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**National Economic Education Delegation**

**Federal Debt Narrative**

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**Slides:**

1. **Opening Slide**

In this talk, we will discuss important aspects of federal debt. We will take a quick look at the federal budget, as annual deficits and surpluses lead to the overall debt. We’ll talk about who holds the debt, how the debt comes into being, how to think about the economic implications of the debt, and, if you think it’s a problem, how to deal with it.

First, a bit about NEED.

1. **DO NOT DELETE: National Economic Education Delegation**
   1. Brief discussion of what NEED is and does
      1. 500+ delegates, at least one in each state
      2. 49 honorary board: 3 Nobel prize winners, 6 former chairs of the Council of Economic Advisers, and 2 former chairs of the Federal Reserve.
   2. Use your judgment about what should be said.
2. **Who Are We?**
3. **Where Are We?—feel free to delete**
4. **DO NOT DELETE: Credits and Disclaimer**
5. **US Government Debt**

In this presentation, we look at federal debt. This is the amount that the federal government owes to both itself and other organizations. This debt has been growing rapidly through the pandemic, and we explore and discuss the implications of this growth as well as some policy options for addressing the debt.

1. **What Does the US Gov’t Budget Look Like?**

Because it is the source of the debt, it’s worth taking a minute to review the federal budget.

The US government budget is extremely complicated, but it can be summed up as we have in this table by expressing a few major categories of both revenues and outlays.

Note that we distinguish outlays from “expenditures.” Outlays are all funds emanating from the federal government, whereas “expenditures” implies spending on goods and services by the government. Expenditures are a subset of outlays, as outlays include transfer payments to individuals.

***Revenues***

Government revenues come primarily from four different boxes: income, payroll, corporate, and other. The other category includes things such as estate taxes, excise taxes, and tariffs. Excise taxes are taxes applied to specific goods/services, such as gas tax, cigarettes, and airline tickets.

***Outlays***

There are primarily two distinct categories of government expenditures: mandatory (which are dictated by federal law or statute) and discretionary (which are outlays that are budgeted each year). Interest payments are also included here, though they are frequently lumped as part of mandatory spending.

In 2019, revenues were $3.5 trillion, and outlays were about $4.5 trillion, leaving a deficit of nearly $1 trillion, or $984 billion. Deficits are much more the norm than are surpluses, as we shall see.

1. **A History of Persistent Deficits**

Deficits are not unusual. The green line reflects the deficit—or, in rare instances, surplus. The gray shading indicates recessions.

We’ve run fairly consistent deficits since 1970, with the lone exception being the period at the end of the 1990s. Surpluses were run for several years, much to the consternation of some. In particular, Alan Greenspan, then chair of the Federal Reserve, was worried that eliminating the debt would reduce his ability to conduct monetary policy, which is often a matter of buying and selling US federal debt.

1. **A Future of Deficits**

Just quickly, as we will talk about this several more times, in this graph, the bars going down represent deficits whereas the bars going up indicate surpluses. As is clear, we run deficits much more frequently than surpluses.

Also, this graph indicates that, even before the pandemic, the federal government was likely to run deficits for the foreseeable future.

1. **Of Debt, Deficits, and Surpluses**

Before we really get into this, it is worth taking just a minute to ensure that we understand some important terms and concepts.

There are two different concepts to keep in mind: “flows” and “stocks” of government borrowing.

Flows are statistics that pertain to activity in a single quarter or a year. Here, we talk about the deficit or surplus. If revenues exceed outlays, the government runs a surplus. If outlays exceed revenues—which, again, is much more common—the government runs a deficit.

We express the sum total of surpluses and deficits as the overall debt, the current stock of government borrowing, or the accumulation of debt (via surpluses and deficits) over time.

Flow: surplus or deficit

Stock: debt

1. **Debt vs. Deficit: Absolute Values**

This graph depicts both the flow (deficit) and stock (debt) data. The bars indicate the trajectory of the debt, which was $22.7 trillion at the end of the government’s fiscal year in September 2019.

The maroon line indicates fluctuations in the deficit over time. As we have already mentioned, deficits are more common than surpluses, though there was a surplus in the late 1990s.

It is important to note is that when there was a surplus, the deficit shrank, just a little bit or, more accurately, grew much more slowly than in times when there was a surplus. Deficits increase the debt whereas surpluses slow its growth or reduce it.

For those of you astute enough to notice that the debt doesn’t necessarily go down when there is a surplus, we will talk in a bit about the difference between total government debt and publicly held debt. Growth in intragovernmental debt causes the total debt to rise when there is a budget surplus. More shortly on intragovernmental debt.

1. **Major Takeaways: Talking Points**

With this background in mind, I’d like to mention some of the points that I hope you’ll take away from this presentation.

First, the last couple of slides hinted at the current trajectory of our federal debt. We’ll talk more about it, and we will see that it is currently on an unsustainable path.

Second, borrowing now, for sensible reasons—and we’ll talk more about what those reasons might be—makes a lot of sense. The cost of borrowing is currently very low. And postponing work on the debt as well as borrowing to combat the current health crisis both make a lot of sense.

Third, after the crisis is over, it will be very important to work on reining in the debt, because …

Fourth, the longer we wait, the more problematic the debt becomes. In particular, we are at risk of a financial crisis. We will talk more later about exactly what we mean by that.

First, let’s have a look at how the government borrows, who lends to the government, and how thinking among economists about the debt has evolved over time.

1. **How Does the Government Borrow?**

Just where does all this debt come from? How does the government accumulate it? Well, it comes from continued borrowing. How does this borrowing occur?

This borrowing occurs by the government issuing IOUs. These IOUs, or government debt, is most commonly issued as “bills,” “notes,” and “bonds”:

1. *Bills* have a maturity of a year or less.
2. *Notes* have a maturity of between 2 and 10 years.
3. *Bonds* have a maturity of between 20 and 30 years.

In terms of who holds the debt, it’s basically any organization that invests in or holds assets. Let’s take a closer look.

1. **A Breakdown of the Total Federal Debt**

The federal debt can be broken down in a variety of ways, and two of them that are particularly important or topical:

1. Total debt vs. debt held by the public
2. Debt held by foreign entities or individuals

With regard to the first, quite a bit of government debt is only on paper but important, nonetheless. This debt arises from programs that essentially run a profit—social security for many years, Medicare, and some retirement programs—but that profit is spent on other government priorities.

Take social security and Medicare. Payroll tax payments have exceeded revenues for the past couple of decades. This was intentional because the period that we are now entering, with significant deficits run by these programs, was anticipated. These funds could have been put aside in an account somewhere, but the government used them to pay ongoing expenses, rather than issuing more debt – treasury securities.

It is also true that much of our debt, currently about 40%, is held by foreign investors and governments. Contrary to popular understanding, Japan is currently the largest holder of US government debt, not China. They are running neck and neck, and it is possible that in the next quarter, it will be China. The point is that China is not unique in the amount of debt that it holds, but few countries hold anywhere near the level held by China and Japan.

It is also important to note that the share of federal debt held by the public has increased substantially in the past 30 years. Prior to 1990, less than 20% of the public debt was held by foreign entities. This substantially increases the risk of a fiscal crisis, as mentioned earlier. We will discuss that shortly.

More on the implications of debt held by foreigners later in the presentation.

But let’s talk a little more about intra-governmental debt.

1. **Not All Debt Is Created Equal**

In principle, an economy has only so much in the way of investment funds available. Those in control of those funds make decisions about what to do with them. There are many options, including stocks and corporate bonds.

Government debt is simply another place for investors to park their money. If their money is tied up in government debt, then it is not invested in nongovernmental activities, i.e., in economically productive activity.

So, in principle, when the government issues new 10-year Treasury bonds, for, say $1 billion, it is taking $1 billion away from other investments in the economy.

However, only debt held by the public can have this effect. Intra-governmental debt is simply bookkeeping, so it does not tend to influence the amount of private investment that is available to the rest of the economy.

As a consequence, most of the debt focus in this talk concentrates more broadly on debt held by the public.

1. **Two Measures of the Debt**

Total federal debt is currently about $23 trillion. Of that, $6 trillion, or roughly one-quarter of that debt, is intra-governmental debt—debt that the government owes itself.

This distinction really emerged after 1985, when social security and Medicare were taken “off-budget.” This means that when more funds are raised through payroll taxes than outlays for these programs, those funds will be – in an accounting sense, rather than an actual sense – put into a trust fund to cover periods of time where revenues are less than outlays.

The real consequences of that are beyond the scope of this talk, but it increased the necessity of keeping track of what is enormous intra-governmental lending.

These trust funds have grown, so the difference between gross federal debt and debt held by the public has grown. This will likely be reversed in 2020. That is, the trust funds will decline in size and the gap between debt held by the public and gross federal debt will shrink.

The social security trust fund likely peaked in 2019 at just under $3 trillion.

(From PGPF: https://www.pgpf.org/blog/2018/12/how-much-is-the-national-debt-what-are-the-different-measures-used)

Gross federal debt equals the debt held by the public (explained above) plus debt held by federal trust funds and other government accounts. In very basic terms, this can be thought of as debt that the government owes to others plus debt that it owes itself.

At the end of fiscal year 2018, gross federal debt totaled $21.5 trillion, $5.7 trillion of which represented securities held as investments of government accounts. About half that amount, $2.8 trillion, is held by social security’s old-age and survivors insurance trust fund. Securities held by these accounts represent internal transactions by the government and thus have no direct effect on credit markets.

Many economists regard debt held by the public as the most meaningful measure of debt because it focuses on cash raised in financial markets to support government activities. It is often expressed as a percentage of the gross domestic product (GDP), a ratio that measures the capacity of the economy to support such borrowing. Debt as a percentage of GDP is particularly useful for comparing debt levels over time and among countries of different sizes.

1. **What Makes Up Gross Federal Debt?**

Note: this is just a static snapshot to be used if preferable (perhaps because of time) to talking about the dynamics of the two forms of debt.

1. **Trends in Intra-Governmental Debt**

Just more on the dynamics. Really shows post-1985 growth.

The post-2008 decline is just a reflection of growing overall debt, which was primarily absorbed by the public—primarily the Fed; see next slide.

1. **Trends in US Debt Holdings Over Time**

Note: not necessary to use both this and the previous slide—time constraints or preference might dictate one or the other.

Prior to 1970, foreign holdings of US government debt were very small. In 1970, foreign entities held less than 2% of US public debt. That share grew to nearly 20% over the course of the 1970s, and largely remained at this level until the mid-1990s. It then grew to a peak of just over 48% in 2008 but has since fallen to its current level of 40.3%.[[1]](#footnote-1)

1. **Foreign Investors Own Over One-Third of US Public Debt**

Note: No new information here, just a clearer indication of the amount that foreign entities hold.

Of the remainder, debt held by the public, foreign governments, and investors make up about 40%. The rest is held by domestic investors, individuals, and organizations—both private and governmental. Some state and local governments also hold federal debt.

Foreign holdings really began to take off in the mid-1990s and grew until the recession. As the Fed started taking on more of it, the share of foreign holdings began to decline in about 2015.

(From PGPF: <https://www.pgpf.org/blog/2018/12/how-much-is-the-national-debt-what-are-the-different-measures-used>)

At the end of fiscal year 2018, debt held by the public totaled $15.8 trillion. This debt is issued in a range of maturities from 1-month Treasury bills to 30-year Treasury bonds. It also includes securities that are not traded in secondary markets, such as savings bonds and state and local government securities. Domestic creditors purchased about 60% of the outstanding debt held by the public; roughly one-third of that amount is owned by the Federal Reserve. The remaining 40% is held by foreign creditors.

1. **Who Holds Debt to Foreigners?**

About $8 trillion, or 40% of US debt, is held by foreigners, and China and Japan are the two largest holders of US debt, with more than $1 trillion each.

The United Kingdom is the third-largest holder of US federal debt, followed by Brazil and Ireland. Many countries hold US debt simply because the US government is one of the safest places to park excess money. US Treasuries are reputed to be the safest investment available.

1. **The Federal Reserve Holds Almost One-Third of US Domestically Held Debt**

The Federal Reserve is the largest single holder of domestically held public debt. In the 1970s, the Fed held close to 25% of this debt. That share is much lower now, at 14.5%, but as recently as 2015 it exceeded 20%. In the wake of the global financial crisis a decade ago, the Federal Reserve found itself with enormous holdings of US Treasuries. In recent years, it has been winding down this position but to provide liquidity during the COVID recession, it has since renewed those purchases.

In addition to the Fed, many investment funds, banks, and state and local governments hold US debt. Again, it is a very safe place to put your funds.

It may be worth noting briefly that we are talking about debt held by the public because that influences other economic activity. Because the Fed holds so much US debt, public debt overstates the implications of the debt because debt held by the Fed insulates the rest of the economy from these effects. The effects of the increased government spending, however, remain.

It's important to note that these shares fluctuate significantly over time, so the numbers mentioned only give a sense of who holds the debt. This share is as of December 2018.

1. **CBO: Budget Analysts in Chief**

The Congressional Budget Office (CBO) provides ongoing and extremely high-quality analyses of the federal budget and the debt.

It was formed in 1974 primarily to help Congress understand the financial implications of its actions—with an absolute requirement nonpartisan. It provides cost estimates of pending legislation as well as information about the budget outlook, which can change dramatically with changes in policy—for example, tax cuts.

1. **The All-Important Relative Debt**

Up to this point, we have been talking about dollar values or shares of the debt. However, it is very important to put the debt into the context of the size of the economy. If the debt is growing rapidly, but the economy is growing even more quickly, that changes the context in which debt increases should be evaluated.

Essentially, a larger economy, regardless of whether it is adjusted for inflation, will support higher levels of government debt. As we will discuss, this is tantamount to growing your way out of debt.

For example, the US debt completely dwarfs the debt of Greece, but Greece’s debt relative to the size of its economy is more than double that of the US.

Greece is much less able to service and pay off its debt than the United States.

(Lifted directly from <https://www.brookings.edu/blog/up-front/2019/01/04/the-hutchins-center-explains-how-worried-should-you-be-about-the-federal-debt/>—and needs to be rewritten)

Despite politicians’ proclivity for reiterating that it’s now several trillion dollars, the most economically important measure of the federal debt isn’t the absolute dollar amount but the size of the debt relative to the size of the economy, measured as GDP. Before the Great Recession, the federal debt held by the public (a measure that excludes Treasury bonds held by the Social Security Trust Fund, because that’s money owed by one arm of the government to another) totaled about 35% of GDP. Today, it’s about 78%.

1. **Two Measures of the Debt (same as 14)**

Recall the trends in US debt, both total and debt held by the public.

If we look at this graph, it would not be unreasonable to feel some alarm about the recent growth in the debt. It looks as though we are headed off into the stratosphere!

However, this is the wrong concept to use when making judgments about the debt. Rather, we should use “relative debt.”

1. **Two Measures of RELATIVE Debt**

The picture changes significantly when the debt is evaluated relative to GDP.

Granted, the debt is very high relative to GDP. As we will see, only during and after WWII was the ratio of debt to GDP higher.

In particular, growth in RELATIVE public debt is a fairly recent phenomenon. During the 2000s, relative public debt was around 30%, which is not very far out of line with history. Debt didn’t truly start to increase until the global financial crisis at the end of the 2000s. Federal spending increased dramatically, a trend that shows no sign of tapering off.

1. **Debt vs. Deficit as a Share of GDP**

The pattern of relative debt and deficit also tells a more accurate story of trends over time. Here, the surpluses in the late 1990s, and their impact on the debt is much clearer, as are the deficits driven by the global financial crisis a decade ago.

It is worth noting that relative publicly held debt did indeed decline with the surpluses in the late 1990s.

1. **Summary: Who Holds US Public Debt?**

Here, the red line is all public debt and is the same as the blue bars in the previous graph. The other lines indicate the other holders of US debt: green—Federal Reserve, orange—foreign entities, and gray—other domestic holdings.

The pattern of ownership of US public debt has changed dramatically over the past 25 to 30 years. Historically, foreign investors have held a relatively small share of US debt. This began to change in the mid-1980s but didn’t really take off until China entered the scene in the mid-1990s. This change has been so dramatic that, for much of the 2010s, foreign investors held more of the US public debt than did domestic investors, other than the Federal Reserve.

That has changed in recent years, as both domestic investors and the Federal Reserve have increased their holdings, and foreign investors have reduced their holdings.

1. **Summary: Who Holds US Public Debt?**

Note: This is just another way of depicting the data on the previous slide.

What is clear from this graph is the increased holdings of foreign entities since the late 1970s and the increased holdings by the Federal Reserve in the wake of the Great Recession.

1. **Three Key Points about the US Relative Debt**

Over the years, relative debt has ebbed and flowed. Peaks largely resulted from recessions and wars. In particular, the debt peaked during WWII at 106% of GDP and then fell relatively quickly. This decline was precipitated in part by rapid economic growth but was also a policy priority and supported by relatively high marginal tax rates.

This pattern appears to have ended in 1983, when the debt rose and fell for reasons largely unrelated to recessions or wars. In particular, prior to the pandemic, the debt was projected to increase to 180% of GDP, well above the WWII high, by 2050. Revisions of that forecast are likely to exceed 200% of GDP.

This increase in the debt is seemingly w/o a cause (war or recession) but, rather, more a matter of politics and an inability or disinclination among politicians to address it. The increase is a result of policies, which are subject to government control, as opposed to wars and recessions.

1. **The Post-WWII Fall in Relative Debt**

To date, and before the pandemic, the peak in relative debt occurred toward the end of World War II.

In the following years, that debt decreased from 106% to between 20% and 30% of GDP, with a continuous decline in relative debt right up until 1979.

It is important to note is that the federal government ran deficits throughout most of this period. Rapid growth in GDP and inflation reduced relative debt despite a preponderance of deficits.

1. **Debt Dynamics**

It’s worth spending a couple of minutes thinking about what drives the relative debt up and down.

In particular, how is it that the debt fell from 100% of GDP to 25% of GDP after WWII with just one year in which the budget was in surplus?

So long as the denominator of relative debt, GDP, is rising by more than the numerator (budget surplus), the ratio will fall.

This can happen for two reasons. First, rapid economic growth will result in a decline in the relative debt and, second, inflation, which will cause nominal GDP, in some sense artificially, to grow faster than debt.

This explains the decline after WWII and the projected increase over the next 30 years—the deficit is likely to grow faster than GDP, the economy.

Bottom line: so long as the denominator of relative debt, GDP, is ***growing faster*** than the numerator, the ratio will fall.

1. **The Arithmetic of Changes in Relative Debt**

This graph shows exactly that phenomenon: if the denominator grows faster than the numerator, relative debt will decline.

The data do not allow us to go back to WWII in this graph, but we can start in the early 1960s.

We can see this in different periods since the early 1960s. Between 1962 and 1979, the economy grew at an average annual rate of 9%. This is high but is not adjusted for inflation, which was largely out of control for part of this period. The debt was growing but by less than the economy, so RELATIVE debt declined.

Between 1979 and 1993, the picture is the opposite. GDP growth (7.1%/year) was less than growth in the debt (12.3%/year). Consequently, this was a period of increased debt.

The period when we actually had close to balanced budgets was 1993–2001, with a four-year period of surpluses, 1998–2001. So, we again experienced declining debt, as the economy grew more quickly than the debt, because the debt grew very slowly. Recall that the second half of the 1990s was the longest sustained period of budget surpluses in the postwar era.

Slowing GDP growth and the global financial crisis (the start of sustained and large deficits) resulted in a faster rate of debt growth relative to GDP and a corresponding increase in total debt between 2001 and 2019.

Highlighted here is the notion that surpluses are not necessary to reduce the debt. Maintaining deficits at levels sufficiently low for GDP growth to outpace the growth in debt is sufficient for a decline in the overall debt burden—relative debt—over time.

1. **Two Measures of the Deficit**

It is important to think about the two different primary drivers of the deficits. These are:

* the ***primary deficit***: the difference between current outlays and revenues and
* the ***total deficit***: primary deficit + interest.

The primary deficit is the principle driver of relative debt, and the interest portion is the part of the deficit that is due to past deficits.

It is important to contemplate these aspects of the deficit when thinking about the course of the relative debt and the cost to future generations.

Spoiler alert: the cost to future generations is not necessarily the demon that it is often depicted to be.

1. **Rising Debt Levels Due to a Future of Deficits**

Here is the CBO’s graph on this point. The primary deficit is the dark maroon whereas the interest portion of the total debt is the light maroon. The total deficit is indicated by the solid black line.

We pointed out earlier that the relative debt is forecast to increase significantly over the next 30 years. This is driven by growing deficits for the foreseeable future—deficits that exceed the expected rate of GDP growth.

Note again the period in the late 1990s when the primary surplus was enough to offset the interest payments, so we ran a total surplus in four of the seven years that we had a primary surplus.

These deficits are driven by both a primary deficit and growth in net interest.

We have had primary deficits ever since the Great Recession, and they are expected to continue going forward.

1. **Deficits and Recessions**

During recessions, particularly during the Great Recession of 2008–9, two things happen that exacerbate the deficit when one already exists or create one where it didn’t previously exist (2000). These are:

1. Revenues decline significantly.

a. In particular, corporate taxes and individual income taxes owed decline. Corporations earn less when the economy is slow, and workers are laid off, reducing their incomes.

2. Expenditures increase significantly.

* 1. **Automatic**: this happens automatically through things such as unemployment insurance payments
  2. **Policy**: when the economy is growing slowly, or in recession, governments often increase their rate of spending in an attempt to jumpstart the economy or to provide extra assistance to those who lose their jobs or suffer other types of economic hardship.

Between these two effects, the deficit often grows significantly during a recession. In every case in this graph, the deficit trends downward in the gray regions, which reflect recessions.

1. **How to Think about the Debt**

We have talked a lot about the debt—its past and future, and its potentially unsustainable path.

Now we turn more concretely to a discussion of the implications of the debt for the economy and how the thinking of economists has evolved over time.

1. **Perspectives on Increased Debt**

There are a number of issues to think about when it comes to the federal deficit and debt. In particular:

1. Does government borrowing crowd out private capital and investments?

a. When the government borrows, it might be attracting money that would otherwise be used for productive investment in the US economy.

i. This “crowding out” might not be a problem when there is slack in the economy, resulting in fewer private investment opportunities.

2. It also might not be a problem when a lot of the debt is sold to foreigners or when foreign money finances a lot of domestic investment.

a. Does debt impose a burden on future generations?

* + 1. Intuitively, the debt will have to be paid off. And when thought of on a per-person basis, this burden can appear quite heavy for future generations.
    2. In practice, however, the debt is routinely rolled over. There will be no generation for which a bill comes due. More likely, the debt will be paid off or significantly reduced over time. This will burden future generations through reduced flexibility in the government budget but need not burden any future generation significantly.
  1. In time, it could start to crowd out other government spending.
     1. This is primarily through increased interest payments. As mentioned above, interest payments are forecast to increase from 1.6% of GDP to 6.3%. This is an enormous amount of federal government receipts that will no longer be available for other policy purposes.
  2. Is it reasonable to borrow at low interest rates for investment?
     1. It is arguably a very good idea to borrow, regardless of the size of the debt to fund investments in things that cause the economy to be more productive—in particular, infrastructure and education.

1. **Not All Borrowing Is Bad!**

Traditionally, there have been two broadly accepted reasons for borrowing. The first is to address a temporary crisis, such as a recession and war. During a recession, by stepping in and replacing weakness in consumption in the economy, both the duration and the depth of a recession can be reduced. In a time of war, borrowing has often been necessary to fund the temporary buildup in necessary troops and equipment.

Now, it is clear that a third reason has to be added to the list: to address the economic injury that may well be a necessary by-product of fighting a pandemic.

The other broad category of spending that merits borrowing is investment in the productive capacity of the economy. Many of these investments—in particular, in infrastructure (roads, bridges, broadband) and education, research, and health care for vulnerable populations—are reasonable reasons to borrow. The return on these investments to society often exceed the costs of borrowing to finance them.

It is much more difficult to justify borrowing to pay for ongoing social programs, such as retirement or health-care programs or for ongoing government expenses, such as government employee salaries.

1. **Spending to Grow Much Faster Than Revenues**

The growth in the deficit is going to be significant enough to increase the relative debt going forward. This was true before the pandemic and will be true afterward. This increase in the debt is not associated with spending related to either of the two good reasons to borrow just mentioned. Our economy appeared to be in good shape, we were not engaged in an active war, and there was no other crisis.

Spending on infrastructure has been trending downward not only as a share of GDP but in absolute dollar amounts.[[2]](#footnote-2) Spending on education by the federal government has been trending down as a share of government outlays since 2000. So, neither of these other reasons for borrowing seem to be increasing.

Given the current laws regarding government spending, and current tax policies, the deficit is forecast to rise to nearly 10% of GDP. The rest of government spending is forecast to rise from 17% of GDP to about 20%, a much slower rate of growth than in the deficit.

As the debt grows, the interest that must be paid on the debt will also grow as a percentage of GDP, from 1.6% of GDP in 2018 to 6.3% in 2048. This will add significant strain to an already complicated and contentious federal budget.

<click>

As relative debt grows, so will the interest payments on it. By 2048, the amount spent on interest is projected to be very close to the overall budget deficit.

1. **Interest Will Grow as a Share of the Deficit**

By 2049, net interest on the debt is projected by the CBO to exceed the primary deficit by a significant margin. It isn’t immediately clear what the implications are of this growth, but it is possible that bond markets might begin to look unfavorably upon it.

We will address this issue more fully.

1. **Interest Payments to Grow Significantly**

<As with each individual slide—this is optional and merely serves to put the increase in the interest paid in the context of some spending categories that are thought of as investments in the productive capacity of the economy.>

In 2018, interest payments as a percentage of GDP were just 1.6%. Interest payments are already larger than what was spent on education, infrastructure, or R&D on average between 1968 and 2017.

1. **Is the Debt a Problem Today?**

(Lifted directly from <https://www.brookings.edu/blog/up-front/2019/01/04/the-hutchins-center-explains-how-worried-should-you-be-about-the-federal-debt/>)

No. The federal government borrows about $100 billion a month with little apparent difficulty. The interest rates that domestic and foreign investment demand to lend to the US Treasury have risen a bit lately but remain low by historical standards. Today, the Treasury pays less than 3% a year on its 10-year notes; in 2000, when the US government was running a budget surplus, the Treasury paid nearly 6%. (Adjusted for inflation, the more economically meaningful measure, the 10-year Treasury yield today is about 1% compared with about 2.5% in 2000.) Moreover, there are very few signs that this heavy federal borrowing is—in the jargon of economists—“crowding out” borrowing by businesses or restraining their investment spending.

1. **Interest Rates Are Historically Low**

That interest rates are historically low matters for several reasons in the context of the debt. First, it is worth making investments at this interest rate. The collective rate of return on investments in things such as infrastructure are more likely to exceed the cost of borrowing when interest rates are low, making them a more reasonable than when interest rates are not so low.

Second, when interest rates are extremely low, they might increase. As just mentioned, the debt is routinely rolled over into new debt. The new debt, however, is issued at the prevailing interest rate, which could well be significantly higher than it is today. But more on that in a minute.

1. **So, Why Worry about It?**

There are a number of compelling reasons for worrying about the debt. In particular:

1. If the debt becomes too high, questions regarding the creditworthiness of the federal government will inevitably arise.
   1. This issue was front and center during the Great Recession and discussion of a stimulus package.
   2. The problem is that nobody knows how high is too high. It could be 100% of GDP, or it could be 1,000% of GDP. There is really no evidence on which to base an answer to this question.
2. The notion of “fiscal space” comes into play. This is as much a political issue as an economic one. “Fiscal space” is the ability to borrow or spend to fund critical but perhaps unexpected things: recession stimulus or a significant armed conflict.
   1. Nobody knows exactly how much fiscal space the US government has, but we know for sure that it has less than it did in 2007, before the Great Recession.
3. Crowding out: although crowding out does not appear to be a significant problem associated with the debt, it could start to be a problem as the debt grows.
   1. Again, nobody knows for sure where the threshold level of debt is after which crowding out becomes a problem.
4. Inflation: excessive government spending when the economy is at full employment is highly likely to lead to inflation. It is no different from any other source of demand in the economy. When resources are fully employed and aggregate demand increases, there is only one release valve, and that is for prices to rise.
   1. This does not currently appear to be a problem, but again, nobody knows at what level it might become one.
5. **So, Why Worry about It? (cont’d)**

Additionally, if the debt continues to grow:

1. Interest payments will continue to grow with it, crowding out other policy priorities.
2. The longer we wait to address it, the harder and more disruptive it will be to fix the problem after it is truly revealed to be one.
3. Finally, if interest rates increase, that could dramatically expand the deficit, and hence over time, the debt. We have evidence of this from the late 1970s.
4. **Growth in the Relative Debt**

It is important to remember that relative debt can change for two very different reasons:

1. The denominator is GDP, so changes in GDP will affect the relative debt.

2. The numerator is the size of the debt, so changes in the debt, through surpluses or deficits, affect the relative debt.

* 1. Numerator grows with:
     1. **Interest rate**—as the debt gets rolled over, 10-year Treasuries mature, but funds do not exist to pay them off. The interest rate on the loan can increase, raising interest payments and hence the deficit/debt.
     2. **Primary deficit—**the larger the deficit, of course, the larger the current and future debt.

The growth of relative debt actually depends on which of them grows more quickly. If GDP grows at, say, 5%, and the debt grows at just 3%, then relative debt can fall, even if the federal government runs a deficit.

1. **Economists’ Views on Debt Evolve**

As with most sciences, social or otherwise, conventional wisdom in the economics profession has evolved over time with regard to the debt. Here, we provide an overview of how this thinking has changed over the past 40 years, since roughly 1980.

1. **Traditional View: A Non-Issue**

The 1980s was a period of innovation in thinking about government debt. By this time, although it was common in thinking about broader societies, the analogy between government and household debt had long been eschewed. A greater acknowledgment of the fact that the government never really has to pay it back came into mainstream thinking.

In particular, the notion that we are borrowing from young workers to pay retirees was far in the rearview mirror. So long as relative debt—debt relative to GDP—is falling, the debt is fine.

Increases in the debt relative to GDP could, however, be problematic. This was tested by the Reagan experiment with supply-side economics.

1. **Reagan Experiment with Supply-Side Economics**

During the early Reagan years, the early 1980s, politicians embraced the notion that reducing tax rates would lead to increases in labor supply sufficient to offset the tax cuts. That is, lower tax rates would increase revenues, visualized as the Laffer curve.

This turned out to not be true. Extensive tax cuts largely for higher-income workers and increases in defense spending, with no corresponding reduction in social programs led to a significant increase in relative debt, from 25% of GDP to 40%.

This appears to have been a failed experiment. However, the tax cuts were not undertaken alone, that is, in the absence of any other policies (in particular, increasing defense spending), so the effects of the tax cuts are not immediately clear.

1. **Traditional View: Four True Costs**

If the federal budget is not analogous to a household budget, what are the true costs of deficits and debt?

1. Crowding out: as debt and deficits rise—interest rates rise
   1. Over time that leads to
2. Interest no longer being paid to domestic investors but to foreign interests
3. Larger primary surpluses are needed to stabilize relative debt
   1. High debt crowds out public programs.
4. Inflation increases nominal GDP growth, inflating away the debt.
   1. Explains countries with problems with hyperinflation: Zimbabwe, Argentina
   2. Probably the US doesn’t need to worry about this.
   3. Governments might be tempted to “inflate away” the debt, or just work less hard to avoid inflation.
5. **Traditional Costs: First Cost**

A concern that has significant traction, if not evidence in its favor, is that government borrowing can crowd out other investments in the economy.

The path to this crowding out is through increases in aggregate demand from the increased government spending or through increased spending by households because of lower taxes.

To offset this demand and to stave off inflation, the Federal Reserve has to raise interest rates. This increase in interest rates will reduce investment. If you can earn a higher rate of return by investing in interest-bearing instruments, such as government bonds, fewer investment funds will be available for other investments that might increase future GDP.

Increased debt leads to higher interest rates, leading to less private investment.

It’s also worth noting that the interest payments from debt increase with interest rates. Therefore, higher debt leading to higher interest rates leads to larger interest payments and less discretion over the budget—fewer resources for other government priorities.

These problems are real but don’t currently appear to be binding, in part because more funds are coming into the US from overseas.

1. **The International Appetite for US Treasuries**

The crowding out of private investment can be ameliorated to some extent if the borrowing comes from foreign sources or if the domestic private investment is replaced by investment from abroad.

Foreign purchases of US Treasuries began to increase beginning in late 1995. This was right around the time that China started to run consistent trade surpluses. Some of the increase is likely explained by Chinese purchase, but other factors were also probably at work.

Between 1995 and 2019, foreign holdings of US Treasuries increased from around 10% of GDP to 31.5%. They declined in the 2000s, as debt to GDP fell, but after US federal government borrowing picked up again with the global financial crisis, so did foreign holdings of US debt.

1. **The International Appetite for US Treasuries**

As a share of US debt, foreign holdings increased from about 20%, where it had been consistently between the early 1970s and the mid-1990s, to nearly 50% in 2008. That share has since fallen to 40.3%.

1. **2005: The International Dimension of Debt**

When foreign holdings of US government debt first reached 40%, in about 2005, concerns began to mount.

A particular source of this concern is the reality that a significant proportion of the debt payments are going overseas. This has an impact on the welfare US residents insofar as this revenue is collected through taxes and given to foreign individuals. If it were paid to people or organizations in the US, it would stay within the country.

It is also true that when interest rates in the US rise, US assets are more appealing to foreign investors. As these investments must be made in dollars, that increases demand for the dollar.

Economics 101: whenever demand for something increases, so does its price. Accordingly, the dollar appreciates, and the effect of that is to lower the price of imports and raise the price of US exports in foreign markets. This exacerbates the trade deficit.

1. **General Agreement among Economists**

The influence of the debt on the trade deficit is an entire conversation by itself.

The sense among prominent economists is that the trade deficit is largely driven by growth in the federal debt. If growth in the debt, or annual deficits, were brought under control, the trade deficit might also decline.

1. **Trade and Investment Flows Balance Out**

When foreign investors buy US Treasuries or invest in the US, they demand dollars and contribute to a foreign investment surplus, which is the counterpart to the trade deficit. At any given time, these two accounts (investment and trade) have to balance at zero—this is a basic concept in accounting.

The upshot is that whenever investments in the US become more attractive, the exchange rate appreciates, and the trade deficit widens. A tendency toward surplus on the investment account necessarily drives a tendency toward deficit on the trade account (trade includes both goods and services).

1. **Costs #1–2: The Dog That Didn’t Bark; Rising Interest Rates?**

The notion that as government borrowing increases, so will interest rates is problematic. Interest rates have remained historically low despite the dramatic increase in the debt in the wake of the Great Recession and now the pandemic.

The blue line is the 10-year Treasury interest rate, and the red line is the relative debt.

During a period of rampant inflation during the 1970s, the relative debt remained level.

Inflation falls, and relative debt rises, and then since the Great Recession, relative debt has soared, but interest rates remain low.

It seems likely that there is a point at which bond markets will start to worry about the size of the US federal debt, and interest rates will rise. But we have no idea where that point is. Indeed, many countries have higher levels of debt and are not experiencing bond market–related problems.

1. **Traditional View: Third Cost**

The views and concerns of economists started to change starting in the 1990s. The significant increases in the debt spurred concern over a couple of types of “crowding out.”

The first type of crowding out is a result of the increased interest payments that accompany higher debt. At a given interest rate, more debt brings with it more interest. Accordingly, with a given amount of revenue, higher interest payments means less money left over for other priorities.

A second type of crowding out is a crowding out of other government outlays or tax cuts.

The use of revenue is restricted by the increased demand for interest payments.

1. **Cost #3: No Primary Surplus since 2007!**

In addition, no evidence of crowding out of program expenses appears to have occurred. We’ve been running primary deficits consistently since 2001. It’s hard to argue that there has been much of a burden from debt on the program spending.

1. **Cost #4: Anybody See Inflation?**

And then, finally, inflation. And the story is fairly similar: during the 1970s and early 1980s, inflation is high, and debt is low. In the 1980s and early 1990s, inflation was stable while debt was rising. And since the Great Recession, debt has skyrocketed whereas inflation has been held in check.

1. **Maybe Debt Isn’t a Problem, After All: MMT**

So, what’s going on? The lack of evidence on these three costs has people rethinking debt and deficits.

One example is modern monetary theory. Stephanie Kelton is a prominent proponent of this point of view. The theory is that because the US Treasury borrows in dollars, it therefore cannot default. In contrast are countries such as Greece, which do not borrow in their own currency—rather, it borrows in euros.

MMT advocates point to the current situation, in which the federal government has “found” trillions of dollars by having the Federal Reserve purchase most of the new Treasury debt.

MMT argues that the US government can always FIND the money to increase federal spending.

This argument is tantamount to denying one of the best-known sayings in economics: There is no such thing as a free lunch!

MMT advocates say: yes, there is!

1. **MMT’s Free Lunch**

The takeaway from MMT is that deficit spending is just fine, so long as it doesn’t lead to too much spending, which would spark inflation.

* 1. Problems include not knowing how much is “too much” spending.
  2. This is also an invitation to cut taxes, exonerating the government from paying for its spending at all!

Kelton then argues that the implication is twofold. First, policymakers won’t hesitate to spend in a crisis—which is likely true and should happen regardless of your belief in MMT. Second, governments can spend boldly on investments in the economy in times of stability. This is somewhat less likely to be true. This spending, though important, does have limits. It also begs the question of what portion of government spending is an investment and what is not.

There is skepticism of MMT in the profession.

1. **General Sense on Modern Monetary Theory**

The previous slide mentions that the jury is sort of out on the debt. This is so because of the rise to prominence of MMT or one particular portrayal of it.

An overview of MMT is well beyond the scope of this presentation but it suffices to say that an extreme interpretation of it, one implicitly embraced by some politicians and economists alike, is that it implies that government need not ever really pay for anything!

We won’t address it further than to indicate that this view is well outside the mainstream economic consensus. As evidence, we appeal to survey results from the IGM Economic Experts Panel at the University of Chicago. This is a survey of more than 50 influential economists that suggests there is a broad consensus that is inconsistent with at least this interpretation of MMT.

None of these experts are certain about their view of MMT, and those who disagree with it tend to do so strongly: weighted by the confidence of their response, 72% of the experts strongly disagree with MMT as posed in this question.

At least, at the moment, the consensus is that MMT is a little too optimistic.

“Put simply, MMT contains some kernels of truth, but its most novel policy prescriptions do not follow cogently from its premises,” says Mankiw (2020).

1. **Enter Olivier Blanchard**

So, that’s the evidence, but Olivier Blanchard, an economist with great credentials, has called into question the notion that interest rates are higher than GDP growth.

1. **AEA Presidential Address, 1/2019**

He offered a similar, but different view of debt: that additional public debt may not have a significant cost associated with it.

The upshot is that public debt might come at no fiscal cost, in the sense that the government can continue to run limited deficits without having to raise revenues to accommodate them.

He is careful to point out that he is not calling for more public debt. He raises this issue to push the conversation about the debate forward.

1. **What the Traditional View Got Wrong**

Let’s start with a truism. Stabilizing the relative debt—debt as a percentage of GDP—requires that debt not grow faster than GDP. The numerator and denominator must grow at the same rate.

But growth in the debt comes from two different sources. The first is the debt service, the interest that has to be paid on past debt. The second is the contribution of the primary surplus or deficit – the result of the current year’s spending.

What the traditional view got wrong is that it assumes that the interest rate on the debt is higher than the rate of GDP growth.

If this is true, then the excess interest over GDP growth has to be compensated for by a primary surplus—that is, the only way to reduce or to stabilize the debt is to run budget surpluses.

But this turns out to not be quite true. The interest rate is frequently lower than the growth rate of GDP.

1. **An Almost Free Lunch**

It turns out that if the interest rate is lower than the GDP growth rate there continues to be room for a relatively small primary budget deficit. Note that this is not license to run deficits of any size.

Blanchard indicates the importance of stabilizing the relative debt, perhaps with small deficits, stressing that the primary deficit as it currently stands has to be reduced in order to stabilize the relative debt. If not, the relative debt will continue to increase.

Finally, there is no concrete prescription for the level of the relative debt. It doesn’t necessarily matter whether that is 100% of GDP or 150%.

1. **Evidence?**

There is some evidence for Blanchard’s perspective. This slide illustrates growth in nominal (not adjusted for inflation) GDP (navy lines) and the interest rate on 10-year Treasuries (maroon lines).

The bars indicate whether interest rates are above or below the rate of growth in nominal GDP. This is indicated by the red bars that extend downward below zero.

Most, though, not by a huge margin, are red, indicating interest rates lower than GDP growth.

1. **But Interest on the Debt Is Taxable**

To make this more compelling, we note that interest on the debt is taxable—that is, leads to government revenue. Accordingly, adjusting for the taxability of the interest, for foreign owners (on which interest is not taxable), and a measure of the tax rate of likely debt holders, it becomes clear that this adjusted interest rate is almost always lower than GDP growth.

The calculation of the after-tax interest rate is much simpler here than in Blanchard’s work. Here, we simply indicate 80% of the interest rate, which is intended to account for the revenue generated by taxing interest payments to domestic individuals.

This reinforces the notion that we do not need a sizable surplus in order to stabilize the relative debt.

Again, this merely argues for reducing our fear of deficits, not to eliminate it.

1. **The Key: Stabilization of Relative Debt**

We should not be overly sensitive to chronic deficits, provided that they are not too big and do not destabilize relative debt.

However, our current policies in no way stabilize the debt. Without policy changes, the US government is heading to a ratio of debt to GDP exceeding 200% by 2050.

Without stability, we are likely vulnerable to crowding out in policy and investment, costs 3 and 1 of the traditional view, respectively.

It is important to recognize that budget surpluses are not necessary, but some budget control and acceptance of the notion that policies must be consistent with that control is necessary.

1. **A New and Possibly Catastrophic Cost**

Here is a potential black lining in the silver cloud.

Let’s return to why MMT is not correct. The US cannot default on their debt by borrowing in its own currency.

The problem is the vast foreign holdings of US debt. Foreign investors are not interested in the dollar earnings on US debt but in earnings in their own currency.

If the dollar falls in value, then those who hold US Treasuries will suffer losses. In that case, Treasuries will be less valuable assets than they appear to be.

Remember that foreigners hold about 40% of US debt, so they take a risk that the dollar will decline in value.

Endless debt and purchases of this debt by the Fed are likely to depress the value of the dollar.

1. **Why Do Foreigners Buy US Treasuries?**

Given this risk, one might reasonably ask why foreigners are so keen to hold US Treasuries.

Well, it turns out that the market for this debt is the deepest and most liquid capital market in the world.

In addition, the historical stability, both economic and political, in the US is attractive and has implications for the safety of the assets.

It also turns out that the US holds what a French finance minister dubbed “an exorbitant privilege” from the fact that the dollar is the largest international reserve currency. Most trade transactions are denominated in dollars—in particular, oil. Also, foreigners—e.g., foreign corporations—borrow in dollars.

About 90% of foreign exchange transactions involve the dollar, and 40% of the world’s debt is issued in dollars.[[3]](#footnote-3) Granted, a fair amount of this debt is issued by the US, but other countries and foreign companies issue debt in the dollar because of its inherent stability.

The dollar holds this position for a variety of reasons, chief among them the faith among global investors that the US will make good on its debt obligations.

This assumption has come perilously close to being violated, but it seems unlikely that the federal government will ever default on its obligations. It might come close for political reasons but is unlikely to default.

1. **Will Our “Exorbitant Privilege” Last Forever?**

The dollar holds a unique position among world currencies. Although it is not formally labeled as such, it is the de facto global currency, and 60% of the known central bank foreign reserves are held in dollars.

Our privilege has declined a little since 2000, which was the first year in which the euro existed. Ironically, after the global financial crisis, the euro shares began to decline, as many turn to other currencies as a reserve.

The long-term projection is that these blue bars are going to go lower. As long as debt stays this high, we will have the foreign appetite to hold Treasury dollar-denominated securities.

1. **Fiscal Crisis, or a Run on the Dollar**

With this exploding debt, the number of foreign purchasers of US Treasuries might begin to fall. The CBO is afraid of an increase in this likelihood.

And the scary thing is that a fiscal crisis, or a crisis of confidence in the US dollar, could happen very quickly! We should therefore be very wary of this possibility.

1. **What Is a Fiscal Crisis?**

A fiscal crisis arises when faith in a government’s ability/desire to pay off its debt comes into question. This makes it harder for the government to issue subsequent debt, resulting in higher interest rates. Lenders have to be compensated for the now higher risk associated with the debt.

As foreign borrowers dwindle in number and perhaps invest their funds, previously invested in Treasuries, at home, the value of the dollar could drop significantly.

As a result, the government would have to reform its budget quickly in an effort to reduce deficits and the debt in order to stave off actual default.

Pressing against this effort is the potential for recession arising from higher interest rates—which suppress borrowing for capital investments. Recession reduces consumption because higher interest rates and reduced government spending will inevitably result from the budget reforms—along with tax increases, which further suppress consumption.

Also pressing against this effort is the increased interest paid when existing debt is rolled over into higher instruments with a higher interest rate. This necessitates potentially greater reform than would have been necessary otherwise.

The upshot is that a fiscal crisis has the potential to bring enormous economic pain, specifically for those who benefit from government programs and pay taxes and more broadly throughout the economy.

1. **Bottom Line: We Need to Worry about the Debt**

Interest rates might well not remain this low. As evidenced from the 1980s, dramatic increases in interest rates will lead to a substantial increase in the debt.

In the back of everybody’s mind should be the possibility of a fiscal crisis. The higher the relative debt, the closer we are to a fiscal crisis. We have no idea how close, but certainly closer.

Crucial to avoiding a crisis is stabilizing the relative debt. This would go a long way towards warding off a crisis.

The good news is that we don’t need to run a primary surplus. We can stabilize relative debt while still running fairly small deficits—again, provided interest rates don’t rise too much.

After the pandemic is over, there is widespread agreement among economists that something must be done about the projected explosion in primary deficits.

1. **History: A Cautionary Tale of Interest Rates?**

As I just mentioned, rising interest rates might be a problem. Here is an illustration of just how bad that problem has been in the past.

If we look at interest payments as a share of government spending, they are by no means high. In the 1980s, interest payments as a share of government spending approached 20%, whereas they make up just under 9% today.

One takeaway from this observation is that we don’t really need to worry about interest on the debt. We have had much higher interest payments—as a share of expenditures—than we do today, and there was no crisis at that time.

A deeper lesson to be learned is that this is an indication of the impact that interest rates can have on interest payments and hence on the need to run primary surpluses in order to stabilize relative debt in the face of rising interest rates.

Interest rates are very low today, but they might not remain so. If interest rates increase, so do interest payments on the debt, crowding out other government outlays.

1. **Interest and Interest Rates**

In the 1980s, the share of expenditure on interest payment was high because interest rates were very high in the late 1970s and because the recession that accompanied the policy process of lowering interest rates was quite deep, requiring economic stimulus and significant borrowing.

Different periods:

1. Late 1970s—rapidly rising interest rates—increased interest payments with a lag
   1. Resulting in significantly growing interest payments
2. Early 1980s—high, but falling interest rates, but significant deficits.
   1. Joint effort, interest rates and deficits kept the interest payments high
3. Late 1980s—continued deficits with declining interest rates
   1. Deficits kept the interest payments high
4. 1990s—declining interest rates and deficits
   1. Interest payments fell significantly.
5. Early 2000s, stabilized deficits and interest rates
   1. Stable interest as a share of budget.
6. Late 2000s and 2010s—low interest rates and large deficits
   1. Interest rates help to prevent the ballooning interest as a share of spending.

Going forward, interest payments are currently expected to hit 22% of the federal budget by 2048. This trip down memory lane reminds us that if the economy performs badly, requiring more government borrowing, or if interest rates increase significantly more than expected, interest payments could get out of control in a hurry.

The argument is not that we are in trouble today. The argument is that we could easily get ourselves deeply into trouble in the future if things don’t turn out as well as we expect them to.

1. **Rising Interest Expenses?**

Going back to the problems that we identified with the traditional view, “**cost 3 – rising debt reduces budgetary options”,** doesn’t see to be a tremendous problem.

This problem is the notion that increasing interest expenses would start to crowd out other policy priorities or tax cuts. Despite the dramatic rise in debt in recent years, interest expenses remain in line with their historical levels as a percentage of GDP, which is the best way to think about them.

They are currently about 1.8% of GDP, down from a high of more than 3% during the 1980s. That peak occurred because of extremely high interest rates in the early 1980s. The interest rate on 10-year Treasuries peaked at nearly 16% in late 1981. By 1986 it had fallen to 7%, but the effects of borrowing at high interest rates on 10-year instruments lingered for a number of years.

The current level is roughly consistent with interest as a share of GDP from the 1950s to the late 1970s and throughout this century.

That said, it is trending significantly upward and is likely to climb quickly as spending to combat the effects of the pandemic increases and GDP growth falls.

1. **COVID-19 Update**

With all this information, it is reasonable to stand back at this point and discuss the impact of the pandemic on the federal debt.

According to the CBO, and as of April 24, the deficit for 2020 (Oct/19-Sep/20) was projected to increase from $1 trillion to $3.7 trillion. It is likely that we are not through with programs to mitigate the effects of the pandemic, so this number is likely low.

This implies an increase in the relative debt from 80% of GDP to 101%.

1. **COVID-19’s Impact on the Deficit – to July**

As is clear from the graph, the deficit was greater in the 2020 fiscal year (October 1 to September 30) through March, before the virus had an effect. However, in April through July, the effect on the deficit was significant, adding more than $2 trillion to the deficit in the first 10 months of the fiscal year.

1. **Very Large Deficits!**

The spending during the pandemic will lead to the highest deficit on record, at more than $3.7 trillion, pushing the debt to exceed the size of the economy. The implications of this spending are significant, but there is a reasonably clear consensus among economists that a deficit of 17% of GDP is unheard of, but it’s for a good reason.

1. **How Do We Pay for This?**

The short answer is that we pay for this by borrowing. This significant increase in borrowing has both good news and bad news.

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The good news is that the interest rate on Treasuries is very low. So the cost of borrowing is extremely low.

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The bad news is that our federal debt was on an unsustainable path long before the pandemic set in. There is no question that the increase in borrowing to address the pandemic will only make the long-term debt picture worse. That said….

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when your house is on fire, you don’t worry about a drought.

It is also reasonably clear that the benefits in terms of saved lives more than offset the economic costs. As we will see, it isn’t clear that this borrowing and spending entails significant economic costs.

As we have indicated, previous periods of significant increase were during times of war or an economic downturn. Like those two examples, tending to a pandemic certainly falls into the category of spending that is important, as an investment in the well-being of the country.

1. **Why Has the Federal Debt Risen So Much?**

The debt has risen so much in recent years for a variety of reasons, on both the expenditure and revenue sides.

With regard to expenditures, some major programs have experienced significant increases in cost—in particular, social security and health-care–related programs. The wars and continued military involvement in Iraq and Afghanistan also increased expenditures relative to revenues.

Perhaps the greatest expenditure is the stimulus package that was passed to pull the economy out of the Great Recession. Recall from previous slides that the onset of recession caused a hike in the deficit (whether or not measured as percentage of GDP). However, not all of this hike in debt was related to expenditures.

During the Great Recession, the federal government’s quarterly tax receipts went from a high of $1.6 trillion in the second quarter of 2017 (annualized rate) to just $1.2 trillion in the second quarter of 2019. Tax revenues did not fully recover until the fourth quarter of 2012—though this is not adjusted for inflation, so arguably the recovery occurred later.

Successive rounds of tax cuts from early in the George W. Bush administration through 2017 also significantly reduced tax revenue. Because of corporate tax cuts, corporate tax receipts in 2018 ($158 billion) were half the level in 2016 ($327 billion).

Stagnant wages and a shrinking working-age population also factor into declining tax receipts.

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1. **Why Has the Federal Debt Risen So Much?**

Prior to the pandemic, both revenues and outlays were forecast to increase steadily. Because both are growing, the deficit will not be shrinking. In fact, outlays are projected to grow more quickly than revenues.

1. **Why Has the Federal Debt Risen So Much?**

Over the past several decades, expenditure growth has been largely due to the costs associated with the aging of the population, rising health-care costs, significant economic stimulus, and wars.

At the same time, on the revenue side, income tax revenue has declined because of tax rate cuts and stagnant wages and a higher share of income from capital gains—which is generally taxed at a lower rate than earned income (e.g., from salaries and wages).

1. **Growth in Outlays Exceeds Revenues**

This graphic gives a little more perspective about the sources of changes in revenues and outlays. Both are growing, but outlays are growing faster than revenues.

Between 2020 and 2030, revenues are expected to grow from 16.4% of GDP to 18.0%. This growth comes largely from individual income taxes, with a minor amount from corporate tax revenues. Relative to GDP, the growth in revenue from payroll taxes is expected to be neutral, and other taxes are expected to decline.

These other taxes include: excise taxes, customs duties, estate and government taxes, some miscellaneous fees and fines, as well as Federal Reserve remittances.

Over the same period, outlays are expected to grow from 21.0% of GDP to 23.4%: 2.4 percentage points compared with 1.6 percentage points in revenue growth. Growth in the primary deficit accounts for 1.5 percentage points of this growth, which is roughly in line with the growth in outlays. Interest payments account for the remaining growth of 0.8 percentage points.

As the population ages, the number of individuals who are working (and thereby paying payroll taxes) relative to the number of retired workers has decreased. This reduces revenues brought in through payroll taxes.

The growth in the primary deficit comes from social security and major government health-care programs, such as Medicare. This highlights the implications for the budget of the increasing share of the retiree population and the decline in the share of the working-age population.

1. **Budgetary Consequences of an Aging Population**

This image provides additional evidence on the contribution of social security and Medicare to the federal deficit.

In particular, by the 2030s, the cost of health care for those age 65 and older via Medicare is projected to double, from 1.7% of GDP to 3.4%.

Just to hammer home the point, expenditure related to those age 65 and up are driving the deficit while other parts of the budget are in surplus.

1. **Initial Takeaways**

Herb Stein, former chair of the Council of Economic Advisers, once said: if something cannot go on forever, it will stop.”

I think this applies well to the growth in the federal debt. It will stop in one of two different ways:

* + - * Fiscal crisis
      * Reductions in the primary deficit.

Let us hope that it ends in the latter and not the former. But that isn’t clear, given our current political climate.

1. **OK: Relative Debt Cannot Grow Forever, But . . .**

A few points on relative debt. First, it is worth considering whether it matters at what level we stabilize the relative debt. Is it better to do so at 100%, 200%, 300%? Currently, we don’t really have a good answer to this other than to say that the higher the level of relative debt is, the more likely a crisis is.

Second, and this is key, for relative debt to stop growing, it is not necessary for us to run a surplus. The relative debt will stop growing when the rate of growth of the debt is lower than the rate of GDP growth.

If stabilization of relative debt is the goal, this implies a limit to deficits, which implies constraints on government policies.

Third, and simply, relative debt is algebraically equal to the interest paid on the debt plus the primary surplus or deficit. Therefore, the higher the debt, the higher the interest, and the more likely it is that stabilizing relative debt requires the primary budget to be in surplus.

Stabilizing relative debt is a laudable goal, but it is not without policy consequences.

1. **The CBO on the Possibility of a Fiscal Crisis**

The CBO is one of the most prolific nonpartisan sources of data on the federal budget and debt. In March 2020, it indicated that, although there is no guarantee that an economic crisis will accompany the current trajectory of the debt, it surely makes a financial crisis more, rather than less likely.

Financial crises, such as those in Greece, Ireland, and Argentina, mean high interest rates and recessions, as bond markets lose confidence in government-issued debt.

The conventional wisdom, though not completely unanimous, is that, at some point, the debt will lead to a financial crisis—it’s just that nobody knows where the threshold is. Is it at 100% of GDP? 200%? 400%? We have not experienced it, so we don’t know where the trouble begins.

Relative debt cannot grow forever.

1. **Other Countries Have Higher Debt Levels**

Although the debt load in most countries is lower than the one facing the US, in some it is higher—in particular, Japan and Italy. Both countries have a debt load above 120% of GDP, a level that the US will surely reach soon.

Bond markets still working well in those countries, so the same is likely to be true in the US as a whole. If bond markets sour on US debt, that would lead to dramatically higher interest rates and dramatically higher interest payments on existing US debt. That would constrain other policy priorities significantly if it occurred.

However, some people seem to think that we can continue to borrow forever without difficulty.

1. **More Takeaways**

After this pandemic is under control, a combination of spending cuts and tax increases will be necessary. We don’t have a lot to say about the combination of tax increases and spending cuts, as that’s a political decision.

We emphasize, however, that high debt levels should not deter essential spending, such as productive infrastructure investment and fiscal responses to crises. Those activities should continue.

Future challenges will come from the aging of the population and climate change, which suggests that we should get our house in order as quickly as possible.

1. **Traditional View: The Interest Rate Is Higher Than the GDP Growth Rate**

Economists have long held the view that the interest rate is higher than the GDP growth rate. It’s not immediately clear why this is so, but the implication of having interest rates higher than GDP growth rates is that the interest paid on the debt is sufficient to grow our way out of relative debt.

If GDP grows at 4% and the interest rate is 5%, the numerator of relative debt is growing faster than the denominator is. That is, unless the government brings in revenue to offset enough of these interest payments, so that it does not have to borrow money to pay all the interest on the debt, relative debt will grow.

The bottom line is that if interest rates exceed the rate of GDP growth, a primary budget surplus is necessary to stabilize relative debt, let alone reduce it.

This is the 1990s’ consensus problem mentioned earlier. Higher relative debt reduces spending options, crowding out other policy priorities—or at least reducing the ability to fund them.

Stabilizing the debt is more likely to require surpluses.

1. **Bottom Line**

Given the rapid pace of growth in the debt, it seems a forgone conclusion that, at some point, the federal government will have to deal with the debt. There are plenty of reasons to worry about its getting “too big,” though we have no idea at what level it crosses that threshold.

At present, the debt could be addressed in three different ways: by raising taxes, cutting spending, and reining in health-care costs. As mentioned earlier, the primary driving force behind growing deficits is health-care expenditure. Growing interest payments are also a major source of increased spending in the coming years.

Addressing these spending categories would seem prudent. Health care is a difficult problem, and interest payments can be reined in only by reducing the deficit.

1. **Are There Reasons to Wait?**

Traditionally, economists have been concerned about having debt become too high. The potential for it to have adverse implications for the economy was thought to be significant.

However, in recent decades significant deficits have occurred, and interest rates have remained low, inflation has been under control, and private investment doesn’t seem to be crowded out.

An important implication of the debt is exacerbation of the trade deficit. Whether this is important in its own right or in its implications for the politics of policy formation is another issue.

Our current expectations of economic growth are reasonably conservative from a historical perspective. Since the end of World War II, annual real GDP growth has been more than 3.2%. CBO forecasts for the next 10 years are generally lower than 2%.

It is possible for us have a positive economic surprise, which would help to increase government revenues, and that would reduce the overall level of the debt. It would also increase the GDP growth rate, thereby shrinking the debt as a share of GDP.

Such an economic surprise would reduce the urgency of dealing with the debt. At the same time, there is no reason to expect this to happen.

It is also true that the government could be making many investments that would increase GDP going forward, such as in infrastructure and education. It is often argued that we should make these investments regardless of the deficit/debt because interest rates are so low and these investments have a high return for society.

1. **What Are the Primary Drivers Going Forward?**

When looking for a solution to a problem, it is generally prudent to look at its proximate causes. Although politics is arguably one source of the problem, we will limit ourselves to thinking about more concrete issues for which there might be practical solutions.

Between now and 2048, spending on major health-care programs is slated to double from roughly 5% of GDP to nearly 10%. And we have discussed the expected increase in interest payments several times. Given that interest rates are currently so low, it is likely that the forecast for interest payments is in fact low.

Social security poses a near-term problem, as the system absorbs the baby boom generation, but levels off in less than 20 years.

1. **Proposals Do Exist**

It is important to acknowledge that proposals to fight the debt do exist, and they come from both conservative and liberal organizations.

1. **Solutions Initiative III—PGPF**

With the panoply of solutions available, both conservative and liberal, one would hope that common ground could be found and the debt addressed before it becomes a significant and perhaps intractable problem.

The CBO has published a document on how to change policy to stabilize the debt, showing the importance of a wide variety of options for reducing deficits going forward.[[4]](#footnote-4)

1. **There Are Other (Bad/Costly) Solutions**

It might seem that we are putting forth a remarkably small set of options for stabilizing relative debt. And it’s true, the broad options are few. The specific cuts and taxes are too numerous to list and discuss here.

Other options have been suggested as ways to solve the debt problem, however, they are thought to be far inferior to standard increases in revenues and declines in outlays. They include using regulations to keep interest rates low. There is a general consensus in the profession that regulations are often an inefficient way to achieve a particular policy goal. And this consensus is likely correct in this case. It would be better to moderate policies in a way that is consistent with lower interest rates than to lower them artificially.

There is always the option of expanding the money supply and just paying off the debt. This is potentially problematic in that it comes with a relatively high likelihood of inflation.

The final option is just defaulting on the debt—simply not repaying it. This is potentially very costly in that it will raise the interest rate that the government must pay. As was discussed, US Treasuries are generally considered to be risk free. As such, the interest rate is low. If there is risk associated with them, investors must be compensated for that risk.

Both of these options will significantly increase the cost to the US government of borrowing. They will raise interest rates and will also damage the position of the dollar as the international reserve currency.

1. **Summary: The Debt**

Conversations about the extent of the problem posed by growing debt have increased. The new MMT disciples are very sanguine about the debt, believing that essentially printing our way out of it would have relatively few consequences.

The majority of the profession, however, is less optimistic and continues to worry about problems arising at some level of relative debt—that is, crowding out other government programs, private investment, and inflation (if it is repaid).

This makes the proper approach a policy choice. The problems associated with rapidly rising debt are not well established empirically. Currently, there is very little evidence that private investment is being crowded out.

Continuing to allow relative debt to grow is an aggressive policy choice with potential, but by no means guaranteed risks, while reining in the debt may prove a less risky approach.

Neither is without the potential for economic harm. It is a matter of the magnitude of the harm and the likelihood that it will come about.

Relatively low economic costs are associated with either higher taxes or lower spending and are virtually guaranteed.

Relatively large economic costs are associated with out-of-control debt, but they are by no means guaranteed.

1. **Summary**

Among the things to remember from this talk are that the debt is currently about $22.9 trillion, with relative debt of 106.8 – just above GDP. However, about one-quarter of this is intragovernmental debt. Hence, external relative debt is just 79% of GDP.

Annual deficits are forecast, with the 2020 deficit originally forecast at more than $1 trillion. With the pandemic-related spending, that has increased to $3.8 trillion, which will likely increase external relative debt to more than 100% of GDP.

We have discussed several ways to offset this growth, including limiting deficits to a level at which, combined with interest payments, they stabilize relative debt, cutting outlays and increasing taxes.

1. **Summary: Address the Debt?**

Dealing with the debt involves tradeoffs, and nothing is absolute.

Not dealing with the debt is problematic, but the current conditions seem to indicate that the best move is to wait—because of low interest rates—in the expectation that potential economic growth may well take care of the problem.

It seems likely, however, that policy changes will be necessary to stabilize the debt.

1. **Bottom-Line Takeaways**

It is important to stabilize relative debt. Current policy does not come close to doing this. This makes it imperative to reduce future primary deficits.

There is no need to worry about this while we are still battling the pandemic, but we should do so soon afterward. The longer we wait, the more extreme the policy changes will have to be to stabilize the debt.

When making policy choices, however, regardless of the level of the debt, it is important to take into consideration that government spending that will expand the economy or offset contraction because of a recession is still a good idea.

1. **Major Takeaways: Talking Points**

<to speaker: This slide is somewhat redundant, but one strategy for ending the talk is to circle back to the takeaways in slide 11, reminding the audience of what they are. They should have the tools and information to better understand them now.>

1. **Thank You!**

***References***

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1. For a discussion of trends in foreign holdings of US debt, see this UN-ECLAC document: https://needelegation.org/Library/46/s1900341\_en.pdf. [↑](#footnote-ref-1)
2. <https://www.brookings.edu/research/shifting-into-an-era-of-repair-us-infrastructure-spending-trends/>. [↑](#footnote-ref-2)
3. https://www.thebalance.com/world-currency-3305931/. [↑](#footnote-ref-3)
4. CBO, “Options for Reducing the Deficit: 2019 to 2028,” December 2018. [↑](#footnote-ref-4)