



Economic Effects of a Budget Deficit Exceeding \$1 Trillion

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Summary

The budget deficit in FY2009 equaled \$1.4 trillion, or 9.9% of gross domestic product (GDP). Combined with a shrinking economy, this increased the publicly held federal debt by 12.8 percentage points of GDP last year. Deficits of this size are not sustainable in the long run because the federal debt cannot indefinitely grow faster than output. If it did, a greater and greater share of national income would be devoted to servicing the debt, until eventually the government would be forced to monetize the debt (finance it through money creation) or default on it.

Although the debt cannot persistently rise relative to GDP, it can rise for a time, so it is hard to predict at what point investors would deem it to be unsustainable. A few other advanced economies have debt-to-GDP ratios higher than the United States. While some of those countries have seen their relative financing costs rise during the financial crisis, Japan has continued to be able to finance its debt at extremely low costs.

If investors as a whole currently deemed the debt to be unsustainable, the yields and the cost of credit default swaps on Treasury securities would be expected to rise. Instead, the former have been low by historical standards and the latter have risen only slightly. This may seem surprising, given that the debt is currently growing more rapidly than output, and it is projected to continue to do so under current policy. Over the next few years, the deficit is projected to fall somewhat, but if tax provisions scheduled by law to expire are extended and discretionary spending stays at recent levels, the deficit would not fall enough under current policy to stabilize the debt. Further, the debt is projected to begin rising much more rapidly in the long term under current policy because of the rising costs of Social Security, Medicare, and Medicaid. The willingness of investors to finance the federal debt at low interest rates in light of these projections suggests that investors believe that policy changes will eventually be made that will place the federal debt on a sustainable path.

Standard macroeconomics predicts that the increase in the deficit will temporarily boost overall spending at a time when there is significant slack in the economy. Were the deficit to be harmful to the economy, it would likely occur in two ways. First, it could raise interest rates and “crowd out” private investment. Because private investment has fallen so much as a result of the recession and interest rates are currently low, there is little evidence that crowding out is a significant factor at the moment. Second, the deficit could fail to boost GDP if it led to more borrowing from abroad. This factor also does not seem significant at present, as borrowing from abroad has fallen significantly during the recession.

Once the economy stabilizes, private investment demand can be expected to rebound. When it does, a large deficit would be expected to place a major strain on resources that are available to finance investment. By accounting identity, domestic investment spending must equal national saving plus net borrowing from abroad. The budget deficit is currently more than half the size of private saving. Even before this year’s increase in the deficit, national saving was insufficient to finance domestic investment spending, and the United States was borrowing from abroad at unprecedented rates. Unless the deficit is reduced, the economy will require some combination of higher private saving, lower investment, and higher borrowing from abroad. Some economists have argued that borrowing much more from abroad is unrealistic, and the already heavy U.S. reliance on borrowing from abroad makes the maintenance of a large deficit even less sustainable.

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Introduction

The federal budget deficit for FY2009 totaled \$1.4 trillion, the first time it has ever topped \$1 trillion. The government's ability to finance a budget deficit depends on the size of the economy. For this reason, and to compare the deficit to historical or foreign deficits, it is more meaningful to measure the deficit relative to gross domestic product (GDP). By this measure, the 2009 deficit is unusual but not unprecedented. The Congressional Budget Office (CBO) recorded an actual 2009 deficit equaling 9.9% of GDP. Seven times in U.S. history the federal budget deficit has exceeded 10% of GDP, which were during or following the Civil War (1865), World War I (1918, 1919), and World War II (1942-1945).

Federal budget deficits cause the publicly held federal debt to increase.¹ The FY2009 deficit of 9.9% of GDP, in a year when GDP fell, caused the debt-to-GDP ratio to rise by 12.8 percentage points.

Some Members of Congress have questioned whether a deficit of this magnitude is manageable and what effects it will have on the economy. This report will evaluate those questions.

At What Point Does the Public Debt Become Unsustainable?

Some economists worry that if the debt keeps rising, it will become unsustainable. By definition, the debt becomes unsustainable when private investors are no longer willing to hold it, at least at normal interest rates. Private investors become unwilling to hold a nation's debt when they become convinced that the government will either default on (in other words, renege on promises to repay) or monetize the debt (in other words, finance it through money creation). If the government chose the latter, it would result in rapidly increasing price inflation that reduces the existing debt's relative value.

Although it is not possible to predict the level when a country's debt becomes unsustainable, the trend that causes unsustainability is well known: a country cannot continually increase its debt at a rate that exceeds the growth rate of the economy. When it does, it causes debt service to absorb more and more of national income. As private investors observe the debt burden increasing, they will decide to flee the country's debt before the point where the government is forced to default or monetize. The decision by some investors to flee the debt will make it more onerous for the government to finance the debt, because it will now have to offer higher yields to attract new buyers. Thus, unsustainability tends to be triggered rapidly, as no investor wants to be the one still holding the debt when default or hyperinflation occurs. The exact point when investors choose to flee depends on psychological factors that cannot be predicted with accuracy and are likely to vary with circumstances.

¹ References in this report to the national debt refer to the publicly held federal debt unless otherwise noted because this is the debt that is financed in private capital markets and affects the economy. The gross federal debt is the sum of the publicly held debt and intra-governmental debt that arises from surpluses in government trust funds. Changes in intra-governmental debt are unrelated to the budget deficit.

Because it is the upward trend in debt that leads to unsustainability, investors may accept very large deficits for a year or a few years as long as they are convinced that in the future the government will reduce the deficit to a sustainable level before it is too late. For example, governments are often able to finance large deficits in wartime—the largest deficits in U.S. history occurred as a result of the Civil War, World War I, and World War II—because investors expect a rapid decline in the deficit once peacetime leads to a rapid decline in military spending.

Investors' willingness to accept large deficits for a time will depend in part on the current level of debt relative to GDP. In that regard, the 16 percentage point reduction in debt to GDP between 1993 and 2001 leaves the United States in a relatively good starting point, even after the 20.5 percentage point increase in debt that has already occurred since 2001. Although the increase in debt in 2009 brings the federal debt as a share of GDP to its highest level since 1955, it will remain at about half of its World War II peak.²

Are Financial Markets Treating the Debt as Unsustainable?

Standard financial market measures currently show no evidence to suggest that the fear of default is a large one. Although investors' views on the sustainability of the deficit cannot be observed directly, they are implicit in Treasury yields. If investors believed that the government would default on its debt or erode its value through inflation, they would demand higher yields to compensate against these risks. Yet Treasury yields have gone down, instead of up, as the deficit has increased. By December 2008, the yield on 10-year Treasury securities had fallen to 2.4%, its lowest level since 1954. (Yields have risen since then, but remain lower than they have been in decades.) Besides Treasury yields, another indicator of market fears of default are prices for credit default swaps, which can be thought of as a type of insurance against default.³ Although the cost of credit default swaps for U.S. Treasuries rose during the recent financial crisis to atypical levels, they still implied a very low probability of default. Since February 2009, they have fallen, although they remain above levels that prevailed before September 2008.⁴ These data strongly indicate that investors do believe that future deficits will be reduced to sustainable levels.

The ease of financing this year's historically large deficit is partly attributable to unique economic conditions. The United States entered its longest post-war recession in December 2007, featuring the most severe disruption to financial markets since the Great Depression.⁵ September 2008 saw a "flight to quality" by investors who shunned risky assets and sought to hold only the safest assets. Investors perceived Treasury securities to be the safest assets.

Of course, although investors have not shown concern about the sustainability of government borrowing so far, this does not prove that borrowing is on a sustainable path. Investor behavior is compatible with a belief that policy steps will be taken to reduce the deficit to a level that stabilizes debt compared to GDP, but there is no guarantee that those steps will be taken. There is nothing preventing investors from re-evaluating their views at any time, however. As long as

² For more information, see CRS Report RL34712, *Ebbs and Flows of Federal Debt*, by Mindy R. Levit.

³ For more information on credit default swaps, see CRS Report RS22932, *Credit Default Swaps: Frequently Asked Questions*, by Edward V. Murphy and Rena S. Miller.

⁴ International Monetary Fund, *Fiscal Implications of the Global Economic and Financial Crisis*, Staff Position Note 2009/13, June 9, 2009.

⁵ See CRS Report R40198, *U.S. Economy in Recession: Similarities To and Differences From the Past*, by Marc Labonte.

federal deficits remain at unsustainable levels, there is the risk—however small—that interest rates could rise quickly as a result of a perceived rise in default risk. Waiting until investor confidence has fallen would require larger policy changes because higher interest rates would cause debt service costs to rise.

Evidence from Abroad

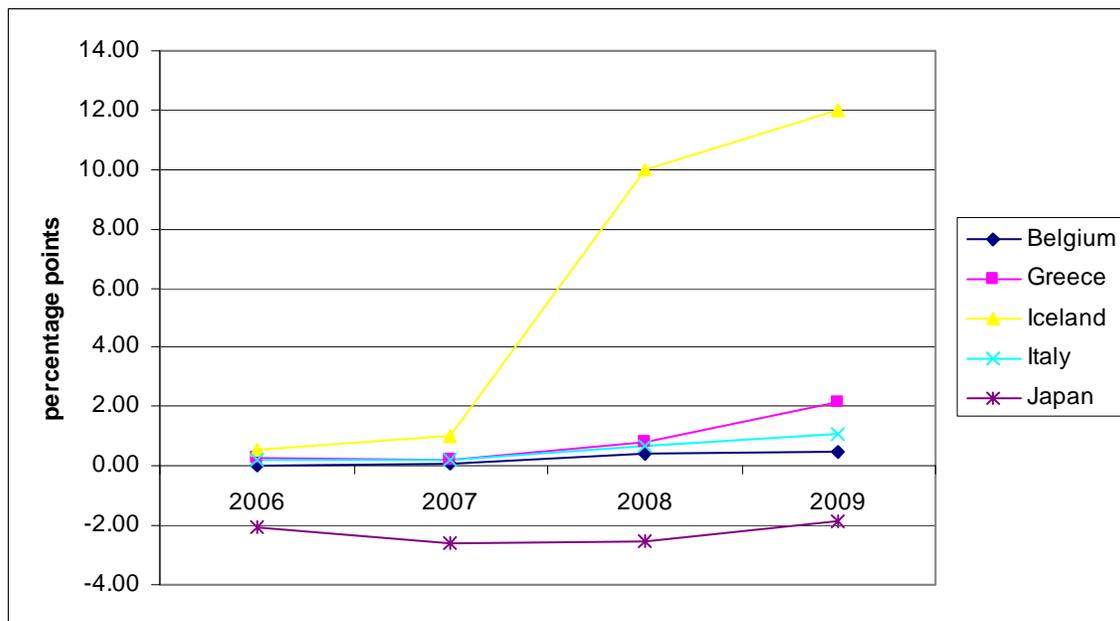
One way to determine how high a debt level investors will be willing to finance is to look at how high the public debt has reached in other countries. Different countries have different reputations, so an acceptable debt level is likely to vary from country to country. Because more developing countries have defaulted on their debt in recent decades, advanced economies are generally seen as more able to sustain higher debt levels than developing ones. Thus, in gauging how much higher the U.S. public debt could get before it faces sustainability concerns, it is more useful to compare the United States to other advanced economies. There were seven Organization for Economic Cooperation and Development (OECD) members in 2009 that were projected to have higher government debt levels as a share of GDP than the United States: Belgium, France, Greece, Hungary, Iceland, Italy, and Japan. U.S. debt was a projected 84% of GDP by the OECD's measure, while debt exceeded 100% of GDP for all these countries excluding France and Hungary, and it has been high in all but Iceland for many years.⁶

As seen in **Figure 1**, the five countries with debt exceeding 100% of GDP have had divergent experiences with financing debt at these levels. Using Germany as a comparison of a country that is generally viewed as a low default risk, **Figure 1** compares the spread between interest rates on government debt in Germany and the high debt advanced economies. At one extreme, the spread between Iceland's and Germany's debt was projected to be 12 percentage points in 2009. This large spread emerged when Iceland experienced a financial crisis in 2008 and its currency became non-convertible on international markets. But in fact, it was the crisis that caused the high debt level, rather than the high debt level causing the crisis—Iceland's debt was reported in 2008 to be only 25% of GDP. At the other extreme, Japan is able to finance its debt at a lower interest rate than Germany despite having a debt that surpassed 100% of GDP in 1997 and was projected to rise to 189% of GDP in 2009. The ability to finance debt at this level at low interest rates may be possible because Japan has a high rate of national saving overall, despite its large budget deficits, and because it has had lower inflation rates than Germany (which reduces the spread after adjusting for inflation).

The divergent experiences of Iceland and Japan point to another important factor in determining interest rate differentials—the size of a country's net foreign debt, including public and private debt. Of the five countries in **Figure 1**, only Iceland and Greece have significant net foreign debts—as does the United States. Before the crisis, neither Belgium, Greece, nor Italy paid significantly more than Germany to finance its debt. Belgium, Greece, and Italy have all joined the euro area, and their interest rate differentials with Germany fell significantly after joining.

⁶ Organization for Economic Cooperation and Development, *Economic Outlook*, vol. 86, December 2009, Annex Table 32. The OECD attempts to standardize the measurement of debt for cross-country comparison, and may not use the same measure as the federal government. To account for different systems of federalism, the OECD uses a measure that includes state and local and federal debt. This is the primary reason the OECD figure is higher for the United States than data from CBO.

Figure I. Spread Between Interest Rates in Germany and Selected Countries
Long-term Government Securities



Source: Economist Intelligence Unit.

Notes: 2009 data for France, Germany, and Japan reflect actual yields on long-term bonds, whereas the 2009 figures for Belgium, Greece, Iceland and Italy are projected.

Recent fiscal challenges experienced by Greece illustrate that investor willingness to finance large budget deficits can shift quickly. The country's current financial crisis began in October 2009, when newly elected Prime Minister George Papandreou announced that Greece's annual budget deficit reached 12.7% of GDP, significantly higher than previously announced.⁷ On December 9, 2009, the Greek government bond market received a major setback when Fitch Ratings downgraded the nation's debt from A- to BBB+, marking the first time in a decade that a major credit rating agency had assessed Greece credit below an A grade.⁸ Following additional bond rating cuts in December by Standard & Poor's and Moody's, the Greek government released a revised fiscal stability plan on January 14, 2010, that projected to reduce the country's deficit further to 2.8% of GDP by 2012.⁹ But despite these renewed pledges of fiscal austerity, growing market concerns increased the spread between yields on Greek and German long-term bonds to approximately 3.9 percentage points on January 28, 2010, the highest level in 11 years.

In response to uncertainty about investor willingness to finance Greece's deficit, euro zone nations are faced with the dilemma of having to pledge financial assistance to Greece or face the potential credit default of a member nation. EU heads of state issued a joint statement on February 11, 2010, committing to coordinated action if necessary to safeguard euro zone economies.¹⁰ Although this announcement offered few specifics regarding specific financial

⁷ "Greece in EU Dock Over Dodgy Budget Data", *EU Business*, October 20, 2009.

⁸ Ingrid Melander and Lefteris Papadimas, "Fitch Rating Cut Piles Pain on Troubled Greece," *Reuters*, December 8, 2009.

⁹ Karen Hope and David Oakley, "Greece unveils 3-year plan to curb deficit," *Financial Times*, January 14, 2010.

¹⁰ Simon Kennedy and James G. Neuger, "EU Leaders Deploy 'Bazooka' to Repel Attack on Greece," *Bloomberg*, February 12, 2010.

support that might be provided, some analysts now expect EU governments to disburse funds if Greece proves unable to raise the funds needed to cover outstanding government bond redemptions and coupons due in April and May of this year. Without investor perception of support from neighbors, current pressure on Greece's finances could be more acute.

Will Future Budget Deficits Remain at Unsustainable Levels Under Current Policy?

If the budget deficit remained at its FY2009 level, it would be unsustainable because it would cause the national debt to continually rise relative to GDP. But will deficits remain at elevated levels in future years, or return to more normal levels under current policy?

In the medium term, there are reasons to believe that the deficit will fall somewhat from FY2009 levels without any policy changes. The recession causes certain outlays (such as unemployment insurance) to automatically rise and revenues to automatically fall. CBO projected that the business cycle increased the deficit by 2.1 percentage points of GDP in 2009. In addition, CBO recorded a subsidy cost of \$152 billion in FY2009 for Treasury Department activities initiated under the Troubled Asset Relief Program (TARP), and net cash infusions to Fannie Mae and Freddie Mac totaled another \$91 billion.¹¹ CBO projects that the effect of these programs on the debt and deficit will be small in future years under current policy. Finally, a stimulus package was enacted in February 2009 (P.L. 111-5) that increased the deficit by \$200 billion in 2009, and a projected \$404 billion in 2010, \$135 billion in 2011, and \$123 billion over 2012 to 2019. It seems most reasonable to assume that all three of these sources of pressure on the deficit are of a temporary nature. (There may be political support to extend some temporary TARP or stimulus provisions, but that would require legislative action.) Once the programs' costs have largely dissipated by 2012, the deficit would be significantly smaller, all else equal.

CBO's projections of current law under the baseline show deficits falling to less than 3% of GDP after 2014. The projections would seem to indicate that the budget deficit is already on a sustainable path under current law. These projections assume three important differences from current policy, however. First, CBO assumes that all tax provisions, including the tax cuts enacted in 2001 and 2003, will be allowed to expire as scheduled. Second, CBO projections of the deficit are based on assumptions that discretionary spending, which is determined annually, will grow at a rate that is significantly below the historical average. Third, CBO assumes that the routine one-year "patches" to adjust the alternative minimum tax (AMT) for inflation will not be extended, and as a result millions more taxpayers will fall under the AMT each year. If any of these three assumptions were altered, deficits would be much higher. Modifying the baseline to assume that tax provisions will not expire and discretionary spending (excluding the stimulus) will stay

¹¹ In the case of TARP and transfers to the GSEs, the effect of the programs on the deficit do not closely match their effect on the national debt. Under the Credit Reform Act, CBO scores the deficit costs of the programs as the net present value of the subsidy implicit in the assistance, and counts that cost in the budget year it is outlaid, with no cost recorded for future years. The national debt is affected by the programs as securities are bought and sold. This means that the programs will increase the debt more than CBO's score of the deficit in the short term, but reduce the debt in future years (as securities are sold). In addition, the debt has increased this year by about \$200 billion without any recorded effect on the deficit because of the Treasury Supplementary Financing Program, a program under which Treasury issues extra debt in order to deposit funds at the Federal Reserve. It is expected that this program will permanently increase the debt, although it is unclear how much longer it will continue. From a sustainability perspective, the effect of all these programs on the debt may be more relevant than CBO's score of their effect on the deficit.

relatively steady as a share of GDP would cause deficits to exceed 7% of GDP from 2012 to 2017 and 9% of GDP in 2019.¹² These projections do not take into account the possible enactment of new policy proposals currently being considered, which could further increase the deficit. Because deficits of this size would cause a persistent increase in the debt as a share of GDP, policy changes are required to put the budget deficit on a sustainable path.¹³

Moreover, long-term projections of current policy estimate that a large increase in Social Security, Medicare, and Medicaid spending will cause the budget deficit to grow continuously following the retirement of the Baby Boomers. Although deficit projections show some improvement in the short run, the long-term projection estimates even larger deficits under current policy, assuming health care costs continue to rise more rapidly than output. In the long term, reducing the growth rate of health care costs below the growth rate of the economy would have the largest impact on the budget deficit; however, the effects of health care cost growth on the deficit are very gradual, and play little role in the sustainability of the deficit in the near term.¹⁴

Because interest rates are currently so low, CBO recorded debt service payments of \$187.3 billion for FY2009, the lowest level in dollar terms since 2005, even though the debt has risen by more than \$1.7 trillion in the last year. As discussed below, financing the deficit may become more costly once economic conditions normalize. Even if interest rates return only to average levels in recent years, the cost of debt service will rise significantly. CBO's projections assume a relatively low interest rate paid on government debt over the next 10 years, largely because the starting point for its projections is today's very low rates. Some commentators have questioned whether this assumption is reasonable given the size of current and projected budget deficits. If investors respond to large deficits by demanding above-average interest rates, the cost of debt service would become large.¹⁵

Sustainability and Foreign Holders of the Debt

Some economists believe the government's reliance on foreign investors to finance the federal debt makes the United States more vulnerable to sudden shifts in investors' willingness to hold federal debt.¹⁶ Foreigners currently hold \$3.50 trillion (or a little more than half) of the total privately held federal debt.¹⁷ Foreigners are perceived as less willing to passively buy and hold federal debt, in part because they bear exchange-rate risk when holding federal debt. If so, their

¹² One category of spending that might not continue at current levels is overseas military spending. Assuming that this falls to zero would reduce the deficit by about 1% of GDP annually.

¹³ Budget projections are subject to high margins of error, even over relatively short periods of time. Thus, the actual deficit in future years could turn out to be larger or smaller than CBO's projection, requiring larger or smaller policy changes, respectively, to place the debt on a sustainable path.

¹⁴ See CRS Report RL32747, *The Economic Implications of the Long-Term Federal Budget Outlook*, by Marc Labonte.

¹⁵ For example, assuming interest rates of 10.5% after 2014 would increase the 2019 deficit under the President's budget by \$1.2 trillion. See Congressional Budget Office, *Letter to Honorable Paul Ryan*, June 30, 2009.

¹⁶ See, for example, Kenneth Rogoff, "Foreign Holdings of U.S. Debt: Is Our Economy Vulnerable?", Testimony before the Committee on the Budget, U.S. House of Representatives, June 26, 2007; Brad Setser, *U.S. External Debt and Power*, Brookings Institute, working paper, 2008.

¹⁷ U.S. Department of Treasury, Financial Management Service, *Treasury Bulletin*, December 2009. Privately held debt omits debt held by government trust funds and the Federal Reserve. It includes debt held by state and local governments.

demand for federal debt could be more sensitive to perceptions of sustainability, since default or monetization typically leads to currency devaluation that would reduce the debt's value in foreign currencies. If foreigners were to become less willing to hold federal debt, presumably, significantly higher interest rates would be required for Americans to absorb such large sums. Furthermore, if debt service costs were to rise suddenly, higher debt payments to foreigners would result in a fall in U.S. income, while higher debt payments to Americans would transfer income with no net effect on overall U.S. income.

Is foreign unwillingness to hold U.S. debt in the future a serious concern? Perhaps the strongest argument against it is the behavior of investors during the recent crisis. During a financial crisis that first emerged in U.S. subprime mortgage markets and potential financial writedowns from U.S. assets estimated by the International Monetary Fund (IMF) to be twice as large as losses from the Euro area, United Kingdom, and Japan combined,¹⁸ foreigners increased their net purchase of Treasury securities from \$216 billion in 2007 to \$750 billion in 2008—a trend that continued even after financial conditions deteriorated in September 2008. If Treasury securities maintained their “safe haven” status amidst rapidly rising budget deficits and rapidly deteriorating financial conditions, it is arguably difficult to imagine a plausible scenario today in which investors would shun Treasury securities.

Nevertheless, in the long run, the sustainability of foreign borrowing falls under the same mathematical rules as the sustainability of government borrowing—the net debt owed to foreigners cannot indefinitely rise faster than GDP, or else an ever-increasing share of national income will be needed to service it. Since 2000, the current account deficit (a measure equal to net borrowing from abroad) has exceeded the growth in the economy. The current account deficit has fallen significantly since 2007, but it remains to be seen whether this change is cyclical or longer lasting. Thus, independent of concerns about the size of the federal debt, the upward trend in the net debt owed to foreigners raises concerns about the long-term sustainability of large scale borrowing from abroad.¹⁹

The willingness of foreign investors to hold U.S. Treasury securities is further complicated by the role of foreign governments. From 2003 to 2008, foreign governments (mostly through their central banks) have purchased on net an average of \$213 billion of Treasury securities each year, or about two-thirds of the average purchased on net by all foreigners each year.²⁰ While it can be reasonably assumed that private investors are purchasing Treasury securities because they are seen as good investments (and would sell them if they no longer were), foreign governments may have other motivations. It is not clear if these other motivations would make them more or less likely to hold Treasury securities in the future because of sustainability concerns. Regardless of the motivation for initially purchasing Treasury securities, now that some foreign governments hold large portfolios of federal debt, they have an incentive to maximize their return. Collectively, this would call for governments to cooperate to avoid taking actions, such as large sales of holdings, that destabilize Treasury prices. But individually, any particular government has the incentive to sell its holdings before everyone else if it believes that the debt has become unsustainable; this incentive could hamper collective action.

¹⁸ International Monetary Fund, *Global Financial Stability Report*, April 2009, Table 1.3.

¹⁹ For more information, see CRS Report RL33186, *Is the U.S. Current Account Deficit Sustainable?*, by Marc Labonte.

²⁰ For more information, see CRS Report RS21951, *Financing the U.S. Trade Deficit: Role of Foreign Governments*, by Marc Labonte.

Is a Large Deficit Harmful to the Economy?

When the economy is at full employment (meaning practically all labor and capital resources are in use), government budget deficits “crowd out” private investment spending in the standard macroeconomic model. Setting aside foreign capital flows for the moment, borrowing can only be financed through saving, and government borrowing competes with business borrowing for the same pool of national saving. By increasing the demands on that pool of national saving, government borrowing pushes up the cost of all borrowing through higher interest rates, causing businesses to finance less capital spending than they otherwise would.²¹ Business borrowing finances capital spending on plant and equipment, and lower capital spending results in lower potential gross domestic product, and hence lower future national income, than would otherwise occur.

In the current context, the economy is not at or near full employment. In this context, government deficits are unlikely to crowd out private business borrowing. On the contrary, business investment was contracting until the fourth quarter of 2009, either because investment demand declined or businesses are credit constrained. This greatly reduced the potential for large government deficits to crowd out private investment spending. As discussed above, low interest rates support the view that the deficit is currently causing little crowding out to occur. (Of course, this could change if investor concern about sustainability pushed up interest rates.) In this case, the decline in aggregate spending caused by falling investment spending can be offset, at least in part, by the rise in (deficit-financed) government spending, which directly increases GDP. Most economic forecasters predict that the rise in the budget deficit will, on balance, raise GDP over the next couple of years, despite a possible crowding out effect. Indeed, it is the increase in the deficit that is the primary reason that the stimulus package was projected to stimulate the economy in standard macroeconomic models.²²

With international capital mobility, borrowing can also be financed by foreign saving. In the standard macroeconomic model with perfect capital mobility, the boost in aggregate spending from the stimulus would cause the trade deficit to rise as foreign capital is attracted to higher domestic interest rates. The availability of foreign credit would avoid the crowding out of domestic capital investment. But the boost to aggregate spending from the budget deficit would be negated (or “crowded out”) by the higher trade deficit. The United States relies heavily on foreign borrowing, and this is another reason that large budget deficits could be less effective at stimulating the economy. The lack of perfect capital mobility and large output gap in the United States at present means that a larger trade deficit is unlikely to completely negate the stimulus as theory would suggest, but it is likely to make it less effective at boosting aggregate spending. Since the recession began, the trade deficit has fallen substantially, so the problem of crowding out from the trade deficit does not seem significant at this time. It should also be noted that if capital spending is financed by foreigners, the income generated by that capital will accrue to foreigners instead of Americans.

²¹ In the case of current budget deficits, some government borrowing is being used to purchase assets from the financial sector, notably preferred stock. Borrowing to buy assets would not be expected to have the same crowding out effect as borrowing to buy goods and services. Asset purchases are not the primary cause of the current budget deficit, however.

²² See, for example, Congressional Budget Office, *A Preliminary Analysis of the President’s Budget*, March 2009.

As the economy returns to full employment, large budget deficits will no longer provide any stimulus to aggregate spending.²³ At this point, crowding out will become a more serious concern if the budget deficit is not reduced. By accounting identity, domestic investment must equal national saving plus net borrowing from abroad. From 2000 to 2007, domestic investment averaged about 20% of GDP, as seen in **Table 1**. Because national saving averaged about 15% of GDP, three-quarters of this investment was financed by national saving and one-quarter was financed by borrowing from abroad. In 2000 and 2001, the federal government ran a budget surplus that increased national saving. From 2002 to 2007, the government ran a deficit that reduced national saving. The deficit was more than 2% of GDP from 2003 to 2005, and less than 2% of GDP in the other years. In 2008, national saving fell to 12.6% of GDP, in part because the budget deficit rose to 3.2% of GDP. Despite the fall in national saving that year, net borrowing from abroad remained relatively steady because investment spending fell to 17.5% of GDP.

Table 1. Saving and Investment, 2000-2008
(percentage of GDP)

	2000-2007	2008
Gross Domestic Investment	20.3	17.5
Gross National Saving	15.4	12.6
Net Borrowing from Abroad	4.9	4.9
Federal Budget Deficit ^a	-1.3	-3.2

Source: CRS Report RS21480, *Saving Rates in the United States: Calculation and Comparison*, by Brian W. Cashell, Congressional Budget Office

Notes: Gross domestic investment is the sum of private and government investment. Gross national saving is the sum of business, household, and government saving.

a. Fiscal Year, as measured by federal budget conventions.

The budget deficit was 9.9% of GDP in FY2009, more than half the size of total private saving, which is the sum of household and business saving. Although investment was low in 2009 because of the deepening of the recession, it can be expected to rebound when the economy recovers. At that point, even if the deficit were to fall by half as a share of GDP, either private saving would need to rise significantly above its average over the past ten years or net borrowing from abroad would have to be significantly higher than the 2000 to 2007 average, which was already at a historical high. Private saving has been fairly steady over the past 10 years, between 13.8% to 16.0% of GDP. Some of the rise in saving during the recession may prove lasting, but it is doubtful it would continue to rise enough to offset the rise in the budget deficit. In other words, even before the rise in the budget deficit, the combination of low rates of national saving and high rates of borrowing from abroad to finance domestic investment spending was unsustainable in the long run. If the budget deficit remains at elevated rates, national saving will be even lower, requiring either lower rates of domestic investment (that would reduce GDP from what it otherwise would have been) or higher rates of borrowing from abroad.

²³ By definition, an economy near full employment does not have any slack that can be spurred into use by stimulus. Further, it is the increase in the deficit that stimulates spending—were the level of the deficit to be held steady, the economy would receive no further stimulus in future years.

The willingness of foreigners to buy U.S. assets in the future will depend not only on the desirability of U.S. investment opportunities, but also on investment opportunities abroad. Here too, future trends may point to a shift away from U.S. assets. Even if foreign investors were unconcerned about the sustainability of U.S. debt, foreign countries may find more internal demand for their saving as the world economy recovers. U.S. public debt will also be competing to attract funds with a large increase in borrowing by foreign governments. The IMF estimates that public debt in the G-20 advanced economies will rise from 92% of GDP in 2009 to 105% of GDP in 2012 to 109% of GDP in 2014.²⁴

Furthermore, foreign private demand for U.S. assets has been much smaller than total U.S. borrowing needs in recent years, and foreign governments have filled the gap. From 2002 to 2005, net foreign official capital inflows have exceeded \$200 billion, and from 2006 to 2007, they exceeded \$400 billion. These official inflows were motivated by factors that may prove to have been specific to the context of the previous economic expansion, and not sustainable over the long term going forward. Countries may have been accumulating official reserves in recent years (1) to prevent their currency from appreciating against the dollar or against a major trading partner's (or competitor's) currency; (2) because the price of a major export, such as oil, had suddenly risen and the country decided to invest some of its windfall in foreign assets; (3) to guard their currency against a sudden withdrawal of investment from their country during a future downturn; or (4) to rebuild their reserves after a prior defense of their currency drained them away. None of these explanations would imply a permanent desire to continuously accumulate official dollar-denominated assets.

Will Large Deficits Lead to High Inflation?

Another concern that has been raised is that large deficits will lead to high inflation. A significant increase in inflation is ultimately a result of changes in the money supply, and the Federal Reserve controls the money supply independently of the Treasury and its financing needs. Large deficits would lead to higher inflation if the Fed begins to finance unfunded government operations by increasing the money supply. Under current law, this is prevented by Section 14 of the Federal Reserve Act, which forbids the Federal Reserve from purchasing debt directly from the Treasury, and Section 2A, which mandates that the Fed keep inflation low, among other goals.²⁵ In a well-known article, economists Thomas Sargent and Neil Wallace pointed out some “unpleasant arithmetic,” however.²⁶ They observed that in order to avoid default, a central bank might ultimately be forced to monetize the debt if private investors become unwilling to finance it and the government refuses to raise taxes or cut spending. Investors may perceive this future outcome and raise their inflationary expectations today. If investors anticipate that the debt will be monetized, they will require higher interest rates to finance it in the meantime, so inflation will ultimately be higher than if the deficit had been monetized from the outset. In that example,

²⁴ International Monetary Fund, *World Economic Outlook: Sustaining the Recovery*, data from Figure 1.7, October 2009.

²⁵ While the law forbids the Fed to directly finance the deficit, it can indirectly reduce the government's financing costs by purchasing Treasury securities on the secondary market. While the Treasury must pay the Fed interest on the Treasury securities it holds, the Fed remits its profits to the Treasury. The Fed has purchased Treasury securities on the secondary market in 2009 in order to provide liquidity to the economy, but the planned size of the purchases (\$300 billion) is small relative to the projected deficit.

²⁶ Thomas Sargent and Neil Wallace, “Some Unpleasant Monetarist Arithmetic,” Federal Reserve Bank of Minneapolis, *Quarterly Review*, Fall 1981.

future inflation is a function of fiscal decisions as well as monetary decisions taken today. To date, there is no evidence that inflation expectations have risen significantly.

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