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## Why Fiscal Stimulus Is Unlikely to Work

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## Why Fiscal Stimulus Is Unlikely to Work

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### *Abstract*

This paper reviews the empirical literature on countercyclical policy. It finds that three types of countercyclical policies have been studied in the literature: built in stabilizers, temporary policy changes, and more permanent policy changes. The literature is decidedly mixed on the effectiveness of temporary changes, but more hopeful concerning the other two.

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## I. Introduction

As the world's economy slows down dramatically, an interesting policy revolution is taking place. Until recently, there was wide consensus among macroeconomists that activist fiscal policy was inadvisable. But in a now-prescient piece, Blinder (2004) began a reconsideration of the case against fiscal policy, stating that “virtually every contemporary discussion of stabilization policy by economists—whether it is abstract or concrete, theoretical or practical-- is about monetary policy, not fiscal policy.”<sup>1</sup> Taylor (2009) alludes to a similar consensus, referring to his past work (Taylor 2000), to Feldstein (2002), and to Eichenbaum (1997), who quite pointedly added that, “there is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible.”<sup>2</sup> These reviews generally found that stimulus measures were ineffective in the past, and usually appeared at the incorrect time.

Despite these admonitions, there is one thing that appears certain as of this writing: Countercyclical discretionary policy is now politically feasible. Around the world, significant temporary stimulus packages are being drawn up. In the United States, government economists have even gone so far as to assert that stimulus actions have the consensus support of economists. In a recent article in the New York Times, for example, Christina Romer, chairwoman of the Council of Economic Advisors, said that “aggressive, well-designed fiscal stimulus is critical to reversing this severe decline.” The

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<sup>1</sup> Blinder (2004), p. 1.

<sup>2</sup> Taylor (2009), p.2.

article then continued “the vast majority of the nation’s economists agree that [fiscal stimulus] is necessary, and soon.”<sup>3</sup>

This paper addresses with a critical eye the causes of the recent fiscal policy sea change. The paper will proceed in three parts. First, I will outline the American Recovery and Reinvestment Act of 2009, recently signed by President Obama, to document the economic arguments that have provided the architecture of the current approach. The next section will draw heavily on the empirical literature, and assess the likely efficacy of the approach that has been adopted in the United States. The final section will explore alternative approaches that may follow from the lessons of the literature, and discuss the possibility that these might lead to superior fiscal policy outcomes.

At the outset it is worth noting that the literature in this area comprises hundreds of papers, and a thorough review of all of them is beyond the purview of this paper. Instead, I will provide a flavor of the scope of results that exist in the literature and cite key papers that serve as canonical examples in the sketch that follows. But the key point is that the literature, even with recent additions, continues on balance to support the earlier consensus that fiscal stimulus is generally inadvisable.

## **II. The 2009 U.S. Stimulus Package**

Before turning to the economics of stimulus, this section briefly reviews the politics surrounding discretionary fiscal stimulus. In particular, one argument against stimulus in the past has been the tendency for it to be ill-timed and poorly targeted. In

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<sup>3</sup> Uchitelle, Louis. “Steep Slide in Economy as Unsold Goods Pile Up,” *New York Times*, January 30<sup>th</sup>, 2009.

addition, they may be the wrong size: Romer and Romer (1994) found that most stimulus efforts in the past have been ineffective in part because they were too small.

Has Congress demonstrated that it had advanced beyond these problems? President Obama signed the American Recovery and Reinvestment Act of 2009 into law on February 17, 2009. The \$787 billion package contained roughly \$288 billion in tax relief and \$499 billion in various spending measures.<sup>4</sup> This is the second stimulus package enacted since the beginning of the recession, which, according to the NBER Business Cycle Dating Committee, began in December 2007.<sup>5</sup> President Bush signed into law the first stimulus package, the Economic Stimulus Act of 2008, on February 13, 2008.<sup>6</sup>

Financial markets, which have clearly suffered their worst decline since the Great Depression, have signaled the strong expectation that this downturn will be long and deep. If the recession lasts 16 months to match the longest on record, it will end before the summer of 2009. Given the desperate financial crisis, however, it seems likely that it will not be over by then, and even if it is, it seems unlikely that output will have returned to trend. Two recent studies of past financial crises (Reinhart and Rogoff 2008, Claessens, Kose and Terrones 2008) suggest that financial crises tend to last significantly longer. Accordingly, one can say that the timing of the first package was likely countercyclical, and should be viewed as a timing success. The second package may or may not be viewed as a timing success, but it seems likely that it will be as well.

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<sup>4</sup> <http://www.recovery.gov/>

<sup>5</sup> <http://www.nber.org/cycles/dec2008.html>.

<sup>6</sup> <http://www.msnbc.msn.com/id/23143814/>

According to a report by the Congressional Budget Office, the stimulus package spreads its positive stimulus out over a fairly lengthy period.<sup>7</sup> For example, the bill calls for \$27.5 billion in highway spending, but the CBO estimates that less than \$10 billion would occur before 2011. Similarly, only about \$2.5 billion of the approximately \$16.8 billion in spending on renewable energy will occur over the next two years. If this recession ends during the next year and half, then these and other measures will be procyclical. Thus, the age-old timing criticism still would apply to recent actions.

In terms of targeting, the stimulus package allocates, again according to the CBO, about 37 percent of its cost to tax reductions, with the remaining portion representing spending increases. In addition, built-in stabilizers and previous legislative actions have ratcheted up spending a significant amount.

Figures 1 and 2 document the total tally for recent fiscal policy efforts. Figure 1 compares the current path of government spending in the U.S. to that in previous recessions, while Figure 2 compares the likely tax reduction to previous countercyclical policies. Both charts suggest that government actions in this downturn are significantly greater than any in post-war U.S. experience. Accordingly, the complaint that fiscal policy action will be ineffective because it is too small seems less applicable in the current episode. The action this year may or may not have been timed correctly, but it certainly has been sizable.

Sizable action has likely been feasible as of late because of the widespread acknowledgment that monetary policy, having reached its limit with the Federal Funds

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<sup>7</sup> <http://www.cbo.gov/doc.cfm?index=9976>;  
[http://www.cbo.gov/ftpdocs/99xx/doc9967/01-27-StateofEconomy\\_Testimony.pdf](http://www.cbo.gov/ftpdocs/99xx/doc9967/01-27-StateofEconomy_Testimony.pdf).

rate near zero, has entered the realm of the liquidity trap. This, along with fears of another depression, has created a consensus at least among politicians that an enormous action is justified. In the next section, the arguments concerning the proper form of these actions will be explored in more detail.

### **III. A Review of the Literature on Stimulus**

This section will review the arguments for activist fiscal policy, and discuss the lessons that the literature has to offer concerning its form. I will spend little time reviewing the theoretical literature, as that literature has an extremely wide array of findings.

On the favorable side, a recent and influential summary of the arguments for short-run fiscal stimulus was provided by Elmendorf and Furman (2008). Most of the compelling arguments for activist fiscal policy rely on simulations of Keynesian models, such as Elmendorf and Reifschneider (2002). A number of extensive reviews indicate there is a wide array of Keynesian models that suggest economic stimulus can be very effective.<sup>8</sup> For the most part, fiscal multipliers range from slightly below one to perhaps as high as 1.4, suggesting that there is ample room in such models for significant short run stimulus.

While Keynesian models suggest that large stimulus effects might occur, these effects are part of these models by construction. Neoclassical alternatives to the Keynesian approach, such as that offered by Barro (1981) or Baxter and King (1993),

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<sup>8</sup> For other examples see Barrell et al. (2004) or Roeger and Veld (2004).

suggest that in many cases, private actions can largely offset a fiscal stimulus. The question, then, is an empirical one. Fortunately, there is a large literature to draw on. I will look at each of the most important questions in turn, including the impact of government spending on output, the impact of temporary tax reductions on consumption, the impact of temporary business tax reductions on business capital spending, and the effects of fiscal consolidations.

### **III.a. Temporary Tax Cuts and Consumption**

The U.S. Congress provided economic stimulus in the form of rebate checks in 2001 and 2008, and evidence from the first episode about the efficacy of this type of measure is mixed. Economists have studied the effects of the 2001 rebate checks extensively. Johnson, Parker and Souleles (2006) used Consumer Expenditure Survey data that provided special details on the timing of the rebate checks. They found that total expenditures did not respond to these checks if one included durable spending in the analysis, but that there was a significant response for nondurable consumption. In the first quarter following the checks' disbursement, response of consumption to the checks was 37.1 percent, with the two quarter effect about double that. Agarwal, Liu and Souleles (2007) found evidence that money not spent was used to buy down credit card balances, making room for additional purchases. Slemord and Shapiro (2003a, 2003b) provide survey evidence that is also roughly consistent with these results.

It is possible, of course, that the stimulus effect of the 2001 tax reductions might have been larger than that of the 2008 rebates, because the 2001 tax cuts may have been perceived to be permanent. In that case, both "Keynesian" consumers who consume their



income, and unconstrained consumers who obey the Permanent Income Hypothesis, might have responded to the stimulus.

The evidence regarding the effectiveness of the 2008 cuts is still emerging. Slemord and Shapiro (2008) found that only one-fifth of respondents planned to increase spending in response to their stimulus checks. This result suggests that the stimulus effect of the tax cuts may have been relatively small. Taylor (2009) provides aggregate evidence, summarized in Figure 3, that consumption did not increase as a result of rebates.

Such checks may also have a smaller effect in 2009 for two reasons. First, the level of anxiety and accompanying precautionary saving might be higher given the sharp downturn in the economy. Second, the enormous market interventions and large scale of fiscal policy has dramatically altered the long run budget constraints for non-Keynesian consumers, whose reduction in consumption may well offset increases from Keynesian consumers. Since the tax portion of the economic stimulus is only 37 percent of total net spending in the stimulus bill, and the entire package will eventually have to be supported by higher taxes, it may well be that consumption will respond negatively to the overall stimulus.

Table 1 provides an indication of how large these effects might be. President Obama's FY 2010 Budget estimates the government's deficit will be \$1.75 trillion in 2009. Assuming that taxpayers will eventually have to pay for that debt, they should expect large increases in future taxes.

To put these potential increases in perspective, Table 1 calculates the tax liability by income bracket for taxpayers, in present value, assuming that the future tax liability will be distributed across income groups in a manner that relies on the same distribution of taxes as the 2006 income tax. In 2006, for example, people with incomes between \$50,000 and \$75,000 paid about 10 percent of all income-tax revenue. For taxpayers with 2006 incomes between \$75,000 and \$100,000, the extra tax bill associated with the projected deficit is about \$14,500, assuming they cover the same proportion of the new tax bill that they have historically. For those with incomes between \$100,000 and \$200,000, the future tax hike will be almost \$29,000. For those with incomes between \$200,000 and \$500,000, the future tax increase will be about \$93,000. As can be seen by the final column, the expected future tax liability is much larger than the tax rebates taxpayers will receive this year.

The neoclassical argument against stimulus is that tax refunds financed by future tax hikes are ineffective because taxpayers recognize their tax burden will rise increase in the future and save accordingly. Given that the future tax liabilities being accumulated dwarf the tax rebates, and the disappointing survey evidence regarding the 2008 rebates, which were not associated with large increases in government spending, it seems likely that the another round of stimulus will have relatively small effects.

### **III.b. The Impact of Government Spending on Output**

Textbook Keynesian models suggest that government spending can increase aggregate output with a multiplier significantly greater than one; the neoclassical theory disagrees. This alternative theoretical argument is described in detail in Barro (2008),

which draws heavily on Barro (1981). There he documents that the long run effect in a neoclassical model of higher government spending is likely very close to zero, but that the short run effect can be positive. He provides aggregate time series evidence consistent with these two theories. Also, Barro (1981) distinguishes between the effects of spikes in military and nonmilitary government spending on aggregate output. He finds that increases in military spending raise output, but with a multiplier that is less than one. When government spending was above trend, there were shortfalls in private investment and net exports.<sup>9</sup> However, Barro (1981) does not find that non-military government spending has any positive effects on output. This suggests that, if past incidents are an indication of future results, the current wars may be more productive fiscal policy than the proposed stimulus package.

A very large literature has subsequently emerged that explores these issues, both in the short term and in the long term. Blanchard and Perotti (2002), Mountford and Uhlig (2002), Perotti (2005) and many others find that vector auto-regression (VAR) settings that near term shocks to government spending lift GDP, consumption, and real wages. These results are more consistent with the Keynesian stimulus view, but they have been challenged by an equally extensive literature.

Most notably, Ramey and Shapiro (1999) and Ramey (2008) use exogenous military shocks to identify the effect of government expenditure on growth. The Ramey-Shapiro results are highly consistent with neoclassical predictions: indeed, they conclude in their introduction that “[w]hen shocks to defense spending rather than overall spending

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<sup>9</sup> Barro (1981) p. 377

are identified using a standard VAR, I find that the Keynesian effects on consumption and real wages disappear.”<sup>10</sup> Ramey and Shapiro also reconcile their results with those of the more Keynesian structural VARs. They find that the VARs tend to use a government shock identification approach that leads to a mistiming of the results. Including additional work by Edelberg, Eichenbaum, and Fisher (1999) one can say that the government spending shocks have a positive short run effect that peaks in about a year, but this effect declines and can even turn negative shortly thereafter. Tenhofen and Wolff (2007) provide a neat bridge between the VAR and the Ramey and Shapiro literatures, finding that they can roughly reproduce Ramey and Shapiro’s results inside the structural VAR framework by including a model of consumer expectations toward government policy. Given the earlier indictment of VAR timing by Ramey and Shapiro, this result closes the circle.

Hemming, Kell, and Mahfouz (2002) document an extensive VAR literature that, across many countries, finds short term effects of government spending on growth that imply multipliers that are quite small when compared to the predictions of Keynesian models. Nonetheless, this literature makes it clear that a government spending boom in the U.S. is likely to lift output to some degree above its counterfactual path. However, this may come at some short term cost in reduced private activity. In the long term, one needs to factor in two other literatures before assessing the net costs and benefits of the current actions.

Finally, one should not that this literature, combined with an earlier public finance

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<sup>10</sup> Ramey (2008) p. 3.

literature, raises questions concerning the welfare gain associated with short term increases in spending. Ballard, Shoven and Whalley (1985) for example, find that the marginal cost of \$1 of public expenditure is about 17 cents. Browning (1987) finds that the marginal cost ranges widely, between 10 and 300 percent. Thus, the welfare costs of paying the bill may be greater than the short term boost to the economy from the most optimistic estimates.

### **III.c. The non-Keynesian effects of fiscal consolidations**

Giavazzi and Pagano (1990) began an enormous literature when they studied the impact of fiscal contractions. They found that in some cases--the first identified were Ireland and Denmark--a country can have a dramatic reversal in economic growth when it achieves a successful fiscal consolidation; that is, when it cuts rather than increases government spending, and raises rather than lowers taxes. Similar results have been found for other countries by Alesina and Perotti (1997), Alesina and Ardagna (1998), and Alesina, Perotti, and Tavares (1998).

It is necessary, of course, to attempt to find a roadmap that allows one to predict when a country can expect a non-Keynesian effect of a fiscal consolidation, and when it cannot. Perotti (1999) finds that Keynesian effects seem to be most likely when a government begins the episode with relatively low debt. Jonsson (2007) finds that a consolidation is most likely to stimulate growth if it cuts transfers. Hjelm (2002), in a cautionary tale, finds that the results may be significantly influenced by exchange rate swings, something that might make an expansionary consolidation more likely in a relatively small country with a questionable government prior to the consolidation.

Reading through the literature, it is clear that fiscal consolidations can be stimulative, and even when they are not, their presence provides significant challenges to Keynesian models with large multiplier effects.

A possible theoretical path that could produce non-Keynesian results would be dismay over the possibility that a government might deviate from its long run budget constraint. Canzoneri et al. (2002) use the term Ricardian in the Woodford (1995) sense: A Ricardian regime means that future and discounted budget revenues are expected to pay future government spending and interest on debt (budget surpluses satisfy a present value budget constraint for any prices and discount factors). A non-Ricardian regime means that there is no guarantee that budget revenues will pay for future spending and debt.

The authors show that in non-Ricardian regimes fiscal policy determines price levels. If taxes are cut in an economy with flexible prices and wages, real households have increased wealth which puts pressure on the aggregate demand and raises prices.

Canzoneri and Diba (1998) and Canzoneri, Cumby, and Diba (2001) argue that monetary policy loses its ability to restore prices in the non-Ricardian scenario. The Fed cannot raise the interest rate enough to make the selling of bonds offset the decrease in revenue created by tax cuts. Since a government flipping to non-Ricardian status is a doomsday scenario, a fiscal consolidation might have an enormous positive impact on expectations.

#### **III.d. The negative impact of government in the long run**

While there is a good deal of uncertainty concerning the size of the government multiplier effect in the short run, the long run impact of government spending on growth has a fairly robust underpinning in the empirical growth literature. Barro (1989, 1991) examines the impact of government consumption and investment spending on economic growth in a series of cross-country growth regressions. He concludes that public consumption spending has a robust negative relationship with growth and investment while public investment spending has an insignificant effect on economic growth. Grier and Tullock (1989) find that a one standard deviation increase in government growth reduces average GDP growth by 0.39 percentage points. In other words, there is a strong negative effect of the growth of government consumption as a fraction of GDP. Alesina, et al. (1999) find similar negative results of government spending on economic performance, as measured by business investment, in an analysis of OECD countries. Folster and Henrekson (1999 and 2001) find a negative growth effect of large public expenditures in cross-country analysis.

Other notable papers that examine the long run economic impact of government spending include Landau (1983), Barth and Bradley (1987), and Kormendi and Maguire (1985).<sup>11</sup> Grossman (1988) examines the impact of government expenditure on economic growth in the United States from 1929-1982 and concludes that the negative impact of rent-seeking behavior and the misallocation of resources has considerable costs. In fact, the positive impact of increased government size was offset by the inefficiencies of the provision process. He also notes that the size of these negative effects is likely to

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<sup>11</sup> For a review of the literature evaluating the empirical relationship between government spending and economic growth in a cross-country setting, see Slemrod, Gale and Easterly (1995).

increase with the relative size of government.

### **III.e. Business Investment**

Economic stimulus measures often rely upon temporary tax incentives to stimulate business investment. There is much less debate concerning the ability of tax policy to influence investment.

The literature documenting tax effects generally employs versions of the standard Hall-Jorgenson user cost model, which maps changes in investment tax credits, statutory tax rates, and depreciation rules to a user cost measure of the marginal incentive to invest. A large literature has generally found that the empirical effects of the Jorgenson user cost are significant and of the correct sign (Hassett and Newmark 2008, Hassett and Hubbard 1992). Recent stimulus efforts have also included investment stimulus, which has taken the form of temporary partial expensing. These are intended to accelerate purchases into the period in which the tax benefit exists.

In their research on the effects of the more recent bonus depreciation episode, House and Shapiro (2008) use a novel approach for determining the response to the tax provisions. They assume that firms expected the expiration of the partial expensing provision and explore the implications of this assumption for investment and asset prices before the expiration occurred. They find that investment increased the most for equipment with a longer recovery period, and that “bonus depreciation had a powerful effect on the composition of investment . . . In spite of the sizeable effects on investment, the policy had only modest effects on aggregate employment and output” (House and



Shapiro 2008, 35). These effects are large relative to the policy, but since the policy had a small effect on the user cost, the aggregate effects were small.

#### **IV. Policy Implications and Conclusions**

Since the short run effects of Keynesian policies are uncertain, and the long run effects likely negative, one might wonder whether on balance, activist countries are serving their citizens. One study that looked at this question is Fatas and Mihov (2003). Looking at a panel of 91 countries, they found that

“(1) governments that use fiscal policy aggressively induce significant macroeconomic instability;

(2) the volatility of output caused by discretionary fiscal policy lowers economic growth by more than 0.8 percentage points for every percentage point increase in volatility;

(3) prudent use of fiscal policy is explained to a large extent by the presence of political constraints and other political institutional variables.”<sup>12</sup>

Hemming, Mahfouz and Schimmelpfennig (2002) provide a useful complementary case history of past recessions. Based on data from all OECD recessions between 1971 and 1998, they find that the impacts of expansionary policy were barely noticeable, and may at times have been negative. Consistent with the pattern one would expect from the fiscal consolidation literature, they find that countries with high debt positions that pursued fiscal expansions in their recessions saw their growth rate drop 4.3 percent below trend growth, on average, during the recession in question. Countries that had high debt positions and contracted their fiscal position posted rates 3.8 percent below trend growth. For lower debt countries, the pattern was reversed. Those countries that pursued fiscal

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<sup>12</sup> Fatas and Mihov, p 1419.

contractions had posted rates that were 5.3 percent below trend, while those with fiscal expansions grew at 4.4 percent below trend growth.

These rather disappointing results are consistent with the balance of the literature as summarized above, and rather bad news for countries attempting Keynesian stimulus at the moment. Government debt has expanded so rapidly during the government bailout that one might expect the high debt results to apply in most countries. In that case, then, the short run positive effects may be minimal. The large expansion of government spending also creates something of a problem for policy makers. If they unwind the spending all at once, then they may, even optimistically, only postpone some subset of the recession. If the government spending spike is not unwound, then the long run negative growth results kick in.

It is certainly a higher order problem to manage the end of stimulus well, which perhaps explains the conclusions of Fatas and Mihov. Given the risk that this recession may last as long as past recessions following financial crises, it seems quite possible that uncertainty concerning future tax increases or government spending declines may lengthen this recession.

This suggests that a policy error may be underway in the United States. The error is derived from the view that any measure taken today must itself be temporary. That view does not follow logically from the literature. Permanent changes exist that could provide an immediate boost to the economy, and that would run a smaller risk of running into problems highlighted by the fiscal consolidation literature.

Two such policies come to mind immediately. First, the indexing formula for Social Security could be changed from wages to prices. A recent analysis by the Social Security Administration found that over a 75 year time horizon, this would improve the long run budget condition by \$4.5 trillion in present value.<sup>13</sup> If some fraction of that revenue were recycled, say, through a reduction in the payroll tax, then one might see both a consumption increase and a positive fiscal consolidation effect.

Alternatively, the government could announce today that the corporate tax rate would gradually be reduced from 35 percent to 25 percent, while again covering any expected revenue loss from that with modifications to long run budget paths. The declining corporate tax rate would act like an Investment Tax Credit today, giving investors an incentive to pull their deductions forward into the high tax rate period. The move toward a consumption tax would also improve the long run efficiency of the economy.

Such policies would, the literature suggests, stand a much better chance of providing sustained growth. As it is, policymakers may well have to return to such ideas shortly, when this round of Keynesian stimulus provides only a small and fleeting boost.

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<sup>13</sup> [http://www.ssa.gov/OACT/solvency/provisions/charts/chart\\_run176.html](http://www.ssa.gov/OACT/solvency/provisions/charts/chart_run176.html)

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Figure 1.

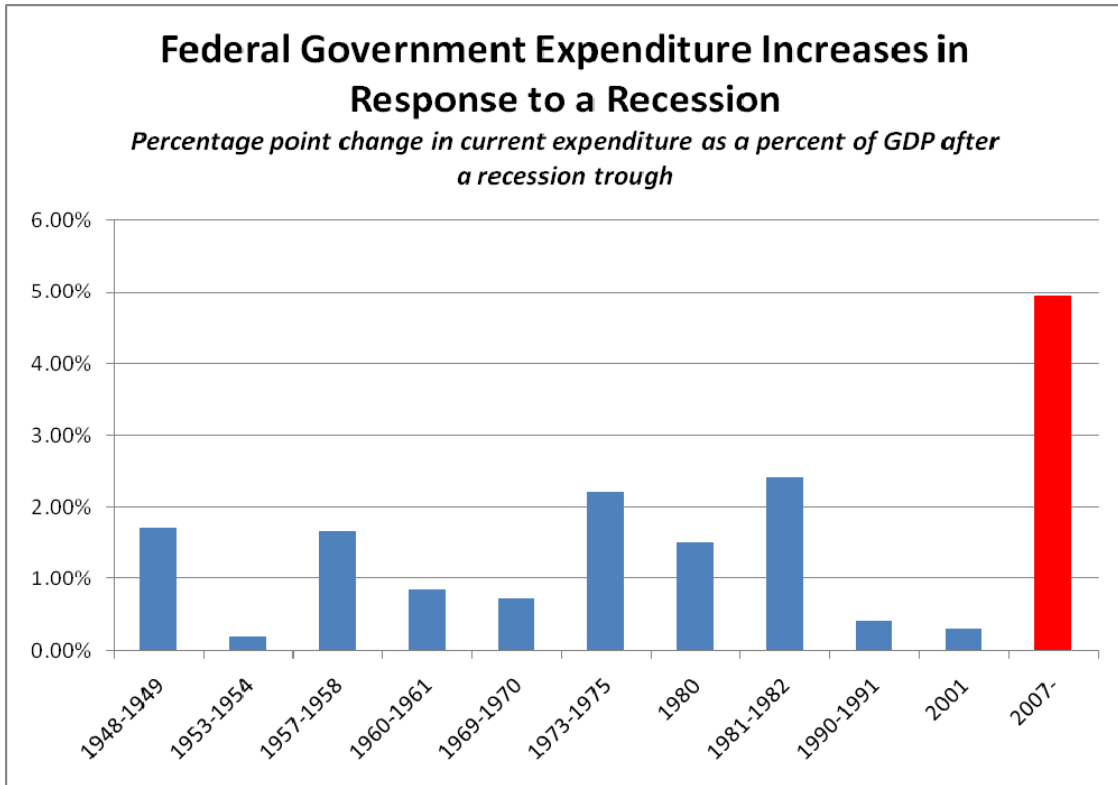


Figure 2.

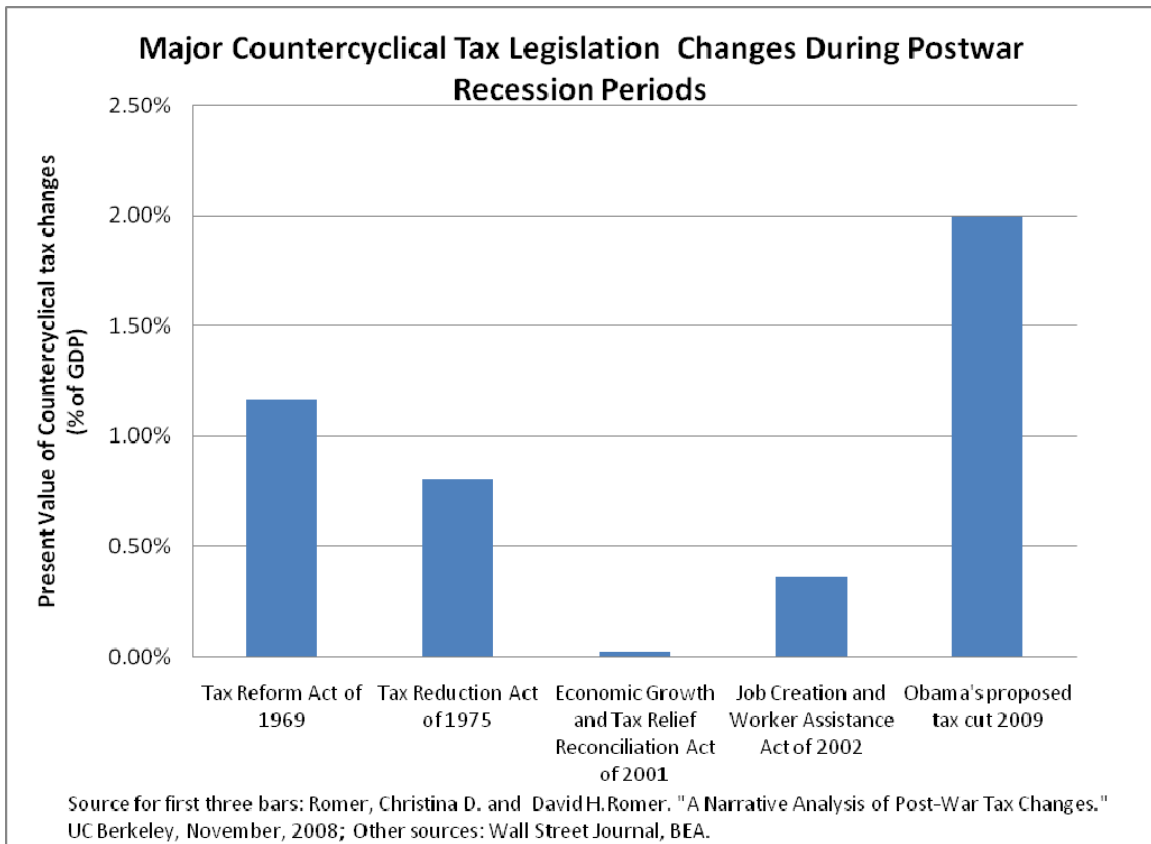
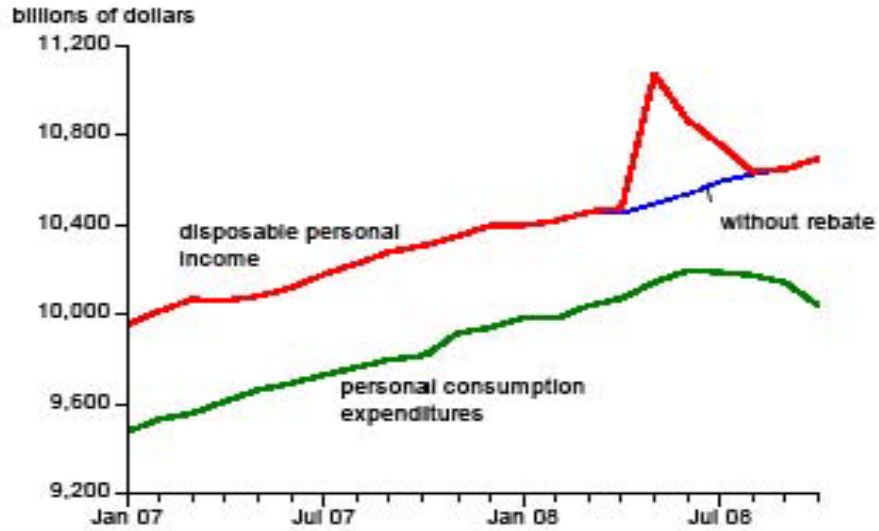


Figure 3.



Source: Taylor, John B. 2009. The Lack of an Empirical Rationale for a Revival of Discretionary Fiscal Policy. Prepared for the Annual Meeting of the American Economic Association, Session “The Revival of Fiscal Policy”, January 4.

Table 1.

**Present Value of Future Tax Burden by Income Group**

Sources and notes: Author's calculations based on data from the Brookings-Urban Tax Policy Center and

<b>Adjusted Gross Income</b>	<b>Future Income Tax Burden</b>	<b>Estimated Current Tax Benefit</b>
\$25,000 under \$30,000	\$ 2,613	\$670
\$30,000 under \$40,000	\$ 3,881	\$688
\$40,000 under \$50,000	\$ 5,860	\$724
\$50,000 under \$75,000	\$ 9,281	\$835
\$75,000 under \$100,000	\$ 14,522	\$1,319
\$100,000 under \$200,000	\$ 28,914	\$2,797
\$200,000 under \$500,000	\$ 92,955	\$5,647
\$500,000 under \$1,000,000	\$ 263,381	\$4,201

IRS Statistics of Income. Income categories are based on adjusted gross income for tax year 2006; income tax amounts are based on "income tax before credits." Incomes below \$25,000 are assumed to have zero or negative income tax liability. A \$1.75 trillion deficit for 2009 is assumed for future tax burden calculations. "Estimated Current Tax Benefit," is based on the Brookings-Urban Tax Policy Center and the author's calculations. It indicates the impact of individual income tax measures in The American Recovery and Reinvestment Tax Act of 2009 as passed by the House Ways and Means Committee combined with the 2009 AMT patch.

The deficit is distributed across tax payers according to the distribution of 2006 tax liabilities. If the distribution of the income tax is unchanged, and the deficit is ultimately paid for via income taxation, then the table indicates the additional burden associated with this year's projected deficit.