Tax reductions or spending increases?

On fiscal policy in a recession

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1 Introduction

During times of economic downturn, especially when the economy is in a severe recession and monetary policy is constrained at the zero lower bound, policymakers have two fiscal tools at their disposal to stimulate the economy - increases in government spending or tax reductions. This paper will evaluate the relative merits and demerits of both these options and conclude that a fiscal stimulus should primarily be composed of programs that increase government spending.

We will discuss these tools in terms of the magnitude with which the affect economic output, how they affect other aspects of aggregate demand such as private investment, consumption and net exports as well as the effect they have on the nation's long-term productivity and technology.

2 Arguments for increased spending

Following are a few arguments that are given in favor of increased government spending during a recession:

2.1 Government spending has a better return on investment

The fiscal multipliers are given by:

$$government\ spending\ multiplier = \frac{1}{1 - mpc}$$

$$tax\ multiplier = \frac{-mpc}{1 - mpc}$$

where *mpc* is the marginal propensity to consume

It is widely accepted that the tax multiplier is smaller than the government spending multiplier. If government spending is directed towards the right areas in the economy, it can lead to job creation which can fuel economic growth by increasing the income of workers. Through this mechanism, consumers have more income to spend which can further stimulate the economy as a positive aggregate demand shock caused by a rightward shift in the investment-saving (IS) curve through an increase in consumption. As a result, government spending increases the output (GDP) of a nation by more than the spending stimulus (ΔG).

In addition to this, during a recession, the central bank is restrained by the zero lower bound and hence does not raise interest rates in response to the expansionary fiscal policy. So, an injection of government purchases does not crowd out private investment and output rises by the full amount of the increase in G, if not more. In fact, in section 3.1, we will argue that government spending in a depressed economy *crowds in* investment by encouraging businesses to hire and produce.

In contrast, the tax multiplier depends on individuals' marginal propensity to consume. Consumers will only spend a part of their additional disposable income and save the rest - resulting in a tax multiplier of less than 1. In addition to this, supply-side economists believe that corporate tax cuts encourage production of businesses and cause them to hire more. However, production depends more on the ability to sell output than just the cost of production (Huang 2009). In a recession, the economy is already operating at less than potential and such tax cuts do little to enhance demand. As a result, corporate tax cuts tend to not stimulate the economy, especially during economic slumps.

Empirical research estimates the multiplier for deficit-financed government spending to be somewhere between 0.8 and 1.5. If the injection is undertaken during a recession, the estimates of the multiplier might even be closer to 2.0 (Ramey 2011). As a result, government spending is highly effective exactly when it is most needed - during a severe economic downturn.

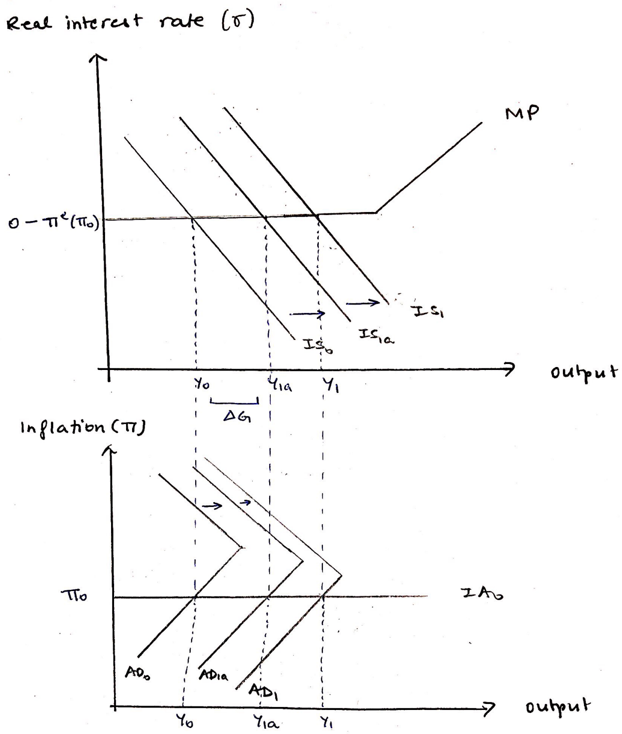

Figure 1: Positive shocks to the IS and AD curve respectively

2.2 Spending positively affects a nation's technology in the long-run

A well-designed fiscal stimulus package will not only create jobs, but also invest in goods and services that might increase the total factor productivity of firms by making production more efficient. Critics of government spending believe that it is wasteful since a certain amount of dollars spent by the government creates less value for the economy than that same amount consumed or invested privately. However, if a fiscal stimulus invests in projects that provide free services to producers such as infrastructure in the form of roads, airports and communication technologies, it can lead to a permanent positive supply shock to the economy as businesses become more productive in the long-run ceteris paribus. In addition to this, government-financed research and development projects can lead to technological breakthroughs which might lead to productivity growth and higher standards of living.

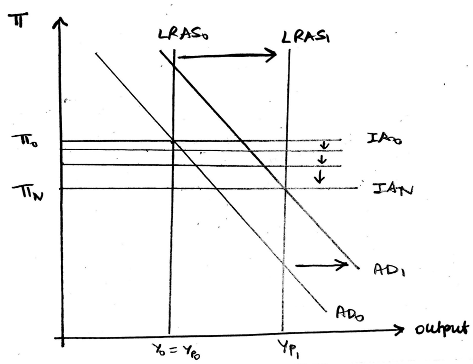

Figure 2: Positive long-run aggregate supply shock due to productivity increase

2.3 Government spending can generate positive externalities

In addition to increasing total factor productivity, a well-planned spending stimulus in an economy can also invest in services and programs that are beneficial for the nation as a society. Government spending in human services spanning fields such as education and healthcare have welfare benefits and can also lead to increased productivity in the future by increasing the amount and quality of labor in the economy. Spending on educational and vocational programs that improve the skills of the labor force can also decrease social inequality. By providing employment services and training, the government can create more and better jobs through stronger labor markets. Federal spending in social insurance schemes such as unemployment insurance, Social Security, Medicare, and Medicaid can also be instrumental in promoting general prosperity in the population.

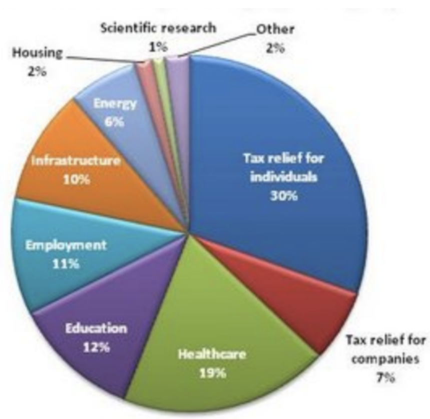

Figure 3: Spending by category: The American Recovery and Reinvestment Act of 2009
Source: Council of Economic Advisors, First Quarterly Report, 2009

3 Arguments against increased spending

Below are a few arguments that are often cited by critics of increased government expenditures. Through analysis of macroeconomic models, I reason against these arguments.

3.1 Government spending *crowds out* private investment

Some economists argue that increased government intervention in the market economy can decrease the involvement of private sector. One such mechanism through which government outlays crowd out investment spending in an economy through an increase in interest rates that is associated with an increase in output. However, in a deep recession, when an economy is constrained at the zero lower bound, the central bank does not increase interest rates and as a result, there is no crowding out effect on private investment.

It is also argued that increased government investment in certain goods and services leads to the public sector competing with businesses and firms which discourages private investment. However, this situation would only arise when the economy is operating at its potential output. However, during economic slowdowns, the economy is at less than full employment, and deficit-financed government expenditures can stimulate the economy and incentivize businesses to increase operations, invest more, hire more workers and produce more, resulting in a virtuous cycle that is termed the *crowding in* effect.

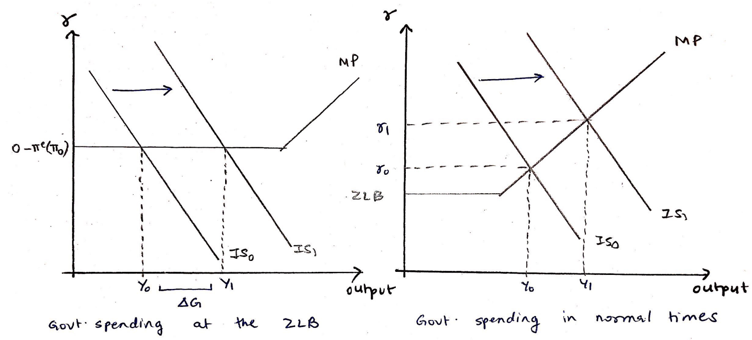

Figure 4: Economy in the liquidity trap (left) and not in the liquidity trap (right)

3.2 The fiscal burden

An increased government budget deficit now leads to higher debt in the future. However, increasing government purchases by 1$ increases GDP by more than a 1$ due to the fiscal multiplier effect. So higher government spending leads to higher GDP and higher tax revenues, which can be utilized to finance the fiscal stimulus in part.

Fiscal conservationists argue that deficit-financed spending increases public debt, which leads to a fiscal burden on the future generations to pay it back through increased taxes in the future. However, as a counterargument, some expenses are unavoidable for the sustained growth of a nation. For instance, rebuilding the country's infrastructure, revamping a flawed healthcare or education system, or investing in the latest communication systems could be public expenditures that are desirable, if not necessary. In fact, since the economy is at less than full employment and interest rates are low, a recession might be the cheapest time for the government to borrow and pay for these projects, instead of taking on more debt when the economy is at potential to finance the same projects.

3.3 Money-financed spending increases are inflationary

A fiscal stimulus that is purely financed by currency printed by the central bank - also called *helicopter money* - is often criticized at being extremely inflationary. However, this coordinated change in monetary and fiscal policy could be extremely effective in stimulating economies that are in severe recession, particularly when monetary policy has been restricted by the liquidity trap (English 2009). If the central bank does not react to this change in output, price levels rise sharply.

However, at the zero lower bound,

$$r = 0 - \pi^e(\pi)$$

A sharp increase in inflation leads to a sharp decline in the real interest rates or the real cost of borrowing. If this stark change in monetary policy is considered credible by the public, they will borrow more, save less and spend more - resulting in an increase in consumption. In addition to this, a fall in the real interest rate could also stimulate private investment, which is a decreasing in the real interest rate. A fall in the rate of returns on domestic assets (r) could also increase capital outflows, leading to a rise in the net exports of a country. As a result, higher inflation at the zero lower bound can lead to expectations of higher growth and encourage private consumption and investment.

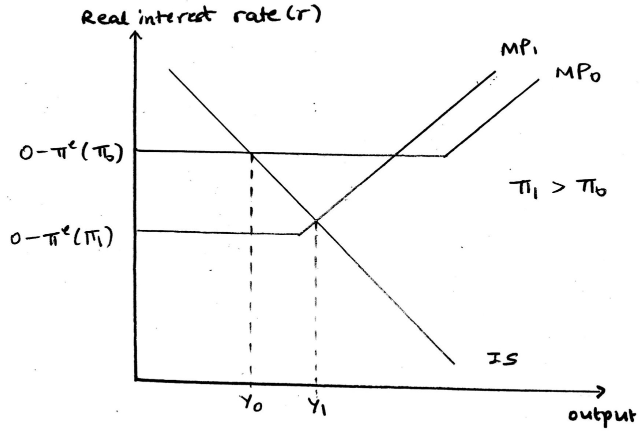

Figure 5: Rise in inflation at the zero lower bound

4 Conclusion

In conclusion, even though government spending is often criticized for being ineffective and wasteful, in times of recession, a fiscal stimulus should primarily be composed of government spending projects. This is because successfully targeted public spending stimulates private investment and consumption, hence increasing output by more than the amount of the spending stimulus. In addition to this, government investments in infrastructure, communication and technology can make the economy more efficient and boost long-term economic growth. The government could also increase spending on welfare, which reduces inequality, poverty and lead to increased well-being and happiness of the population.

On the other hand, tax cuts are less effective than a spending increase of the same amount. This is because, during a recession, consumers may reduce spending and might have an inclination to save more. Therefore, a reduction in taxes will not increase output by the same amount as an increase in government purchases. Corporate tax cuts, tax credits for investment, or capital gains tax cuts are less effective than an increase in spending since they aim to stimulate the supply-side of the economy in a situation when the economy is operating at less than potential output.

As a result, a carefully-planned stimulus package should primarily consist of increases in government spending directed towards infrastructure investment, welfare programs, healthcare and education projects as well as government-sponsored research and development. Government spending is hence an important fiscal tool that can stimulate the economy in times of severe recession while having positive affects on a nation's welfare and long-term productivity.

Works Cited

English, William B. "Money-financed fiscal programs: A cautionary tale". *Brookings Institution* (2009). Web.

Huang, Chye Ching. "Corporate tax cuts likely to be as ineffective as stimulus". *Centre on budget and policy priorities* (2009). Web.

Ramey, Valerie A. "Can Government Purchases Stimulate the Economy?" *Journal of Economic Literature* 49.3 (2011): 673–685. Print.