and current FOMC voting member, sees that the U.S. only

¹⁰⁷ de Rugy (2010), *supra* note 21

has three options (2010). The most desirable and least palatable politically is to act now and implement programs that reduce spending and increase revenues to a more sustainable level.

Though perhaps more tolerable politically, the next option, to institute a “stalemate” between fiscal and monetary authorities whereby the fiscal imbalance grows while the Fed maintains its focus on long-run price stability, would be damaging to the economy. Unfortunately then, the Fed has chosen the last, most expedient option: “print” money to buy government debt (Hoeing 2010).

Borrowing money is unsustainable and perceived “debt-financed” economic recovery is artificial. For the U.S., continuing a process of this magnitude of “debt leveraged stimulation” means that it is increasingly unlikely that we will be able to pay its obligations and the world will become increasingly aware of our future inability to pay. As it becomes increasingly unlikely that the sovereign debt will be paid back it will force us into one of several uncomfortable options.

“Printing” money to buy government debt has caused the Fed’s balance sheet to expand to outrageous levels¹⁰⁸ among other factors. However, just because the “Fed’s bailout is “self-financed” by expanding its own liabilities does not mean that it provides a free lunch” (White 2009b: 124). Instead, if this process goes unchecked, the outcome will be “higher levels of inflation and ultimately a loss of confidence in the value of the currency and the economy” (Hoeing 2010: 7). Since inflation is not an acceptable alternative to strong fiscal management, a government faced with rising debt levels must

therefore provide a credible long-term plan to reestablish fiscal balance (Hoeing 2010: 9). Unfortunately, however, nations often must experience a profound crisis to focus their attention on taking corrective action.

¹⁰⁸ See Figure 11: The Federal Reserve's Balance Sheet: Growing/ Changing Composition (2007–2010) in APPENDIX II

APPENDIX I: U.S. Debt Breakdown

U.S. Gross, or Total, Debt

In the U.S., gross debt, also known as total debt, is the measure that captures all of the federal government's outstanding debt, measured by outstanding bills, notes, bonds, and other debt instruments of the U.S. government. Gross debt, which totaled about \$12.3 trillion at the end of January 2010, consists of debt held by the public—\$7.8 trillion at the end of January 2010—plus debt held by government accounts—\$4.5 trillion at the end of January 2010 (GAO 2004: 5). On February 12, 2010 with no media present, President Barack Obama signed a bill which raised our gross debt limit from \$12 .394 trillion to \$14.294 trillion.¹⁰⁹

Intragovernmental Debt

Debt held by government accounts, or intragovernmental debt, represents balances in the federal government's accounts, primarily trust funds, that accumulate surpluses (GAO 2004: 8). These balances are invested in special, nonmarketable "U.S. Treasury securities" that, like debt held by the public, are guaranteed for principal and interest by the full faith and credit of the U.S. government. There is no questioning whether debt issued to government accounts affects the economy through burdens on future taxpayers and questions of program sustainability. However, intragovernmental debt does not currently compete with the private sector for available funds in the credit

¹⁰⁹ <http://blogs.abcnews.com/politicalpunch/2010/02/president-obama-signs-law-raising-public-debt-limit-from-124-trillion-to-143-trillion.html>

market (GAO 2004: 12). As such, the debt measure that is relevant in an economic sense is debt held by the public (Cashell 2009:1).

Public, or National Debt

Federal debt held by the public, or national debt, consists of all federal debt held outside federal government accounts. The term refers then to direct liabilities of the U.S. government, or the value of all federal securities sold by the U.S. Treasury to the public that are still outstanding. In other words, debt held by the public measures the cumulative amount outstanding that the government has borrowed to finance deficits. As such, debt held by the public therefore approximates current federal demand on credit markets. Federal borrowing from the public absorbs resources available for private investment and may put upward pressure on interest rates (Cashell 2009: 1).

U.S. Private Debt

Again, the literature on U.S. private debt is much less developed. Further, levels of private U.S. debt vary depending on what factors are included in the measurement.¹¹⁰ In this paper, however, total domestic nonfinancial private debt is calculated as the total household debt (home mortgage and consumer credit) and total business (corporate) debt. These figures are updated in the Federal Reserve Statistic Release, Z1.1, Flow of Funds Accounts of the United States: 9 (Q4 2009).

¹¹⁰ “Government debt has remained at a relatively consistent percentage of GDP for the past 50 years, but the debt of companies, consumers, and financial businesses has soared.” For more information see Blodget, H. (2009). “Our Debt Problem Explained,” *Business Insider*. <http://www.businessinsider.com/henry->

APPENDIX II: The Fed's Liquidity Facilities

The Fed's Liquidity Facilities

Table 7: Extraordinary Federal Reserve Measures Affecting the Federal Reserve's Balance Sheet (2007–present) ¹¹¹

TAF	Term Auction Facility	December 2007
SWAPS	Loans to Foreign Central Banks	December 2007
PDCF	Primary Dealer Credit Facility	March 2008*
Bailout of Bear Stearns	Loan through JP Morgan Chase, Maiden Lane I	March 2008*
Bailout of AIG	Loan to AIG, Maiden Lane II and III, AIA-ALICO	September 2008
AMLF	ABCP Money Mkt Mutual Fund Liq. Facility	September 2008*
CPFF	Commercial Paper Funding Facility	October 2008*
MMIFF	Money Market Investors Funding Facility	October 2008*
MBS	Mortgaged-Back Securities Purchase Program	November 2008
TALF	Term Asset-Backed Securities Loan Facility	November 2008

Source: Taylor, J. B. (2010). "An Exit Rule for Monetary Policy:" 7.
[www.stanford.edu/~johntayl/House percent20FSC percent20Feb percent2010 percent202010.pdf](http://www.stanford.edu/~johntayl/House%20FSC%20Feb%202010.pdf)

The Latest Developments

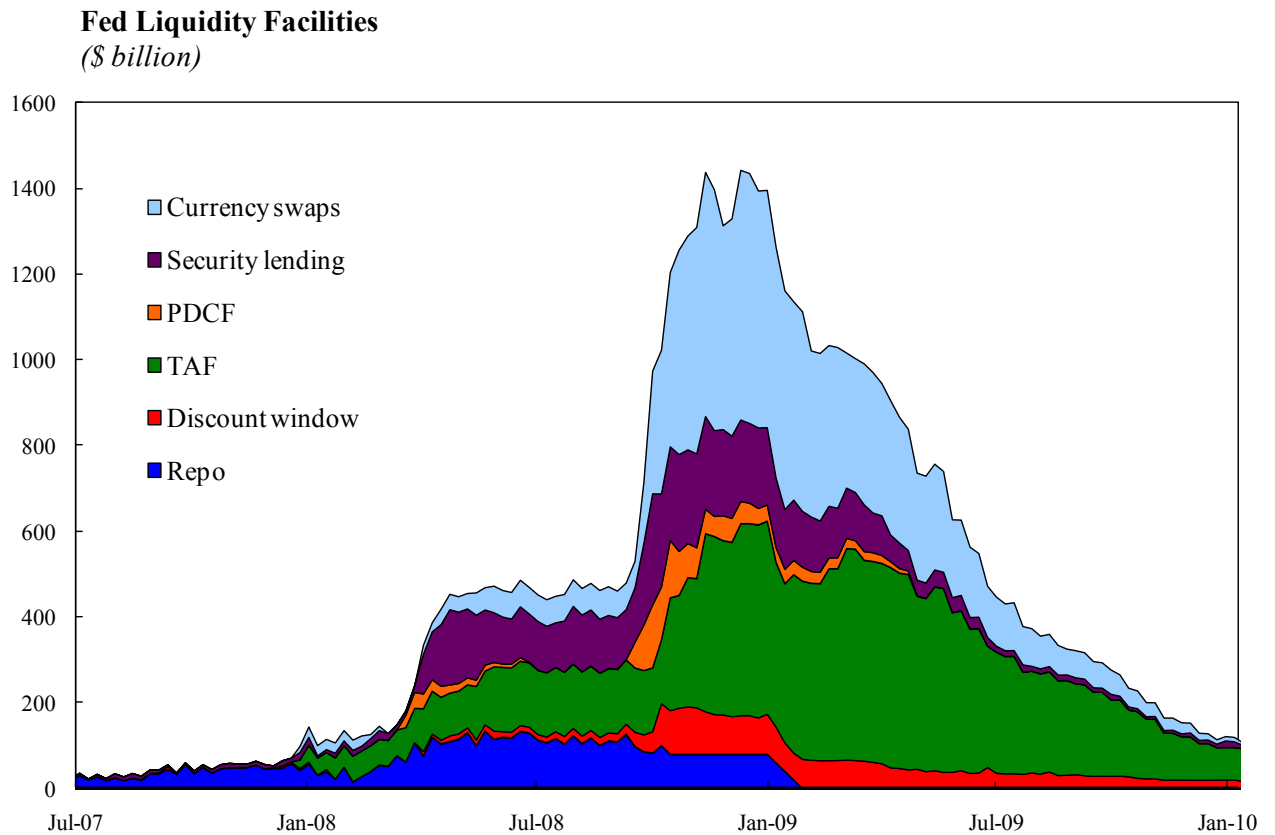
Use of many of the Fed's lending facilities has declined sharply. Some programs, including the Primary Dealers Credit Facility (PDCF), the Commercial Paper Funding Facility (CPFF), and the Asset- Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), have been closed down over the course of 2009. Others, like the Term Auction Facility (TAF) and swap facilities with foreign central banks, have contracted significantly (Taylor 2010: 1). Use of the MBS purchase program was phased

blodget-our-de-2009-4

¹¹¹ * These facilities are now closed: MMIF in October 2009 and PDCF, AMLF, CPFF in February 2010. The Fed has also purchased the debt of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks as well as longer-term Treasury securities during this period (Taylor 2010: 7).

out on March 31, 2010 but the TALF will likely continue until June 30, 2010. Still, the loans and other vehicles used to bailout the creditors of Bear Stearns and AIG are still on the Federal Reserve balance sheet and are about the same size they were a year ago.

Figure 12: The Federal Reserve's Balance Sheet: Growing/ Changing Composition (2007–2010)



Source: Haver Analytics, [www.rbifirc.org.in/downloads/.../4S percent202 percent20Krishna percent20srinivasan.pdf](http://www.rbifirc.org.in/downloads/.../4S%20percent20Krishna%20srinivasan.pdf).

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