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# Financial Crisis and Economic Downturn

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**ABSTRACT**

In the recent economic recession, Federal Reserve (The FED) and Federal Government have preferred different methods to stimulate the economy. The key factor is the choice of financing each have following to implement their stimulus programs. The FED had opted to use quantitative easing (QE), in increasing money the FED expect to ease credit and investments by commercial banks hence improving the flow of money in the economy. The Federal Government have opted to use US Treasuries in paying vast fiscal stimulus programs to fuel the economy. Both are feasible for the objective each is trying to pursue; however both have long-term disadvantages on the economy. For this purpose, the focal point of this paper is to discuss the stimulus programs. Findings show that the current recession is a combination of financial crisis in the banking system and an economic downturn. Hence, there is a requirement for the implementation of both fiscal stimulus and countercyclical monetary policies to stimulate the economy.

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* Details, results and tables are available from authors on request.

## I. INTRODUCTION

In the current economic downturn the Federal Reserve and federal government have chosen different methods to stimulate the economy. The main factor is the choice of financing each have following to implement their stimulus program. The Federal Reserve had opted to use quantitative easing, in increasing money the Federal Reserve hope to ease credit and investments by the commercial banks therefore improving the flow of money in the economy. The federal government has opted to use US Treasuries in paying for huge fiscal stimulus programs to stimulate the economy. Both are feasible for the objective each is trying to pursue; however both have long term disadvantages on the economy.

Certainly the argument on using counter cyclical monetary policy to reduce price volatility and macroeconomic risks at the banks is relevant to the whole economy not least because of the credit market. As mentioned by Mishkin (2009), there is a misconception in the general view that monetary policy have failed with the reduction in valuation and macroeconomic risks. Another key success of the aggressive monetary easing policy adopted by the Federal Reserve is the lower interest rates on US Treasuries and hence a reduction in the credit spreads. However in providing $6.4trllion dollars in liquidity and capital to the banking system, the Federal Reserve chose not to rely on the controversial method of raising capital via the US Treasury issuing debt on behalf of the Federal Reserve but instead to use quantitative easing. According to Taylor (2009) contrary to the generally held view the Federal Reserve didn't significantly increase it's holding in US Treasuries as part of the executing of quantitative easing.

Underlining any arguments on fiscal stimulus policy is the increase in the supply of debt. The problem is that any stimulus policy is going to be very expensive and there is no guarantee of its success. And whether or not it is successful is irrelevant when considered against the huge tax burden of an increase in the interest payment on the debt in the long run. Therein lay the key issue which bought this famous quote from Keynes (1923): "*The long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is past the ocean is flat again*" However the analysis of the US economy seems to point to the requirement of fiscal stimulus policy to stimulate the economy and with the federal government already having committed a staggering $4.56trillion and respectively to recapitalize or save a number of big corporations and stimulate the economy.

In researching and analyzing the factors influencing the supply of US Treasuries during the current recession, it is essential to note the depth of the recession. According to Feldstein (2009) at the heart of the current recession lies the huge erosion of householders' wealth to the extent of $10 trillion mainly due to the underpricing of risk and excessive leverage, which resulted in the repricing of risk causing a fall in the price of shares and houses. This resulted in householders becoming more risk averse to expenditure which leads to a reduction in production causing either a hike in unemployment or a reduction in income; hence leading to a downwards spiralling economy. The evident based on the data from the Federal Reserve and Bureau of Economic Analysis seems to be suggesting that this is the worst recession since the

1930s and as of 31 July 2009 it is certainly the longest since the 1930s according to the National Bureau of Economic Research.

The analysis into the wide use of both policies during the current recession is compelling, since quarter 3 2008 both the federal government and Federal Reserve have fiercely implemented their own countercyclical policies. The massive increase in debt and monetary base is evident of these increasingly costly countercyclical policies with a total of $10.96triillion already committed by the federal government and Federal Reserve. Thus leading to a 99.31% jump in monetary base nearly doubling since the introduction of quantitative easing and a 25.1% increase in US Treasuries since the beginning of the recession.

The first section of this article is an analysis into the economic data underpinning the recession and hence the increase in the public sector debt and monetary base. The final section is the analysis of the government fiscal budget and public sector debt, this section will analyze the use of US Treasuries and monetary base to pay for the countercyclical policies.

At the heart of the argument on using countercyclical policy during the current economic downturn are the key questions of whether we should increase the supply of government debt to stimulate the economy and what the side effects of the high debt are? There are many articles and reports written on the effect of countercyclical policy on the debt and the reasons for implementing a fiscal stimulus policy.

Since, as Keynes (1936) emphasizes, the levels of output and employment are determined by aggregate demand which is why Keynes advocated for a stimulus fiscal policy with during economic downturns or recessions, hence the federal government needs to stimulate aggregate demand to improve the economy. In a study of optimal policy during a recession Magud (2008) concludes that counter–cyclical policies or stimulus fiscal policies should depends on the initial conditions. For example in a highly indebted country the objective must be on reducing the debt mainly because of the expansionary effects it has on the country's output. However in a low indebted country the counter cyclical or stimulus measures of the standard Keynesian policy does work. Furthermore the government should not only react to a reduction in aggregate demand but also to uncertainty regarding aggregate demand. In essence a country's policy should be the optimal policy for its requirement. This is argued in a different manor in Alesina et al (2002) who states that changes in fiscal policies have negative effects on investment and profits which could explain the "non-Keynesian" effect. In essence public spending and taxes have a great effect on private investments, hence Alesina et al (2002) concludes that increases in public spending and taxations have a negative effect on private investments and profits under normal economic situations in eighteen OECD nations.

One key assumption regularly made in macroeconomic theories is that fiscal deficit is inflationary. However according to numerous studies over the years such as Fischer et al (2002), this relationship is weak amongst inflationary economies and is even weaker among the economies with a low rate of inflation.

Another key argument is higher debt leads to higher taxes. This is a valid argument as Baxter and King (1993) also note that permanent increases in government purchases have a negative effect on personal wealth. The key here is an increase in government purchase inevitably leads to an increase tax rates which induce a decline in output; this in turn causes additional tax rates raises. But they counter this argument by

stating because temporary government purchases are often in the aftermath or during crises such as wars or banking crises, hence this may lead to tax distortion which would be counter-productive in terms of consumption and output. Tax distortion may be avoided by use of public debt to finance temporarily high purchases. However Auerbach (2003) argues increases in expenditure leads to increases in budget deficits which past practices suggests substantial tax increases and expenditure cuts in order to bring the deficits under control, thus possibly weakening the recovery. This point is also argued by Tobin (1971, p. 91) who states "How is it possible that society can merely by the device of incurring debt to itself can deceive itself into believing that it is wealthier? Do not the additional taxes which are necessary to carry the interest charges reduce the value of other components of private wealth?" However, as Myrdal (1939) notes that with few exceptions budgets had never been balanced

As stated above, the high debt on the federal government which according to Taylor (2000) is the main contributory factor for the US Congress has rejected two fiscal stimulus policies in the 1990s. As hinted by Auerbach (2003), the problem is that any fiscal stimulus plan has to take into account the public sector debt which is already increasingly huge and expensive to service. However as stated by Keynes (1932), it would always be in the interest of the Treasury to supply the market's heterogeneous requirements with securities of varying types and maturities so as to minimize the cost of the national debt. And according to Bohn (2002), as late as 2002 the predictions were for a shortage in US Treasury bonds for the period 2012 to 2015 as the US Government pays off the majority of its debts. He hints at massive investment in US Treasury bonds by the Social Security Department in anticipation of the baby boomers problem which would alleviate the huge bill of an aging population starting in 2020. Auerbach (2003) also hints at the baby boomer problem by stating one of the biggest problems facing fiscal policy is an aging population leading increase pressure on the fiscal policy to balance revenue and expenditure which is near impossible in economic upturn periods due to the social security bill raising and taxation revenue shrinking.

## II. ANALYSIS INTO THE FEDERAL GOVERNMENT BUDGET AND THE SUPPLY OF US TREASURY NOTES AND BONDS

It is worth noting that in an open market economy the economic trend dictates the supply of government debt; in general this is mainly due to the procyclical nature of revenue and counter cyclical nature of expenditure. This means that during normal economic conditions, excluding the war factor, the federal government should generate a budget surplus but this is rarely the case. While under recessionary conditions the federal government will generally be running increasing budget deficits. As highlighted in the introduction most economists and members of both houses of congress use the high levels of debt as an argument against any fiscal stimulus. However, the previous section highlights the problems faced by the federal government with an economy in the deepest recession since the great depression and the failure of monetary policy meaning there is a requirement for a fiscal stimulus policy as hinted by Feldstein (2009) and Spilimbergo et al (2008). The size of the fiscal stimulus and banks recapitalization programs leads to an increase in the supply and variety of government debts securities. Therefore there is a need to analyse the quarterly budget and the supply of the US Treasury debt.

According to Bohn (2002) the projection in 2002 was that there would be large accumulated uncommitted funds by 2012 with the government projected to pay off the majority of public debt by 2012-2015. The problem was then perceived as how the government should manage the uncommitted funds. And therein lays the danger in over-estimating the problem, the federal government may end up with a large pool of accumulated unused funds which could render the US Treasury market illiquid in the future by reducing the supply of various securities. As table 1 show, the federal government have already committed a grand total of approximately $10.96trillion but the key issue is the total unused funds stand at approximately $8.12trillion. Although, this could very well be re-committed elsewhere in the stimulus programs and analyzing the TARP carefully there is evident of the development of the program as the requirement change due to the circumstances surrounding the recession evolving. However there is an added complication in that the funds invested in any recapitalizations or acquisitions of failing financial institutions could be recouped when the financial conditions are better meaning that the government will have a huge injection of capital in the next few years which will have an adverse effect on the liquidity of the US Treasury market.

An important player during this recession is the Federal Open Market Committee which is responsible for approximately all of the Federal Reserve rescue efforts. As Taylor (2009) observes the Federal Reserve could raise the required fund by using one of three methods: borrow the funds direct, thru deposit from the Treasury or thru the use of quantitative easing. However as Taylor (2009) states the Federal Reserve didn't used the first and rarely used the second options which were thought to be too controversial. This meant that the only option left was a policy championed by Friedman (1948), as described earlier, which called for increasing money aggregates during recessions. More commonly called quantitative easing, this policy started in September 2008. Basically this policy is a license to "print money" and exchange it for Treasury Securities or other financial assets within the banking system. Although as Taylor (2009) hints the balance sheet of the Federal Reserve shows there wasn't a significant increase in the total amount of US Treasuries. However, as chart 1 show historically monetary bases growth has varied within a range of -1 to 1% and the most it has varied was in December 1999 and February 2000 when it rose by 3.9% and then fell by 3.1%. Yet in the space of nine months from September 2008 to May 2009 money bases grew an average of 9.11% with two double figure increases of 24.87% and 26.83% in October 2008 and November 2008 respectively. Despite reductions of 8.55% in February 2009 and 5.11% in June 2009, yet by June 2009 the money base have grown from $842.81billlion in August 2008 to $1.68trillions, a growth rate of 99.31%; which according to Taylor (2009) is greater than the growth envisioned by Milton Friedman. The downsides of this growth rate are that it could be inflationary and may leads to currency devaluation in the long run. However in the short run deflation is clearly more of a worry for the Federal Reserve plus many of the major central banks are executing similar plans of increasing their money bases; hence these two downsides are not relevant in the current global recession. The main reason for quantitative easing is to improve the flow of capital by increasing the money in the economy, however as the data from the Federal Reserve proves the total amount of commercial and consumer credit since the introduction of quantitative easing with the exception of February and May 2009 have seen contraction in the month on month growth rate. This suggests that

the banks are not investing the extra money in the economy but are strengthening their capital.

According to the Tax Foundation, the American tax system have been simplified and the rates have been reduced from a complicated tax system involving 26 tax bands and a higher rate of 70% in 1978 to a tax system which is based on 6 tax bands with a lower rate of 10% and top rate of 35% in 2009. However according to Government receipt and expenditure data from the Bureau of Economic Analysis the taxation revenue have increased 470.84% over the period; even taking into account the time value of money this a huge increase.

Certainly the economic trend does have an effect on the fiscal policy of the time. Even without a fiscal stimulus, in any economic downturn governments tend to have a reduction in taxation revenue and an increase in expenditure leading to the inevitable hiked in budget deficit; and the opposite effect seem to hold true in an economic upturn; pointing to taxation revenue being pro-cyclical. This was the factor during the 1991-2001 economic upturn which produced a constant increase in taxation revenue despite the decreases in tax rates. This was followed by a decrease in taxation revenue during the recession of 2001; leading to a surge in taxation revenue during the economic upturn of late 2001 to late 2007. Witness the downwards sloping curve towards the end of chart 1; interestingly there have not been a period where there have been negative growths in taxation revenue for four out of five quarters since 1947. And if the next quarter produces negative growth as is likely then it will be the first time since the period between quarter 4 1974 and quarter 2 1975 where there was negative growth in taxation revenue for three successive quarters. And therein lays the main worry for the federal government in this recession, already there has been a drop of 13.42% in taxation revenue since the initial feedback effect.

However an interesting issue arises from the analysis of the taxation revenue during both economic downturns since the dawn of the new millennium. The issue is the lag time between the beginning of a recession and any feedback effect on the taxation revenue. According to the National Bureau of Economic Research the recession of the early 2000s started in March 2001, the lag time for the initial feedback effect on the taxation revenue was approximately 6 months. Yet the lag time between the start of the current recession which started in December 2007 and the initial feedback effect on the US taxation revenue was only 3 months. It appears the intensity of the current economic downturn was so enormous that the lag time was reduced to virtually non-existence. Interestingly the writing was on the wall during quarter 3 2007 when there was flat growth in taxation revenue.

As stated before, at the start of the new millennium the worries were of a drying up of the US Treasury market leading to a liquidity problem. This was mainly due to a 14 months period of budget surplus from 1998 quarter 1 to 2001 quarter 2. Interestingly, 2001 quarter 2 saw a drop of 54.35% in the surplus, the effect of growth in the expenditure. However what is questionable is the feedback effect of the 2001 recession on the budget deficit at a time when America went to war. Certainly the feedback effect on the revenue wouldn't have helped the increasing budget deficit; looking at the 3$^{rd}$ quarter of 2001 when the revenue fell, it would seem that the combination of the decrease in revenue and increase in expenditure from the automatic fiscal stabilizer led to a budget deficit. However from the following quarters, there is growing evident that the cost of the two wars was the main contributory factor in the

increasing budget deficit despite the increasing revenue. Looking at chart 2, the budget deficit seems to be generally improving at the height of the recent economic upturn and that had it not being for the two wars there would have been a budget surplus before the current recession. Certainly the combination of weakening total fiscal revenue and increasing total fiscal expenditure during the current recession is the main contributory factor in the huge budget deficit, with total expenditure increasing 10.96% and total revenue shrinking by 8.23% in the space of 1 and a half years between quarter 3 2007 and quarter 1 2009. As shown in chart 2, when combined these changes in the fiscal budget produced a steeply downwards slopping curve in the budget deficit. The budget deficit has increased 192.22% from $425.2billion to $1.31trillion during the current recession.

At the start of the new millennium the public sector debt was decreasing slightly which was the cause of the fear that there'll be a shortage of US Treasury securities within the next ten years. The fear was that the US government was on course to paying the majority of the public sector debt by 2012-2015 as highlighted before. However the fear was short-lived and the gradual increase in the public sector debt throughout the new millennium was one of the main factors behind the heated argument in the congress as it debated the recapitalization of the banking system aka TARP and the fiscal stimulus programs. Chart 3 shows a rapid increase after July 2008 which is in timing with the rapid increase in the budget deficit. This meant that public sector debt increased approximately $2.4trillion over the current recession to date, a growth rate of 26.19%.

Interestingly, chart 3 also clearly highlights the trend in debt as a factor of GDP with a particular emphasis on two opposing issues. As described earlier in this section, the budget surpluses and a prolonged economic upturn means towards the end of the 1990s and the start of the new millennium had the effect of decreasing the debt to GDP ratio to approaching 55%. And while the recession of 2001 and the two wars did increase the debt, yet chart 3 shows the upwards movement in the ratio remained steady throughout the period mainly due to a corresponding growth in the GDP. This is a major factor to consider when analyzing the trend in the ratio is the trend due to a decrease/increase debt or GDP. In the early stages of the current recession the ratio continued its steady rise hitting 65.47% in 2008 quarter 2. However during 2008 quarter 3 the ratio jumped from 65.47% to 68.91% followed by increases to 74.58% in 2008 quarter 4 and then 78.48% and 81.59% in 2009 quarters 1 and 2 respectively. The reason for the rapid growth in the Debt/GDP ratio seems to be a combination of a decrease in GDP and increase in debt which happened over the last three quarters.

## III. CONCLUSION

In summarising the findings of the article, it is fair to say that the current recession is a combination of financial crisis in the banking system and an economic downturn. Hence there is a requirement for the implementation of both fiscal stimulus and countercyclical monetary policies to stimulate the economy. In truth the main debate is whether the benefits of any countercyclical or stimulus policy in the short run will outweigh the cost of implementing such a policy in the long run. The implementation of both would seem to hint at the seriousness of the recession and the financial crisis at the banks.

The rapid increase in the supply of US Treasury securities at a time when it is in demand is a good thing but what will happen when the market is over supplied. Perhaps part of the answer lies in what happened in the UK Gilt market on 25 March 2009 when the Debt Management Office announced it failed to get enough bids to cover £1.75billion 2049 conventional gilts in an auction which raised only £1.67billon or a ratio of 0.93, it is worth considering that the previous three auctions averaged a ratio of 2.1. However, with an average cover ratio of 2.5 on all notes and bonds issued since 1980, the answer may never be known due to the high demand of these risks free and highly liquid assets.

The Federal Reserve faces a similar problem in that increasing monetary base during the current recession is the best option given the circumstances, however in increasing monetary bases it is also increasing its balance sheet and therein lays the problem. When reversing a large growth in monetary base it needs to sell the assets it bought from the commercial banks, so the problem of oversupply could push the prices down which will lead to a liquidity problem in the market. Hence there is a need to reduce monetary bases over a long period which could cause inflation in the long run. So the decision on how and when to implement the reduction is a tricky one; get it wrong and the economy could face a tough time getting out of a boom-bust cycle.

In concluding, there is a hint of a catch 22 situation regarding both monetary and fiscal policies. The problem is as stated above in the long run there are weaknesses with both policies and methods of financing but as John Keynes said in the long we are all dead. The fear is by raising debt to unprecedented levels in the short run aren't you communicating that you will raise taxes in the long run thereby effecting any recovery. However the alternative method of financing would probably lead to high inflationary pressures and currency devaluation. The objective of any government and central bank is not only to find the right mixture in stimulating the economy but also to find the right policy when the economy recovers.