Does Fiscal Stimulus Stimulate?

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ABSTRACT

The recession of 2008-2009 - one of the longest and deepest since the Great Depression - has made the effectiveness of fiscal stimulus packages one of the most prominent policy debates in economics today. These packages typically attempt to smooth out business cycle fluctuations through a combination of increased government purchases of goods and services and tax cuts. Unfortunately, the existing empirical evidence on the size of the spending multiplier is limited.

This paper investigates the impact of changes in personal income on consumer's spending. The result is that the spending multiplier shrunk. This paper shows that consumers are less responsive to an increase in their disposable income and, in turn, it makes the fiscal –stimulus programs less effective and therefore creates slow recovery. This paper can provide a useful benchmark in thinking about the design and effectiveness of fiscal stimulus program.

Keywords: Economics; Macroeconomics Policy; Fiscal Policy; Fiscal Stimulus; Global Recession

INTRODUCTION

*R*ecession is a natural part of the business cycle. It is a period of general economic decline, defined usually as a contraction in the GDP[1] for six months (two consecutive quarters) or longer. Marked by high unemployment, stagnant wages, and fall in retail sales, a recession generally does not last longer than one year and is much milder than a depression. When there is a recession, the federal government uses expansionary fiscal policy to stimulate the economy. That is the increase in government spending and decrease in taxes (known as fiscal stimulus package). The global recession of 2008-2009, one of the longest and deepest recession since the Great Depression, has made the effectiveness of expansionary fiscal policy one of the most prominent policy debates in economics today. Figure 1 (see Appendix) shows that GDP decreased by more than 3% in 2009.

There are many reasons for the slow pace of economic recovery in the United States. The economy has continued to recover from the recession, but the pace of recovery has been slower than many of us had hoped or anticipated. Indeed, since the recession trough[2] in mid-2009, growth in real GDP has averaged only a little more than 2 percent per year. Similarly, the job market has improved over the past three years, but at a slow pace. The unemployment rate, which peaked at 10 percent in the fall of 2009, has since come down 2 percentage points to just below 8 percent. This decline is obviously welcome, but it has taken a long time to achieve that progress, and the unemployment rate is still well above both its level prior to the onset of the recession and the level that many of us think can be sustained once a full recovery has been achieved. Moreover, many other features of the jobs market, including the historically high level of long-term unemployment, the large number of people working part time because they have not been able to find full-time jobs and the decline in labor force participation, reinforce the conclusion that we have some way to go before the labor market can be deemed healthy again.

The overall effect of fiscal stimulus on the economy, both in the near term and in the longer run, remains quite controversial. George Walker (2003) discusses the recession of 2003 and investigates the impact of fiscal stimulus on the job market. He concludes that "the notion that a tax plan's ten-year price-tag provides any measure of its efficacy as a short-term stimulus is absurd. The stimulus will not create many jobs now, whatever Bush says."

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[1] GDP: Gross Domestic Product is the best measure of the economic well-being of a country. It is the market value of all final goods and services produced within a country in a given period of time.
[2] Trough: a lowest turning point of a business cycle. That is when GDP reaches the minimum.

On the other hand, Kenneth Kuttner, the Assistant Vice President of Federal Reserve Bank of New York, and Adam Posen, a Senior Fellow from the Institute for International Economics (2001) investigated the effectiveness of fiscal policy in Japan in the last decade and found out that the passivity of Japanese savers seems to have contributed to the effectiveness of fiscal policy.

The recent recession of 2008-2009 has made the effectiveness of fiscal stimulus packages one of the most prominent policy debates in economics today. These packages typically attempt to smooth out business cycle fluctuations through a combination of increased government purchases of goods and services and tax cuts. The spending component of these packages is typically motivated by the belief that the spending multiplier is greater than one. The notion of a spending multiplier is essentially the ratio between the increases in government spending relative to the associated increase in GDP. If the multiplier is 1, then $100 million of incremental government expenditures would be assumed to generate $100 million of incremental GDP. For example, if the government increased public investment by $100 million to build a bridge, this $100 million would directly go into the national income accounts as a $100 million increase in government investment. If the spending led to second order spending effects – perhaps through greater consumption spending by the employees of the construction company that won the contract – the multiplier could conceivably be greater than 1 as the personal income generated by the initial outlay supports ancillary consumption spending.

Economists ask the question this way: how much did real GDP change when a government increases its spending and cuts taxes? This core fiscal policy question is nearly always at the forefront of the policy debate, but this is specially the case today because of the disappointingly slow pace of our economic recovery from 2008-2009 recession. In 2008, Mark Zandi estimated that the multiplier for food stamps was 1.73. Presumably this is because the spending on food stamps generates additional production of eligible agricultural products and increases retailers' gross receipts. Coenen, Straub, and Traband (2013) seek to quantify the impact on euro area GDP of the European Economic Recovery Plan (EERP) enacted in response to the financial crisis of 2008–2009. They show that the EERP had a sizeable, although short-lived, impact on euro area GDP. Since the EERP comprised revenue and expenditure-based fiscal stimulus measures, the multiplier is below one. Unfortunately, the existing empirical evidence on the size of the spending multiplier is limited. Therefore, this was the motivation to do research about the size of the spending multiplier in our economy.

APPROACH AND PROCEDURE

Previous research has taken a variety of different approaches in attempting to measure the impact of fiscal policy tools on output (GDP). One approach, exemplified by Blanchard and Perotti (2002), has been to use vector-auto regression (VAR) models in which identifying assumptions are made on the order in which the variables are allowed to move. Typically, the government expenditure variable is allowed to move first, and the responses of other variables are treated as causal. Another approach comes from Romer and Romer (2008). Their project takes a "narrative" approach, in which they read the legislative record for evidence on the motivation behind tax changes, as well as the size of the intended impact on federal tax revenue. They use this evidence to categorize tax changes as either endogenous or exogenous and then measure the impact on output from the exogenous shifts. Using a third approach by Barro and Redlick (2009) extended the time series of average marginal income-tax rates in the US constructed by Barro and Sahasakul (1983, 1986). They concluded that total economic output increases less than one for one with increased government purchases.

In this paper, a linear regression is used to test the marginal propensity to consume using the time series of personal consumption and personal disposable income from 2006 to 2012. Table 1 (see Appendix) shows the data.

RESULT AND ANALYSIS

Judging the economic impact of the fiscal stimulus package depends on the responsiveness of consumers spending to a change in their disposable personal income (MPC) and therefore depends on the size of the spending multiplier. To measure this impact, the relationship between the consumption and disposable personal income is estimated using a linear regression model with real personal consumption as the dependent variable and personal disposable income as the independent variable from 2006 to 2012.

Personal Consumption Expenditure = α + β (disposable Personal income) where β is MPC

This paper is built from Jamie Ermerson's (2011) analysis by extending her findings and investigating the MPC from 2006-2012. Table 2 (see Appendix) represents the linear regression parameters (intercept, the MPC, spending multiplier, and the R squared) from 1929 to 2012.

Table 2 allows us to understand the change of consumers' spending behavior with response to a change in their disposable personal income as a result of fiscal stimulus. If consumers are less responsive to a change in their disposable income (MPC is low and the spending multiplier is low) the fiscal stimulus would not stimulate the economy. From 2006 to 2012, for every extra dollar, consumers spend 79 cents of it and save the rest. Therefore, the spending multiplier is only 4.76; that is for every one dollar the government spends, the GDP increases by only $4.76 which is the lowest since 1941.

There are many factors that may explain this decrease in the spending multiplier. One of them is the increase in personal saving as a percentage of disposable personal income. Table 3 (see Appendix) shows the personal saving as a percentage of disposable personal income. U.S. consumers saved only 3% of their disposable personal income prior to the recession of 2008-2009. During the recession, the personal saving as a percentage of disposable income doubled. After the recession, this rate remained above 5.5%. This is maybe due to the consumer's lack of optimism and confidence about the future which in turn reduces the speed of the recovery from this global recession.

In the typical post-war business cycle, lower than normal growth during the recession is quickly followed by a recovery period with above normal growth. This above normal growth serves to speed up the reentry of the unemployed to the workforce. Once the economy reaches potential output (and full employment), growth returns to its normal growth path, where the pace of aggregate spending advances in step with the pace of aggregate supply. There is a concern that this time the U.S. economy will either not return to its pre-recession growth path but perhaps remain permanently below it, or return to the pre-crisis path but at a slower than normal pace.

Many people strongly believe that consumer confidence about the future led to a weaker than normal recovery. The Conference Board compiles a survey of consumer attitudes on the economy. The headline Consumer Confidence Index is based on consumers' perceptions and expectations for six months of current business, employment conditions and income. Three thousand households across the country are surveyed each month. The U.S. consumer confidence from 2008 to 2012 and from 1966 to 2011 is presented in Figure 2 and Figure 3 (see Appendix). These figures clearly illustrate that the U.S consumer confidence index hits its bottom in 2008-2009.

CONCLUSION

The US economy continues to be hampered by the lingering effects of the recession of 2008-2009 on its productivity potential and by a number of headwinds that have hindered the normal cyclical adjustment of the economy. While the Federal Reserve is doing its part by providing accommodative monetary policy to promote a stronger recovery, currently, uncertainties about the prospects for federal fiscal policy seem to be weighing on the spending decisions of households and businesses. Such uncertainties will only be increased by discord and delay. In contrast, congressional cooperation and collaboration to deliver fiscal clarity could help make the New Year a very good one for the American economy.

Thus, fiscal policy has the potential to be used for economic stabilization, but whether the fiscal stimulus programs will succeed depends on consumers' confidence about the future. Hopefully, this research can provide answers to these critical questions and be a useful benchmark in thinking about the design and effectiveness of fiscal stimulus programs.

AUTHOR INFORMATION

Najiba Benabess earned BS in Economics in 1997, MA in Economics from Western Illinois University in 2000, and Ph.D. in Economics from University of Wisconsin Milwaukee in 2007. She is currently an Associate Professor of Economics and the Director of The School of Business and Management in NU. E-mail: nbenabes@norwich.edu

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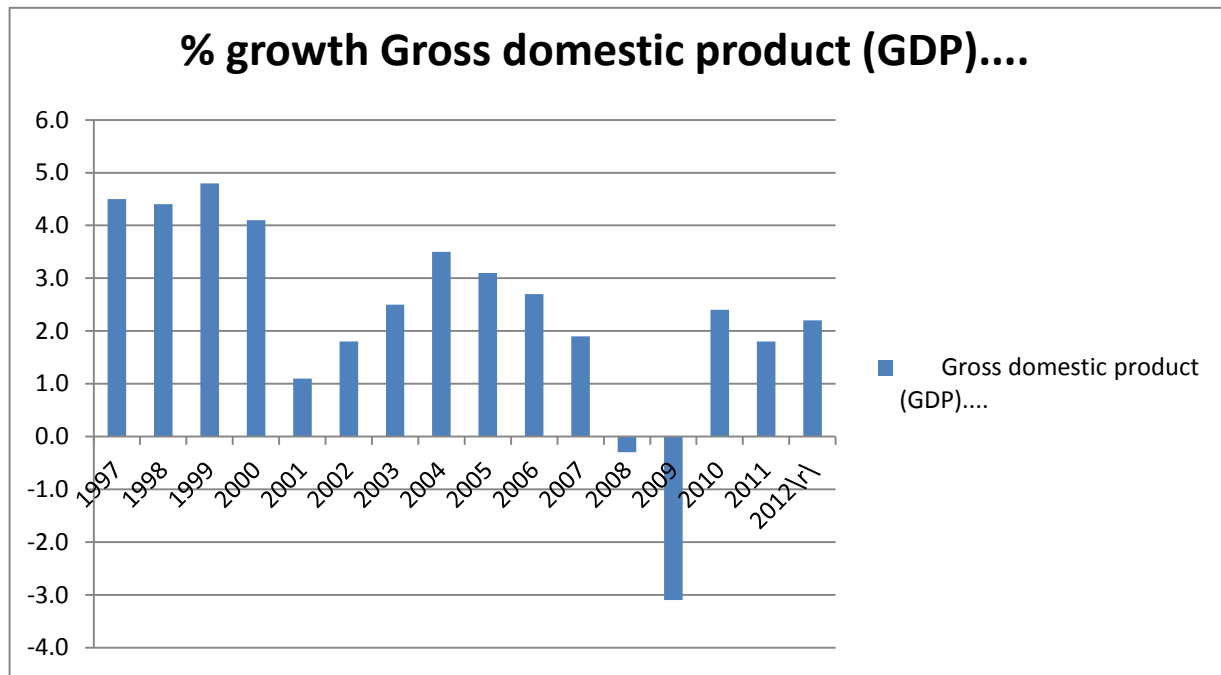
APPENDIX

% growth Gross domestic product (GDP)....

Figure 1: Source - U.S. Department of Labor, Bureau of Labor Statistics

Table 1: Output Summary for This Estimated Regression Using Minitab16

The regression equation is: Personal consumption expenditure = 284 + 0.790 personal income					
Predictor	**Coef.**	**SE Coef.**	**T**	**P**	
Constant	283.6	404.2	0.70	0.514	
Personal Income	0.79030	0.03237	24.41	0.000	
S = 62.1626; R-Sq = 99.2%; R-Sq(adj) = 99.0%					
Analysis of Variance					
Source	**DF**	**SS**	**MS**	**F**	**P**
Regression	1	2303323	2303323	596.07	0.000
Residual Error	5	19321	3864		
Total	6	2322644			

Table 2: MPC from 1941-2012

Time Period	Intercept	MPC	Spending Multiplier (Benabess)	R Squared
1929-1941(Ermerson)	160.72	0.73	3.7	0.9785
1946-1985 Ermerson)	80.92	0.86	7.14	0.9993
1986-2004(Ermerson)	545.60	0.99	100	0.9989
2006-2012 (Benabess)	284	0.79	4.76	0.99

Table 3: The Personal Saving as a Percentage of Disposable Personal Income

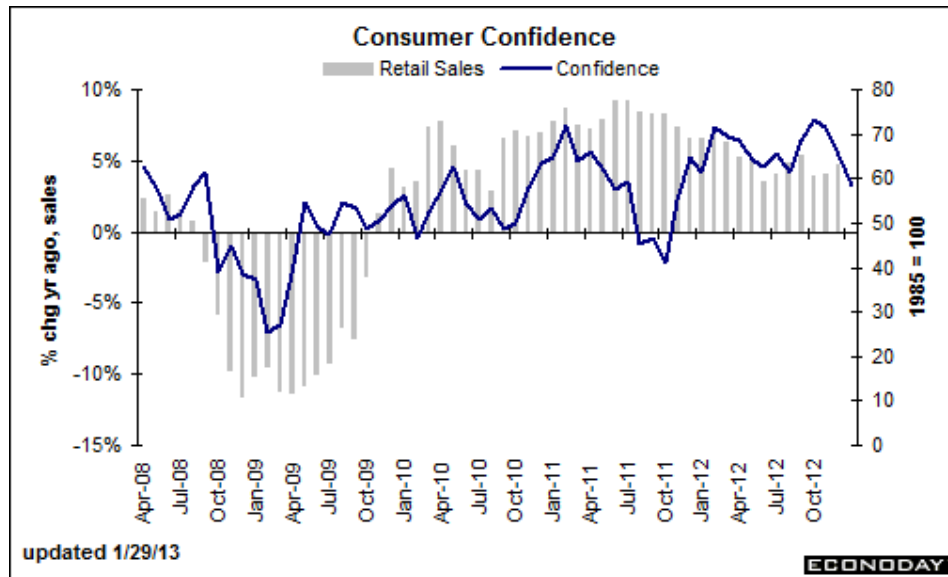| Year	Personal Saving As A Percentage Of Disposable Personal Income
2004	4.6
2005	2.6
2006	3.4
2007	3
2008	5
2009	6.1
2010	5.6
2011	5.7
2012	5.6

Source: The U.S. Bureau of Economic Analysis Website

Figure 2: Consumer Confidence from April 2008 to October 2012
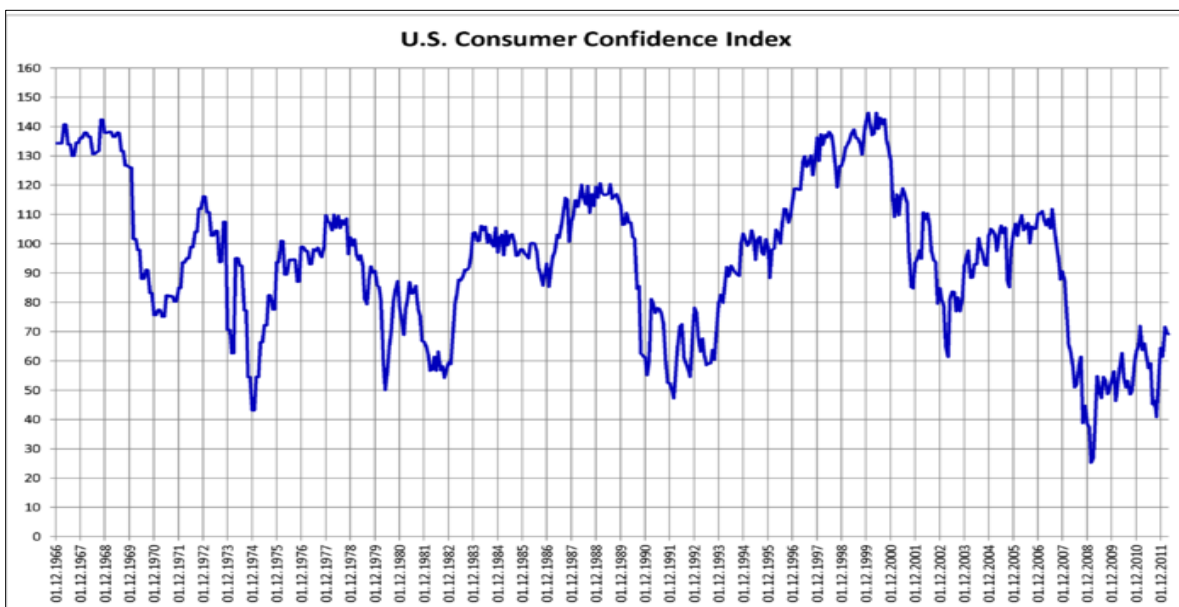Source: U.S. Department Of Labor - Bureau of Labor Statistics

Figure 3: U.S. Consumer Confidence Index from 1966-2011

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