The sustainability of US debt

Shreevardhan Atit Agarwal
shreevardhan04@gmail.com
Dhirubhai Ambani International School, Mumbai, Maharashtra

ABSTRACT

US debt is a matter discussed worldwide, owing to the widespread use of the US dollar and the global economic power that the US holds. A large proportion of trade relies on the dollar, and many currencies are even pegged against the dollar. This has meant that global demand for the dollar has been constant. Furthermore due to a range of factors interest rates have remained extremely low, therefore the government has been able to borrow large amounts of debt and satisfy creditors. However, owing to the pandemic, unprecedented spending, tax cuts, and an unproductive spending plan the US government's fiscal position is slowly deteriorating. With uncertainty growing, the inevitability of tapering setting in and rising inflation looming, the US economy must reconsider its spending patterns or cut back on current spending, both of which could lead to long-term social consequences. This paper discusses the current position of the government and its sustainability through various perspectives such as the ability to satisfy this debt in the future, growth hindered by debt through a neoclassical growth mode, unfunded obligations, and the effect of angst and defaults. On the contrary, it also explores how low-interest rates and the global strength of the dollar has made its position more sustainable than other countries. Finally, there are also proposals to help strengthen the government's fiscal position, and long-term solutions to ease the situation and help the economy recover. These when implemented would not solve the crisis at once given its gravity but atleast stabilize the government for the time being. Finally, after analyzing collaborating this diverse range of analysis, proposals and information this paper proposes a concrete synopsis of something that could inevitably shake global markets and affect communities and countries at even an individual level.

Keywords: Unfunded Obligations, Stimulus, Outlay Payments, Social Security, Gini Coefficient, Neoclassical Growth Model, Disposable Personal Income, Credit Rates, Treasury Bills, Yield, Default, Debt-To-Gdp, Inflation, Interest-Rates, Real Interest-Rates, Real Gdp, Is-Lm Model, Taper, Phillips Curve, Income Security, Say's Law, Consumer Credit, Productivity

1. INTRODUCTION

The impending effect of increasing US debt is an issue that plagues the minds of economists worldwide. It raises the question of whether new systems need to be implemented to alter the government's fiscal policy to curb the rising debt or to simply let things run their course. Many have conflicting opinions, with passive citizens citing either low-interest rates or the strength and stability of the dollar andthe government while more concerned individuals raise the issues concerninggrowing unproductive spending, rising inflation and interest rate hikes,unfunded obligations and the volatility of the situation. Therefore the analysis of both arguments with a concrete structure is essential.

2. CONCERNS ON GROWING DEBT

It is important to understand that the US government doesn't have to pay its debt inits entirety ever, rather it simply has to service its debt annually and ensure that they have enough cash flow to make these payments. With interest rates fluctuatingnear zero and GDP growing steadily, aside from stutters caused by unprecedented events such as COVID-19 and the great recession, it is easy to write off the growing debt. However due to excessive borrowing, amongst which include president Biden's latest proposal for a $2 trillion stimulus package and the historic

$3.5 trillion spend on COVID related outlay payments[1], and uncertain income caused by policies like corporate tax cuts imposed by President Trump; debt limits are hitting new highs and the value of debt to be serviced are slowly approaching immense numbers.

The value of debt to be serviced is projected to increase to almost 10.6% of the budget by 2030, with almost $829 billion projected to be spent on satisfying creditors.[2] This is nearly double the proportion of what the US government currently spends from its annual budget on interest-related payments. However, this growth in interest payments is not simultaneously counteracted by a

reduction in budget spending elsewhere. In fact, average life expectancy is only increasing, bringing with it increased spending on healthcare services, pensions and miscellaneous social security expenses. Over 30 million people have filed for unemployment benefits since the pandemic so income security payments are accelerating, and lastly, the Gini coefficient is projected to reach record-high levelsof 0.50[3], meaning income disparity still prevents the government's ability to maximize efficient tax collection[4]. Furthermore, investments into growth and productivity which can offset unemployment, the need for social and incomesecurity and increase growth constitute too small an amount of federal budget to justify this debt. Investment into Education, Training, Employment and Social Services remains at just 4% of the US budget and spending on General Science andTechnology being just 1% of the annual budget.[5]

In the long run, this budget structure can also hinder economic growth. This can beseen through both a Neoclassical Growth Model[6]. The Neoclassical Growth model relies on the notion that economic growth is driven by labor (**L**), capital (**K**), and technology (**A**). Thus, with investments into education, training and technological innovation being just 5% of the total budget, unemployment skyrocketing, and technological innovation suffering due to the fact that FDI inflows, that help finance innovation, have reduced by 49% globally[7], and the openness to traderatios of economies have been damaged by recently implemented protectionist policies, growth is hindered. Disposable Personal Income, which contributes to personal capital is forecasted to fall below $18,000[8], further harming growth prospects and expressing how output can be drastically affected unless the budgetis restructured.

Overall, this imbalance between inflows and outflows could realistically this could lead to a scenario where the government would have to pick between reducing other outflows, which could include but are not limited to refusal to pay income/social security or Medicaid, something millions of families rely on their survival or slashing funding for basic functions like maintaining defense and national parks. If instead they delay or default on interest payments the economic fallout would be immense. With credit rates falling, interest rates hiking and the stock market inevitably crashing. The volatility caused by even a hint of default is evident through a Moody's Analytics analysis- in a 1979 episode when Treasury inadvertently missed payments on Treasury bills maturing that spring. The mishap was caused in part by fallout from a delay in raising the debt limit, but also by problems with word processing equipment the Treasury used at the time to pay investors. Even though investors received their payments with only a small delay, T-bill yields initially jumped by 60 basis points and remained elevated for several months thereafter. The cost to taxpayers was ultimately in the tens of billions of dollars.

Lastly, while less prevalent standard debt measurements also do not include unfunded obligations which is money the US government has promised but will likely be unable to pay off (retirement and medical benefits). Less than current stock social security and medicare funds, and future expectations of their returns lie between 80 to 200 trillion, Fannie Mae and other government organizations owe 8 trillion dollars, and state and local agencies that owe between 3 and 8 trillion dollars in unfunded obligations, yielding a total 165 trillion.

3. JUSTIFICATION OF INCREASING DEBT

While all this data may be alarming and call for immediate action it is important to take into account that forecasted values bring in heaps of uncertainties, with CBO over predicting Debt to GDP values by over 77 points[9], and over predicting interestrates to rise at a far steeper level than the market implies. Furthermore, the US economy is growing at a steady rate, one which is higher than its current levels of interest. The evidence is most consistent with structural changes in propensities to save and invest as the dominant reason for declining real rates. AAs Summers (2014) argued, factors operating to raise private saving include longer retirement periods, increased inequality, and rising uncertainty. Factors operating to reduce private investment include slowing labor force growth, greater efficiency in the useof capital, for example through companies like Uber and Airbnb, the impact of information technology in reducing the need for large capital investments, as for example law firms need much less office space per lawyer and dramatic reductionsin 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 in order to compare this to standard nominal interest rate measurements as a ratio of GDP, we use a simple formula:

$$\left(\frac{Real\ Interest}{GDP_t}\right) = \left(\frac{Interest - Inflation \times Debt_{t-1}}{GDP_t}\right) 10$$

The use of real interest rates shows us how inflation, which is projected to fluctuatearound 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]. However, stubbornly low-interest rates do not make borrowing a luxury, they makeit a compulsion. For example, GDP contracted by over 30% in the second quarter of 2020[13] due to the pandemic courtesy of both demand shocks and interruptions insupply chains, leading to widespread job losses and sparse spending. Already low-interest rates meant in order 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 analyzed by comparing it to other nations, specifically the G7 nations since they provide the most accurate socio-economic comparison to the US. 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%. However, real interest payments approach almost 0% as a ratio of GDP, making its financial position stronger than most other G7 nations in terms of ability to satisfice debt.

**Figure 11b**
Real Interest as a Percent of GDP, G7 Countries
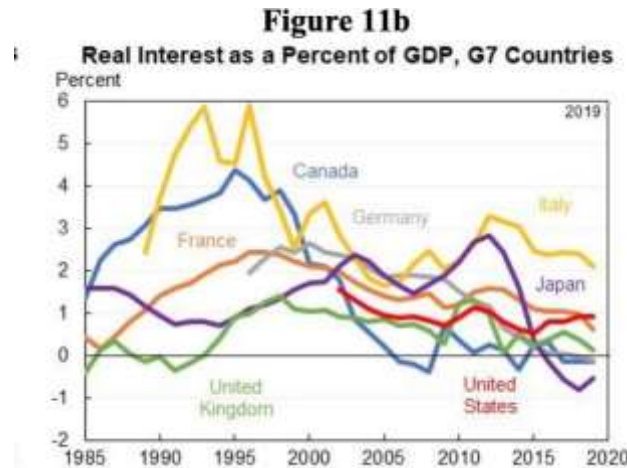
Lastly, the US dollar is also the reserve currency of the world, and US treasuriesare widely considered one of the safest investments. Therefore because it is the backbone of a large part of international trade and transactions, the US dollar holdsa strong and constant level of demand, ensuring its value does not crash. The creditrating and reputation of the US government along with the demand of the dollar ensures government-issued bonds are also always purchased by both international and national stakeholders, ensuring that debt can continuously be sanctioned by theUS government at low-interest rates.

4. LONG-TERM CONTEMPLATIONS

Long-term 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. 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 rates payments it creates a whole host of problems including absolute poverty and 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 rates hikes are planned by the end of 2022 to control money supply and bring equilibrium in a prospective LM curve for the US economy. The direct effect of this can be modeled using an IS curve, which shows that GDP and output reduce as interest rates grow and firms reduce investment and consumers prioritize saving. 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 behavior protects the US from defaultingon excessive borrowing. Firstly, the IS-LM model 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 governments 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.
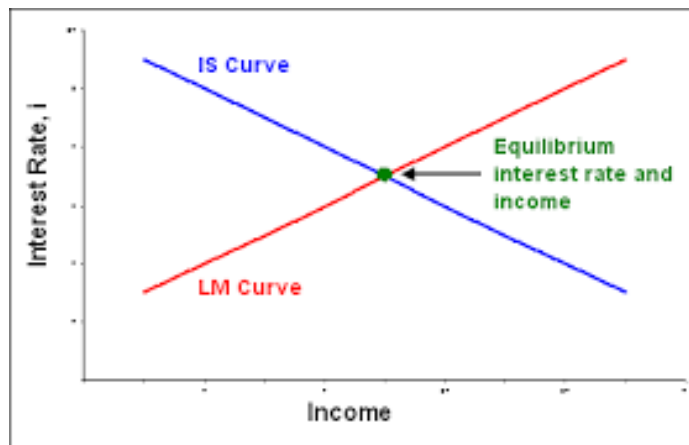
Overall, solutions can simply be categorized into cutting borrowing or increasing revenue. Since tax revenue is the primary source of income many suggest that Simpson-Bowles commissions 'raising revenue to 21 percent of GDP, a step that would require a $9 trillion tax increase over the next decade,'[17] is the kind of extremity that is required. However, while this may be equitable it is not

feasible inreal life because of the level of tax evasion. The difficulty and lack of efficiency is 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 PSU's 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 becomes the only way to help the fiscal position recover without a financialcatastrophe

5. 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 canbe 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 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.'*

6. REFERENCES

[1] USAspending.gov. (2021). US Government. https://www.usaspending.gov/disaster/covid-19?publicLaw=all
[2] Statista. (2021, December 1). Real GDP growth by quarter in the U.S. 2011–2021. https://www.statista.com/statistics/188185/percent-change-from-preceding-period-in-real-gdp-in- the-us/
[3] Statista. (2021b, September 21). U.S. household income distribution, by Gini-coefficient1990–2020. https://www.statista.com/statistics/219643/gini-coefficient-for-us-individuals-families-and-house holds/
[4] Efficient Tax is when the government receives a higher level of return from an individualtaxpayer than it pays out to that taxpayer in benefits
[5] Federal Spending by Category | U.S. Treasury Data Lab. (2021). US Government.https://datalab.usaspending.gov/americas-finance-guide/spending/categories/
[6] Neoclassical Growth model is a product of the function $Y = AF (K, L)$
[7] "Global Foreign Direct Investment Falls 49% In First Half Of 2020". 2020. Unctad.Org.https://unctad.org/news/global-foreign-direct-investment-falls-49-first-half-2020.
[8] TRADING ECONOMICS. (2021a). United States Disposable Personal Income | 2021 Data | 2022 Forecast. https://tradingeconomics.com/united-states/disposable-personal-income
[9] A Reconsideration of Fiscal Policy in the Era of Low Interest Rates. (2020). Jason Furman andLawrence Summers. https://www.brookings.edu/wp-content/uploads/2020/11/furman-summers-fiscal-reconsideration- discussion-draft.pdf
[10] Ibid .p.4
[11] TRADING ECONOMICS. (2021). United States Fed Funds Rate | 2021 Data | 2022 Forecast 1971–2020 Historical. https://tradingeconomics.com/united-states/interest-rate
[12] U.S. Inflation Rate 1960–2021. (2021). MacroTrends. https://www.macrotrends.net/countries/USA/united-states/inflation-rate-cpi
[13] Statista. (2021, December 1). Real GDP growth by quarter in the U.S. 2011–2021. https://www.statista.com/statistics/188185/percent-change-from-preceding-period-in-real-gdp-in- the-us/
[14] Ibid .p.3
[15] Who's Afraid of Budget Deficits? (2019). https://www.law.nyu.edu/sites/default/files/Furman%20Jason%20Summers%20and%20Lawrenc e_2019_whos%20afraid%20of%20budget%20deficits_foreign%20affairs.pdf
[16] TRADING ECONOMICS. (2021a). United States Consumer Credit Change | 2021 Data | 2022 Forecast. https://tradingeconomics.com/united-states/consumer-cred
[17] Ibid .p.5
[18] Ibid .p.5
[19] Ibid .p.5
[20] Corporate Finance Institute. (2021, February 2). Theories of Growth. https://corporatefinanceinstitute.com/resources/knowledge/economics/theories-of-growth
[21] Federal Spending by Category | U.S. Treasury Data Lab. (2021). USGovernment.
[22] https://datalab.usaspending.gov/americas-finance-guide/spending/categories/
[23] Playing-a-dangerous-game-with-the-debt-limit. (2021, September). Moody's. https://www.moodysanalytics.com/-/media/article/2021/playing-a-dangerous-game-with-the-debt-limit.pdf
[24] House, T. W. (2021, November 30). Life After Default. The White House. https://www.whitehouse.gov/cea/written-materials/2021/10/06/life-after-default/
[25] A Reconsideration of Fiscal Policy in the Era of Low Interest Rates. (2020).Jason Furman and Lawrence Summers.
[26] https://www.brookings.edu/wp-content/uploads/2020/11/furman-summers-fiscal-reconsideration-discussion-draft.pdf
[27] USAspending.gov. (2021). US Government. https://www.usaspending.gov/disaster/covid-19?publicLaw=all

[28] U.S. Inflation Rate 1960–2021. (2021). MacroTrends. https://www.macrotrends.net/countries/USA/united-states/inflation-rate-cpi

[29] Statista. (2021, December 1). Real GDP growth by quarter in the U.S.2011–2021.

[30] https://www.statista.com/statistics/188185/percent-change-from-preceding-period-in-real-gdp-in-the-us/

[31] TRADING ECONOMICS. (2021). United States Fed Funds Rate | 2021 Data

[32] | 2022 Forecast | 1971–2020 Historical. https://tradingeconomics.com/united-states/interest-rate

[33] Statista. (2021a, January 20). U.S. Gross Domestic Product - forecast2019–2030.

[34] https://www.statista.com/statistics/216985/forecast-of-us-gross-domestic-product/

[35] TRADING ECONOMICS. (2021a). United States Disposable Personal Income | 2021 Data | 2022 Forecast. https://tradingeconomics.com/united-states/disposable-personal-income

[36] OECD (2021), Real GDP forecast (indicator). doi: 10.1787/1f84150b-en(Accessed on 30 December 2021)

[37] Statista. (2021b, September 21). U.S. household income distribution, byGini-coefficient 1990–2020.

[38] https://www.statista.com/statistics/219643/gini-coefficient-for-us-individuals-families-and-households/

[39] TRADING ECONOMICS. (2021a). United States Consumer Credit Change |2021 Data | 2022 Forecast.

[40] https://tradingeconomics.com/united-states/consumer-cred

[41] Who's Afraid of Budget Deficits? (2019). https://www.law.nyu.edu/sites/default/files/Furman%20Jason%20Summers%20and%20Lawrence_2019_whos%20afraid%20of%20budget%20deficits_forei gn%20affairs.pdf