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THE PERILS OF RISING GOVERNMENT DEBT ECONOMIC ANALYSIS OF LOOMING DEBT CRISIS

27 May 2010

Just 2 years ago, the Congressional Budget Office [CBO] was projecting a U.S. Federal budget deficit of less than \$250 billion in 2010, or 1.5 percent of gross domestic product [GDP], with a debt level just under the long-term historical average. Today, a budget deficit measured in billions seems almost quaint. CBO’s most recent tally of the likely deficit this year stands at \$1.5 trillion, just more than 10 percent of GDP, with publicly held debt exceeding 60 percent of GDP and poised to continue rising.

The sources of this swift and sharp deterioration in Federal finances are easy to identify: a deep economic recession and financial crisis shrank tax revenues while record spending across the entire government – from temporary initiatives aimed at addressing the financial crisis, to permanent expansions – caused the public debt to soar. The exact consequences of the U.S. fiscal position may be difficult to forecast precisely, but they will undoubtedly be negative. The Federal

Government’s unsustainable budget path has often been cast as a longer-term problem, or even an economic hypothetical. But fiscal risk has shifted to the foreground in recent months.

The sovereign debt crisis playing out in Greece and other highly-indebted European countries provides a cautionary tale in real time of the rough justice of the marketplace and the severe economic turmoil that can be inflicted on profligate countries. Over the past 2 years, the U.S. has seen just how quickly a severe economic and financial crisis can create a real fiscal mess. Looking ahead, that causality will likely shift, and the growing risk is that the government’s unsustainable fiscal path could suddenly engender an economic crisis.

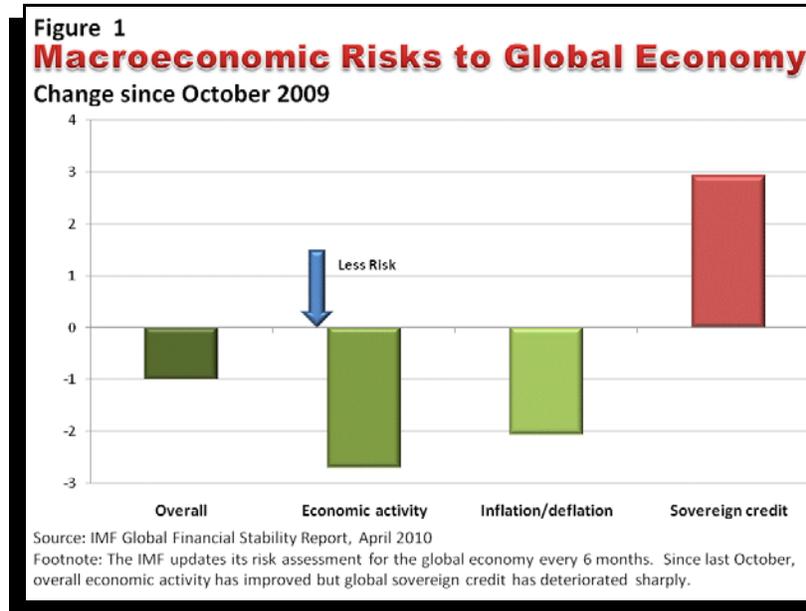
About This Paper

This analysis, prepared by the House Budget Committee Republican staff, examines the emerging debt crisis in the United States: the nature and growing threat of sovereign debt; lessons from the ongoing crisis in Greece; and warning signs and market signals that policymakers must heed to avert disaster here at home.

THE NEWEST GLOBAL FINANCIAL RISK: SOVEREIGN CREDIT

The U.S. economy began to slowly recover in 2009 from the effects of a long and deep recession and a financial crisis. GDP growth turned positive in the latter half of the year, financial markets normalized, and major credit markets began to function smoothly after an extended period of paralysis and turmoil. For most of 2010, economists have said a moderate recovery was well under way. But there is a growing risk that this budding recovery could be stunted, or even undercut, by the effects of a *new* crisis.

In many important ways, the sizeable losses recorded by the private sector throughout the previous crisis have simply been *transferred* to the public sector. While household and bank balance sheets have mended, the public balance sheet has deteriorated and sovereign risk has increased sharply (see Figure 1).



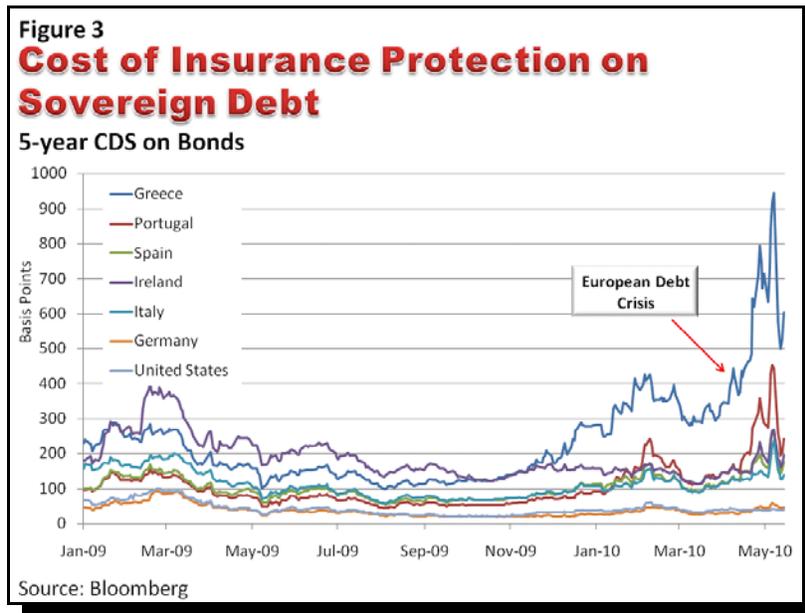
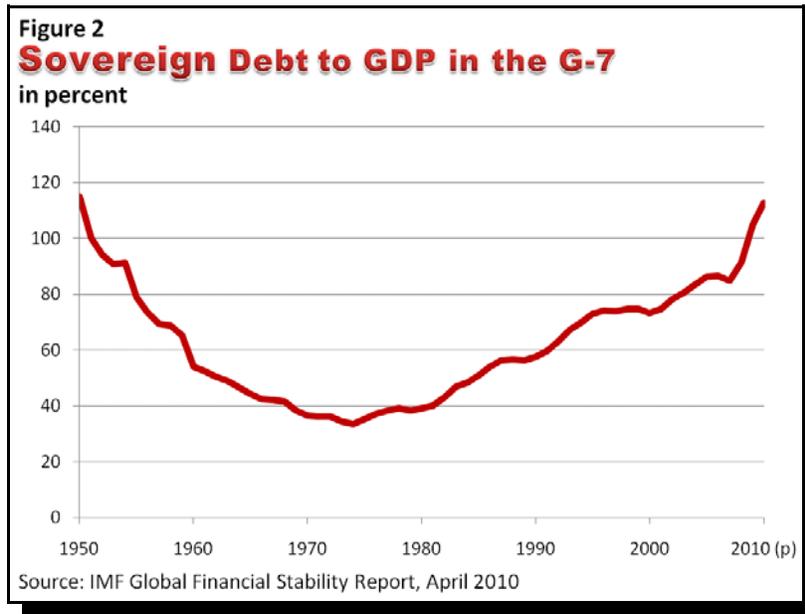
This dynamic, in fact, can be seen worldwide in most industrialized countries. Since last fall, there has been a growing concern among investors and policymakers about this worldwide increase in public debt and its potential economic consequences. As a whole, the major economies of the G-7 have collectively ramped up their debt to the highest levels in roughly 60 years (see Figure 2, next page). In its latest Financial Stability report released last month, the International Monetary Fund [IMF] stated that the recent rise in government debt worldwide is the “newest threat to the (global) financial system.”¹

Exhibit A for sovereign credit risk is Greece. The country’s road to crisis began last October, when it was revealed that a raft of accounting errors and distortions had dramatically masked its true budget deficit levels. A tally by the European Union’s statistical authority later showed the Greek budget deficit summed to a whopping 13.6 percent of GDP last year, well above the 3.7 percent that Greece originally claimed, while its total debt was 115 percent of GDP. This revision eroded the government’s credibility on fiscal matters, and weak economic growth forecasts for Greece led to severe market skepticism in the country’s ability to finance its debt.

By April, that skepticism was being forcefully communicated more or less in real time through so-called “risk spreads” in financial markets. For instance, the borrowing costs on the country’s bonds gradually rose and the price of credit protection for sovereign Greek debt (i.e. sovereign credit default swaps, or CDS) jumped, reflecting increasing market concern that the country could default on its financial commitments. By late April, the yield on 10-year Greek bonds had risen to

¹ International Monetary Fund: <http://www.imf.org/external/pubs/ft/survey/so/2010/RES042010A.htm>.

9.6 percent, or more than 6.5 percentage points above Germany's 10-year borrowing cost. A country's riskiness is typically measured by its "yield premium" over relatively risk-free debt, which, in the euro zone, is the German bund. Greek 5-year sovereign CDS rose above 7.0 percentage points, implying that the cost of insuring \$10 million of Greek bonds had jumped above \$700,000, roughly doubling in cost from earlier in the month. Prior to last fall, comparable credit protection for Greek sovereign debt was priced below \$200,000 (see Figure 3).



It is not hard to sum up Greece's core fiscal problem and why financial markets have been betting on some sort of default. The country has a large amount of debt outstanding (a portion of which will need to be rolled over soon); it continues to have large growing government spending (total government spending in Greece amounts to 50 percent of GDP); its borrowing costs are rising daily; and its means to service the debt is waning as tax revenues slip from shrinking economic growth. With €8.5 billion in debt payments coming due in mid-May, European officials feared that Greece was facing an imminent fiscal crisis. On 27 April 2010, the credit rating agency Standard & Poor's downgraded Greek debt by three notches, to "junk" status, further escalating the crisis. This marked the first time since the establishment of the euro zone that a member country lost its investment grade status.

As borrowing in global capital markets became prohibitively expensive, the European Union and the IMF were forced to cobble together a €10 billion emergency loan package to rescue Greece. The loans came with fairly strict austerity measures that would force Greece to raise taxes, cut wages, and freeze pensions of civil servants – all in the hope of narrowing the country's large fiscal gap. The strict measures sparked riots and violent demonstrations against the government that left three people dead, and a nationwide general strike promised to hobble an already weakened economy. With the Greek economy already poised to shrink this year and next, analysts began to fear the loan package would simply *delay* default. In other words, markets began to perceive that Greece's core problem was one not of liquidity (i.e. temporary inability to access funding), but of solvency (i.e. its liabilities exceed its income).

The crisis in Greece also focused market attention on the fiscal problems in other high-debt European countries such as Portugal, Italy, Ireland and Spain. These countries, collectively known as the "PIIGS," saw their bond yield premiums rise and credit protection on their sovereign debt increase as the problems in Greece crystallized (see Figure 3 on previous page) – an effect particularly acute in Portugal and Spain. Standard & Poor's also lowered the credit rating for both Portugal and Spain shortly after it downgraded Greece. It soon became clear that the increased scrutiny of sovereign risk was driving up borrowing costs on these already high-debt countries, causing a domino effect that could harm multiple economies and further imperil their fiscal positions. As warning signs began to flash in multiple countries, a top fixed income analyst in Europe remarked that "what you could be looking at unfolding is the European sovereign version of the Lehman crisis."²

Mounting fears of debt-induced contagion throughout Europe were not overblown. The IMF, for instance, points to important linkages between sovereign debt and domestic banks, meaning that a seemingly isolated debt problem could quickly lead to systemic financial turmoil. For instance, European banks hold hundreds of billions of dollars worth of bonds issued by sovereigns such as Greece, Portugal, and Spain. If one of these countries defaulted on its bonds, or restructured them (i.e. lowered their value through a discount, or "haircut"), major European financial institutions holding these bonds would take a large hit to their assets. At the same time, bank funding costs would tend to rise along with higher sovereign borrowing costs. This dynamic would have restricted credit throughout Europe and lowered growth and employment just as an economic recovery from the previous financial crisis was starting to materialize. In fact, as the possibility of contagion increased, borrowing rates in short-term inter-bank lending markets began to rise, a sign that perceived risk among financial counterparties was growing. This same type of risk

² *The Wall Street Journal*: "Crisis Spreads in Europe," 28 April 2010.

caused credit markets to virtually shut down during the financial crisis in 2007-08. Then, markets were concerned about the true value of banks' holdings of subprime-related paper. Now, markets became concerned about the true value of banks' holdings of sovereign debt.

Figure 4

PIIGS vs. U.S

<u>Country</u>	<u>Spending¹</u> <u>(% of GDP)</u>	<u>Debt²</u> <u>(% of GDP)</u>
Portugal	51%	77%
Ireland	48%	64%
Italy	52%	116%
Greece	50%	115%
Spain	46%	53%
US	38% ³	53% ⁴

1. Data from Eurostat, total general government expenditure as % of GDP, unless otherwise noted.
 2. Data from Eurostat, general government consolidated gross debt as % of GDP, unless otherwise noted.
 3. Includes federal, state and local spending.
 4. Debt held by the public as measured by the Congressional Budget Office.

The brewing debt crisis also promised to affect the balance sheet and operations of the European Central Bank [ECB], because sovereign debt often serves as the collateral for many ECB loans (just as U.S. Treasury bonds are common collateral for Federal Reserve loans). To the extent that Greek, Spanish, and Portuguese debt declines in value as credit downgrades continue, the ECB would technically be left with mark-to-market losses on these loan portfolios.³ In the end, the ECB was forced to relax its collateral restrictions on its loans, announcing it would continue to accept Greek debt despite its downgrade to junk status.

Given these cross-country linkages among public debt, private banks, and even central banks, it was clear the increase in sovereign credit risk posed an important threat to global financial markets.

As pressure grew to take bolder action to halt a possible contagion in Europe, the EU and IMF finally approved a shockingly large rescue package – €750 billion, or nearly \$1 trillion – to stem the crisis before markets opened on the 10th of May. This “shock and awe” move by European policymakers was intended to reassure financial markets that no European country would be allowed to default on its public debt. One-third of the European rescue package, or €250 billion, will be funded by the IMF. The package will also include a €440-billion special-purpose vehicle [SPV], dubbed the “European Financial Stabilization Mechanism,” which would be financed through borrowings guaranteed by euro zone governments.

³ *The Wall Street Journal*: “Greek Crisis Poses ECB Risk,” 28 April 2010.

Perhaps more important, the ECB announced it would start buying up euro zone government bonds, a move that it had once staunchly resisted. (The ECB's relaxation of its collateral rules and its decision to buy euro zone bonds damaged its credibility with markets. It gave the impression that the ECB may be more focused on bailing out euro zone countries than controlling future inflation and protecting the value of the currency. This, in turn, has contributed to the decline of the euro over the past month.) The ECB's bond purchases, meant to stem the rise in borrowing costs of high-debt European countries, had its intended impact, as bond yields on Greek, Portuguese, and Spanish debt fell sharply. Sovereign CDS also fell sharply, indicating that the risk of default on these bonds had declined, at least temporarily.

As analysts digested the overall package, they began to see it was built on a faulty premise: that a debt crisis could be fundamentally resolved by simply issuing more debt.⁴ In other words, European policymakers have simply *shifted* the task of borrowing from individual countries with suspect credit ratings to a collectively guaranteed SPV, which does not resolve lingering solvency concerns. Ultimately, European countries will have to rein in their sizeable budget deficits by curbing spending and by sparking more economic growth – which is a tall task. The large rescue package may also create a type of moral hazard – European countries may have *less* incentive to reconcile their public finances, knowing that a common fund will bail them out if they run into trouble in the future.

Markets are beginning to perceive that the large debt burdens in various countries worldwide could very well derail the global economic recovery. Investors are moving away from perceived risky assets and, ominously, credit markets are showing signs of stress, a replay of some of the market moves that preceded the previous financial crisis. Institutional investors appear to be avoiding the euro zone while some central banks are shifting their foreign exchange reserves away from the euro, pushing the currency to a 4-year low. The U.S. has not been immune to this turmoil, as the stock market has fallen 10 percent from its most recent peak – an official “correction.” This past week, a headline in *The Wall Street Journal* announced that fear had officially returned to markets, noting “the collapse of the Keynesian policy bubble,” which could very well create a new financial panic.⁵

For now, the debt turmoil in Europe has had some benefits for the U.S., as global investors seek the safety of U.S. Treasuries and swap euros for dollars. Treasury bonds have temporarily rallied in the midst of the crisis, leading to lower yields (i.e. lower borrowing costs for the government) while the dollar has climbed to a 4-year high against the euro. Given the precarious fiscal position of the U.S., however, it is only a matter of time before the same negative market forces gripping Europe begin to be felt in America.

THE U.S. FISCAL POSITION: CAUSE FOR CONCERN

Earlier this year, consulting firm McKinsey and Company's research arm released a comprehensive study of the economic consequences of debt and deleveraging as they apply to major sectors of the global economy, including government. The study lays out some useful metrics for gauging the overall riskiness of the government sector, including the level and growth

⁴ *The New York Times*: “A Trillion for Europe, with Doubts Attached,” 11 May 2010.

⁵ *The Wall Street Journal*: “The Fear Returns,” 21 May 2010.

of its leverage, its debt service capacity, and its vulnerability to funding and interest rate shocks.⁶ These, and other metrics, show the U.S. fiscal trajectory is fundamentally unsustainable and is at growing risk of suffering a negative market shock.

Level and growth of leverage. Like a household or business, a government's leverage is best captured by the level of its debt in relation to its income. The U.S. government's leverage – publicly held debt as a share of GDP – will exceed 60 percent this year. If this were a temporary rise in the debt, it would not be as alarming. But due to the recent expansion in Federal spending combined with the beginning of the retirement of nearly 80 million baby boomers, the debt continues to rise. According to the CBO's analysis of the President's budget, the debt will reach 90 percent of GDP by 2020. In dollar terms, the level of U.S. debt will triple from \$5.8 trillion in 2008 to \$20.3 trillion by the end of the decade. This large increase in debt is unsustainable because its growth exceeds that of the overall economy. As a result, debt service costs absorb an increasing share of national income and the country must borrow an increasing amount each year to both fund its ongoing services and make good on its previous debt commitments. For this reason, economists generally caution that government leverage in excess of 60 percent of the economy is not sustainable for an extended period of time.

Debt service capacity. McKinsey quantifies the debt service capacity of governments in terms of interest payments as a share of overall tax revenue. As interest payments rise as a share of incoming revenue flows, the government has less funds available for other types of spending. U.S. interest payments as a share of tax revenue will amount to roughly 10 percent this year. But as interest rates increase from their current historically low levels, and the amount of U.S. debt continues to increase, interest payments rise to more than 20 percent of tax revenue by 2020, according to CBO. That means that by the end of the decade, one in five tax dollars will need to be dedicated to making interest payments. In dollar terms, the Nation's interest bill will rise from just more than \$200 billion this year to \$916 billion in 2020. If interest rates increase by a higher-than-expected amount in the future, as they are at risk of doing given the glut of government borrowing and ongoing sovereign risks, the Nation's interest payments could be much higher. In fact, analysts at Pacific Investment Management Company [PIMCO], the world's largest bond fund, believe yearly U.S. interest payments could exceed total discretionary spending (i.e. nearly \$1.5 trillion) by 2020 if U.S. leverage is not stabilized in the coming years.⁷ Last year, the CBO estimated the impact of three scenarios of higher interest rates and concluded they would add between \$1.2 trillion to \$5.3 trillion to the 10-year deficit projections.⁸

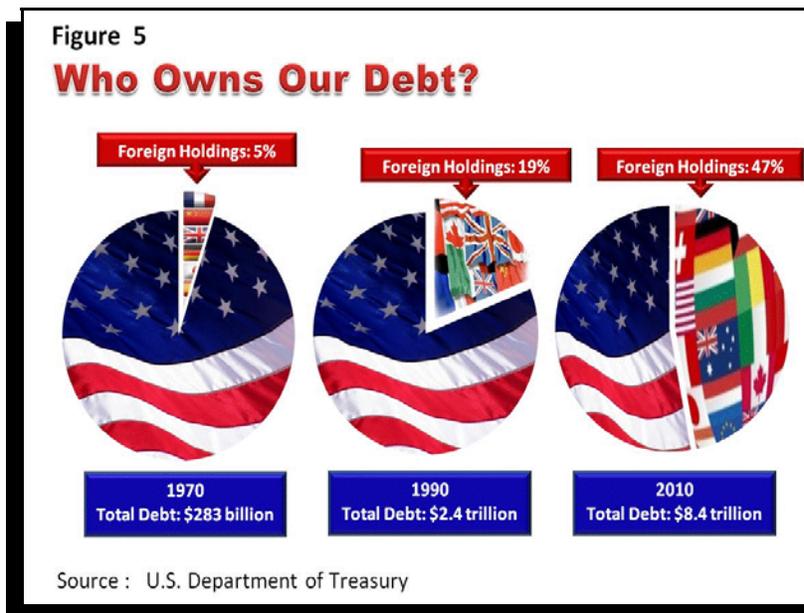
Reliance on foreign debt and vulnerability to interest rate shocks. U.S. reliance on foreign creditors has increased dramatically over the past few decades. Foreigners now own roughly *half* of all publicly held U.S. debt, a sharp increase from a generation ago when foreigners owned just 5 percent of U.S. debt (see Figure 5, next page). This makes the U.S. vulnerable to a sudden shift in foreign investor sentiment, particularly during a time of crisis. If foreign investors, for instance, begin to lose confidence in U.S. fiscal sustainability and long-term economic viability (including the level of inflation and value of the dollar), the result could be a sizeable increase in interest rates as foreigners would demand higher compensation to offset the perceived risk of

⁶ McKinsey study: http://www.mckinsey.com/mgi/publications/debt_and_deleveraging/index.asp.

⁷ PIMCO viewpoints: "Sovereign Credit Risk is The Risk Factor *Du Jour*" February 2010.

⁸ Congressional Budget Office letter to Representative Paul D. Ryan, 30 June 2009.

holding U.S. debt. During the financial crisis, foreigners flocked to Treasury debt in a “flight to quality,” which helped to keep U.S. borrowing rates at record low levels. But these investment flows work both ways, as Europe’s debt crisis illustrates. As risk perceptions change, particularly with regard to sovereign credit, investors could seek to avoid U.S. debt, thereby helping to drive up interest rates. Economists at Morgan Stanley, for instance, believe the yield on the 10-year Treasury could jump to 5.5 percent by year’s end from its current level well under 4 percent, partly due to the large Treasury bond supply that is flooding global debt markets.⁹ To put that risk in perspective, a sustained increase of just 1.0 percentage point on U.S. borrowing rates would cost in excess of \$100 billion per year over the medium term, and would sum to \$850 billion over the course of a 10-year budget window.¹⁰

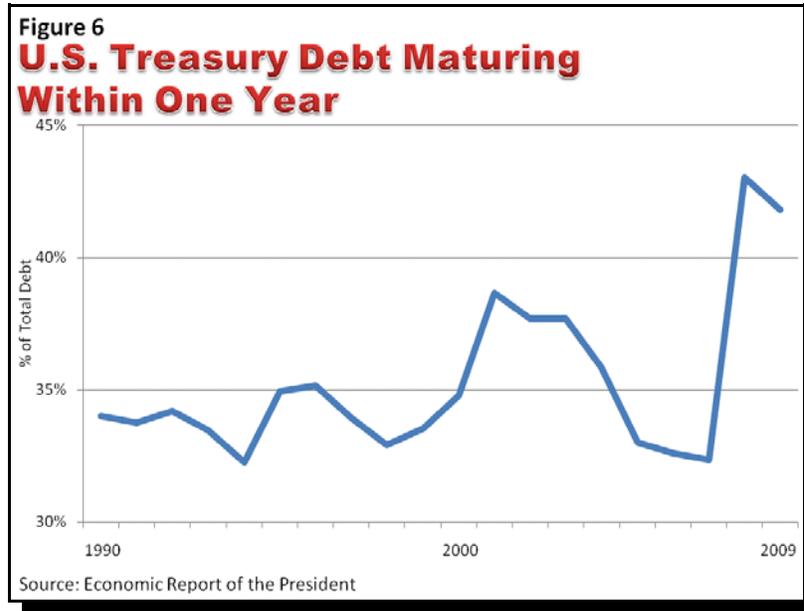


Maturity timeframe of outstanding debt, or ‘roll-over’ risk. Governments that have relatively high shares of shorter-maturity debt outstanding are at higher risk of sudden interest rate increases, because more of their debt needs to be rolled over when rates are moving upward. That can exacerbate an already precarious fiscal situation. During the financial crisis, the Treasury issued a sizeable amount of relatively shorter-term debt to better manage its cash flow for emergency spending needs, and to take advantage of record-low short term rates. This large short-term issuance caused the average maturity on total Treasury debt to reach a 25-year low of just more than 50 months in 2009. That means a sizeable portion of the Treasury’s outstanding debt will need to be rolled over in the next year or two, precisely when longer-term interest rates will likely be moving higher (due to both strengthening economic activity and concerns about U.S. debt). As of late last year, roughly 43 percent of U.S. debt needed to be rolled over within 12 months, the highest proportion since the mid-1980s (see Figure 6, next page). The relatively short maturity of

⁹ *The Wall Street Journal*: “Two Treasury Forecasts: a Grand Canyon-Size Gap,” 10 April 2010.

¹⁰ Office of Management and Budget, *Analytical Perspectives: Budget of the U.S. Government – Fiscal Year 2011*, Table 3-1: Sensitivity to the Budget to Economic Assumptions.

outstanding Treasury debt, coupled with the increased reliance on foreign creditors, puts the U.S. at greater risk of sharply higher borrowing costs should risk perceptions change abruptly in credit markets.¹¹



STATE FISCAL WOES: 50 GOVERNMENTS ‘TOO BIG TO FAIL’

The vast majority of U.S. States are also facing nearly unprecedented budget pressures as a result of the recession and financial crisis. The sharp decline in home prices, for instances, has devastated property tax revenue in pockets of the country, while the decline in economic activity and consumer spending has led to a falloff in revenues from State sales taxes and income taxes.

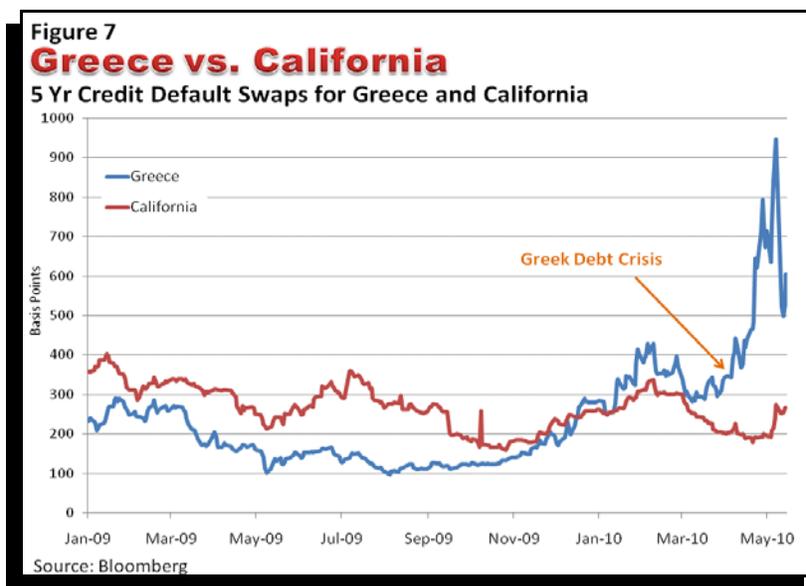
Many States and localities increased spending as property tax collections rose due to home price increases during the bubble years. When revenues plunged, they faced large shortfalls. Unlike the Federal Government, 49 States are legally required to balance their budgets each year, meaning they need to close any fiscal gaps by cutting spending or raising taxes. (Vermont has no such requirement, but in practice typically balances budgets anyway.) Increasingly, though, States are relying on aid from the Federal Government.

As part of the “stimulus” bill enacted in February 2009, for instance, roughly \$140 billion was transferred to States to patch up their finances. These “stimulus” funds are scheduled to end by year’s end, but large mismatches between spending and revenue, particularly in states and localities with large budgets, are likely to persist. According to the Center on Budget and Policy

¹¹ The Treasury is also ramping up its issuance of inflation-protected securities (so-called ‘TIPS’) from \$58 billion last year to roughly \$85 billion in 2010. Increased TIPS issuance increases the government’s debt payments when inflation spikes because, unlike standard Treasury bonds, the interest payments are linked to future price increases. To the extent that rising debt leads to greater future inflation, the government will have increased debt costs as it issues more TIPS relative to standard Treasury bonds.

Priorities, States will face a fiscal gap of roughly \$300 billion over the next 2 fiscal years alone.¹² The Federal Government is facing increasing pressure to cover a portion of this shortfall.

Financial markets have expressed their concern over State finances in the same way they have expressed concern about European countries – by driving up the cost of insurance on the debt they issue. Before the recession, the price of insurance on State bonds was only moderately higher than that of the U.S. Government. Recently, CDS on the municipal bonds of U.S. States facing particularly difficult fiscal circumstances have increased notably. California has experienced the most trouble, as it has had to deal with gaps exceeding 50 percent of its general fund budget this past year. In fact, throughout most of 2009, the price of default protection on California’s State bonds *exceeded* those of Greece (see Figure 7). Some analysts have dubbed it “the subprime State.” Other States in dire fiscal straights include Illinois and Michigan (affected by slowdowns in industrial and automotive production); New York and New Jersey (affected by a significant slowdown in financial sector profits); and Florida and Nevada (affected by bursting of the housing bubble)¹³ (see Figure 8, next page).



Despite the rise in these CDS, there would be significant pressure to avoid a U.S. State “failing” or “defaulting” in any conventional sense. Investor Warren Buffet said this month that the Federal Government would have to bail out States in extreme fiscal distress after bailing out troubled private-sector companies such as General Motors.¹⁴

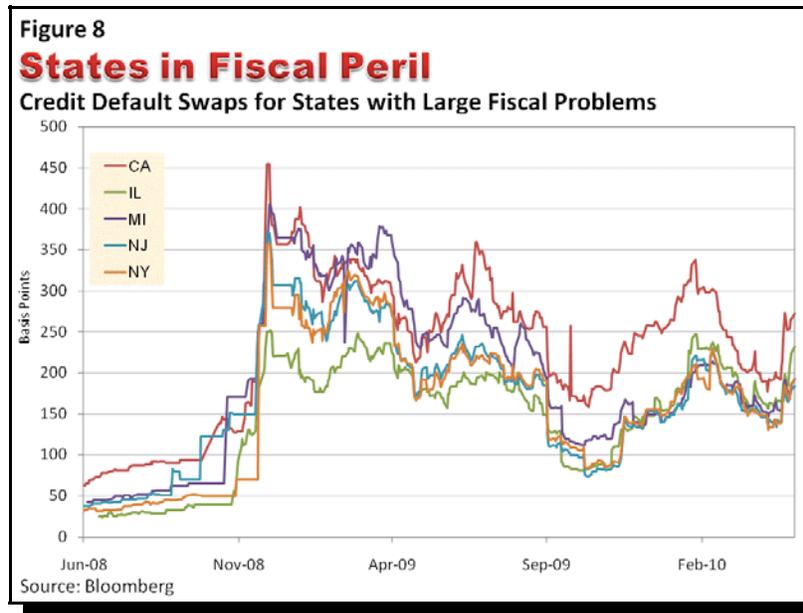
Also, unlike Greece’s position within the euro zone, many of the States experiencing fiscal distress are vital to the U.S. economy. California, for instance, accounts for nearly one-fifth of

¹² Center on Budget and Policy Priorities: *Recession Continues to Batter State Budgets*, 25 February 2010.

¹³ Barclays Capital: *U.S. Municipal Credit Default Swaps*, January 2010.

¹⁴ *Bloomberg News*: “Buffet: US can bail out States, insurers pained,” 1 May 2010.

U.S. economic output. If California were a country, it would be the eighth largest economy in the world. Bill Gross of PIMCO believes that allowing the failure of such a State, or even a large municipality, would be “unthinkable.”¹⁵



But any rescue of a U.S. State will not be dramatic and overt like the European rescue of Greece. Rather, the Federal Government’s State bailout is likely to be *implicit* and gradual. A partial rescue could take the form of an extension in State “stimulus” spending (mainly increased Medicaid and education funding), which would effectively close a portion of States’ fiscal gaps. It could also be achieved through smaller, piecemeal legislation; for instance, the forthcoming war supplemental bill, like the tax and spending “extenders” legislation, is expected to include billions in “emergency State funding.” Either way, this implicit bailout means the Federal Government will likely have to borrow hundreds of billions more in the next few years to plug State budget shortfalls, exacerbating the country’s public debt problem.

These current bailouts also could soften the resolve of some States to address the sizeable unfunded pension obligations they will soon face. The pension funds in particularly troubled States could begin to dry up by the end of this decade. If the State pension fund system is left unreformed, the Federal Government could face a \$1-trillion bailout tab to eventually make these State funds solvent, according to a new study by a Northwestern University finance professor.¹⁶

¹⁵ PIMCO *Investment Outlook*: “Andrew Mellon vs. Bailout Nation” January 2009.

¹⁶ Joshua D. Rauh, Northwestern University and the National Bureau of Economic Research: *Are State Pensions Sustainable? Why the Federal Government Should Worry About State Pension Liabilities*, 15 May 2010.

ECONOMIC EFFECTS OF RISING DEBT: INTERNATIONAL AND HISTORICAL EVIDENCE

Economists Kenneth S. Rogoff and Carmen M. Reinhart recently completed a landmark study that looks at the historical relationship among public debt, GDP growth, and inflation in a variety of advanced and developing countries. The study uses new data from 44 countries and spans roughly 200 years.

The authors found conclusive empirical evidence that when *gross* public debt exceeds 90 percent of GDP in these countries, economic growth declines materially. Among the 20 advanced countries in the study, for instance, average annual GDP growth comes in at 3 percent to 4 percent when debt is relatively moderate or low (i.e. under 60 percent of GDP), but it dips to just 1.6 percent when debt is high (i.e. above 90 percent of GDP).¹⁷ Note that this academic study focuses on *gross central government debt*, which is most akin to the concept of total public debt in the U.S.¹⁸

The study also disaggregates the data to focus solely on the growth and inflation effects of debt levels in the United States throughout the country's entire history (i.e. 1790 to 2009). As Figure 9 on the next page illustrates, average economic growth is dramatically lower when gross U.S. debt exceeds 90 percent of GDP. For the years in which gross debt has exceeded 90 percent of the economy, Rogoff and Reinhart found that median GDP growth has declined by nearly 1 percent on average. When gross debt is below 90 percent of the economy in the U.S., median GDP growth tends to range between the robust levels of 3 percent to 4 percent a year.

Notably, the study also finds that average inflation rates jump sharply higher when gross debt exceeds 90 percent of the economy in the U.S. Under such a high debt scenario, inflation reaches nearly 6 percent a year in the U.S., on average, compared to the normal 2-percent to 3-percent rate of inflation when debt is at more moderate levels. Essentially, the Rogoff and Reinhart study finds that gross debt above 90 percent in the U.S. is associated with "stagflation" – a toxic mix of shrinking economic growth and rising inflation.¹⁹

This analysis is important because the U.S. is quickly moving toward this "tipping point" threshold on debt. Figure 10, from well-known bond fund manager Bill Gross of PIMCO, shows the U.S. has very similar levels of debt and deficits to some of the so-called "PIIGS" countries that are currently embroiled in crisis. The chart portrays *gross* U.S. government debt, consistent with the international comparisons and historical analysis in the Rogoff/Reinhart study.

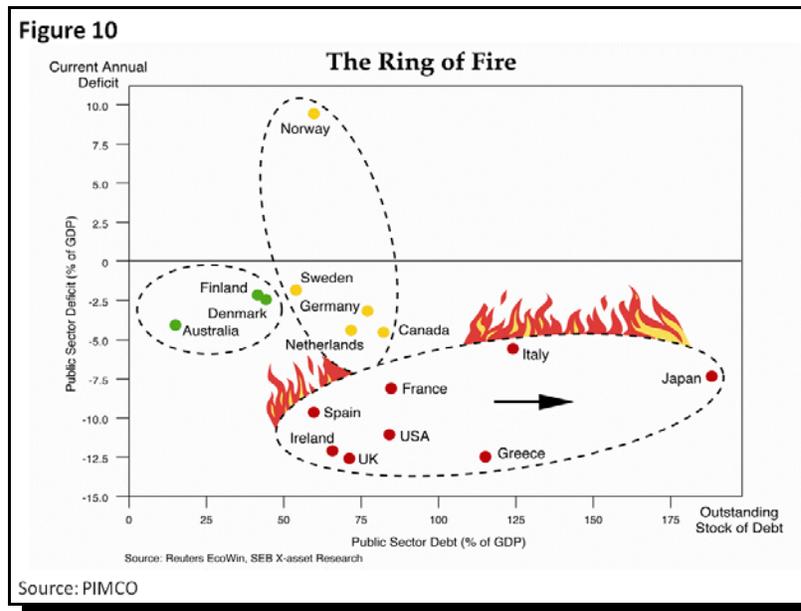
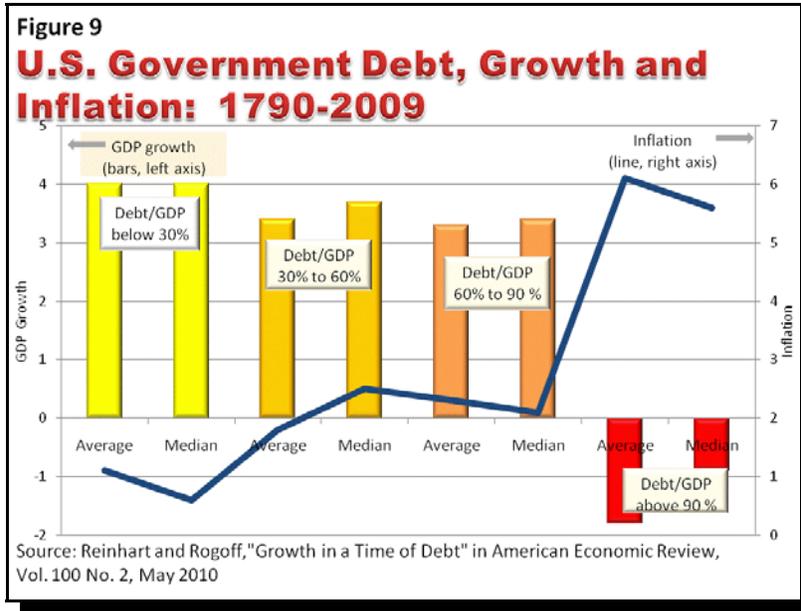
This measure of U.S. debt is currently right at the 90-percent tipping point. Gross points out that the U.S. has joined countries in the dangerous lower right-hand quadrant of this chart, which he

¹⁷ Rogoff/Reinhart: *Growth in a Time of Debt*, an NBER Working Paper, January 2010, page 25.

¹⁸ Total public debt in the U.S. includes the debt recorded in intra-governmental accounts like the Social Security Trust Fund. In contrast, debt held by the public, a net concept, measures the debt held by entities in the private economy and excludes the debt in these intra-governmental accounts.

¹⁹ Note that the study does not find a correlation between high government debt and sharply higher inflation among *all* industrialized countries, just the United States.

dubs as the “ring of fire,” and has moved away from more fiscally sound countries. Partly for this reason, Gross is advising his fixed-income clients to invest in German and Canadian bonds and to avoid countries such as Britain and U.S. in the “ring of fire.”²⁰



²⁰ PIMCO *Investment Outlook*: “The Ring of Fire,” February 2010.

WARNING SIGNS TO LOOK FOR IN FINANCIAL MARKETS

Despite the U.S. government's poor fiscal condition, Treasury bonds are still the benchmark of risk-free credit in the world. But the U.S. cannot guarantee it will enjoy the confidence of investors at home and abroad forever, especially as it follows an unsustainable fiscal path while failing to outline a concrete plan to rein in deficits and debt. Financial historian Niall Ferguson, for instance, believes America is not immune to its own debt crisis. In a recent opinion piece in the *Financial Times*, Ferguson says that "U.S. Government debt is a safe haven the way Pearl Harbor was a safe haven in 1941."²¹ If in fact a fiscal storm is heading to America, the following financial market indicators will be important to watch to gauge potential changes in sentiment on U.S. public finances.

Treasury auctions. The Treasury is issuing billions of dollars of debt each week, and the concern in the market is that one day this steady supply of debt could begin to outstrip demand. Although it is highly unlikely that a Treasury bond auction would abruptly "fail" outright, there are key indicators that would signal waning demand for Treasury debt among investors. Bond experts, for instance, typically watch the difference between the yield that debt trades prior to auction and the yield required to clear the market at auction – the so-called auction "tail." (For example, if the 10-year Treasury note traded at 3.5 percent before the auction, but the clearing bid to sell all the debt at auction was 3.6 percent, the tail would be 10 basis points.) A large auction "tail" would be a sign of declining interest from the market. The Treasury also reports the bid-to-cover ratio for each auction, which is the number of market bids received relative to the number of bids accepted. Treasury auctions typically have a bid-to-cover ratio of 2 or higher, which means there are at least twice as many bids for U.S. debt than the number accepted. This is a sign of aggressive bidding and robust demand. When the bid-to-cover ratio dips below 2.0, however, it tends to indicate the Treasury had problems selling its debt.

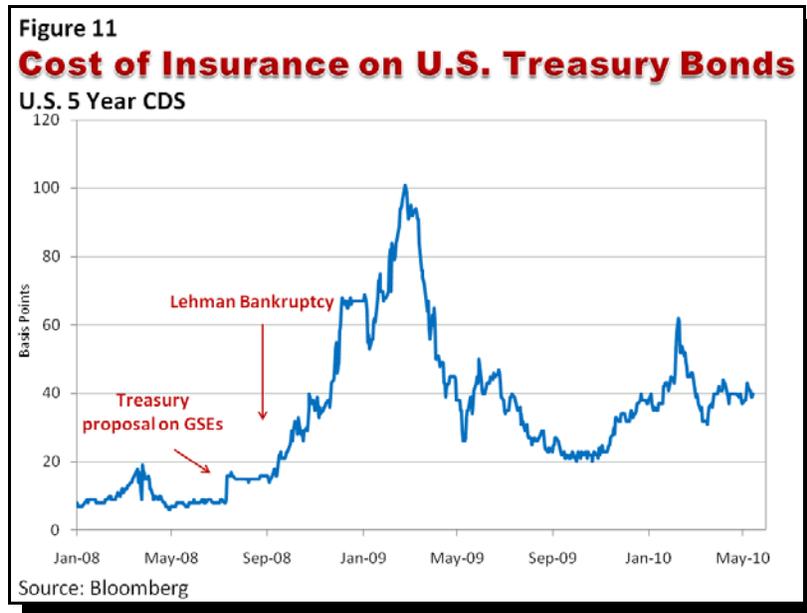
Finally, the share of foreign investors who purchase Treasury debt at auction is also important, as this group accounts for a significant share of market demand. A proxy for this group are the so-called indirect bidders at a Treasury auction. Indirect bidders accounted for roughly 36 percent to 40 percent of auction demand for most of last year. If this share begins to slip significantly, it could be an early sign of changing market sentiment for U.S. debt among foreign investors.

Credit default swap, or CDS, spreads. CDS are insurance-like derivative products that offer protection against bond defaults. CDS spreads essentially measure the current market price of insurance against default. When the market perceives a bond is at an increased risk of default, the CDS written on those bonds will increase in price. For instance, a 5-year CDS spread of 100 basis points means the cost of credit protection on \$10 million of bonds is \$100,000 per year, which in turn implies the market believes there is a 5-percent chance the bond issuer will default over the 5-year period. In this way, sovereign CDS spreads can be an early warning market indicator on a country's perceived fiscal health. In fact, sovereign CDS changes tend to anticipate bond price changes in most markets and CDS liquidity and volumes tend to increase before a crisis whereas bond market activity often shrinks. These qualities make CDS movements an important leading indicator of sovereign risk.²²

²¹ *Financial Times*: "A Greek Crisis is Coming to America," 10 February 2010.

²² Deutsche Bank Research: *The CDS Market: A Primer*.

One potential downside is that the market for CDS on U.S. Treasury debt is relatively small (notional amount represents less than 1 percent of outstanding Treasury bonds) and illiquid. CDS are also used for hedges and speculative positions unrelated to pure default protection. Therefore, price movements can be driven by factors other than market perceptions about default. Still, sovereign CDS spreads are highly useful real-time credit indicators. For instance, after the Lehman collapse in September 2008, and the subsequent Troubled Asset Relief Program rescue proposal, U.S. Treasury CDS spreads rose sharply due to concern about the worsening fiscal outlook.

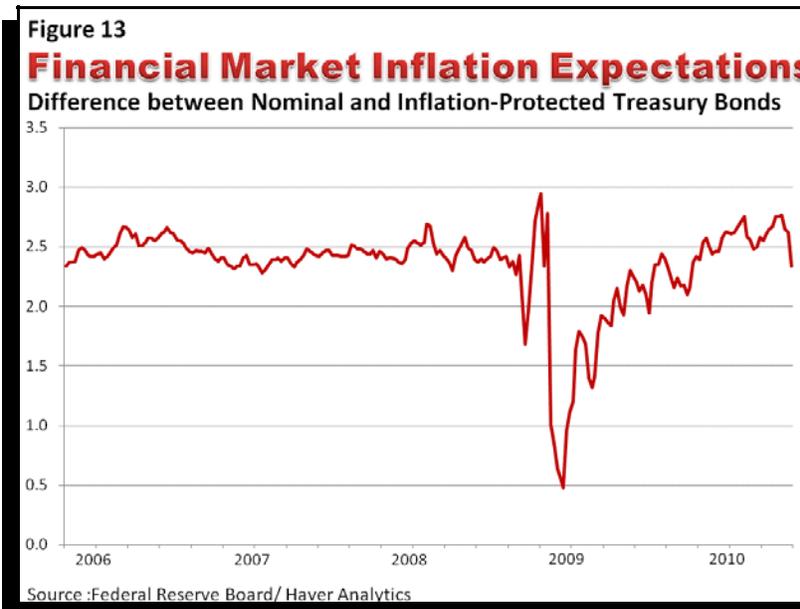
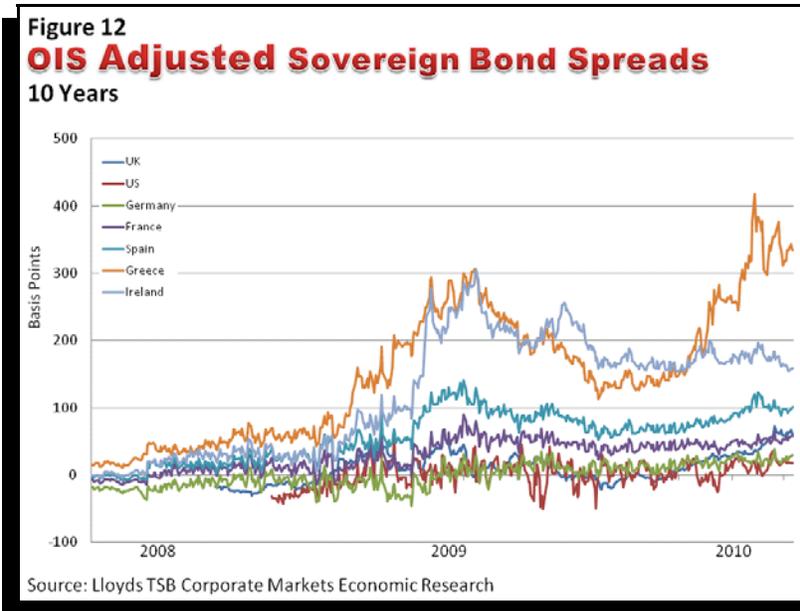


Swap-adjusted sovereign credit spreads. This indicator measures the credit risk on sovereign bonds relative to the overnight index swap rate [OIS], the benchmark cost of risk-free overnight money. OIS-adjusted spreads are probably the “cleanest” measure of sovereign risk available.²³ The swap-adjusted spread for the U.S. has risen somewhat this year, but is roughly on par with Germany, Europe’s most credit-worthy sovereign, and remains well below the levels of other highly-indebted countries (see Figure 12, next page).

Treasury yields. The clearest indicator of market stress could be the yield on the 10-year Treasury. A rising yield could indicate lower demand for Treasury bonds among investors, or nervousness about future rates of inflation (inflation erodes the real value of fixed income). But rising bond yields are also a common market sign of economic recovery, so it is important to look at other market signals to determine whether rising yields are driven by economic optimism or concern about growing U.S. debt.

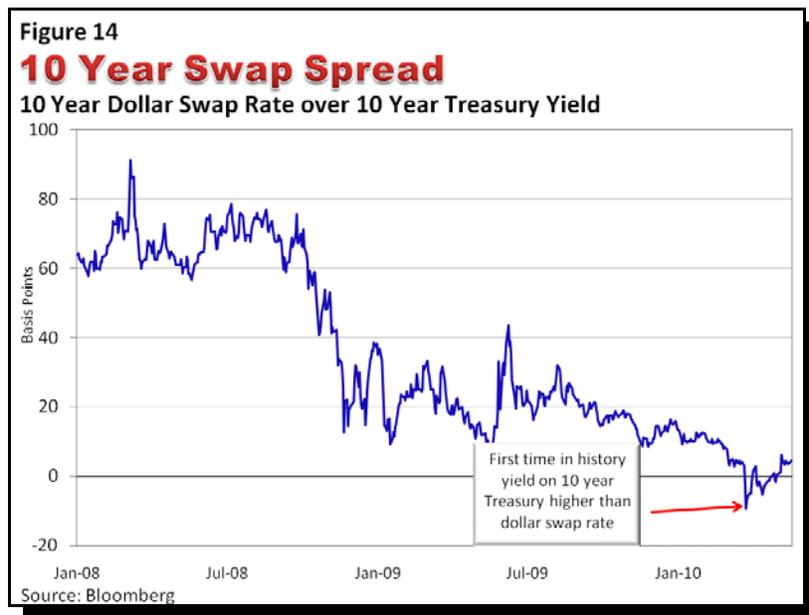
²³ *Lloyds TSB Economics Weekly*: “Sovereign Credit to remain in the spotlight?” 8 March 2010.

TIPS spreads. A key measure of inflation expectations among U.S. bond market investors is the difference between the yield on nominal Treasury bonds and the yield for Treasury inflation-protected securities, or “TIPS.” This difference is a gauge of investors’ beliefs about future U.S. inflation rates. A growing spread between nominal Treasuries and TIPS would indicate that investors are concerned that U.S. fiscal and monetary policy could lead to higher inflation in the future. These spreads have moved higher throughout 2009 as deflation fears subsided, but are currently “well anchored” for the time being at a normal long-term inflation expectation of about 2.5 percent (see Figure 13).



Treasury swap spreads. The swap spread essentially represents the slight premium that highly-rated financial institutions must pay to borrow money in credit markets compared to the U.S. Treasury. In late March, this spread turned negative for the first time ever, signaling, at least ostensibly, that the market was attaching more credit risk to Treasuries than to high-quality private financial institutions (i.e. the yield on the 10-year Treasury was higher than the dollar swap rate).

In the end, the negative swap rate likely boiled down to temporary technical factors in the bond market, but the spread bears watching for sustained trends as it could be a “canary in the coal mine” for the Treasury market.



IMPACT OF A U.S. DEBT CRISIS ON FAMILIES, BUSINESSES, AND FINANCIAL INSTITUTIONS

The warning signs in financial markets would merely be a harbinger of the real economic pain that would eventually be felt by U.S. families and businesses in the event of a debt crisis. Market concern about the U.S. fiscal position initially would be manifested in higher borrowing rates on U.S. government debt.

That rise in interest rates would increase the economy-wide cost of credit in the U.S., as nearly all consumer borrowing rates are linked in some respect to longer-term Treasury rates. As Treasury rates increase, rates on mortgages, credit cards, and car loans will soon follow. This will most likely come as a shock to most Americans who have grown accustomed to building up a great deal of debt in a climate of historically low interest rates.²⁴

²⁴ *The New York Times*: “Interest rates have nowhere to go but up,” 10 April 2010.

Despite the increase in saving rates that has occurred in the wake of the financial crisis, U.S. households are still heavily leveraged: they have more than \$13 trillion in debt, or roughly 120 percent of their total disposable income. A large portion of that total debt is home mortgages, while the rest is credit card debt, auto loans, and margin debt. It turns out that roughly *half* of all that debt is in the form of variable interest rate loans, meaning that a sudden increase in Treasury bond rates would lead to higher borrowing costs for consumers relatively quickly. According to the current level and composition of U.S. household debt, estimates suggest that an interest rate increase of just 1 percentage point would lead to more than \$400 in yearly interest payments for the average family.²⁵ Given that a serious debt crisis could lead to a sharp increase in Treasury rates, the added interest costs for the typical family could easily exceed \$1,000 per year or more. As household borrowing costs spiked, growth in overall consumer spending, which accounts for nearly 70 percent of GDP, would decline.

Higher borrowing costs would also serve as a serious impediment for businesses. The rise in interest rates would lead to lower business investment as companies would face a much higher hurdle rate for profitability on potential expansion plans. Businesses would be doubly squeezed because as their funding costs were rising, demand for their products (particularly consumer-durables bought on credit, such as cars, home furnishings, and the like) would also be slipping as consumer spending tailed off. The inevitable result would be less business expansion and higher unemployment.

At the macroeconomic level, the risk is that the U.S. could eventually reach a “tipping point” on its debt levels, precipitating a sudden change in investor sentiment and behavior. If, for instance, market psychology changes and foreign investors suddenly begin to lower their demand for U.S. debt, or even move out of dollar-denominated assets more generally, interest rates could spike to dangerous level, forcing the U.S. to make immediate and painful fiscal adjustments (like the austerity program that has provoked riots in Greece).

Facing the inability to borrow at a reasonable rate in the market, the U.S. would have to slash government spending and raise taxes to narrow its large fiscal gap. In such a crisis, the Federal Reserve may also face rising pressure to step in and “monetize” the government’s debt – essentially printing money to buy up the public debt that private investors refuse to finance. Leonard E. Burman, former director of the bipartisan Tax Policy Center, writes in a recent paper that this would amount to “a catastrophic budget failure” that would be “disastrous” for the U.S. and global economy.²⁶ Because this would fundamentally be a crisis of U.S. Federal finances, the government would be unable to borrow money to address a decline in revenues or an increase in spending, as it did during the recent economic downturn and financial crisis. If the U.S. were forced to address such a situation internally without the benefit of cheap foreign credit – that is, by cutting domestic spending and raising taxes to close the budget gap – Burman estimates the economy could shrink by 25 or 30 percent, a contraction that would rival the economic decline of the Great Depression.²⁷

²⁵ Center for American Progress: *Payment Due: The Effects of Higher Interest Rates on Consumers and the Economy*, 20 September 2004.

²⁶ Burman et al.: *Catastrophic Budget Failure*, presented at Joint TPC-USC Conference, 15 January 2010.

²⁷ Ibid.

U.S. Treasury bonds are the lynchpin of global debt markets, held as safe and highly liquid assets by virtually all financial institutions worldwide. A U.S. debt crisis would lead to sharp declines in the price of these bonds, causing a deterioration in the balance sheet of large financial institutions that would be orders of magnitude more disruptive than the subprime crisis. Burman and his colleagues write that “it could easily take the nation a generation or longer to recover from [such a] disaster.”²⁸

Similarly, the U.S. dollar is the world’s reserve currency. It is the preferred medium of exchange and store of value in the global economy. Countless foreign central banks keep billions of dollars in reserve, as they are the benchmark of a safe and liquid asset – the dollar is “as good as gold.” In addition, many important global trade transactions are priced in dollars (namely key commodities such as oil). The U.S. gains extraordinary benefits from the dollar’s preeminent position in global markets. First and foremost, there is a steady worldwide demand for dollar-denominated assets, namely U.S. Treasury bonds. That brisk demand in turn keeps U.S. interest rates lower than they would otherwise be, and capital investment higher than it might otherwise be. If the dollar lost its status as the world’s reserve currency, U.S. interest rates would begin to rise, and capital could start to exit the country. More important, the loss of the dollar’s status would signal a clear weakening of U.S. standing in the world economy. Again, events in Europe provide a cautionary tale: as the debt crisis has escalated, some global central banks have started to shift their reserve portfolios out of euros, and institutional investors have been shifting capital away from Europe. This dangerous dynamic, which has hastened to recent fall in the euro, could also happen to the U.S. and the dollar.

RISING DEBT, DECLINING POWER

In the end, the debate about rising U.S. debt is not just about dollars and cents, but is also about America’s status as a world power and its freedom to act. Prior to becoming one of President Obama’s key economic advisors, Lawrence H. Summers famously asked: “How long can the world’s biggest borrower remain the world’s biggest power?”²⁹ CBO’s long-term budget projections imply that interest payments on the national debt will begin to exceed yearly defense spending in 2022. By 2037, yearly interest expenses will be *double* national defense spending. These projections show the answer to Summers’ rhetorical question is “not long.” On the current fiscal path, the U.S. will be unable to afford its role as an economic and military superpower.

In the latest issue of *Foreign Affairs*, financial historian Niall Ferguson surveys some of the great empire declines throughout history and observes that “most imperial falls are associated with fiscal crises. All the . . . cases were marked by sharp imbalances between revenues and expenditures, as well as difficulties with financing public debt. Alarm bells should be ringing loudly . . . [for] the United States.”³⁰

If the U.S. is to retain its role in the world, it must change its fiscal course – and that means curbing its out-of-control spending, particularly on entitlement programs. The conventional

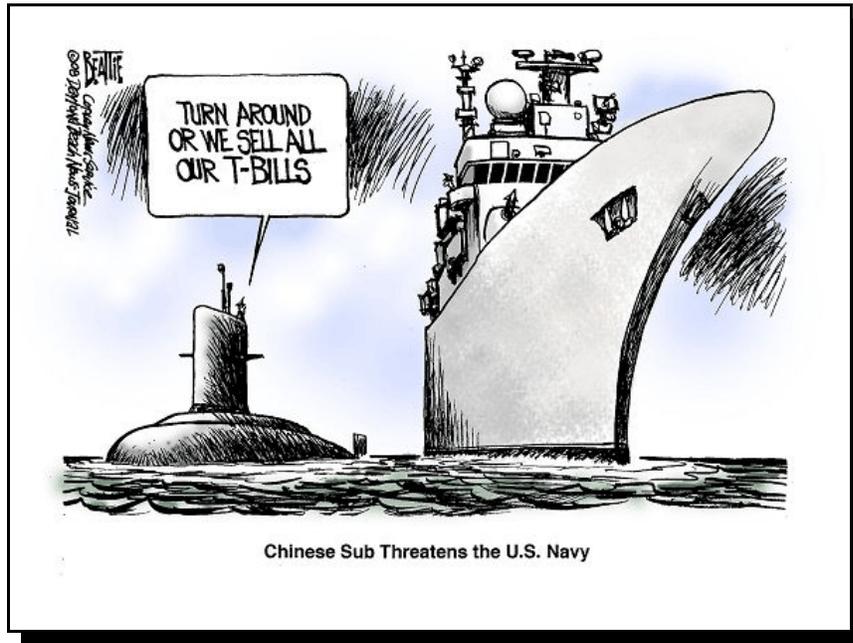
²⁸ Ibid.

²⁹ *The New York Times*: “Deficits May Alter U.S. Politics and Global Power,” 2 February 2010.

³⁰ *Foreign Affairs*: “Complexity and Collapse: Empires on the Edge of Chaos,” March/April 2010.

wisdom by many in Congress seems to be that spending should not be lowered, but rather revenues should be increased. Those who believe in a more activist government will argue that spending cuts would be economically detrimental. The evidence suggests otherwise. A recent paper by Harvard economists, for instance, shows that in developed countries, spending reductions have been the key to successfully reining in large budget deficits, while simply ramping up taxes to meet higher spending damages economic growth.³¹

There is a growing need for policy makers to reassure credit markets that the U.S. is engaged in charting a course back to sustainable deficit and debt levels reasonably soon. The expanding sovereign debt crisis in Europe provides a cautionary tale that it is always best to take action to shore up budget deficits before market forces demand it.



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³¹ Aselina/Ardagna: *Large changes in fiscal policy; taxes versus spending*, October 2009.

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