

# Government Debt

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## I. INTRODUCTION

Recently, Treasury Secretary Larry Summers implied that the government would be decreasing the supply of government bonds in order to pay down outstanding debt. This likely represents the beginning of President Clinton's plan to use a surplus that could total as much as \$1.92 trillion over the next ten years to begin to eliminate the national debt (Dreazen, 2000). The wave of prosperity that has spread over the United States throughout the last decade has left the government with additional tax revenue. However, there is considerable debate over just what to do with it. Now in the second fiscal year with a small surplus, Washington politicians are trying to decide among three ways to utilize the surplus revenue. The most popular option among politicians and voters alike seems to be reducing and eventually eliminating the national debt. However, a legitimate argument can be made that the surplus is a result of increased tax revenue and should therefore be returned to the people in a tax cut. Also rather pressing are the impending Social Security and Medicare crises. There is little doubt that neither of these programs will be around long enough to help today's children if dramatic action is not taken. Much has been made of the possibility of using surplus funds to somehow "save" these programs. So which of these three options would be the most effective use of the government's extra revenue?

## II. LITERATURE REVIEW

There is a good deal of support among economists for using the entire surplus to pay down the national debt. Of the surplus, Alan Greenspan said, "The first priority, in my judgment, should be getting the debt down" (Greenwald, 1999). The government does pay some \$200 billion annually in interest, much of which could be eliminated by paying off the debt, resulting in large savings (Congressional Budget Of-

fice, 2000). Some argue that there are likely benefits to paying down the debt, such as lower interest rates. There also seem to be many economists who simply see it as the logical thing to do; the government has extra revenue, it has debt, the extra revenue should pay off the debt. Indeed, paying down the debt seems to be the preferred use of surplus revenue by politicians with incumbents and candidates of both major parties promising to pay off the debt in varying time spans.

Logical as it may seem, is there any real advantage to using the first surpluses in years to reduce debt? Our debt is not especially likely to grow anytime soon, but our economy is definitely growing. As debt stays constant and GDP rises relatively quickly, the ratio of debt to GDP goes down every year, thus effectively lowering the debt burden (Kudlow and Moore, 1999). The debt/GDP ratio is soon expected to go down to pre WWII levels (Kosterlitz, 1999). With interest rates being relatively low, the holding cost of debt is small (Kudlow and Moore, 1999). James Grant (2000), editor of the *Grant Interest Rate Observer*, says that there is no clear correlation between debt and interest rates and that debt level is not a significant enough determinant of interest rates to warrant worrying about it. Moreover, paying off the public debt completely by buying back all treasury bonds would rob the government of their prime method of monetary policy and deprive citizens of one of the most stable and secure forms of investment (Kosterlitz, 1999). Many economists also seem to be of the opinion that talking about paying off the debt is futile as congress cannot be trusted to watch money pass by them without spending it on something. As Kudlow and Moore said, "Congress will spend the money, because to do so is in its nature" (Kudlow and Moore, 1999).

One economist notes that there is nothing inherently noble about debt elimination. Individuals and companies routinely rely on debt for survival, and

rarely see the elimination of all debt as a top priority. After all, if you have a mortgage on a house that is in a wretched state of disrepair, you would obviously use what money you could come up with to repair the house, not to pay off the mortgage (Anonymous, 1999a). It is easy to argue that the government's position is analogous. Social security and Medicare will both be crippled by the baby boom generation reaching old age if nothing is done first. Assuming these programs are worth continuing, it makes more economic sense to shore up these programs then to pay down the debt. One idea, which has been implemented by many European countries already, is to continue to mandate social security payments but to give individuals some control over how to invest the money they pay into the fund. This "privatization" would initially require large cash outlays (as the programs would no longer be transfer payments, but would have individuals pay for their own retirement by investing), but would eventually hugely reduce government costs and FICA taxes, while raising the amount available to retirees (Greenwald, 1999). If such a program were ever actually implemented, it could make Social Security and Medicare both solvent and much more efficient in the long run.

The other option available to policymakers would be to return the excess money to where it came from: the taxpayers. The surplus is the result of higher tax revenues coming from increased income from the prolonged economic boom. The share of the GDP that is taken up by taxes, now 20.7%, is the highest it has been in the postwar era (Anonymous, 1999b). Moreover, taxes are currently increasing faster than GDP, which constitutes an effective tax increase. Such an increase would be patently unnecessary given the current state of the economy (Evans, 1999). A tax decrease would, perhaps most importantly, stimulate growth and expand the economy even further. This is especially beneficial because if the economy expands, the debt to GDP ratio mentioned earlier will continue to decrease, thus decreasing the significance of the national debt without paying it down (Anonymous, 1999c). Also, some economists think that the future health of Social Security and Medicare are much more dependant on the size and growth of the economy, not on the debt level (Anonymous, 1999c). As Moore and Kudlow (1999) said, "A dollar devoted to re-

ducing marginal tax rates or the tax penalty against saving and investment will yield a higher return to the American economy, and thus to future generations, than a dollar used for retiring debt."

In summary, it would be nice to pay off the national debt, but there are strong arguments among economists that surplus money would be better spent privatizing Social Security and fixing Medicare or cutting taxes in order to stimulate growth. These programs would expand the economy, lessen the importance of the national debt and better enable the nation to cope with Social Security and Medicare problems of the future.

### **III. EMPIRICAL ANALYSIS**

The national debt of the United States was a healthy 26% of GDP in 1980. By 1997, the debt skyrocketed up to about 50% of GDP (Elmendorf and Mankiw, 1998). Forty years of cold war military spending and eight years of Reaganomics took their toll on the country's fiscal situation. In fact, the spike in the debt during this period was similar in magnitude to the spikes that occurred during World War I and the Great Depression (see Figure 1). Yet obviously the politicians who made this debt possible knew what they were doing. Five trillion dollar debts don't happen by accident. Could it be true that government debt doesn't really hurt anyone as much as it appears to? Indeed, there is some disagreement among economists on how bad debt is for a country. There is even one significant school of thought that says that debt finance and tax finance are equivalent. So maybe debt doesn't really hurt anyone after all. However, the empirical evidence overwhelmingly suggests that although taking on debt can expand the economy in the short-run, it crowds out capital, reduces investment, and increases the trade deficit in the long run. Of course, the most pernicious effect of reduced investment is reduced output, which is the ultimate effect of debt.

Our current debt is undoubtedly the result of the military spending cold war deficits and the Reagan tax cuts of the early 80's, which, despite increasing short-run output and possibly staving off a recession, left the US with a gigantic debt that is currently about five trillion dollars. Now, the country is faced with an aging population and rising medical costs, which could

cripple the Social Security and Medicare programs. The Congressional Budget Office estimates that the government will have to increase non-interest spending by 5% of output by 2025 to meet increased health-care needs (Congressional Budget Office, 1997). This may mean more debt financing. Bottom line, the current levels of taxing and spending in the United States are unsustainable for very long.

The effect of debt that seems most unfair and most frustrating is that debt financing amounts to little more than borrowing from future generations. Current deficits invariably mean that tax revenue must be increased in the future. When President Reagan cut taxes and took on debt to pay for it, he was essentially taking money from future generations to give to his electorate. Thus, whichever generation actually pays down our current debt will be different than the generation that enjoyed the benefits the debt brought.

Some economists subscribe to a theory called Ricardian Equivalence, which is the idea that debt and tax finance are equivalent. Ricardian Equivalence is based on the tenet that taking on debt today will require higher taxes in the future. It assumes that people realize this and therefore save more so that they or their children will be able to pay the higher taxes in the future. Thus, a decrease in public savings will be exactly offset by an equivalent increase in private savings. Debt financed tax cuts and government spending increases merely rearrange income and savings between the government and its citizens. However, Ricardian Equivalence has been hard to test because it renders some fiscal policies irrelevant while allowing others (Elmendorf and Mankiw, 1998). The conventional view on debt, subscribed to by a majority of economists, does not believe that people are forward-looking enough to increase their savings in order to pay for future taxes. If people are given money, they will spend it, regardless of what will happen far into the future. Although Ricardian Equivalence is not generally thought to describe reality, it is useful as a stepping-stone for more realistic discussion, and to illustrate the idea that the income generated by debt is taken from future generations.

Given that private savings is not believed to rise by the same amount that public savings falls, it then becomes clear that increased deficits lead to decreased investment. National income is equal to

consumption, private savings, and taxes (the private sector's budget constraint). Income is also equal to consumption, investment, government spending, and net exports combined. So, we have:

$$Y = C + S + T$$

$$Y = C + I + G + NX$$

Combining the two equations yields:

$$S + (T - G) = I + NX$$

By definition, net exports must equal net foreign investment, investment in other countries by domestic residents less domestic investment by foreigners. So:

$$S + (T - G) = I + NFI$$

This is an identity, meaning it is always true. If the government takes on a deficit, the term  $(T - G)$  decreases. The conventional view holds that private savings  $S$  will not go up by as much, so  $I$  and  $NFI$  must decrease (Elmendorf and Mankiw, 1998).

The decline in  $NFI$  must, by definition, be met by an equivalent decline in  $NX$ . The term "twin deficits" was coined in the 1980's to refer to the phenomenon of trade deficits following budget deficits (Elmendorf and Mankiw, 1998). Significant trade deficits lead to an increase in the value of the currency, which makes US goods more expensive relative to foreign goods, thus decreasing their attractiveness and further augmenting the already increased trade deficit.

The far more significant consequence of the identity given above is that investment must decrease. Decreased investment will result in a smaller capital stock, which, according to the Solow model, is the key determinant of output in the long run. Thus, even if debt financed tax cuts or government spending increase output in the short run, in the long run, investment will be decreased and output will decline. Additionally, with less capital available, the marginal product of capital ( $MPK$ ) will be higher. A higher  $MPK$  will result in a higher return being earned on each unit of capital and thus a higher interest rate. So, in the long run, debt drives up the interest rate and decreases capital stock and, in turn, income.

The above analysis only takes into account new debt, which would represent a change in the term  $(T - G)$  and thus a change in the terms  $I$  and  $NFI$ . However, the US's accumulated debt is still stifling income even though we now run surpluses, which President Clinton predicted would increase investment by 1%

per year for the next 50 years (Council of Economic Advisers, 1994). The point is, regardless of what happens with the budget deficit or surplus in coming years, as long as we have a debt, our income is lower than it could be. Why? Debt takes money away from capital projects. When people loan money to the government, it is not used to purchase capital, as it would be if it were loaned to a company, but to finance tax cuts or government spending programs. Debt, therefore, can be said to crowd out capital. The full effects of this aspect of debt can be understood very easily by looking at Mankiw's Parable of the Debt Fairy. Suppose that there is a debt fairy, a close relative to the tooth fairy, who likes to travel around the country replacing government debt with capital stock. One night, the debt fairy gets excited and travels all over the economy and ends up replacing every government bond with a piece of capital of equivalent value. Citizens are surprised to wake up to discover computers and manufacturing equipment on their dressers and in their safe deposit boxes where they formerly had treasury bonds, but realizing that

their new capital goods have equal values, they don't mind too much. The new equipment is put to work, and the capital stock is increased overnight by the amount of government debt (Elmendorf and Mankiw, 1998). Mankiw calculates the effect of this capital stock increase by estimating the gross MPK to be about 6%.<sup>1</sup> Thus, each dollar of debt turned into capital increases national income by six cents. In the US, debt is currently about half of output, or about \$5 trillion. If the capital stock were increased by this amount, net output would increase by about 3%, or about \$300 billion. Mankiw concludes after a lengthy analysis that this is a reasonably good estimate of the effects of government debt on our economy.

**IV. CONCLUSION**

So, what are the effects of government debt on the US economy? The current debt has lowered output by 3-4%. Labor productivity grows at about 1% per year, so this deficit is roughly equivalent to a loss of three or four years of productive growth (Elmendorf and Mankiw, 1998). This is unfortunate,

**Figure 1**



but not a disaster. Yet as the US stands on the cusp of its social security crisis, it is important for such effects to be noted before relying on debt financing as the panacea for any social or economic problem.

The Congressional Budget Office estimated that, under current law, the aging population and inflating medical costs mentioned earlier will require the government to increase its spending by 5% of output by 2025 (Congressional Budget Office, 1997). If the current debt were maintained, all other things being equal, it would then represent about 1/3 of national income. Eliminating that debt would then add about 2% to national income, or 40% of the additional spending needed (Elmendorf and Mankiw, 1998). Although eliminating the debt by then seems unlikely, the fact that not having a debt would bring the US so much closer to solving its social security problems should serve as a sound warning against excessive debt financing. Indeed, it is unfair to ask current generations of wage earners to pay for the excesses of their parents by paying off the debt in its entirety. A gradual paying down, starting as soon as possible, will spread the burden across generations and lessen the short-run contractionary effect on the economy. Debt can be a short run solution and a useful fiscal policy aid, but sustained deficits have a strongly detrimental effect on the economy.

#### FOOTNOTES

<sup>1</sup>MPK equals the capital share of income (MPK\*K/Y) divided by the capital-output ratio (K/Y). Mankiw estimated that between 1960 and 1994, gross return to capital was roughly 1/3 of income, and the capital-output ratio was a little over 3. Thus, gross MPK is about 9.5%. If depreciation was about 3.5% of capital, then net MPK is about 6%.

#### REFERENCES

- Anonymous, 1999a. "Sense and Debt." *Nation*, v268n12, pp 3-4. March 29, 1999
- Anonymous, 1999b. "Tax Bites." *New Republic*,

v220n11, pp 9. March 15, 1999

Anonymous, 1999c. "Give it Back Now." *Wall Street Journal*, June 30, 1999

Congressional Budget Office Long-Term Budgetary Pressures and Policy Options, Washington D.C. (March, 1997)

Congressional Budget Office Current Budget Projections <http://www.cbo.gov>

Council of Economic Advisors, Economic Report of the President, Washington D.C. (February 1994)

Dreazen, Yochi. "Surplus Battle Involves More Than Spending." *Wall Street Journal*. February 8, 2000

Elmendorf, Douglas W. and N. Gregory Mankiw "Government Debt" *Board of Governors of the Federal Reserve Finance and Economics Discussion Series* 1998-9 (January 1998)

Evans, Michael K. "Do We Want Zero National Debt?" *Industry Week*, v248n14, pp 72. July 19, 1999

Grant, James. "Debt Reduction is No Tax Cut." *Wall Street Journal*. February 9, 2000

Greenwald, John. "Who Needs a Tax Cut?." *Time* v154n5. pp60. August 2, 1999

Kosterlitz, Julie. "Is There Life After Debt?" *National Journal*, v31n28, pp2031. July 10, 1999

Kudlow, Lawrence. Moore, Stephen. "Beware Debt Retirement Myopia." *USA Today: The Magazine of the American Scene*. V128n2 654, pp24-25