

The Impact of Government Debt

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“A national debt, if it is not excessive, will be to us a national blessing.” - Alexander Hamilton

Since the Global Financial Crisis in 2008, much of the conversation about US government debt has revolved around the government’s willingness to pay existing debts (e.g., hitting the “debt ceiling”). While these debt ceiling dilemmas have eventually been resolved without default, the topic of the long-term trend growth of the national debt has been less discussed. The US government is the largest debtor in the world in absolute terms, and its debt as a share of Gross Domestic Product (“GDP”) has been increasing rapidly over the past fifteen years. The US national debt of \$31.4 trillion represents 98% of US GDP. According to the Congressional Budget Office (“CBO”), it is projected to grow to 118% of GDP in 2033 and 195% of GDP in 2053.¹

In a [prior research note](#),² we addressed the debt ceiling. In this follow-up piece, we explore the broader impact of government debt on the economy. We examine historical debt trends relative to economic growth, discuss what countries do to manage their level of debt when it has grown, and explore what could happen if debt continues to climb.

Historical debt trends

The growth in government debt historically has often been linked to major events, such as wars and financial panics. The longest and most comprehensive data series for examining government debt is for the United Kingdom (“UK”). Looking back to the 1700s, most of the peaks in debt growth are linked to wars and panics, as the UK government borrowed vast sums to support war efforts or, as in the more recent case of the Global Financial Crisis (“GFC”), to stimulate the economy and avoid an economic depression (Figure 1). It is helpful to note that debt is often measured relative to GDP, because it puts the size of debt in context by comparing the amount of a country’s debt to the size of its economy.

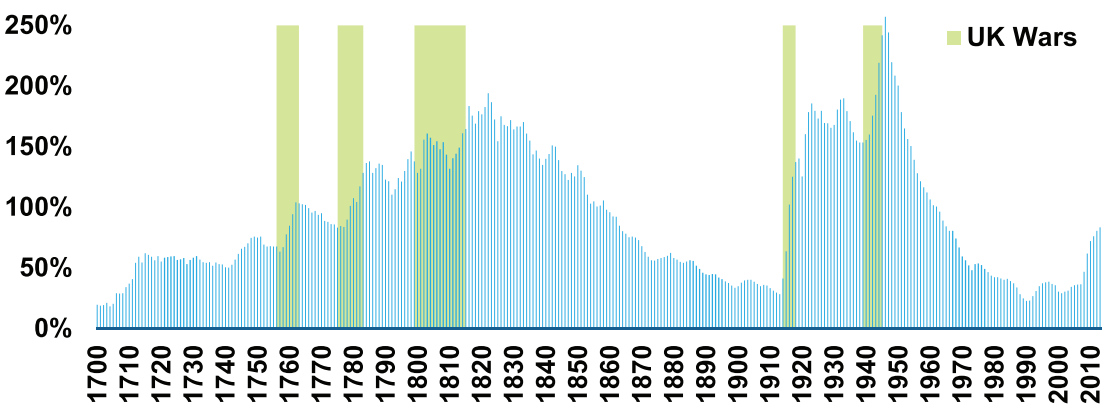


FIGURE 1
UK Public Sector Debt to GDP

Sources: FRED, as of May 2023. War dates from Encyclopedia Britannica, including: The Seven Years War, The American Revolution, The Napoleonic Wars, WWI, and WWII.

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¹ Source: February 15th Director’s Statement on the Budget and Economic Outlook for 2023 to 2033 by Congressional Budget Office director Phil Swagel.

² See “Debt and the US Debt Ceiling” published by Meketa in May 2023.

Data for the US does not go back as far; however, an examination of the available data shows similar trends. The highest debt-to-GDP ratios in (the available) US history occurred in the mid-1940s, driven by spending for World War II (see Figure 2). It shot up again during the GFC, and then reached new peaks in 2020, 2021, and 2022, due primarily to pandemic-related stimulus and borrowing.

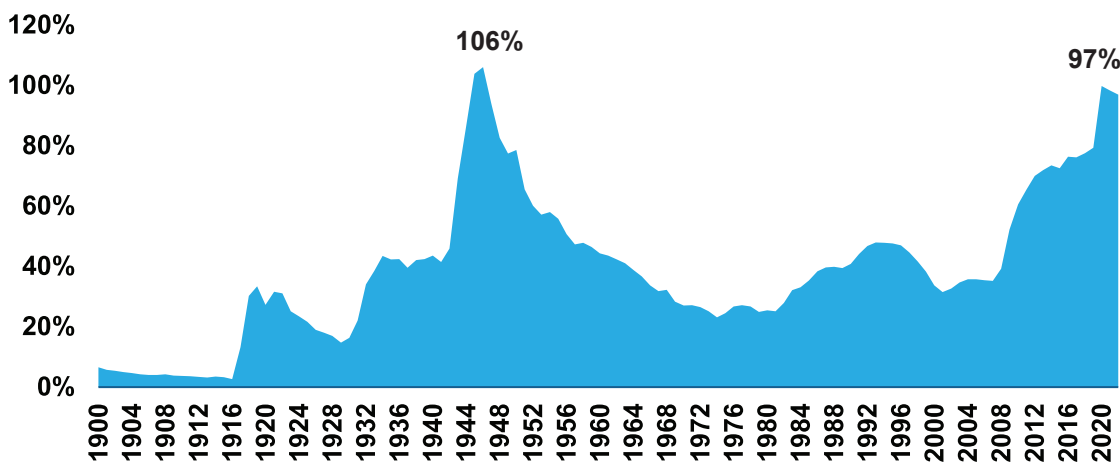


FIGURE 2
Total US Federal Debt as a % of Gross GDP

Source: Congressional Budget Office, "The Budget and Economic Outlook: 2023 to 2033," February 2023.

In both Figure 1 and Figure 2, the debt-to-GDP ratio appears to be cyclical. That is, after a peak, it returns to a much lower, and perhaps more sustainable, level. However, it is also worth noting that since the 1980s, the debt ratio in the US has generally exhibited an upward secular trend. This means the debt-to-GDP ratio has increased even without cyclical events serving as a catalyst.

Is a high level of debt always a problem?

Often when discussing personal financial matters, there is a perception that high levels of debt are objectionable on the basis of their size alone – high debt balances require high incomes to pay and any individual is subject to many different risks (e.g., unemployment, illness, etc.) that could impair their repayment ability. However, it is not clear that the conventional wisdom to avoid high levels of debt for individuals should likewise apply to nations.

A commonly accepted (though not universal) opinion among economists is that when debt reaches a certain level, it starts to act as a drag on growth. However, nobody really knows what that level is, nor how much of a drag on growth it causes. Moreover, the relationship between debt and growth may be nonlinear, meaning that the negative effects of debt on economic growth may be more pronounced at very high levels of debt.

One of the most influential academic papers, "Growth in a Time of Debt" by Carmen Reinhart and Kenneth Rogoff, found that countries with high levels of government debt (over 90% of debt to GDP) tend to experience lower economic growth rates than countries with lower levels of debt. However, other researchers had difficulty replicating Reinhart and Rogoff's results and, in 2013, Herndon, Ash, and Polen published a substantial critique of their findings (see the Appendix).

Even if the relationship between growth and debt proposed by Reinhart and Rogoff were true, the paper still does not clarify whether one factor explains the other. While it was popular at the time of the paper's writing to argue that high debt causes lower growth, it is possible that lower growth causes higher debt ratios. Additionally, both causal patterns could be simultaneously true in different countries or at different times. An alternative view is that as an economy matures and its capital markets deepen, it can more easily sustain a higher debt level due to its lower inflation level and stable economic growth.

Hence, it is not clear whether high debt levels are a "bad" thing. In Figure 3, we take a similar approach to Reinhart and Rogoff, extending the data through 2022. It shows that GDP growth for developed countries does fall as the debt-to-GDP level rises. For example, the average annual GDP growth fell 1.6% when the debt-to-GDP ratio increased from below 30% to above 90%, and the largest drop in average and median growth occurred once debt-to-GDP exceeded 90%. However, a statistical analysis of the data shows that while debt levels may have a moderately significant relationship with GDP growth, the level of debt only explains a small amount of the variation in growth levels.³

³ Debt as a factor is moderately significant ($p=0.3$) with respect to GDP growth but only explains a small fraction of GDP growth variability ($R^2 = 0.09$).

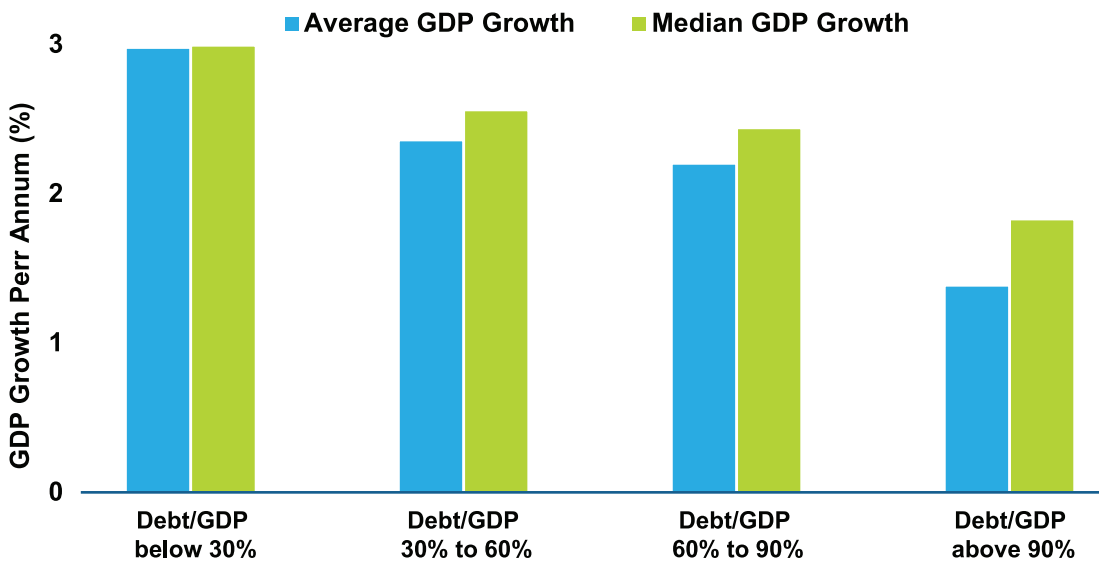


FIGURE 3
Debt & Growth for Developed Countries from 1980 to 2022

Source: Oxford Economics, annual data as of April 2023. Measurements used: gross government debt (including state debt) as a % of GDP and real GDP growth. Dataset includes 21 developed countries as defined by the World Economic Situation and Prospects. Year count per category: Below 30% = 122, 30% to 60% = 266, 60% to 90% = 236, above 90% = 207.

Ultimately it is hard to say whether a high level of debt is a problem in isolation. High debt levels can have significant long-term implications for economic growth and inflation but nobody really knows what that level is, nor how much of a drag on growth it causes (if any).

However, it is possible that another related factor determines whether debts are compatible with high levels of growth: whether the intended use of the debt is productive or not. In other words, instead of having too much debt causing lower growth, does having too much bad debt lower growth?

Debt and productive investment

As noted in the quote by Alexander Hamilton that began this piece, a little debt could be quite beneficial for a country. Borrowing enables governments to potentially fund projects that contribute to long-term economic growth, productivity, and social development. These investments can have positive spillover effects, such as generating employment and improving living standards. Importantly, the use of debt matters for the outcome: if debt is employed in activities that generate growth beyond the cost of the debt, then servicing the debt should be sustainable.

This dynamic is familiar in a corporate finance context, where companies generally take on debt if they believe the rate of return on an investment will exceed the borrowing cost. Arguably, the same logic could be applied at the level of the federal government. That is, if the government expects each marginal dollar of debt to enhance productivity such that economic growth exceeds the cost of debt, then it makes sense to borrow. While there may be diminishing marginal returns to additional debt if high-return investment opportunities become scarcer, the debt burden should remain manageable so long as gains exceed the borrowing cost. Hence, most countries have historically tried to not let their debt burden grow faster than their overall economy, at least over the long term.

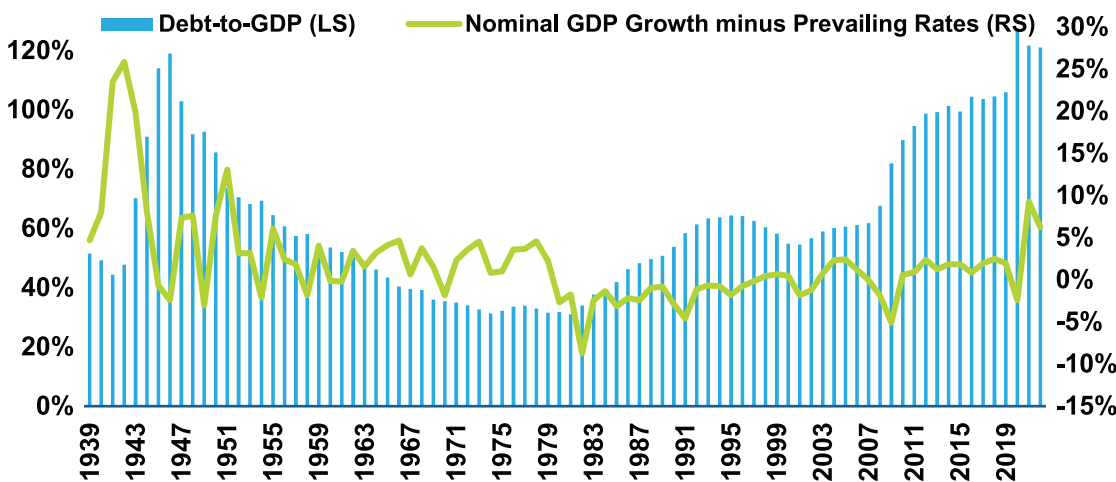


FIGURE 4
US Federal Debt-to-GDP
vs Nominal GDP Growth
minus Prevailing Rates

Source: FRED. Uses 10-year Treasury for prevailing rates. Data is as of December 31, 2022.

By fostering economic growth, tax revenues increase (without necessarily increasing the tax rate). This allows the government to service old debt and maintain borrowing capacity. Higher tax revenues can reduce or eliminate deficit spending. So long as the rate of growth (in revenues) exceeds any increase in new debt issuance, this is a feasible solution. Several nations have historically pursued strategies aimed at growing their way out of debt.

Foremost on this list is the United States. As noted earlier, following World War II, the US faced a significant debt burden. The country pursued a strategy of robust economic growth to reduce the debt-to-GDP ratio (recall Figure 2). Policies such as the GI Bill, infrastructure development (e.g., the Eisenhower interstate system), and investments in education and research helped drive economic expansion, leading to increased tax revenues and debt reduction over time.

Other notable examples include South Korea and Germany (post-reunification). South Korea experienced rapid economic growth during the latter half of the 20th century as the government pursued an export-oriented industrialization strategy, focusing on sectors such as manufacturing and technology. The resulting economic growth helped generate higher tax revenues, which contributed to reducing the relative burden of debt. After the reunification of East and West Germany in 1990, the country faced a substantial debt burden due to the costs associated with integrating the two economies. Germany pursued a strategy of strong economic growth, supported by investment in infrastructure, education, and innovation. The resulting economic expansion and increased tax revenues played a significant role in reducing the debt-to-GDP ratio over time.

These examples highlight the importance of sustained economic growth as a strategy to address debt challenges. By fostering an environment favorable to growth, countries can enhance their revenue base and reduce the relative burden of debt. However, it is worth noting that promoting economic growth as a means to address debt requires careful fiscal management, structural reforms, and targeted policies to enhance productivity, competitiveness, and investment. Said another way, the government should rely on public sector responsiveness to incentives rather than encroaching into private enterprises. A government must be willing to limit its size and responsibilities to allow for private sector expansion. It is also essential to consider that the success of a grow-out-of-debt strategy depends on the country's economic structure (e.g., free market capitalism), institutions (e.g., rule of law), and external conditions (e.g., peace time). Each nation's unique circumstances and policy choices will influence the effectiveness of their approach to growing out of debt. Fortunately for the US, many of these circumstances are currently favorable.

The cost of debt is still relevant

However, it is not a given fact that all debt-financed projects will cover their costs. As debt levels grow, so do associated interest payments (i.e., "debt service"). Interest can be an upward spiral - rising interest payments mean even more debt is needed, which in turn generates more debt servicing costs. Federal interest payments as a % of GDP are expected to double over the next decade to 3.6% in 2033, surpassing the previous 1991 record of 3.2%.⁴ This projected rise is the result of both a mounting debt balance as well as rising interest rates.

⁴ Source: The Congressional Budget Office, "The Budget and Economic Outlook: 2023 to 2033," February 2023. In 1991, the yield on the 10-year Treasury ranged from 7.1% to 8.3%.

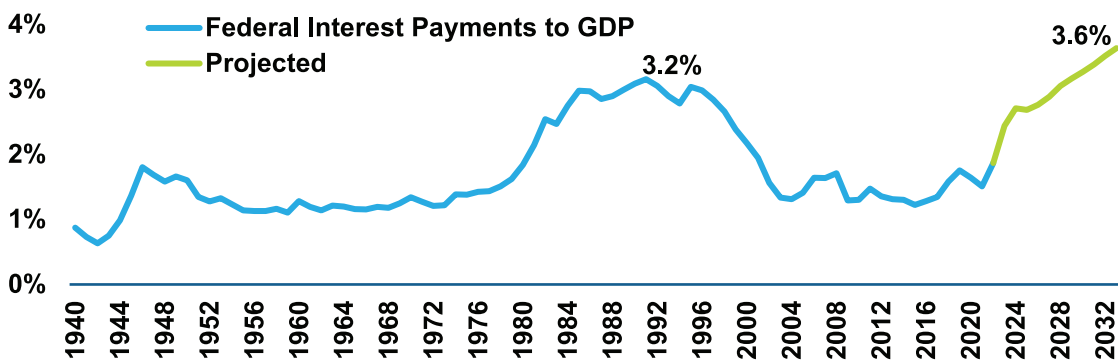


FIGURE 5
Federal Interest Payments as a % of GDP

Source: FRED, Annual Federal Outlays: Interest as a Percent of Gross Domestic Product, as of April 2023. The Congressional Budget Office, "The Budget and Economic Outlook: 2023 to 2033, Net interest Outlays as a Percentage of GDP," February 2023.

The nature of bond markets is that when lenders perceive a borrower to be at higher risk of default, they demand a higher yield to compensate them for taking on that additional risk. Creditors often use metrics that compare the level of income to the level of debt and/or the size of interest costs to help them make the determination of a borrower's creditworthiness. In theory, as the level of US debt rises relative to the size of the economy, lenders could seek higher yields on US government bonds in order to continue lending to the Treasury, though this has not necessarily been the case historically.

That said, the relationship between debt and borrowing costs is complex and may be influenced by a range of other factors, including investor sentiment, inflation expectations, and monetary policy. For example, the monetary policy (e.g., zero interest rate policies) employed in many western economies after the GFC were a major driver of interest rates for sovereign debt over that period. Arguably, this distorted the market for government borrowing by suppressing yields. Such policies could likewise put downward pressure on interest rates in the future, thus countering a potential decline of confidence in the US Treasury on behalf of creditors.

Further, the US is unique in that the US Dollar serves as the world's primary reserve currency, and many global investors treat US Treasuries as a favored safe haven asset in large part because of this. Hence, as long as the Dollar remains the global reserve currency, Treasuries should remain in demand, and this should also apply an unknown amount of downward pressure on Treasury yields.

Distributing the costs of debt

In addition to the total size of debt, the distribution of debt costs throughout an economy can affect the impact of debt on investors and wider society, particularly if the beneficiaries of debt-financed spending are distinct from those bearing the costs of the associated debt. There are a number of common ways for which debt costs can be accounted:

- **Tax and Spending Policies:** If interest costs are absorbing a growing share of the budget, more tax revenue or lower spending will help reduce the need for new debt and potentially reduce the amount of outstanding debt. However, higher tax rates would discourage work and saving, thus reducing economic productivity. They may also decrease standards of living as a greater proportion of individuals' incomes are consumed by taxes and/or spending on human capital and infrastructure.
- **Currency Devaluation:** A country can deliberately devalue its currency, making its exports cheaper and imports more expensive. This can help boost domestic industries and exports, potentially increasing economic activity and inflation. Typically, a devaluation will help export-oriented industries while creating a headwind for importers.

- **Financial Repression:** In economies with substantial domestic capital controls, regulators can artificially mandate lower rates for interest bearing accounts to lower borrowing costs. These lower borrowing costs then subsidize state, state-affiliated, and favored non-state actors' economic activities. In addition to directly burdening savers, changes in capital costs can distort investment throughout the broader economy.
- **Currency Debasement:** If denominated in its own debt, a country can simply print to satisfy its debt obligations. This "money printing" tends to create substantial levels of price inflation, helping borrowers while hurting lenders in real terms.

While the precise distribution and magnitude of debt's costs and benefits varies by circumstance, the important point to keep in mind is that debt's impacts can be complex and non-uniform, even within a single country.

The impact of debt on inflation

As noted, high levels of debt can often lead to inflation, particularly if governments resort to printing money or other inflationary policies to pay off or reduce the burden of their debts. Inflating one's way out of debt refers to a strategy where a country deliberately allows or encourages higher inflation as a means to reduce the burden of its debt. Similar to the growth approach, the inflation approach allows tax receipts to grow in nominal terms, while the debt shrinks in real terms. These policies can lead to a decrease in the value of the currency and a general increase in prices, as the amount of money in circulation exceeds the amount of goods and services available.

Decreased GDP growth levels	Higher interest costs for the government
Decreased private investment and consumer spending	Increases in the severity and length of macroeconomic shocks
Higher taxes	Decreased ability for the government to provide support in the event of a downturn
Higher Inflation	Decreased ability for the government to fund social programs

FIGURE 6
Potential Downsides of Too Much Debt
 Sources: Meketa Investment Group, 2023.

While a strategy of pursuing inflation is sometimes chosen due to the relative ease with which it can be pursued (as opposed to making tougher or unpopular decisions related to reforms), it carries significant risks and potential negative consequences. For example, inflation can introduce uncertainty and erode confidence in the economy, leading to increased volatility in financial markets. Investors may demand higher yields on government bonds, which can increase borrowing costs and further strain public finances. Higher inflation also erodes the purchasing power of individuals and can particularly impact lower-income groups. It can reduce the value of wages and savings, leading to a decrease in living standards. Higher inflation can introduce distortions in resource allocation as individuals and businesses may make decisions

based on short-term rather than long-term considerations, thus hindering economic efficiency and productivity. Finally, inflationary policies can even have foreign policy repercussions, as currency devaluations can trigger trade disputes and affect international relations.

Throughout history, several nations have attempted to inflate their way out of debt or have resorted to policies that resulted in high inflation. Below are some of the most notable examples, all of whose policies led to hyperinflation and severe hardships for their people.

- Following World War I and the Treaty of Versailles, Germany (the Weimar Republic) experienced severe economic turmoil and a massive debt burden. To finance their obligations, the German government resorted to printing money, resulting in hyperinflation.⁵ This led to a rapid devaluation of the currency and the erosion of people's savings.
- In the early 2000s, Zimbabwe faced a severe economic crisis, characterized by high levels of debt, fiscal mismanagement, and political instability. To finance government spending, the authorities resorted to excessive money printing, leading to hyperinflation. The inflation rate reached astronomical levels, eroding the value of the Zimbabwean dollar and causing significant economic hardship for the population.⁶
- Argentina experienced a period of high inflation and repeated debt crises in the 1970s and 1980s. The government relied on inflationary financing to fund budget deficits, resulting in soaring prices. In the late 1980s, hyperinflation emerged, and the economy faced significant instability, culminating in the introduction of a new currency and economic reforms.⁷

These examples illustrate the risks and potentially severe consequences associated with a country attempting to inflate its way out of debt. While inflation may provide short-term relief by reducing the real value of debt, it can lead to significant economic distortions, social hardships, and a loss of confidence in the economy. Importantly, the level of inflation can be quite damaging to savers and institutional investors. Since the 1990s – with the evolution of modern inflation targeting combined with improved economic data and policy analysis – the explicit reliance on inflation to reduce debt levels has been a path explicitly chosen only by unstable or stressed governments. Although imprudent or unorthodox macroeconomic policies may result in high rates of inflation, these instances are becoming less common due to the multilateral efforts of the International Monetary Fund, World Bank, US Aid, and other organizations.

Possible investment outcomes

What this means for investors depends on which path is chosen by policy makers in the US. If they choose to let the national debt continue to grow at the pace of the last fifteen years, economic growth will likely slow in the long run.⁸ This is a sub-optimal outcome for investors, as it could result in lower returns across most asset classes. Even if the reduction in returns is modest, it can have a significant impact over the

⁵ A loaf of bread in Berlin that cost around 4 Marks at the end of 1921 cost approximately 201,000,000,000 Marks by November 1923. Source: "Hyperinflation" https://www.johndclare.net/Weimar_hyperinflation.htm

⁶ Zimbabwe's peak month of inflation is estimated at 796 billion percent month-on-month, 89.7 sextillion percent year-on-year in mid-November 2008. Source: Hanke S., & Kwok, A. (2009) "On the Measurement of Zimbabwe's Hyperinflation", *Cato Journal*, 29 (2).

⁷ Between 1975 and 1990, the average annual inflation rate in Argentina was estimated to be 300%. Source: "10000 years of economy - Hyperinflation in Argentina" <https://www.citeco.fr/10000-years-history-economics/contemporary-world/hyperinflation-in-argentina#:~:text=Inflation%20started%20rising%20prior%20to,300%25%20between%201975%20and%201990>

⁸ Note that this implies a diminishing marginal return to productivity as debt grows. Any debt that triggers productive investment should be supportive of economic growth.

long term. For example, a 50 basis point reduction in returns, from 7% to 6.5% per annum, could result in an investor's assets being 9.8% smaller than otherwise at the end of a twenty-year period.⁹

⁹ Calculation assumes no net cash flows. Cash flows could amplify or dampen this effect.

The best solution from the standpoint of investors would be if policy makers implement a course of action that is designed for growth. The growth-oriented assets that comprise the majority of many institutional investors' portfolios, such as US equities, private equity, and real estate, would likely benefit from a prolonged period of economic expansion.

If, however, policy makers pursue a path of inflation, it may represent the worst outcome for many types of investors. Inflation would erode the real value of many fixed income securities, while also diminishing the purchasing power of the institutions and beneficiaries who rely upon these investment portfolios. In such an environment, real or inflation-linked assets, such as gold or commodities, would likely fare well, and TIPS would likely outperform nominal Treasuries.

Summary

As the US national debt continues to grow, it is likely that the debate over the debt ceiling will resurface as a contentious issue in the years to come. Since the 1980's, US debt has been on a secular upwards trend. Several spikes have occurred that were related to the GFC and the COVID pandemic. According to the CBO, our national debt is projected to grow to 118% of GDP in 2033 and 195% of GDP in 2053.¹⁰

¹⁰ Source: February 15th Director's Statement on the Budget and Economic Outlook for 2023 to 2033 by Congressional Budget Office director Phil Swagel.

Debt is not inherently bad. If used productively, debt can support economic growth. Higher levels of debt may be a sign of a mature, high-income economy. That said, at a certain level of debt, we may no longer be able to service our debt burden. However, we are a long way from that. Still, in theory, the more debt we take on, the less likely each marginal dollar of debt is to be used productively. In which case, additional debt would serve as a drag on growth, not an inducement.

However, it is not clear at what level of debt growth begins to slow, nor how direct the relationship is. Moreover, the US enjoys some unique advantages that may delay or mitigate these negative side effects, such as the US Dollar serving as the world's primary reserve currency and US Treasury bonds being perceived as perhaps the safest assets available to investors. Still, if the trend of increased debt continues, investors should anticipate lower GDP growth in the future.

Debt has the potential, in the long run, to become a vicious circle. Lower growth leads to the need to take on more debt to meet obligations, which further increases interest costs and further reduces growth. Countries that have seen their debt grow to potentially undesirable levels have traditionally chosen to address it in one of two ways: 1) grow their way out of debt, or 2) inflate their way out of debt. The path that the US chooses will have meaningful long-term implications for investors.

Appendix

Critiques of the Reinhart and Rogoff study

Carmen Reinhart and Kenneth Rogoff are two economists who published a widely cited study in 2010 titled “Growth in a Time of Debt,” which argued that countries with public debt levels exceeding 90% of GDP experienced lower economic growth rates than countries with lower levels of debt. While their study was influential, it has been subject to several critiques, including:

- Coding errors: In 2013, a group of researchers at the University of Massachusetts Amherst published a paper¹¹ arguing that Reinhart and Rogoff had made coding errors and selective omissions in their study, which led them to overstate the negative impact of high levels of public debt on economic growth. The researchers demonstrated that when the coding errors were corrected, the relationship between debt and growth became weaker and not statistically significant.
- Data exclusion: Another critique of the Reinhart and Rogoff study is that they excluded data from several countries, including Canada and Australia, that had high debt levels but also experienced high growth rates. Critics argue that these exclusions biased their results and undermined the generalizability of their findings.
- Temporal Inconsistency: Adjusting the starting point of the Reinhart-Rogoff analysis yields different results, with the high GDP growth rates associated with the lowest debt level categorization eroding substantially in more recent decades, from 4.1% in the 1950-2009 period to 2.5% in the 1980-2009 period, whereas the highest debt categorization maintained relatively steady growth near 2%.
- Causation vs correlation: The relationship between public debt and economic growth is not necessarily causal, but rather reflects a correlation between two factors that are independently influenced by other factors. For example, high public debt levels may be a symptom of an underlying economic problem, such as a weak economy or a financial crisis, rather than a cause of slower growth.
- Limited policy implications: The Reinhart and Rogoff study may have limited policy implications because it does not provide clear guidance on how policymakers should balance the benefits of government spending against the risks of high levels of debt. Instead, it simply warns of the potential risks of high debt levels without providing a clear roadmap for how to address them.

Overall, while the Reinhart and Rogoff study was influential, it has been subject to several substantial critiques. These critiques highlight the importance of carefully considering the limitations of economic studies and the need for ongoing research and debate on the relationship between public debt and economic growth.

¹¹ See “Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff” by Thomas Herndon, Michael Ash and Robert Pollin, April 2013.

The crowding out effect

Much of the logic behind high levels of debt slowing economic growth is based on a phenomenon economists call the “crowding out” effect. The crowding out effect is an economic theory that argues that rising public sector spending & debt drives down private sector spending. This occurs when government borrowing leads to higher interest rates, both for the government and the private sector. These higher rates make it less attractive for individuals and businesses to borrow. This can lead to a slowdown in economic growth as businesses and individuals may be less likely to invest in new projects or expand their operations.

While the crowding out theory is a widely accepted economic concept, it is not without shortcomings. Here are some of the criticisms and limitations of the crowding out theory:

- Time horizon: One of the limitations of the crowding out theory is that it focuses on short-term effects, while ignoring the potential long-term benefits of government spending. For example, government spending on infrastructure projects may stimulate economic growth in the long run by improving productivity and creating jobs, which could offset any potential crowding out effects.
- Incomplete analysis of interest rates: Another limitation of the crowding out theory is that it may provide an incomplete analysis of interest rates. While government borrowing may put upward pressure on interest rates, other factors such as changes in monetary policy or shifts in investor sentiment may also influence interest rates.
- Heterogeneity of private investment: The crowding out theory assumes that all private investment is equally sensitive to interest rates. However, in reality, different types of private investment may have different degrees of sensitivity to interest rates. For instance, long-term investment in infrastructure may be less sensitive to interest rates than short-term investments in financial assets.
- Currency and trade implications: The crowding out theory also does not consider the impact of government borrowing on currency and trade. Increased government borrowing may lead to a depreciation of the currency, which could make exports more competitive and imports more expensive. This could lead to increased exports and a reduction in the trade deficit, which could offset any potential crowding out effects.
- Time and place specifics: Finally, the crowding out theory may not apply equally in all situations or in all countries. Factors such as quality of institutions, economic development, and the composition of government spending may all affect the degree to which crowding out occurs.

Additionally, there is a competing concept of “crowding in” which has the opposite implication of “crowding out” – that additional government spending can induce greater levels of private investment than would otherwise occur. One environment where crowding in is more likely is in recessions where existing productive capacity or labor resources are underutilized. In that case government spending increases consumers’ incomes (via wages) which in turn promotes private investment without competing for productive resources. Another potential crowding in environment is in fields that offer future potential but a lack of fundamental research, capital base, and/or expertise making private investment unprofitable or too risky. In this situation, government spending can “prime the pump” by creating incentives to attract private investment in the field. A potential example of this type of scenario is the Inflation Reduction Act of 2022, particularly those provisions relating to “green” investments that seek to create clean energy production capacity.

Overall, while the crowding out theory is a useful tool for understanding the potential impact of government borrowing on private investment, it is important to consider its limitations and contextual factors when applying it to specific situations.

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