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GDP Growth and the US Debt Sustainability

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After the US dollar replaced gold, the US debt became the attention worldwide, thus the demand for the US dollar continued, furthermore the extremely low interest of the dollar. This helped the US government to borrow great amounts of debt as well as kept the creditors pleased. Due to the pandemic, the US economy retrograded because of the tax cut and unproductive rescue spending plan plus surpassing spending of the government. The acceleration of inflation looms, whereas the recession is begging to appear; and certainly, the government must cut back on spending or its patterns, while this will lead to uncertain consequences for the long future. Whereas increasing the interest rate will be not the right solution for the long term, on the contrary, will lead to dire economic consequences. This paper discusses several different perspectives on the US government's sustainability as its ability to settle the debt in future, the fate of growth burdened with that debt through the neoclassical mode of growth, and also the effect of anxiety of defaults and unfunded obligations. Inversely, it explores the strength of the dollar with a low-interest rate and its sustainability worldwide. We also propose ways helping of strengthen the fiscal government position and solutions to help the economy recover in long term and to easiest the situation. In the synopsis, we propose something that could affect and shake the global market.

Keywords: *Neoclassical Growth Model, Default, Debt-To-GDP, Inflation, Real Interest- Rates, Consumer Credit, Productivity*

JEL Code: *E23, E40, F11, H63*

1. INTRODUCTION

The occupant of economists for the last decades has always been the impact of the rising continuation of the US debt and whether any plan from the government to alter this rising by implementing a new system, or leave the situation as it is.

Different conflicted thoughts and opinions, some of them see the government should reconsider the unfunded obligation, unproductive spending, the hikes in the interest rate and inflation raising and the fluctuations of the situation. On the other hand, others see the government should reconsider the low-interest rate or the stability and strength of the government and the dollar. We need to examine both opinions and analyse them deeply and structurally.

The USA is different from other countries, its government doesn't necessarily need to pay the entire debts, while the government service the debts and keeps the creditors satisfied. The government should be assured of having enough cash flow to maintain the debts by making the payments on time annually, while the interest rate fluctuated and the stability of the GDP growth with considering upcoming events such as COVID-19 and recession.

The US debt hit the highest number in history and the annual service of this debt approached enormous figures. This is due to the last unproductive spending by President Trump the historical three and a half trillion dollars⁽¹⁾ (COVID-19 related) and the stimulus package by President Biden for two trillion dollars is offset by uncertain income such like tax cuts which was imposed by President Trump.

the perspective projection of the US debt to be increased reach 2030 over ten trillion dollars (\$10.6), with more than eight hundred billion dollars (\$829) on the annual payment for maintaining the debt and satisfying the creditors⁽²⁾, which mean increasing the annual payment from the US budget by double of what is paid today regarding the interest rate payment. This payment does not reduce the debt amount, or even reduction on the budgetary spending, on the other hand, expectancy increases on average life, which means to increase in the spending services such as pensions, healthcare and social security, with the accelerated benefit of unemployment since the pandemic.. etc. the projection of Gini coefficient to reach 0.5⁽³⁾, which means the disparity of income and that prevent the US government abilities to maximize the collection efficient tax⁽⁴⁾. Furthermore, the investments into productivity and growth to control and reduce unemployment and decreased social security spending while increasing the institutions' growth, while all these as a very small percentage contribution to the federal government budget, represent a little amount to justify the debt. Meanwhile, investing in the technology and science sector will not help to justify the debt as represents just 1% of the federal budget, even investment in sectors such as training, employment, social services and education also represent 4% of the federal budget⁽⁵⁾.

Like such a structure of the budget will hinder the growth of the economy in the long run. This can be clear through seeing the growth model of neoclassical⁽⁶⁾. The growth model of the neoclassical relies on the concept that the growth of the economy is driven by (L) labour, (A) technology and (K) capital.

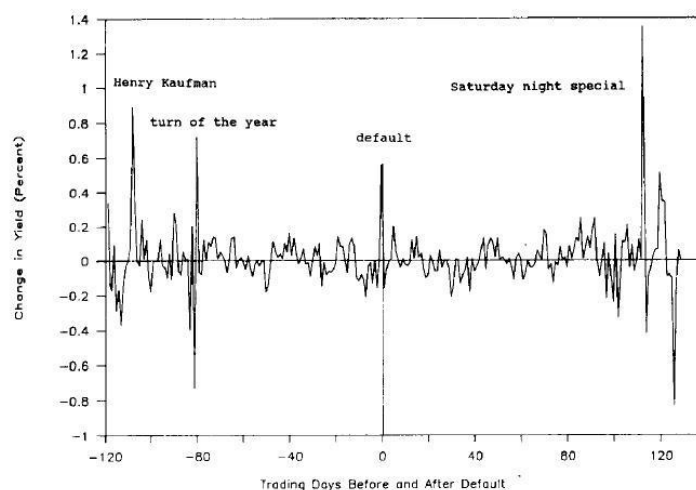
While the investment in technology innovation, training and education which represents 5% of the federal budget, unemployment was increased massively meanwhile the flow of FDI in general reduced to 49% globally⁽⁷⁾, therefore the innovation sector suffered from a lack of funding, also damaged the openness to of the economics when implementing protectionist

policies, also resulted in hinder the growth. The expectation of a fall in personal income that contributes to the GDP per capita to be below \$18 thousand dollars ⁽⁸⁾, moreover harming prospect of the growth and also the output can dramatically be affected unless taking a further step by restructuring the budget

In general, the imbalance between outflows and inflows could lead the government to a scenario to choose between reducing the outflows such as refusing to pay the income security (social security) or Medicaid (medical benefits), while millions of families to be suffered, they relied on the medical benefits to survive; or reducing the basic functions funding such as national parks and defence.

If they chose instead to default or delay payments of the debt interest, the fallout on the economy will be massive. With the falling of the credit rates, a crashing in the stock market inevitably, hiking of the interest rate. On April 26, 1979, The US treasury inadvertently missed payments and thus defaulted because the back office of the Treasury was on the fritz. The mishap in part was due to the raising delay of the debt limit, also to a technic mistake of the treasury equipment. The investors received their payment shortly after, but even so, the volatility on the T-bill yields at that time jumped to 60 base points, which cost the taxpayer multi tens of billions of dollars.

Figure 1 Daily Change in T-Bill Yields (28- to 34-Day T-Bills)



Source: Donald Marron (Musings on Economics, Finance, and Life)

Finally, the standard debt measurements which are less prevailing don't contain unfounded obligations, such as the money promised by the federal government of the US, but will unlikely be able to pay off (as medical benefits and retirement). Less than the current stock available

Medicare and social security funds, which predicted returns of 80 to 200 trillion, while Fannie Mae and some other organisations of the government owe around 3 to 8 trillion in the obligation that is not funded, total yielding 165 trillion.

2. JUSTIFYING THE DEBT RAISING

These data are alarming and rendering for action instantly, we should always consider the values of forecasted brings bundles of uncertainties, while CBO predicted the values of the Debt to GDP more the 77 points⁽⁹⁾. Moreover, the economic growth is stable in the US. Nevertheless, increasing the interest rate is a suicide move, could solve the inflation problem for some time but will lead to a big recession in future.

The testimony is almost all consistent with the change of the structural propensities to invest and save as the predominant cause of the real rates decline. (AAs Summers 2014), the factors which affect to raise inequality increase, private savings include retirement with longer periods and rising uncertainty.

Factors operating to reduce private investment include slowing labour force growth, greater efficiency in the use of capital, for example through companies like Uber and Airbnb, and the impact of information technology in reducing the need for large capital investments, for example, law firms need much less office space per lawyer and dramatic reductions in the relative price of capital goods. Increases in corporate market power and increased pressure on corporations to pay out cash to shareholders may also contributed to reduced investment. This along with inflation drastically affects the amount that can be borrowed. Simply put, real interest rates compare the real interest being paid on debt to GDP, and therefore to compare this to standard nominal interest rate measurements as a ratio of GDP, we use a simple formula:

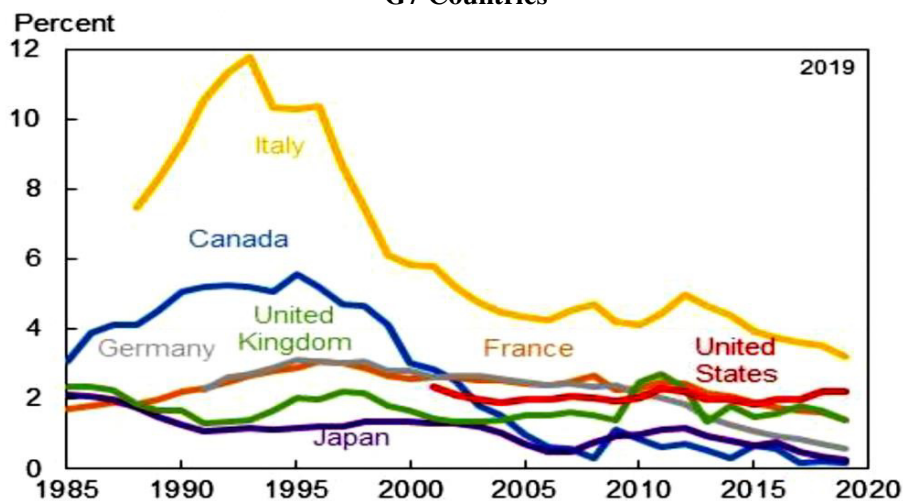
$$\left(\frac{\text{Real Interest}}{GDP_t} \right) = \left(\frac{\text{Interest} + \text{Inflation} + \text{Debt}_{t-1}}{GDP_t} \right)$$

The use of real interest rates shows us how inflation, which is projected to fluctuate around 2% until 2030, is gradually also wiping out US debt in large amounts bringing real interest payments to almost 0% as a ratio of GDP. This makes large amounts of borrowing and debt to GDP ratios sustainable and one can see that throughout the 2000s despite interest rates being at 4.3%⁽¹¹⁾ for US treasuries and inflation rates being at 2.46%, the FED was easily able to pay off its debt⁽¹²⁾. Nevertheless, the low-interest rates don't mean borrowing a luxury, they make it mandatory. For example, the GDP contracted more than 30% in Q2 of 2020

(second quarter of 2020)⁽¹³⁾ due to the pandemic courtesy of both demand shocks and interruptions in supply chains, leading to widespread job losses and sparse spending. Already low-interest rates meant to revive the economy, monetary policy in itself simply wasn't enough. Therefore increased government spending in grants and other investments (Approximately \$150 billion more than FY19)⁽¹⁴⁾ through undertaking increased debt become a necessity to help the economy recover. A more complicated model proposed by Furman and Summers based on the measure of debt satisficing and can be compared to GDP growth on an infinite scale shows that a '0.5 percentage point increase in tax revenue as a share of GDP or reduction in spending as a share of GDP would be sufficient to pay 21 off the entire debt.' (15)

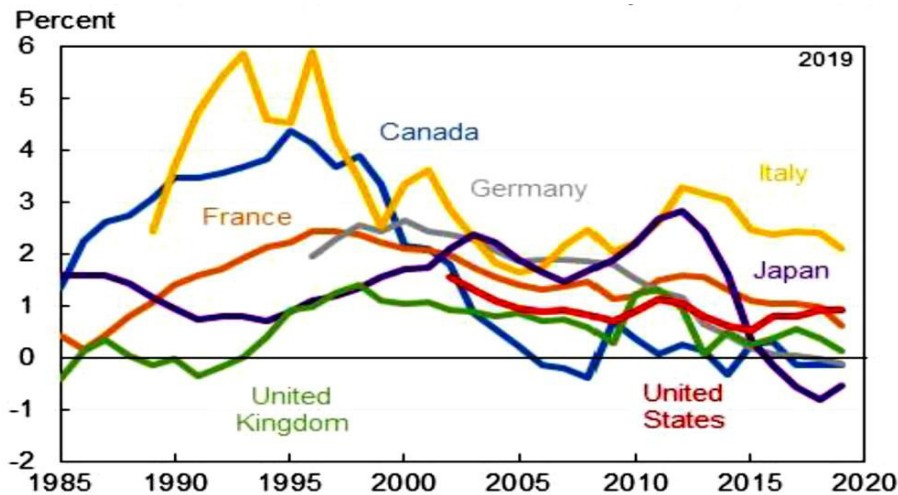
Alongside individual parameters, the situation in the US can also be analysed by comparing it to other nations, specifically the G7 or even G20 nations since they provide the most accurate socio-economic comparison to the US as in Figures 2 and 3. Although the US has the fastest expected GDP growth rate, it also has the second-largest debt-to-GDP ratio behind Japan and tax revenue as a percentage of GDP falls below even OECD levels at 31% as compared to the average 37%. Nevertheless, payments of the real interest approximation almost 0% ratio-wise with the GDP, thus making the US financial status more strongly than most of the other nation of G7 nations in terms of capacity to satisfice debt.

**Figure 2: Nominal interest rate as a percent of GDP
G7 Countries**



Note: General government, including the United States.
Source: International Monetary Fund, Macrobond; authors' calculation

**Figure 3: Real interest rate as a percent of GDP
G7 Countries**



Note: General government, including the United States.
Source: International Monetary Fund, Macrobond; authors' calculation

Finally, the US dollar is also the reserve currency of the world, and US treasuries are widely considered one of the safest investments. Therefore because it is the backbone of a large part of international trade and transactions, the US dollar holds a strong and constant level of demand, ensuring its value does not crash. The credit rating and reputation of the US government along with the demand for the dollar ensure that government-issued bonds are also always purchased by both international and national stakeholders, ensuring that debt can continuously be sanctioned by the US government at low-interest rates.

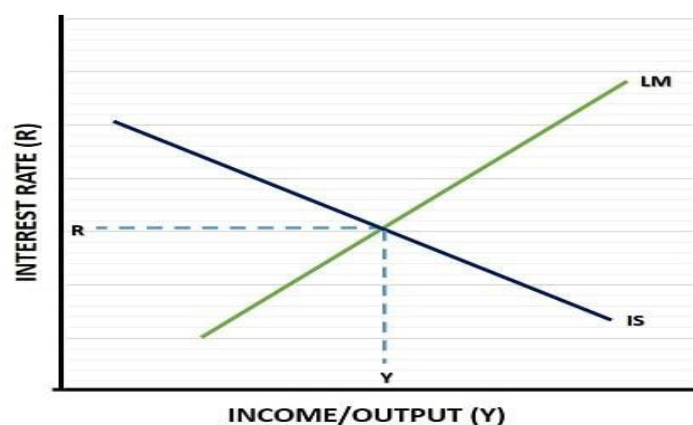
3. FUTURE SPECULATION

Future effects of this continual borrowing can result in drastically varying conditions to those which the government borrows now. This can be represented through the IS-LM model Figure 4. Increased borrowing and money flow, along with average hourly earnings climbing steadily due to post-pandemic labour market recoveries means inflation is bound to accelerate. While this may be beneficial in terms of real interest rate payments it creates a whole host of problems including absolute poverty and the depreciating value of the US dollar. In order to counteract these problems, the FED has planned to double the pace of taper to \$30 billion a month. Along with this three interest rate hikes are planned by the end of 2022 to control the money supply and bring equilibrium to a prospective LM curve for the US economy. The direct effect of this can be modelled using an IS curve, which shows that GDP and output reduce as interest rates grow and firms reduce investment and consumers

prioritize saving. The Phillips curve can further be used to show the inverse relationship between unemployment and inflation, and as the government aims to control inflation rates, unemployment increases, resulting in an increased need for income security. All of these direct effects show a worrying future prospect for the US budget.

However, even in the long-term market behaviour protects the US from defaulting on excessive borrowing. Firstly, the IS-LM model as in Figure 4 is contradicted by Say's law: Supply creates its own demand. As interest rates increase so does consumer saving and therefore credit, resulting in increased spending. Historic precedent shows the same, as saving rates rising in 2020 eventually resulted in US consumer credit reaching 10.96% and spending consequently reaching an all-time high at 13723.73 USD Billion in the third quarter of 2021⁽¹⁶⁾. Consumer and producer confidence increasing as inflation is regulated also results in long-term investments into productivity and education, allowing for GDP growth to stay constant. This will eventually result in real economic growth and more people earning higher incomes, therefore increasing tax revenue and hence the government's ability to satisfy debts. Despite interest rate hikes, rates are still expected to be 2 and 3 percent, meaning consumers will likely continue to spend and annual debt service can also still be sustained, additionally these tax hikes will also result in less risky investments and prevention of any further financial crises.

Figure 4: The IS-LM Diagram



Overall, solutions can simply be categorized into cutting borrowing or increasing revenue. Since tax revenue is the primary source of income many suggest that Simpson-Bowles commissions raising revenue to 21 percent of GDP, a step that would require a \$9 trillion tax increase over the next decade,⁽¹⁷⁾ is the kind of extremity that is required. However, while this may be equitable it is not feasible in real life because of the level of tax evasion. The difficulty and lack of efficiency are evident, with the fact that despite so many resources being already allocated to identifying and persecuting tax evasion, an increase in every \$1 of spending to

further this results in over \$5 of return⁽¹⁸⁾. Other steps include government projects, but PSUs tend to be too inefficient and under-competitive to tackle private firms and actually make a profit. Decreasing spending is as difficult, with social benefits becoming the primary target eventually resulting in further income and disparity and the economy suffering anyways. Therefore a slow restructure of the budget into investment into more productive assets, gradual tax increases, and spending slashes become the only way to help the fiscal position recover without a financial catastrophe

4. CONCLUDING REMARKS

US debt is a matter of debate worldwide, with contrasting opinions and no stringent conclusion. The uncertainty that the future brings with it means that one cannot say for certain whether the US has taken on more than what is sustainable. In the event that they do cut spending as well there might be drastic effects, including interest rates falling further and more financial bubbles, dangerous investments, and even lower spending and economic growth. However, what can be said with certainty is that unless the budget is restructured to focus investment into growth and productivity, eventually sustaining the interest payments on such large levels of debt will be extremely onerous. Tax cuts and other cuts of revenue also need to be limited, because as historic precedent has shown they have been unsuccessful, for example, Trump's tax cuts resulted in the government receiving only 16% of GDP as tax⁽¹⁹⁾, which was the lowest ever amount, and instead of its purpose of increasing economic growth all it did was increase wealth disparity and further focus high-income levels within a smaller part of the population. This leaves only two solutions, accept the political consequences of restructuring debt and slashing benefits, or slowly faze in higher marginal tax rates to increase income while simultaneously cutting spending. Overall, stubbornly low-interest rates mean that debt is not an immediate worry, but as Warren Buffet puts it 'Debt is not inappropriate, it is when it gets out of control that you worry.

Increasing the interest rate is not the right solution for the long term, the market will react positively for a short period, but will be disastrous in the future. Whereas today's prices of the stocks are exaggerated; also failed to find other solutions to the supply energy supply shortage after the ban on Russia, on the other hand, will increase the interest payment of the US debt.

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