It is STILL time for Washington to put away its debt obsession– and focus on better politics.

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1   Introduction

From left, right, and center, politicians, pundits, journalists, and some economists, claim that the U.S. government's fiscal deficits and outstanding debt are an "imminent crisis," "unsustainable," and a burden "that our kids are never going to forgive us for."

Representative of these claims is what Senators Mitt Romney (R-Utah) and Joe Manchin (D-W. Va.), along with Representatives Bill Huizenga (R-Michigan) and Scott Peters (D-California) wrote on January 18, 2024 in an article titled "National debt is the greatest threat to our country; it's time for Congress to act:"

> "In just 10 years, the national debt has more than doubled. Not only is this level of debt unsustainable ... . $34 trillion is a staggering amount of money. ... . Given the imminent nature of this crisis, continuing to turn a blind eye will only put the American Dream further out of reach for our children and grandchildren."

Over the last year, the New York Times and Washington Post editorial pages, the PBS Newshour, House Freedom Caucus members along with moderate Democratic congresspeople, progressive and conservative pundits, and the politically non-partisan Chair of the Federal Reserve and the director of the non-partisan Congressional Budget Office have *all* shared beliefs about the perhaps-imminent dangers of current and future fiscal deficits.[1]

Cutting deficits now would impose costs: fewer government services or higher taxes or some combination of both. And such changes also would disrupt the lives of citizens who have made plans based on an expectation of the continued status quo.

Given these costs, we should be sure these deficit concerns are well-founded. But in fact, this fiscal alarmism is unwarranted.

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[1] In Appendix B is a lengthy list of these commentaries.

The alarmists' arguments usually revolve around projected rising debt-to-GDP ratios–for the next thirty years–as predicted by the aforementioned respected, non-partisan Congressional Budget Office (hereafter the CBO) and on what the alarmists think are the implications of these ratios.[2]

I argue that the evidence says there is no imminent threat, and likely no longer-term threat.

First, if these deficit concerns are justified, we should see now a signal from the bond market: spiking interest rates on government bonds. We do not: inflation-adjusted or "real" interest rates on 10-year U.S. government bonds remain below or close to 2%.

Second, despite the CBO predictions of unprecedented increases in the debt-to-GDP ratio, the CBO in fact predicts no crisis, and makes other baseline predictions that buttress the idea that there is no fiscal crisis. These other predictions are of the key variables that determine the sustainability of fiscal policy, namely interest rates and growth rates of income. If, as predicted by the CBO, interest rates on government debt are less than growth rates of income, then the economy grows fast enough to keep the debt-to-GDP ratio from exploding. It also predicts that under baseline fiscal policy the average American in thirty (30) years will have a "real" or inflation-adjusted income almost 50% greater the current American. It does not seem likely our grandkids will hate us unless we have raised an unusually selfish generation.

Third, the long history of the relationships between interest rates and income growth rates tells us that these CBO baseline predictions are not unusual but are consistent with experience over centuries.

Fourth, the woeful track record of fiscal alarmists makes one question their current predictions. Since I received my economics Ph.D. in 1978, there has been an unbroken litany of calls for fiscal responsibility that would be necessary to forestall impending crises. As the debt as a percentage of GDP has climbed from about 30% at the start of the Reagan era to about 100% today, the real interest rate on 10-year maturity government bonds has dropped from about 7% to 2%.[3]

Hence, I argue that despite the hand-wringing about deficits and the debt-to-GDP ratio, fiscal policy–as described by current law and based on best guesses made by the aforementioned CBO–is *not* an "imminent threat," is not obviously "unsustainable," and does not pose a predicted threat to the economic futures of our children and grandchildren.

There are legitimate concerns about what an uncertain future holds for the sustainability of our fiscal policy, but these concerns call not for fiscal fearmongering but rather "watchful waiting" and the development of the political will

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[2] Debt is government debt held by the public, and GDP stands for Gross Domestic Product–a standard measure of national output.

These CBO "baseline" budget and economic projections assume that current laws governing taxes and spending will generally remain unchanged. They also assume that no matter what happens to social security and medicare trust funds, neither benefits nor FICA taxes will be affected.

[3] In Appendix C is a more complete description of the litany of alarms over the years.

to create a budget process that can adapt to unforeseen changes[4].

2   The basic theory and evidence

2.1   Supply and demand for government debt

To see that there is no crisis, first think about the supply and demand for U.S. government debt. As for supply, the 30-year CBO-predicted current and future fiscal policy–our current and projected spending and taxation–requires the government each year to sell enough bonds to: (1) replace maturing debt; (2) pay the interest on existing debt; and (3) finance the "primary deficit"–the gap between non-interest-payment expenditures and tax receipts[5]. This primary deficit was–according to the CBO's *The Long-Term Budget Outlook: 2024 to 2054*–about 3.8% of GDP in 2023 but is predicted by the CBO to average a little under 2.5% of GDP over the next thirty years, falling to 2.2% of GDP by 2054. Of course, the primary deficit could in principal turn negative–a "primary surplus"–in which case the tax receipts would be in excess of non-interest-payment expenditures and would reduce the sale of bonds by this amount. We focus on the primary deficit here because this is what government policy can effect (assuming non-payment of interest is something the government would never allow).

What matters for buyers of government debt–for the demand side–is not whether the government can pay off the debt, but whether it can make the holders of the debt happy with their returns, i.e., with their interest payments. Like for purchasers of annuities or of many other assets, all that matters for government debt purchasers is the rate of return–not the recovery of the initial investment. As the CBO emphasized in *The 2024 Long-Term Budget Outlook* : "The risk of a fiscal crisis depends on factors beyond the amount of federal debt. Ultimately, it is the cost of servicing the debt and the ability to refinance it as needed that matter." (Chapter 1, subsection "Risk Factors").

The fiscal alarmists seem to think that demand cannot equal supply–or perhaps that demand cannot equal supply without problematically high interest rate levels. (problematic in that interest expense could be so high as to interfere with other more desired uses of the money, or in that the rates would lead to exploding debt–and interest expense–levels) As Brian Riedl wrote in the New York Times on Feb. 21, 2023 :

> "Perhaps the president assumes the federal government can just borrow $116 trillion over three decades, on top of the current roughly

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[4] As noted earlier, the lack of a "functional" budget process for the United States is frequently emphasized by Olivier Blanchard as his reason for worrying about an eventual fiscal crisis. Also see Delong (2024) for a similar history to this one and similar perspective to that of Blanchard.

[5] The CBO assumes current laws will hold in the future–except for social security and medicare benefits, which they assume will continue at currently mandated levels *despite* the trust funds being depleted.

$25 trillion in federal debt held by the public. But who will lend the government this much money?"

We simply note now that the CBO predicts that there are and will be plenty of willing lenders: it predicts demand for debt grows as well as the supply, keeping the average inflation-adjusted or "real" interest rates on government debt over the next three decades at 1.2%, with it topping out in 2054 at 1.5%. This is *despite* the predicted increase in the debt-to-GDP ratio to 1.66! [6] The CBO attributes this demand growth mostly to long-run trends of lengthening life spans which creates demand for more retirement wealth. Perhaps the important place of U.S. securities in the financial system and the central role of the Dollar in international economics contributes as well. Regardless, a real interest rate of 1.5% is clearly a modest yield for government debt.

2.2 Unsustainability and crisis

What seems to be the argument that our fiscal policy is not sustainable?

Broadly speaking, a sustainable fiscal policy is one that "meets the needs of the present generation without compromising the ability of future generations to meet theirs."[7] The widely-accepted test of sustainability is a debt-to-GDP ratio that does not explode (hence the focus of fiscal alarmists on CBO predictions of this ratio).[8] Note that a rising debt-to-GDP ratio–even for time spans measured in decades–does not in and of itself imply an *exploding* debt-to-GDP ratio. Sustainability only requires that eventually this ratio stops increasing. An informative historical example of how the debt-to-GDP ratio can persistently and steadily rise to high levels is British public debt, which from 1700 until 2004 moved up and down through numerous peaks and troughs, never falling below 20% of GDP, twice maxing out at 270% of GDP, and averaging 117% of GDP–all the while never suffering a default.[9]

To understand whether the debt-to-GDP ratio eventually settles down at a constant level, or whether it explodes, we need to understand the growth of the numerator–the growth of government debt–compared to the growth of the denominator–the growth of GDP. Whichever grows faster–on average over the

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[6] See the March 2024 CBO report: *The Long-Term Budget Outlook: 2024 to 2054*, Table 3.1. To calculate the real rate on government debt, I use the CPI-U for inflation, which is what the CBO uses to calculate the real rate on 10-year bonds. Note also that the projection for the 2054 debt-to-GDP ratio is less than the previous year's CBO projection for 2053 of 1.81.

[7] This definition comes from Wyplosz 2005. He refers to earlier work by Arrow et. al. 2004 on this definition, who in turn referred to *Our Common Future*, a report by the World Commission on Environment and Development (1987).

[8] GDP is the total value of final goods and services produced per unit of time by factors of production within a country's borders, while GNP is the total value of final goods and services produced per unit of time by factors of production owned by residents of a country. Some analyses we refer to later use debt-to-GNP instead of debt-to-GDP. For our purposes, the difference is not important.

[9] See Charles Wyplosz, *Debt Sustainability Assessment: The IMF Approach and Alternatives,* HEI Working Paper No: 03/2007, 2005, Graduate Institute of International Studies: Geneva

infinite future–determines whether the debt-to-GDP ratio explodes, collapses, or settles down at some finite constant value[10].

Start with the inflation-adjusted or "real" numerator: inflation–adjusted publically-held government debt at any time t–e.g. 2024.[11] Remember, the government each year must sell enough bonds to: (1) replace maturing debt; (2) pay the interest on existing debt; and (3) finance the "primary deficit"–the gap between non-interest-payment expenditures and tax receipts. Of course, if the government runs a primary surplus, it needs to sell *fewer* bonds–in value terms equal to the surplus–than needed to replace maturing debt and pay the interest on existing debt.

Let us denote the "real" interest rate on government debt as r. This rate is also the growth rate of the existing stock of government debt–the growth in the stock of outstanding government debt necessary to (1) replace maturing debt and (2) pay the interest on that maturing debt.[12] Because–as noted earlier–the government debt must grow enough each year to (1) replace maturing debt, (2) pay the interest on existing debt, and (3) finance the primary deficit, the growth rate of this debt is greater than r for any non-zero primary deficit.

The denominator of the debt-to-GDP ratio at any time t is inflation-adjusted or "real" GDP. The growth rate of the inflation-adjusted denominator of the debt-to-GDP ratio is just the growth rate of inflation-adjusted or "real" GDP, hereafter denoted as g.

Thus, with primary deficits, the debt-to-GDP ratio explodes if r (which we just demonstrated is greater than the growth rate of the stock of government debt) is greater than the growth rate of real GDP, namely g. If r is less than g,

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[10] We say "on average over the infinite future" as a shorthand for the exact condition for unsustainability derived in the Appendix in which time runs continuously and $r(t)$ and $g(t)$ are the real interest rate and growth rate of real GDP at each time t. In this case, the debt-to-GDP ratio explodes if

$$\int\limits_{t=0}^{t=\infty} \left(r(t) - g(t) \right) dt > 0.$$

The expression "on average over the infinite future" is a less-formal but understandable way of capturing this condition.

[11] Like with most analyses, we focus on publicly-held government debt, which nets out government debt holdings of other government agencies, e.g., debt held by social security trust funds. This is the measure of what needs to be serviced in the market for this debt.

[12] See Appendix A for the complete derivation. But for those interested, the partial analysis is: Let B_{t+1} denote the real value of government debt at time $t+1$. The evolution through time of B is thus:
$$B_{t+1} = (1 + r_t) B_t + \delta_t$$
where r_t is the real interest rate for the period beginning at time t and δ_t is the real primary deficit. Hence, the growth of real government debt, denoted by d_t, is

$$d_t \equiv \frac{B_{t+1} - B_t}{B_t} = r_t + \frac{\delta_t}{B_t}.$$

If $\delta_t = 0$, then the growth rate of real debt is just r_t. If $\delta_t > 0$, the growth rate of real debt is greater than r_t. If $\delta_t < 0$, i.e., there is a primary **surplus**, then the growth rate of real debt is less than r_t.

though, there is the possibility that even with a primary deficit the growth rate of government debt is less than the growth rate of real GDP. In fact, as shown in Appendix A, it turns out this possibility is a certainty: if–on average over now and through the infinite future–r is less than g then for any size primary deficit the debt-to-GDP ratio always stabilizes at some finite level.

To sum up, if r (the real interest rate on government debt) is greater than g (the growth rate of real GDP), then sustainability–a stable debt-to-GDP ratio– is not possible with permanent primary deficits. But if r is less than g, then there will be a stable debt-to-GDP ratio: sustainability is achieved. To put it another way, with a high enough growth rate of GDP relative to the real interest rate on government debt, a country "outgrows" its debt-service burden even with primary deficits.

The analytics behind this result (now well-known among macroeconomists) are in the Appendix A. But heuristically, imagine that the values of r, g, and the primary deficit are those predicted by the CBO to be the average over the next ten years: $r = .09$, $g = 2.0$, and the primary deficit equals 2.2% of real GDP. Also imagine that the debt-to-GDP ratio was not one (1), as is approximately the case now in 2024, nor 1.66 as predicted for 2054, but–gasp!–two (2). What would happen year after year to the debt-to-GDP ratio in this scenario?

Normalize current real GDP to one (1) so in normalized units government debt is two (2). The next year, the existing real debt would grow by .009 (.09%), to 2.018. To finance the primary deficit, new debt equal to 2.2% of GDP–which has a normalized value of one (1)–would have to be issued. That is, new debt issued would be .022. Hence, the outstanding debt at the end of this first year would be 2.04–the sum of 2.018 and .022.
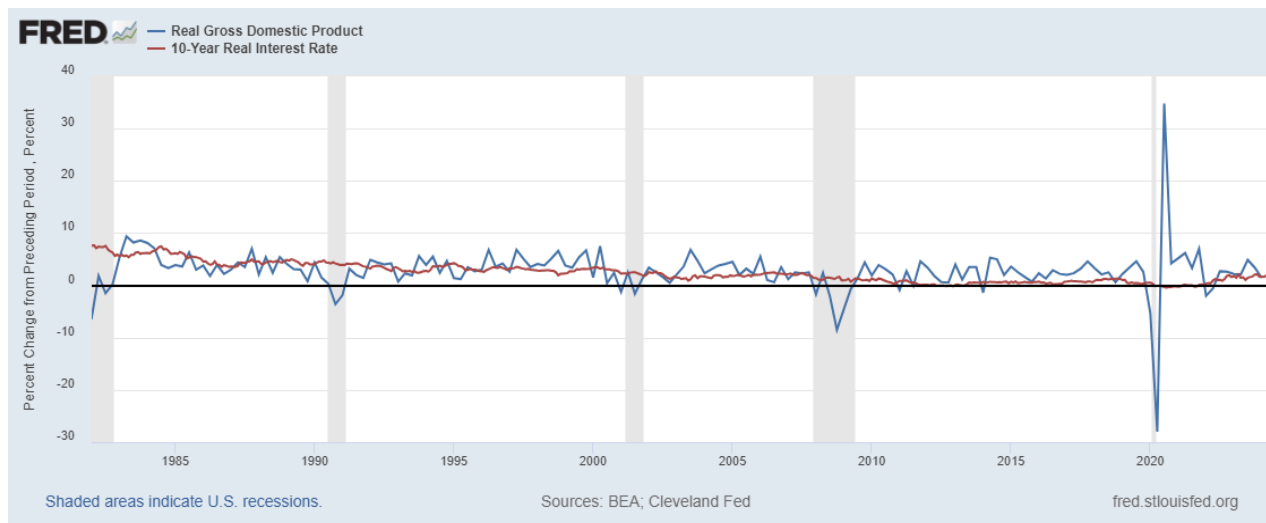
Real income would have grown by 2%, so real GDP would have grown to 1.02. Hence, the new debt-to-GDP ratio would be:

$$\frac{2.04}{1.02} = 2.0$$

The debt-to-GDP ratio would be unchanged at two (2)! Carrying out the same calculation for the following year, and for each year after that, shows that the debt-to-GDP ratio remains at two (2) for ever and ever.

Returning to our reality in which the debt-to-GDP ratio is in 2024 about one (1), and if in fact the CBO-predicted average values for the next ten years of r, g, and the primary deficit continue unchanged on into the infinite future, the debt-to-GDP ratio would grow from its current value of about one (1) for many decades–even centuries–but would eventually approach the constant value of two (2). A steadily increasing debt-to-GDP ratio is not a sign of unsustainability, as long as the ratio eventually approaches a finite constant value.

We note here a point we return to later: fiscal alarmists would argue that our heuristic example embodies an unrealistic assumption: that r would still be less than g if the debt-to-GDP ratio were in fact two (2).

FRED — Real Gross Domestic Product
— 10-Year Real Interest Rate

Shaded areas indicate U.S. recessions.   Sources: BEA; Cleveland Fed   fred.stlouisfed.org

2.3 The historical evidence on r and g

A variety of studies cover various country's experiences with r minus g and all conclude: on average, r is less than g. Ball, Elmendorf, and Mankiw (1998) look at U.S. data starting in 1872 and find that on average g is greater than r by about 1.5%. Barrett (2018) looks at data from 1880 to 2015 for the U.S., France, Germany, and the U.K., and estimates that on average g is greater than r by between one (1) and two (2) percent. Kogan, Stone, DaSilva and Rejeski (2015) look back to 1792 for the U.S. and find that g is greater than r by an average of 0.9%. Blanchard (2022) provides evidence (in Chapter 3) that g greater than r has a long history. Clearly, our recent experience with g greater than r is not unusual.[13]

To emphasize that it is not unusual for g to be greater than r, we display the graph of the real yield on ten-year U.S. government bonds superimposed on the growth rate of real GDP from about 1980 until 2024, where the smoother line is the interest rate and the choppier line is the real GDP growth rate.

We might add that for the most recent four quarters-of-a-year (second quarter of 2023 through first quarter of 2024) the average of the 10-year real rate is 1.655% while the average growth rate of real GDP is 2.920%. Hence,

$$g - r = 1.245\%.$$

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[13] We should note, though, that some research about the post-World-War II era is less sanguine. Acalin and Ball (2024) present evidence that distortions of real interest rates from surprise inflation and from pegged nominal rates show that and *undistorted* real interest rate has been greater than the real GDP growth rate since 1974. They argue that for the future, the distortions of the past are not likely to recur, and are thus less sanguine about the idea that g will be greater than r in the future. Nonetheless, the preponderance of evidence shows that historically g has been greater than r.

3 What must the fiscal alarmists believe?

Fundamentally, the fiscal alarmists–with their claims of "unsustainability"–must believe that–on average over the infinite future–r will be greater than g, and there will be a primary deficit or a "too small" primary surplus.[14] Hence the growth of government debt will be greater than g and the debt-to-GDP ratio explodes.

3.1 The puzzle for the alarmists

But we know that in fact all debt-holders do not now believe that there will be *both* (1) permanent primary deficits or "too small" primary surpluses and that, (2) on average, r will be greater than g. If they did, a fiscal crisis–skyrocketing interest rates and collapsing bond prices–would be happening right now.

To understand this, remember that in this scenario–primary deficits forever positive and r greater than g–real government debt would grow faster than real GDP. The debt-to-GDP ratio would explode: the debt-to-GDP numerator grows faster than the denominator. Furthermore interest on the debt would also explode, surpassing GDP–much less the conceivable tax base–in finite time. In finite time, the government would default.

Knowing there is a future date-certain default, no investor would want to hold the bonds at that date–they would be worthless. This also implies no investor would want to hold the bonds shortly before that date–say, the day before the default date. If they pay a positive price for bonds the day before default, they would lose that investment. Hence, bond prices would be zero the day before default. By similar logic, no investor would pay a positive price for bonds a day before the day before–two days before–default, because the next day–the day before default–they would have no value, and the bond-holders would have lost their investment. This "backward induction" logic applies to each preceding day until the present. In this scenario, right at this moment no rational investor would buy a bond that is sure to be worthless tomorrow. In this "r greater than g" scenario with a fiscal policy of "chronic yawning deficits" or "too small" surpluses, there should be an immediate fiscal crisis, with interest rates spiking dramatically.

This is obviously not what all bond buyers believe today: interest rates on government debt are in fact relatively low by recent historic standards (say from 1967 to 2000), and the cost of credit-default swaps–a measure of market sentiment about default risk–are quite modest.

It is also not representative of what the CBO predicts will happen over the next thirty (30) years: as noted earlier, their projections for r, g, and the debt-to-GDP ratio over that time span are that, on average r will be 1.2% and g will be greater than this at 1.7%. Even in 2054, with a projected debt-to-GDP ratio of 1.66, they anticipate r will be 1.5% and still less than the forecasted g of 1.6%.

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[14] To be precise, the worriers must believe that this is what buyers of government debt believe.

Clearly, the fiscal alarmists believe that current prices of government debt are higher than what they should be based on the "fundamentals"–the underlying variables that determine the interest rates that equates savings to investment over the sequence of current and future time periods and the determinants of the growth rate of real GDP[15]. Why, though, has this "bubble" not yet "popped"?

3.2   Fallible investors

The fiscal alarmists might think that the continuing bubble is because the CBO predictions–along with other private-sector predictions–are wrong, or because the collective wisdom of the market is wrong. In what ways could the prognosticators and current government-bond investors be wrong?

A recurrent theme among the writings of these alarmists is that an unprecedented U.S. debt-to-GDP ratio is a problem per se. Perhaps this reflects their belief that the collective wisdom of the market–and the prognosticators of the CBO–underestimate the elasticity of interest rates with respect to the debt-to-GDP ratio. The alarmists might simply believe that a debt-to-GDP ratio of 1.66 will lead to real interest rates on government debt above the CBO-predicted 1.5%, and so high that unsustainability ensues. As noted, they, for example, might find it hard to believe that the example of a constant debt-to-GDP ratio of two (2) used as a heuristic in the preceding example of sustainability could be consistent with an interest rate low enough to be below g.[16]

Indeed, some prominent economists argue that the CBO predictions are likely wrong in a direction that underestimates the possibility of an unsustainable debt. They argue that interest rates are likely to be higher (for longer), and that government needs for defense and other worthy projects will be higher than predicted.

Or perhaps the fiscal worriers believe there is a "tipping point" for the debt-to-GDP ratio at which government bond buyers disappear unless a fiscal "closure rule" is applied that stabilizes the debt-to-GDP ratio by tax increases and/or expenditure cuts. Despite unease about theoretical reasons to believe such a point exists, there are some ideas of what such a ratio might be[17].

The aforementioned Ball, Elmendorf and Mankiw (1998) acknowledge that there is no theoretical basis for such an assumption, but ran their analyses under the assumption that one exists (they used two debt-to-GDP ratio "tipping

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[15] One model of the "fundamental" value of US debt is based on an analogy to models of equity prices: the value of the debt is the present discounted value of government surpluses (see Jiang et. al. 2023). The predicted value in this model, though, is not what is observed. As Jiang et. al. write on page 198: "Ultimately, we conclude that the portfolio of US Treasury bonds is expensive relative to the underlying collateral, the surpluses. We call this the US government debt valuation puzzle."

[16] As Cochrane (2023, p. 196) puts it: "As the government exploits it, the r<g opportunity vanishes." This is also a key part of Mian, Straub, and Sufi (2022), whose condition for sustainability is $g > r + \phi$, where ϕ is a positive number related to the responsiveness of r to the debt-to-GDP ratio.

[17] The CBO itself states in repeated reports that "CBO cannot predict with any confidence whether or when abrupt macroeconomic changes or sudden shifts in financial markets might occur in response to the amount and trajectory of federal debt."

points" of one (1) and one-and-a-half (1.5) for their simulations). On October 6, 2023, a report from the Penn-Wharton Budget Model argued for tipping points of either 1.75 or 2.0.

If these arguments are true, then why the alarm? For the backward-induction argument that predicts an immediate crisis if in fact fiscal policy is unsustainable to be wrong, current market investors must not believe a default will occur at these tipping points. That must mean that current market investors believe that sometime in the future–as we approach a tipping point–governments come to their senses and start running primary surpluses sufficient to stabilize the debt-to-GDP ratio.

This suggests the alarmists' true concern might not be unsustainability, but the costs associated with the sudden changes in fiscal policy at a tipping point. If that is the case, perhaps the alarmists should be more forthcoming instead of harping on unsustainability.[18]

Or perhaps a different way in which prognosticators and current bond-buyers are wrong is that they underestimate the probability that a "Liz Truss" moment could start the crisis. In September of 2022, Prime Minister Liz Truss of Great Britain presided over the surprise release of a "mini budget" that called for massive tax cuts paid for by unexplained and unrealistic economic growth. Fear of a yawning fiscal hole sent yields on U.K. government debt–"Gilts"– dramatically higher in a few days (Truss's premiership soon ended). Obviously the market consensus had not priced in such an unexpected and poorly-thought-out policy gambit.

A few people–including, as noted above, the head of the CBO–have argued that the U.S. could have a "Liz Truss" moment in 2025 when many of the Trump tax cuts are set to expire, but would be extended under a new Trump–or even under a Harris–administration.

The problem here is that this is a well-known possibility: the market consensus must assign some probability to this possible outcome, but does not view it as likely (otherwise the crisis would be here already).

The enduring reality is that many knowledgeable observers have predicted– for decades–that the market will come to its senses and appropriately price bonds to reflect an incipient crisis.

The enduring question is why the market investors–who have their money at stake–seem unpersuaded by these dire predictions, and have yet to be wrong.

3.3   Rational bubbles

Or perhaps these alarmists understand the economic models about financial crises that explain why bubbles can persist even with highly-rational investors who understand the logic of backward induction.[19] In some of these mod-

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[18]For example, the Penn-Wharton Budget Model report is explicitly titled "When Does Federal Debt Reach Unsustainable Levels?" Perhaps a more informative title would be " When Does Federal Debt Reach levels requiring large painful changes to taxes and expenditures?"

[19]See, for example, Brunnermeier, Markus K.; Reis, Ricardo. *A Crash Course on Crises: Macroeconomic Concepts for Run-Ups, Collapses, and Recoveries.* Princeton University

els, investors must think about not only the fundamentals but also what they think other investors think, and bubbles can exist for some time before "popping" as more sophisticated investors time their exits based on behavior of less-sophisticated investors. In other types, a shock to fundamentals may rapidly shift an economy from a "good" equilibrium to a "bad," i.e., explosive one.

If this is true, then they believe the crash is coming, but not until some unknown future time.

These models, though, do not seem to capture what has gone on in markets for U.S. government debt. The models generally postulate the start of a bubble as a rapid price rise in response to unexpected changes in fundamentals–changes that have very *uncertain predicted effects* on future fundamental values. But the rise in U.S. government bond prices over the past thirty years, i.e., the fall in yields, has been slow and steady–not rapid–and reflective of slow, steady and predictable changes such as ageing populations.[20]

Nonetheless, the long history of financial crises tells us that markets can appear placid for long periods before sudden disruptions. The appropriate prophylactic, though, surely is not immediate draconian spending cuts or tax increases, but rather development of a budget/political process that allows formation of credible beliefs about future budgetary changes that can react to changing circumstances.

4   What else might be true

Of course, given the long historical series we have of $r - g$, and the CBO predictions, it could be that there is no current bond-market meltdown because investors believe that–on average over the infinite future–the real interest rate on government debt will be below the growth rate of real income.

Or they might believe–based on the predictions for the next 30 years–that $r - g$ will be negative for quite some time before, perhaps, becoming equal (say in 2054). At that point, stabilization of the debt-to-GDP ratio would require a zero primary deficit, and today's investors believe that will happen.

This quite straightforward explanation–straightforward in the sense that it is consistent with what the CBO predicts, the lack of a current crisis, and what is the historical record–also has implications for "generational equity," as we discuss below.

5   Assessment of the fiscal alarmists

5.1   Is there an imminent crisis?

Merriam-Webster defines crisis as:

Press, 2023, or Blanchard 2022, Ch. 4.5.

[20] I believe an implication of the argument in Jiang, Lustig, Van Nieuwerburgh, and Xiaolan (2023) is that standard asset-pricing models applied to U.S. governement bonds have had a *long-standing* "pricing puzzle," not something that has emerged only in the last few years.

an unstable or crucial time or state of affairs in which a decisive
change is impending. especially : one with the distinct possibility of
a highly undesirable outcome, e.g., a financial crisis.

If there is an imminent crisis, it must be either that current markets do
not understand that U.S. debt is unsustainable, or that some savvy investors
do understand that but are playing a sophisticated game and plan on timing
their exit from the market before some future–but soon!–time of default. And
unlike Greek sovereign debt circa 2009, there is no evidence of a an unforeseen
surprise that would make U.S. debt suddenly overpriced. There is absolutely
no indication of an imminent crisis in the market for U.S. government debt:
current rates are not high by historical standards, and more importantly show
no signs of a sudden large lurch upward.

5.2 Is there a future crisis?

Of course, as is often attributed as a Yogi Berra saying[21]: "It is difficult to make
predictions, especially about the future." But given our expectations about the
future, as embodied in the CBO predictions and the current prices of U.S.
Treasury debt, there is simply no evidence apart from the idea that we are
sailing into "uncharted waters" in terms of the size of the debt-to-GDP ratio.

5.3 Generational equity: will our grandchildren hate us?

First note that the CBO predicts per-capita real GDP growth over the next
30 years will average about 1.3%. This implies that in twenty (20) years–in
2043–the average American will have a real income 29% greater than it is today.
In thirty (30) years–in2054–the average American will have a real income 49%
greater than it is today. That is, the "next generation" will be substantially
better off than the current generations given CBO predictions based on what
are our current laws concerning now and future taxes and expenditures, i.e., the
CBO baseline scenario.

We can get a more insightful sense of what this growth means for fiscal policy
and generational equity by looking at alternative fiscal policies than our current
one.

For example, the CBO has investigated what would happen to real GNP
over the next thirty years if fiscal policy right now stabilized the current debt-
to-GDP ratio at about one (1), either by raising taxes or cutting spending or
some combination.[22] This policy would require reducing the average annual

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[21]Yogi Berra was a colorful New York Yankee baseball player who allegedly said many
head-scratching things, such as "no one goes there anymore, it's too crowded."

[22]See *The Long-Term Budget Outlook Under Alternative Scenarios for the Economy and
the Budget*, May 2024, CBO.

For some reason the CBO in this analysis uses real GNP rather than
real GDP, although it makes little difference in their conclusions. For con-
text, Q1 2024 GDP was $84,057, while Q1 2024 GNP was 84,498 (see
https://fred.stlouisfed.org/release/tables?rid=53&eid=20120&od=2024-01-01#

primary fiscal deficit by about 2%–to about .4% of GDP–over each of the next thirty years. We might call this the "stabilize the debt-to-GDP ratio now" plan. Under this scenario, real per capita GDP would rise from about $84,000 today to about $128,000 in 2054.

Under the CBO baseline scenario in which current laws determine all current and future taxes and expenditures and the annual primary deficit remains at about 2.4%, real GDP would only rise to about $123,000 in 2054. The $5000 difference is due to effects on capital accumulation–and hence growth–of the lower projected interest rates in the alternative scenario.

At a glance, this might appear to be unfair to the later generation. As argued in a June 5th 2024 article titled "The National Debt Is Making Us Poorer" by Eric Boehm in the publication *Reason*, this implies that on average the residents alive in 2054 are "poorer" by 5000 inflation-adjusted dollars than they would be if we had *now* stabilized the debt.

This is misleading, though. Two contervailing forces are at work in this comparison of fiscal regimes. First, by raising taxes (or lowering expenditures) now in order to stabilize the debt-to-GDP ratio at one (1), real income is reduced *now* and for each year for the next 30 years by about 2% per year compared to the no-tax-increase/no-expenditure-decrease baseline scenario. To be concrete, 2024 after-tax per capita GDP would be about $69,208 in the baseline scenario but only $67,520 in the "stabilize the debt-to-GDP ratio now" plan.

Of course, the CBO predicts that this lower initial after-tax income under the "stabilize the debt-to-GDP ratio now" plan will grow faster than the initially higher baseline-scenario value: the CBO predicts an annual growth rate under the baseline scenario of 1.123%, but an annual growth rate under the "stabilize now" plan of 1.137%.

What would the predicted average real per capita after-tax incomes be under the two different scenarios after one year? Under the baseline scenario, the value would be $70,058, while under the "stabilize now" plan the value would be $68,444.

After two (2) years, the baseline value would be $70,918 while the "stabilize now" value would be $69,380. In fact, it would take *eighteen years* before the "stabilize now" value catches up with the baseline value.

The point of this exercise is to highlight that stabilizing the debt-to-GDP-ratio right now comes at a cost for us. There is a trade-off of present versus future and opinions will differ on which scenario is "better."

Another point should be made as well: under the baseline scenario the average 2054 resident *still* has a 46% higher income than our average 2024 resident:

$$\frac{\$123,000 - \$84,000}{\$84,000} = 0.464\,29.$$

Yes, the average resident would have even more income in 2054 under the "sta-

bilize the debt-to-GDP ration now" plan. It would have grown by about 52% :

$$\frac{\$128,000 - \$84,000}{\$84,000} = 0.523\,81.$$

But clearly, our average resident of the future is better off–by a lot!–than the current average resident regardless of which scenario we look at.

Consider now another scenario, Suppose, for example, that in 2055 the

projected trend of shrinking positive values of $g - r$ leads to a future in which from 2055 onward $g = r$. To stabilize in 2054 the debt-to-GDP ratio at its then predicted value of 1.66, the government would have to make the primary fiscal deficit almost equal to zero, rather than the predicted value in 2054 of about 2.2% of GDP. That is, either revenues as a percent of GDP would have to be raised from 18.8% to 21%, or non-interest expenditures cut from 21% of GDP to 18.8%, or some equivalent combination of cuts and tax increases. US residents in 2055 would thus be faced with an 11% increase–from 18.8% to 21%–in either taxes or an 11% cut in government expenditures.

Over the intervening 30 years, though, the CBO predicts an average growth rate of per capita real GDP of about 1.28%. In 2054, each unit of real GDP per capita in 2024 will have grown to 1.48 units–48% higher[23].

To make a concrete example, suppose in 2055 the fiscal adjustment to eliminate the primary deficit is done all with taxes. In terms of real after-tax income, the average 2055 resident will *still* be 38% better off than the average 2024 resident.[24] That is, the "next generation," after being "saddled" with the higher taxes in 2055 necessary to stabilize the debt-to-GDP ratio, will still have an average per capita real GDP about 38% greater than the "current generation."[25]

What is clear is that based on CBO predictions the average resident in 2054 is better off than the current average resident no matter the fiscal scenario.[26] If our grandchildren hate us in 2054 because of our baseline fiscal policies, we will have raised them to be exceptionally selfish.

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[23] Note that this is almost the same value as the GNP calculation the CBO used in *The Long-Term Budget Outlook Under Alternative Scenarios for the Economy and the Budget*. I am not sure why they used GNP for this one case, but it makes little difference.

[24] To elaborate: From 2024 to 2054, we will assume an average tax rate of 18.8% of GDP (CBO estimates it a little lower on average as it climbs to 18.8% in 2054, but we use for convenience the 2054 rate of 18.8%). Thus, for each unit of real income in 2024 the average citizen has .812 units of after-tax real income . In 2054, the starting 2024 after-tax real income unit of .812 will have grown to $(.812)(1.0128)^{31} = 1.204\,5$ after-tax units. In 2055, each unit of real per capita GDP in 2024 units will have grown to $(1.0128)^{32} = 1.502\,3$. Thus in 2055 the average resident–after taxes of 21%–will have about 1.1868 units of 2024 real income. Compared to the after-tax per-unit real income of the average resident in 2024–.812–our 2055 average resident is 38% better off.

[25] The quotes around next and current generations are to emphasize that not each person in the population fits cleanly into a 30-year population segment.

[26] Of course intergenerational equity is much more complex when income inequality is changing than what is captured in this simple exercise . See Auerbach and Gale (2022) for a more nuanced view. But regardless, there will be a bigger pie to divide in the future even if we do not eliminate the primary deficit now.

6 Summary and Conclusion

6.1 Risks versus costs and benefits

In the March/April 2019 issue of *Foreign Affairs*, Jason Furman and Lawrence Summers wrote the following in "Who's afraid of budget deficits?" :

> "Deficit fundamentalists argue that they are championing a noble and underappreciated cause. In some ways they are; deficit reduction is never a political winner. But if they turn out to be right, economists and policymakers will know soon enough. The financial markets give immediate feedback about the seriousness of the budget deficit. If the debt becomes a problem, interest rates will rise, putting financial and political pressure on policymakers to accomplish what fiscal fundamentalists have long wanted. But even if that happens, it is not likely to cost so much that it would be worth paying a definite cost today to prevent the small chance of a problem in the future. Policymakers will always know when the market is worried about the deficit. But no alarm bells ring when the government fails to rebuild decaying infrastructure, properly fund preschools, or provide access to health care. The results of that kind of neglect show up only later—but the human cost is often far larger. It's time for Washington to put away its debt obsession and focus on bigger things."

Are things different now? The predictions of the CBO, the history of the relationship between real interest rates and growth rates of real GDP, and the lack of a signal from the financial markets all say there is no incipient debt crisis. In a sensible world, this knowledge should stop the brinksmanship of the Republican Party that tries to impose draconian spending cuts that would impose "a definite cost today to prevent the small chance of a problem in the future."

This does not mean, of course, that nothing should be done. We are sailing into uncharted waters compared to where we were in 2019 when Furman and Summers wrote in *Foreign Affairs*, and we should think about what this might mean for the trade-off between current costs and uncertain future problems.

6.1.1 Costs today

What are these costs? Either reducing spending or raising taxes eliminates some current services or reduces current after-tax income. More important, though, it breaches trust between many citizens and their government. Plans have been made based on assumptions about the future. Can citizens count on what the government has implicitly promised? Does it seem fair to breach this trust?

The politics of shared sacrifice   Treating a breach of trust as a cost might seem farfetched: taxes, benefits, and regulations all change throughout a normal

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lifespan. But there are a few "fairness" principles that let us know when people are more amenable to these changes. These principles help us understand why breaching the status quo is an important cost.[27] They also guide us in thinking about what things might make citizens willing to incur these costs and participate in "shared sacrifice" such as higher taxes or lower benefits.

Trust is an important factor that maintains stability in a society and economy. When circumstances change, people maintain trust in institutions when they feel they are being treated fairly. Among ideas about what counts as "fair," Zajac (1995) notes that people feel government should act as an insurer against risks, both natural, e.g., floods, and economic, e.g., a financial crisis that leads to a recession. That is, in the face of misfortune, people have embraced the idea of shared sacrifice: if a flood or hurricane batters Florida, the rest of the country shares Floridians' burdens through their tax contributions to FEMA.

Does the chance of future fiscal problems warrant the types of actions now suggested as fiscal fixes? Consider first the proposals for cutting benefits.

I do not know much about SNAP, agricultural subsidies, and many other discretionary spending programs. But as a combat-injured disabled veteran and a retiree, I know something about two offered plans for reducing the deficit.

First, as regards veteran's benefits, there are at least two public proposals to reduce spending on veterans' disability benefits.[28] The rationale proposed is that these disability payments are compensation for loss of earnings due to the injury. Hence, the argument goes, if injuries don't inflict earnings losses–say, because many jobs now don't depend on full physical mobility–then there is no need for disability payments. And certainly upon normal retirement age, there is no longer any rationale for such payments. Hence, reform proposals focus on means-testing, eliminating the tax-exempt status of these disability payments, and revising the assignment of disability ratings to ensure they better correspond to earnings losses.

I assure you that I–nor my fellow platoon members who fought with me in 1969–think of our disability benefits in this way. We view them as a token of our country's gratitude for the risks we took and the suffering we endured and as compensation for a shortened expected life-span. And despite what the two proposals to cut veteran disability payments claim, these are also reasons that at various times Congress has listed as rationales for these benefits. To be sure, the ratings system started by attempting to measure how an injury created a

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[27] Zajac (1995) was an early investigation of these principles. More recently see Ho (2021) for an investigation into trust as "the tie that binds" an economy.

[28] See *A Committment to End Woke and Weaponized Government 2023 Budget Proposal* ,Center for Renewing America.

Also see: Washington Post, April 3, 2023: *Veterans deserve support. But one benefit program deserves scrutiny.* By the Editorial Board

|And the CBO publishes *Options for reducing the deficit* where they analyze suggestions (presumeably from Congresspeople) for deficit reduction. Their December 7, 2022 report analyzes suggestions for reducing VA disability spending. They write: "disability benefits are intended to compensate former service members for the earnings they would be expected to lose due to their service-connected injuries, the payments currently have no link to whether veterans are working, or the earnings they receive from their work."

loss of earnings, but was never meant to substitute a disability payment for not being able to work.[29] In fact, after World War II, continued disability payments despite a return to work were viewed as a feature to encourage a return to work.

Finally, we do not think of these payments as extravagant. Anyone can look up what is paid to disabled veterans at:

https://vetsguardian.com/2024-va-disability-rates/

No one is living extravagantly from this–but it surely is something we have planned on and feel we deserve.

As for Social Security and Medicare, there are many proposals for reducing the expenditures on Medicare and Social Security. Perhaps some suggestions are both worthy and politically feasible, but they will still reduce the benefits to seniors. While some fiscal alarmists argue that reforms are justified because today's seniors receive more in benefits than what they have paid in to the systems, this misses the point: seniors have made plans based on what they've been told their benefits will be. The average monthly benefit is not an extravagant amount: $1,864.52. And Medicare benefits today are surely more expensive than what was paid into the program because medical care has become so expensive in the U.S., not because medicare taxes were set too low in the past. This is again a matter of trust and fairness.

I suspect that if I–and other residents–knew more about other programs proposed to be on the chopping block, I and they would also see questions of fairness and trust as reflecting costs.

Second, consider proposals about tax increases. Again, without a compelling story of necessity, people who have made plans based on current tax policies and rates will feel a tax increase to be unfair.

Of course, despite evidence of broad agreement on the basic ideas of fairness, people may differ in their particular views on any particular change in policy. Zajac (1995, Ch. 11) notes that people tend to think that economic policies that benefit special interest groups are unjust.

Some people, then, might view disabled veterans, or seniors, or farmers, or food stamp recipients, as special interest groups and hence favor a change in the status quo that reduces their benefits. Or some people might think of wealthier people as beneficiaries of tax breaks unavailable to the not wealthy, e.g., the preferential treatment of pass-through business income, and might be in favor of tax increases for the wealthy.

Nonetheless, another fairness principle is that people–even those who represent special interests–have some rights to the status quo[30]. Hence, policy changes that call for shared sacrifice need to be a response to a clear and present danger, not to a vague and uncertain future problem.

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[29]See Samet and Bodurow (2008), Appendix D.

[30]As a professor, I have seen how careful implementation of "grandfathering" principles for students in terms of, among other things, graduation requirements or standards for "greek-letter" awards for outstanding grade-point achievement, keeps student unrest to a minimum.

6.1.2 Risks

Perhaps the most obvious and important risk is: what happens as the debt-to-GDP ratio sails into uncharted seas? Will interest rates rise more than predicted? Will other predictions, e.g., future growth of real GDP, be wrong? Will there be future demands on government spending as unforeseen crises emerge? Anything that pushes r to be greater than g (again, on average over the infinite future) would require the government to generate an appropriately large primary surplus to stabilize the debt-to-GDP ratio.

Could things go wrong? Of course, as spelled out above, interest rates could be higher for longer, or be more sensitive to higher debt levels, the Trump tax cuts could be extended, and real GDP growth could be slower, among other things. Our knowledge of how the price of government debt will respond to these potential changes is modest at best: standard finance models of the price of government debt perform poorly, and statistical estimates of the elasticity of interest rates to the debt-to-GDP ratio are undoubtedly subject to large standard errors.

But again the logic of "Who's afraid of budget deficits" seems still applicable: "If the debt becomes a problem, interest rates will rise ... to accomplish what fiscal fundamentalists have long wanted."

6.1.3 Non-crisis costs to primary deficits

My focus on the possibility of a potential crisis is a response to the repeated claims of politicians and pundits of "imminent threats" and "fiscal crisis." But there are other potential costs to not reducing primary deficits.

First, interest rates will be higher than they otherwise would have been. This likely reduces growth and indeed makes future generations poorer than they would have been–although still richer than current generations.

More important, though, is that it reduces the flexibility to respond to future unanticipated events by debt finance. The "fiscal space" to finance spending for unanticipated wars or pandemics or environmental crises via debt issuance is reduced by using debt finance today.

6.2 What is needed: watchful waiting and political preparation

As of October 2024, there is no imminent fiscal crisis. Rampant fiscal alarmism is unwarranted, and makes the citizenry unable to distinguish when risks call for real shared sacrifice. When every revision of projections by the CBO–when predicting a more worrisome outlook–is met with dire pronouncements even though the revisions are minor, this further erodes confidence that the worries are really about the budget and not a stalking horse for some other agenda. [31]

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[31] Alarmists can be compared to some folktale characters. Chicken Little was honestly confused about whether the sky was falling. The Boy Who Cried Wolf did so not to really warn the villagers but for an alternative reason–to gain attention. Some fiscal fearmongers may be

There are legitimate concerns, though, about an uncertain future: we have no historical record of what happens as the debt-to-GDP ratio rises as predicted over the next thirty years. All we have is predictions–that of course are subject to much uncertainty.

Hence, despite the lack of an imminent crisis, contingency plans–such as promoted by the various "debt fundamentalists," e.g., the Concord Coalition, the Committee for a Responsible Federal Budget, the Peter G. Peterson Foundation, and associated individuals with great expertise about the details of fiscal policy provide "off the shelf" menus of policy choices that will be useful if and when a crisis emerges.[32]

6.2.1   The politics of shared sacrifice again

But the more important component of "being prepared" is about politics and society: how can the government convince our citizenry to engage in shared sacrifice if unforeseen events do threaten a crisis? How will the government persuade retirees, veterans, farmers, and other recipients of government transfers/tax breaks to suffer reductions? How will it persuade other residents to pay higher taxes?

Understanding this is a job more for a political scientist, or a sociologist, than for an economist. I offer, though, the basics of how the logic of diffuse costs and concentrated benefits imparts a bias towards increasing the deficit–for both parties.

Consider agricultural policy. Farmers make up less than 2% (two per cent) of the U.S. population. In Farm Bill after Farm Bill, legislation provides a variety of subsidies to the production of agricultural products, benefitting farmers–many of whom are quite wealthy. Farmers as a group have a lot at stake in this legislation, and thus have an incentive to organize with other farmers and provide pressure on the government (and campaign contributions) through associations such as the American Farm Bureau Federation. The costs of this largesse to the 98% of the population who are not farmers is in per capita terms quite small–in the neighborhood of $300.[33] Hence, even if a member of the general population knew about these subsidies, the benefits to them of fighting to remove the subsidies would be dwarfed by the costs of organizing fellow citizens to effectively lobby Congress.[34] For a government program with

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using fear of deficits to accomplish other goals, e.g., dismantlement of the Roosevelt/Johnson safety net. In conversation at the San Francisco Federal Reserve Bank in 1982, Milton Friedman said to the assembled economists (including me) that he did not believe the rising deficits at the time were a problem, but he would like ideas about how to stoke fear so as to persuade people to advocate for spending cuts to what he viewed as an unnecessarily large government.

[32] See , for example, the writings of–among others–Brian Riedl and Marc Goldwein.

[33] See "Cutting Federal Farm Subsidies," Cato Institute Briefing Paper No. 162, August 31, 2023 by Chris Edwards,

https://www.cato.org/briefing-paper/cutting-federal-farm-subsidies#

[34] The egregiousness of these policies is perhaps best illustrated by the fact that in 2010, the U.S. government paid *Brazilian* cotton farmers rather than reduce subsidies to U.S. cotton farmers. Brazil had won a trade dispute in front of the WTO, and could have imposed

diffuse costs to the broad population but concentrated benefits to a special interest, the outcome is higher spending.

Hence, it is not surprising that both of our major political parties are in favor of government largesse: it is just what groups they want to bestow this on that distinguishes them. Democrats tend to desire spending on groups that benefit from safety net programs–the poor–and on groups more dependent on government insurance programs like Social Security, Medicare, and Medicaid. Despite rhetoric, Republicans also want to bestow government benefits, but on other groups. And their largesse is somewhat more opaque to the voter as it is mostly implemented via tax expenditures, such as "Qualified Business Income Deduction," which keeps tax rates on a number of business entities at 20% (which is less than what the recipients of this treatment would pay at normal income tax rates). It appears that regardless of the party in power, social spending is about the same–but paid for directly by Democrats and via tax expenditures by Republicans. And according to Faricy (2011), Democrats spend it on direct programs that largely serve "the elderly, the disabled, the unemployed, and the poor. . . " while Republicans spend it indirectly on programs that "are biased towards workers who are White, full-time, in large companies, and high-wage earners."

Of course the biggest driver of an increasing debt-to-GDP ratio is spending on major health care programs, mostly Medicare and Medicaid. And of course these are now programs with concentrated benefits–for the old and soon-to-retire, for providers of medical services–and diffuse costs–for the average taxpayer. Not surprisingly there is little appetite among our elected officials to rein in this spending.

It bears noting that health care costs in the U.S. are an anomaly compared to the rest of the world. According to the Commonwealth Fund in their January 31 2023 *Issue Brief*, "Health spending per person in the U.S. was nearly two times higher than in the closest country, Germany, and four times higher than in South Korea." If our health care cost as much as Germany's does, our primary deficits now and until 2054 would be zero.

The question, though, is whether we are prepared if a crisis looms. Suppose the dire scenarios come to be: interest rates rise and stay above the growth rate of GDP, and the prospect of insolvency looses the Bond vigilantes.

Despite the structural features that push against raising taxes and cutting spending, one would hope that in a crisis the two parties would find a compromise in which each side gave up something: raising taxes for Republicans, reducing spending on Social Security and Medicare and Medicaid for Democrats. And perhaps even asking veterans, seniors, agricultural interests, and others to share in the sacrifice.

Unfortunately, the current political climate makes this seem unlikely. The standard behavioral assumption by social scientists about what motivates people is that they pursue their narrow self-interest. For politicians, this hypothesis means their primary motivation is getting elected. There seems to be little

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retaliatory measures on US exports unless this compensation was paid.

incentive now for politicians to "upset their base" by seeking compromise and risking electoral defeat.

But of course this behavioral hypothesis of pursuit of narrow self-interest–while useful and having some predictive power–does not adequately capture all motives. Politicians of course want to get re-elected, but sometimes–albeit rarely– follow their better angels and risk election defeat in pursuit of higher collective ideals.

For example, the Clinton Budget Reduction Act of 1993 passed without a single Republican vote. Representative Marjorie Margolies-Mezvinsky, a newly-elected Democrat from a former Republican-held district in Pennsylvania, knew that voting for the bill would likely end her career as an elected legislator (it did). But she provided the crucial vote that passed the Act. As she put in an interview with the New York Times[35]:

> "I'm not that concerned about re-election," Ms. Margolies-Mezvinsky said. "There is something very freeing about having done something that you feel was right. Was I going to cut off the President at his knees? No, I wasn't. But I told the President when he called, 'I think I'm falling on a political sword on this one.' "

And famously at a campaign event when he was running for President, Senator John McCain defended his opponent Barack Obama from an attendee who claimed that "we're scared of an Obama presidency" and from a woman who claimed Obama was "an Arab." To boos and catcalls, he told the audience Obama was not to be feared, and was not an Arab, but a decent man, and a citizen. For context, some Republicans–notably Donald Trump–were falsely claiming that Obama was not born in the U.S. but rather in Kenya, where his Muslim father was from. The Associated Press called it a "reflection of [Mc-

Cain's] thinking that partisans should disagree without demonizing each other," and the Washington Post named it one of McCain's most courageous political moments.

As Brook Manville & Josiah Ober argue in their 2023 book *The Civic Bargain: How Democracy Survives*, a working democracy requires a "civic bargain" in which partisans do not treat their political opponents as enemies but rather as fellow citizens invested in the idea that when shared sacrifice is called for, compromises can be made. In a democracy such as ours, where we elect representatives to the legislature and the executive branch, these representatives must in times of crisis be prepared to lead their constituents to the necessity of compromise–even at risk of losing future elections.

Lately, the Republican party's embrace of and defence of brinksmanship with respect to the debt ceiling, its embrace of no-compromise policies such as "no new taxes" pledges, its relentless attacks on the justice system, on the reliability of elections, and its defence of the indefensible when it comes to basic

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[35] "Budget Vote Still Hounds Lawmaker,"
By Michael Decourcy Hinds, Dec. 12, 1993, New York Times.

economics such as Trump's planned tariff policies (if he is elected in 2024) are not helping to maintain the civic bargain. These are surely some of the reasons such prominent economists as Greg Mankiw and Ben Bernancke have left the Republican party.

Furthermore, the hypocrisy of Republicans with respect to the debt and deficit especially erodes chances for a bargain with compromises by both sides. As described by the conservative Brian Riedl[36]:

> Yet GOP presidents are almost never pressured to cut spending so much, even by a unified Republican Congress. Why would Democratic presidents agree to major spending cuts that unified Republican governments refused to enact? It's as if fiscal reform is a weapon with which to club Democrats rather than a serious conservative priority.

And although GOP presidents are not generally pressured to cut spending, the GOP does seem willing to pass tax cuts and then use potentially impending budget deficits to call for their preferred spending cuts. For example, as soon as the Tax Cut and Jobs Act–the Trump Administration's signature tax cut–had passed both the House and the Senate, House Speaker Ryan began to call for cuts to welfare and Medicare and Medicaid spending in 2018.[37]

Of course hypocrisy abounds in both political parties–and exposure of either party's hypocrisy is always an important task.[38] But there is a startling difference in degree between Republicans and Democrats when it comes to the debt and deficit.

Again, alarm bells are not ringing from the bond market that signifies an incipient crisis. And both historical evidence, CBO projections, and the interaction of these with the theory of sustainability tell us that there is a good chance we will avoid a fiscal crisis. Nonetheless, the future is uncertain, and "being prepared" means a return to what is sometimes called a "mature democratic society" characterized by political parties interested in maintaining the civic bargain, competent and insulated bureaucracies, and a broad social consensus to sustain stability of key institutions like the peaceful transfer of power.

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[36] "How Republicans Can Get Serious on Spending", Brian Riedl, *The Dispatch,* Published January 17, 2023, Updated January 18, 2023.

[37] "Ryan says Republicans to target welfare, Medicare, Medicaid spending in 2018," By Jeff Stein, December 6, 2017 , *Washington Post.*

[38] For a discussion of the central importance of exposing hypocrisy as a moral imperative, the philosopher Michael Walzer has written about how we can evaluate how politicians and others justify some of their arguments : "But that's not to suggest that we can do nothing more than describe the judgements and justifications that people commonly put forward. We can analyze these ... claims, seek out their coherence, lay bare the principles that they exemplify. We can reveal commitments that go deeper ... . And then we can expose the hypocrisy... . Exposure of hypocrisy is certainly the most ordinary, and it also may be the most important form of moral criticism." (Just and Unjust Wars, Michael Walzer, pg. xv, Basic Books, NY, 1977).

7 Appendix A: Some analytics

Some brief analytics can help organize thought about the relationships between d, r, and g and the behavior of the debt-to-GDP ratio. In particular, what is not intuitively obvious is that if r is less than g–again, on average over the infinite future–then any primary deficit is sustainable.

Let B_{t+1} denote the real value of government debt at time $t+1$. The evolution through time of B is thus:

$$B_{t+1} = (1 + r_t) B_t + \delta_t$$

where δ_t is the real primary deficit. Hence,

$$d_t \equiv \frac{B_{t+1} - B_t}{B_t} = r_t + \frac{\delta_t}{B_t}.$$

If $\delta_t = 0$, then the growth rate of real debt is just r. If $\delta_t > 0$, the growth rate of real debt is greater than r. If $\delta_t < 0$, i.e., there is a primary surplus, then the growth rate of real debt is less than r.

Our major focus as concerns sustainability is the debt-to-GDP ratio. To understand this, let b_t denote the debt-to-GDP ratio:

$$b_t \equiv \frac{B_t}{y_t},$$

where y_t is real GDP at some time t. To describe the evolution through time of b_t, start by dividing both sides of the equation describing the evolution of B_t by y_t :

$$\frac{B_{t+1}}{y_t} = \frac{(1 + r_t) B_t}{y_t} + \frac{\delta_t}{y_t}.$$

A small trick well-known to macroeconomists transforms this into the equation that describes the evolution through time of b_t is to multiply $\frac{B_{t+1}}{y_t}$ by one (1) in the particularly useful form of $\frac{y_{t+1}}{y_{t+1}}$:

$$\frac{B_{t+1}}{y_t} \frac{y_{t+1}}{y_{t+1}} = \frac{B_{t+1}}{y_{t+1}} \frac{y_{t+1}}{y_t} = \frac{(1 + r_t) B_t}{y_t} + \frac{\delta_t}{y_t}.$$

Remembering that the growth rate of real GDP is denoted by g, we know that

$$y_{t+1} = (1 + g_t) y_t,$$

and thus

$$\frac{y_{t+1}}{y_t} = 1 + g_t.$$

So,

$$b_{t+1} = \left(\frac{1 + r_t}{1 + g_t} \right) b_t + \frac{\frac{\delta_t}{y_t}}{1 + g_t}.$$

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Let's express the primary deficit as a fraction $\Delta \geq 0$ of real GDP:

$$\frac{\delta_t}{y_t} = \Delta_t.$$

Then our finished description of the evolution through time of the debt-to-GDP ratio is

$$b_{t+1} = \left(\frac{1+r_t}{1+g_t}\right) b_t + \frac{\Delta_t}{1+g_t}. \qquad (1)$$

Heuristically, this equation better "talks to us" if we think of r, g, and Δ as constant numbers. In this case, we can solve the above equation (equation 1).

Let

$$\theta \equiv \frac{1+r}{1+g}.$$

Note for future reference this implies

$$1 - \theta = \frac{1+g-1-r}{1+g} = \frac{g-r}{1+g}.$$

The solution of (1) must be of the form

$$b_t = A\gamma^t + K \qquad (2)$$

where γ, A and K are constants. Substituting (2) into (1) and rearranging yields

$$A\gamma^t (\gamma - \theta) = K(\theta - 1) + \frac{\Delta}{1+g}.$$

For this to be true,

$$\gamma = \theta$$

and

$$K = \frac{-\Delta}{(\theta - 1)(1+g)} = \frac{-\Delta}{r-g}.$$

Thus the solution equation is

$$b_t = A\theta^t - \frac{\Delta}{r-g}.$$

An initial condition of a given value of b_0 means

$$A = b_0 + \frac{\Delta}{r-g}.$$

So

$$b_t = \overbrace{\left(b_0 + \frac{\Delta}{r-g}\right)}^{A} \left(\overbrace{\frac{\frac{1+r}{1+g}}{\theta}}\right)^t - \frac{\Delta}{r-g}.$$

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7.1 Case 1a (primary surplus with $r > g$): $\theta > 1$, $\Delta < 0$

Note this implies

$$\frac{\Delta}{r - g} < 0,$$

so A consists of a positive number–b_0–and the negative number $\frac{\delta}{r-g}$ (remember, by assumption $r > g$ and $\delta < 0$).

If

$$b_0 + \frac{\Delta}{r - g} > 0,$$

or equivalently if

$$b_0 > \frac{-\Delta}{r - g},$$

then $A > 0$, and b_t explodes.   That is, for a given b_0, a "too small" primary surplus ($-\Delta$ sufficiently small compared to $r - g$), b_t explodes.

If

$$b_0 + \frac{\Delta}{r - g} = 0,$$

then $A = 0$ and $b_t = -\frac{\Delta}{r-g} = b_0$. A "sufficiently large" primary surplus ($-\Delta$ sufficiently large compared to $r - g$) stabilizes the debt-to-GDP ratio at $\frac{-\Delta}{r-g}$.

If

$$b_0 < \frac{-\Delta}{r - g},$$

then $A < 0$ and $b_t \to 0$ as $t \to \infty$.

7.2 Case 1b: primary surplus ($\Delta < 0$), $r < g$, *implies* $\theta <$ 1, $A > 0$

7.3 Case 2: primary deficit($\delta > 0$) with $r < g$

With $r < g$, $\theta < 1$. Our solution equation is

$$b_t = \left(b_0 + \frac{\delta}{r - g} \right) \theta^t - \frac{\delta}{r - g}.$$

Again, A consists of the positive number b_0 and the negative number $\frac{\delta}{r-g}$: by assumption in this case, $r < g$, and $\delta > 0$.

If

$$b_0 + \frac{\delta}{r - g} > 0,$$

then $A > 0$ and $b_t \to -\frac{\delta}{r-g}$.

If

$$b_0 + \frac{\delta}{r - g} < 0,$$

then $A < 0$, but still $b_t \to -\frac{\delta}{r-g}$ as $t \to \infty$.

7.4 Case 3: primary deficit$(\delta > 0)$ with $r > g$

$$b_t = \left(\overbrace{b_0 + \frac{\delta}{r-g}}^{A} \right) \left(\overbrace{\frac{\frac{1+r}{1+g}}{\theta}}^{t} \right) - \frac{\delta}{r-g}.$$

With $\delta > 0$ and $r - g > 0$, $A > 0, \theta > 0$, $b_t \to \infty$ as $t \to \infty$.

8 Continuous time

Assume time is measured by discrete periods of constant size Δ.(note this Δ is not the same as in the preceding section). Through any period beginning at t, the interest rate and the growth rate of real GDP are constant values r_t and g_t.

Let $B_{t+\Delta}$ denote the real value of government debt at time $t + \Delta$. The evolution through time of B is thus:

$$B_{t+\Delta} = (1 + r_t) B_t + \delta_t$$

where δ_t is the real primary deficit.

To describe the evolution through time of b_t, start by dividing both sides of the equation describing the evolution of B_t by y_t :

$$\frac{B_{t+\Delta}}{y_t} = \frac{(1 + r_t) B_t}{y_t} + \frac{\delta_t}{y_t},$$

where

$$1 + r_t = e^{r(t) \times \Delta}$$

A small trick well-known to macroeconomists transforms this into the equation that describes the evolution through time of b_t is to multiply $\frac{B_{t+\Delta}}{y_t}$ by one (1) in the particularly useful form of $\frac{y_{t+\Delta}}{y_{t+\Delta}}$:

$$\frac{B_{t+\Delta}}{y_t} \frac{y_{t+\Delta}}{y_{t+\Delta}} = \frac{B_{t+\Delta}}{y_{t+\Delta}} \frac{y_{t+\Delta}}{y_t} = \frac{(1 + r_t) B_t}{y_t} + \frac{\delta_t}{y_t}.$$

Remembering that the growth rate of real GDP is denoted by g, we know that

$$y_{t+\Delta} = (1 + g_t) y_t,$$

and thus

$$\frac{y_{t+\Delta}}{y_t} = 1 + g_t,$$

where

$$1 + g_t = e^{g_t \times \Delta}.$$

So,

$$\frac{B_{t+\Delta}}{y_t} \frac{y_{t+\Delta}}{y_{t+\Delta}} = \frac{B_{t+\Delta}}{y_{t+\Delta}} \frac{y_{t+\Delta}}{y_t} = \frac{(1 + r_t) B_t}{y_t} + \frac{\delta_t}{y_t}.$$

$$b_{t+\Delta} = \left(\frac{1 + r_t}{1 + g_t} \right) b_t + \frac{\frac{\delta_t}{y_t}}{1 + g_t}.$$

Let's express the primary deficit as a fraction $D_t \geq 0$ of real GDP:

$$\frac{\delta_t}{y_t} = D_t.$$

Then our finished description of the evolution through time of the debt-to-GDP ratio is

$$
\begin{aligned}
b_{t+\Delta} &= \left(\frac{1 + r_t}{1 + g_t} \right) b_t + \frac{\Delta D_t}{1 + g_t} \\
&= \left(\frac{e^{r(t)\Delta}}{e^{g(t)\Delta}} \right) b_t + \frac{\Delta D_t}{e^{g(t)\Delta}} \\
&= \left(e^{(r(t) - g(t))\Delta} \right) b_t + \frac{\Delta D_t}{e^{g(t)\Delta}}.
\end{aligned}
$$

Upon rearrangement and division of both sides by Δ:

$$\frac{b_{t+\Delta} - b_t}{\Delta} = b_t \left(r(t) - g(t) \right) + \frac{\Delta D_t}{\Delta e^{g(t)\Delta}},$$

where we multiplied the rhs b_t coefficient by one (1) in the form of $\frac{r(t)-g(t)}{r(t)-g(t)}$. Taking the limit as $\Delta \to 0$ (using L'Hopital's rule to take the limit of $\frac{e^{(r(t)-g(t))\Delta} - 1}{(r(t)-g(t))\Delta}$) yields the differential equation

$$\dot{b} = b(t) \left(r(t) - g(t) \right) + D(t).$$

For any T, the solution is well-known: $a(T) = a(0)e^{\int_0^T r(v)dv} + \int_0^T w(t) - c(t) - \tau(t)e^{\int_t^T r(v)dv} dt$

$$b(T) = b(0)e^{\int_0^T (r(v) - g(v))dv} + \int_0^T D(t)e^{\int_t^T (r(v) - g(v))dv} dt.$$

Convergence of $b(T)$ as $T \to \infty$ thus requires

$$\lim_{T \to \infty} \int_0^T \left(r(v) - g(v) \right) dv < 0.$$

9 Appendix B: commentaries

From left, right, and center, politicians, pundits, journalists, and some economists, claim that the U.S. government's fiscal deficits and outstanding debt are an "imminent crisis," "unsustainable," and a burden "that our kids are never going to forgive us for."

The claims can be grouped according to whether they think the sky is falling (an "imminent crisis"), whether they think a crisis is unavoidable but will happen at some unspecified future moment, or whether they think there is a chance of a future crisis.

I present so many examples of these claims only to emphasize how deeply embedded these concerns are in our national discourse.

9.0.1   The sky is falling: (mostly Republican) politicians

First consider what the politicians say. Rep. Mark Green, who represents the 7th congressional district of Tennessee, has had this on his website:

> ... our national debt is perhaps the greatest threat to our children and grandchildren's future ... We should pass a Balanced Budget Amendment to ensure the federal government is subject to the same spending restraints as our states. (https://markgreen.house.gov/national-debt)

On January 27 2023, Senator Blackburn and 23 other Republican Senators sent a letter to President Biden expressing their "outright opposition to a debt-ceiling hike without real structural spending reform that reduces deficit spending and brings fiscal sanity back to Washington."

At-the-time Speaker McCarthy tweeted on February 1 2023:

> "The greatest threat to America is our debt." - @SpeakerMcCarthy.

On June 18th 2023 on "Meet the Press," former Vice President Pence described the Biden Administration fiscal approach as one of "insolvency" and talked about "the debt crisis" faced by our children and grandchildren.

In a Dec. 14 2023 ABC News interview, Nikki Haley blames former President Trump for "$8 trillion in debt that our kids are never going to forgive us for."

And Senators Mitt Romney (R-Utah) and Joe Manchin (D-W. Va.), along with Representatives Bill Huizenga (R-Michigan) and Scott Peters (D-California) wrote on January 18, 2024 in an article titled "National debt is the greatest threat to our country; it's time for Congress to act:"

> "In just 10 years, the national debt has more than doubled. Not only is this level of debt unsustainable ... . $34 trillion is a staggering amount of money. ... . Given the imminent nature of this crisis, continuing to turn a blind eye will only put the American Dream further out of reach for our children and grandchildren."

9.0.2   Bad things will eventually happen: Pundits, journalists, think tanks

Pundits, journalists, and think tanks also raise the alarm.

In the New York Times on Feb. 21 2023, Brian Riedl wrote:

> "Perhaps the president assumes the federal government can just borrow $116 trillion over three decades, on top of the current roughly $25 trillion in federal debt held by the public. But who will lend the government this much money?"

On May 23, 2023, just before the resolution of the debt ceiling crisis, Lisa Desjardins and Joshua Barajas for PBS Newshour wrote:

> "The other crisis involved here is longer term and slow moving. If the debt is allowed to grow at current rates, it will be unsustainable."

Catherine Rampell, Washington Post columnist, wrote in column on June 25 2023 that "our government is too large relative to the amount of tax revenue coming in."

On June 28th 2023 the politically non-partisan Concord Coalition issued a news release that noted with alarm the projections of the respected, non-partisan Congressional Budget Office (CBO) about current and future debt-to-GDP ratios:

> "Absent remedial action, our debt to GDP ratio will nearly double over the next 30 years, from 98 percent to 181 percent of GDP, and ... would far surpass previous highs."

On July 5th 2023 A New York Times editorial claimed that the debt is "unsustainable" without both higher taxes and changes to entitlement programs.

On July 11 2023 the Washington Post editorial board wrote: "We've seen how hard it is to fix the federal debt. But it's necessary."

On August 4th 2023 Washington Post columnist George Will wrote:

> "This nation is slouching into the most predictable fiscal crisis in its history."

On October 1, 2023, ABC news journalist Jonathan Karl, in conversation with Rep. Mike Lawler about Lawler's claim of 33 trillion "unsustainable" debt, says debt is "obviously a huge problem."

Notably, in a February 1st, 2024 interview with Scott Pelley of CBS News, Federal Reserve Chair Jerome Powell said that over the long run the U.S. is "on an unsustainable fiscal path," that "we're borrowing from future generations," and "every generation really should pay for the things that it needs" and "not hand the bills to our children and grandchildren."

And recently, in the June 10th 2024 *Financial Times* article[39], Patrick Jenkins writes about a prominent billionaire:

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[39] *Financial Times*: Opinion: Inside Business: The US budget is like an aggressive leveraged finance deal, by Patrick Jenkins, June 10, 2024

Hungarian-born brokerage billionaire Thomas Peterffy regaled me with stories of his business successes while also striking an alarming note about the debt burden. "It's inevitable," he predicted. "Whether it's five years from now, or 20 years from now, the US will default on its national debt."

On June 25 2024 the cochair of the Concord Coalition wrote in a Washington Post op-ed:

"We don't need another commission. We need the president and Congress to do their patriotic duty and lead. It's also their moral duty. This month, on the 80th anniversary of D-Day, we heard again about the sacrifices made by the Greatest Generation to save the world from Nazi barbarism. With every additional dollar of debt, we set the opposite example, sacrificing future generations to our own irresponsibility."

9.0.3   Bad things might happen: (mostly economists)

Journalist Steven Pearlstein wrote on February 15th 2023 in the Washington Post:

"By refusing to deal seriously with the fiscal time bomb, Democrats flirt with an economic calamity ... in just the past 15 years, the national debt has doubled as a percent of our national income... and that it would be risky to go any higher."

And economists join in. At a May 2023 conference, Laurence Summers and Gita Gopinath emphasized why they thought the CBO's projections were overly optimistic as regards the increases in U.S. government debt.

Olivier Blanchard–not noted as a fiscal fearmonger–even expresses concerns– muted compared to the politicians and pundits–in a March 11 2024 interview with the Financial Times:

" My sense is investors are not yet worried about being repaid if they hold Treasury bonds. For something to happen, it's going to have to be more and more evident that nothing is being done. And then what happens? As hard as it is to imagine, there might be an emerging credit spread on T-bonds or a failed auction. And then Congress and the president would have to sit down and decide to do the right thing."

And the Financial Times reports this in a March 26 2024 interview with director of the Congressional Budget Office:

"Phillip Swagel, director of the Congressional Budget Office, said the mounting US fiscal burden was on an "unprecedented" trajectory,

risking a crisis of the kind that sparked a run on the pound and the collapse of Truss's government in the UK in 2022.

"The danger, of course, is what the UK faced with former prime minister Truss, where policymakers tried to take an action, and then there's a market reaction to that action," Swagel said in an interview with the Financial Times.

Even Paul Krugman has expressed some enthusiasm for deficit reduction in his October 10 2023 New York Times column:

"So while we needn't panic over budget deficits, a lower deficit would really help with economic management right now."

10 Appendix C: The historical record of fiscal alarmism

Starting with the Reagan era at about 1980, deficit worries have continued non-stop. As Blinder (2022) put it:

Economists, editorial writers, and politicians alike all railed against large federal budget deficits over the decade that spanned the early 1980s to the early 1990s. Deficits would be a burden on our children and grandchildren ... threatened the nation with insolvency ... could crowd out business investment.

For example, in his acceptance speech at the Democratic National Convention preceding the 1984 presidential election, candidate Walter Mondale responded to the first-term Reagan tax cuts and the associated rise in the debt-to-GDP ratio from 31% to 37% by saying:

"The American people will have to pay Mr. Reagan's bills,. "The budget will be squeezed. Taxes will go up. ... It must be done. Mr. Reagan will raise taxes, and so will I. He won't tell you. I just did."

On balance, Reagan did not raise taxes during his second term, and the debt-to-GDP ratio continued to rise to 50% by the end of his term, even as the inflation-adjusted "real" interest rate on 10-year government bonds continued a long slow secular decline.[40]

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[40] About the revenue-neutrality of tax policy in Reagan's second term, see Blinder 2002. About real interest rates, see:

https://fred.stlouisfed.org/series/REAINTRATREARAT10Y.

We focus on the ten-year Treasury rate as a proxy for the rate on the government's debt. In fact, the rate on government debt tends to be slightly lower, perhaps because its average maturity is about seven years instead of ten.

For debt-to-GDP ratios see https://fred.stlouisfed.org/series/FYPUGDA188S

And in the 1992 presidential election, third-party candidate Ross Perot received almost 20% of the popular vote by running almost entirely on his belief in the need to balance the budget and pay down the national debt.

Also in 1992 the politically non-partisan Concord Coalition was founded–just as the deficit began to begin its climb to a surplus–with a mission to "speak out against the policies that have placed this great nation in financial jeopardy," namely fiscal deficits. The group's founding mission statement was to educate "the public about the causes and consequences of federal budget deficits, the long-term challenges facing America's unsustainable entitlement programs, and how to build a sound foundation for economic growth."[41]

But what is surprising is that the backdrop to this widespread concern with deficits was the continued decline in the real interest rate on 10-year government bonds–to about 3% in 1992–alongside the steady increase in the debt-to-GDP ratio from 30% at the beginning of Reagan's presidency to about 60% in 1992. Academic studies confirmed this. As Blinder (2022) noted:

> Interestingly, although the budget battles of the 1980s and 1990s were more about politics than economics, they were nonetheless reflected in the academic thinking and writing of the day. Scores of papers appeared on the effects (or lack thereof) and the sustainability (or lack thereof) of government budget deficits. One empirical finding got less attention than it should have, however: it proved to be surprisingly hard to find a reliable econometric link from larger deficits to higher interest rates (p. 184, Kindle Edition).

Nonetheless, fear of deficits–and what "bond vigilantes" might do to interest rates if nothing was done about deficits–led to deficit-reduction policies during the two terms of the Clinton presidency. The "deficit hawks" in the Clinton administration counseled that some ill-specified catastrophe would befall the nation if the deficit was not reduced–perhaps a debt spiral as investors fled the bond market, driving up interest costs and thus requiring even more borrowing. Obviously this hypothesis was not tested by experience, as the deficit disappeared by 1998. As noted by then-president Clinton in his January 1998 State of the Union address:

> For three decades, six Presidents have come before you to warn of the damage deficits pose to our nation. Tonight I come before you to announce that the federal deficit, once so incomprehensibly large that it had 11 zeros, will be, simply, zero.

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[41] This is from wikipedia, footnote 1: (https://en.wikipedia.org/wiki/Concord_Coalition), "Concord Coalition Mission Statement". Archived from the original on 2011-05-25. Retrieved 2012-02-03.

With the George W. Bush presidency, though, fiscal alarmism came back.[42] In March 11, 2003, Paul Krugman wrote in his New York Times column: "I'm terrified about what will happen to interest rates once financial markets wake up to the implications of skyrocketing budget deficits."[43] To be sure, the inflation-adjusted, i.e. "real" interest rate on 10-year government bonds did rise (sporadically) from about 1.22% in March of 2003 before peaking to about 2.45% in July of 2006, from whence it fell back to 1.39% at the end of 2007, when the financial crisis began to loom on the horizon.[44] The debt-to-GDP ratio went from 32.3% at the end of 2002 to 34.8% at the end of 2007. This was surely no crisis.

And published in 2004 was *Running on Empty: How the Democratic and Republican Parties Are Bankrupting Our Future and What Americans Can Do About It* by Peter G. Peterson. This was a sentiment that eventually led to the establishment of the Peter G. Peterson Foundation. This foundation was established in 2008 with a mission to "work with leading policy experts, elected officials, and the public to build support for solutions to put America on a sustainable fiscal path." [45] The real interest rate on 10-year government bonds in 2004 was about 1.7%. The debt-to-GDP ratio was 35%.

And in February 2009 on the eve of passage of the Obama-backed fiscal expansion dubbed "the recovery act," Brian Riedl, then at the Heritage Institution, was interviewed and said:[46]

> "The government is going to have to raise interest rates in order to convince people to lend them the full amount they need. We're already facing a deficit of $1.2 trillion this year, and 700 billion next year. We borrowed $700 billion for TARP, and now we're going to borrow $800 billion for this stimulus package. Compare those numbers to the entire public debt, which was 5.8 trillion up until a few months ago. It's going to be very difficult for a global economy, which is already in a recession, to supply the U.S. government with [$3 trillion] in new borrowing. Right now, a lot of banks are happy to buy Treasury bonds because they are safe investments . . . but

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[42] The Bush presidency embraced tax cuts and unfunded new programs, e.g., prescription drug benefits for Medicare. As the Administration prepared for a second-term further tax cut, Vice-President Cheney (in)famously told then Treasury Secretary Paul O'Neill: "Reagan proved deficits don't matter." (Chicago Tribune, January 12 2004, "O'Neill says Cheney told him "Deficits don't matter.")

[43] In his column on January 2 2012 Krugman aknowledges this as a mistake in which he "wrongly believed that markets would look at it the same way, and that they would lose faith in American governance, driving up interest rates on our debt. Instead, bond investors discounted the politics, and acted as if they believed that America would eventually pull itself together and start behaving responsibly." "Mistakes and How To Deal With Them," *New York Times*, January 2, 2012.

 What Krugman did not perhaps realize was that "behaving responsibly" might mean not worrying about the deficit as interest rates continued to fall even as deficits continued.

[44] See for this and for all other numbers on real interest rates on U.S. 10-year government bonds: https://fred.stlouisfed.org/series/REAINTRATREARAT10Y

[45] https://www.pgpf.org/about

[46] "The Case for No Stimulus" by David Freddoso, February 3, 2009, *National Review*

overall, that may not be enough. The government may have to raise
interest rates higher and higher and higher in order to persuade
people to lend their diminishing savings to the government. And
that's going to hurt the economy for a long time."

The real interest rate on 10-year government bonds then was about 1.04%.
The debt-to-GDP ratio at the end of 2008 was 34.8%.

On January 1, 2018, then-president Trump signed into law the Tax Cut and
Jobs Act, which was expected to (and did) worsen deficits. The real interest
rate on 10-year government bonds then was about 0.87%.

Reliably, the Concord Coalition's blog posted an entry titled "A Fairly Ugly
Picture': the Economic Risks of Current Fiscal Policy" on May 21 2018. The
post reported on a panel discussion (hosted by the Peter G. Peterson Founda-
tion) on "Dangers of Debt: How Our Fiscal Outlook Threatens the Economy."
In the discussion Steven Rattner, chairman and CEO of Willett Advisors, said:

> "I think the question I often get asked is, 'When are the markets
> going to react to this and understand this level of debt?' And I
> think I worry about two things. I worry about the possibility that
> the markets will react to this and we'll have a credit crisis of some
> sort — and I worry about the possibility that the markets won't
> react to this and we'll simply go on for the next 10 years without
> the markets ever revolting, so to speak."

The blog entry describes the panelists as agreeing that problem with the
second scenario is that "it might allow dangerous fiscal pressures and economic
risks to continue to grow for years."

And dependably, the Peter G. Peterson Foundation had a September 2018
press release with the following quote:

> ""With the mid-term elections six weeks away, Americans are con-
> cerned about our rapidly growing national debt, and how it impacts
> their future," said Michael A. Peterson, Chairman and CEO of the
> Peter G. Peterson Foundation. "They understand that our rising
> debt creates uncertainty and harms the overall economy, and their
> own economic prospects. Trillion-dollar deficits could return as early
> as next year, and voters understand that it's time to take action, be-
> cause the current outlook is unsustainable."[47]

And now, over thirty years after the founding of the Concord Coalition,
twenty years after publication of *Running on Empty*, and 15 years since the
Recovery Act, and seven years since the Trump tax cuts, the real interest rate
on 10-year government bonds fluctuates between one and two percent.[48]

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[47] https://www.pgpf.org/press-release/2018/09/fci-press-release

[48] The 10-year nominal yield has averaged about 4.2% over the last year (June 2023-June
2024), and was 4.28% on June 12 2024. It is forecasted to be slightly below 4% in about a

Sources: Cleveland Fed; OMB; St. Louis Fed   myf.red/g/1pJ7Y
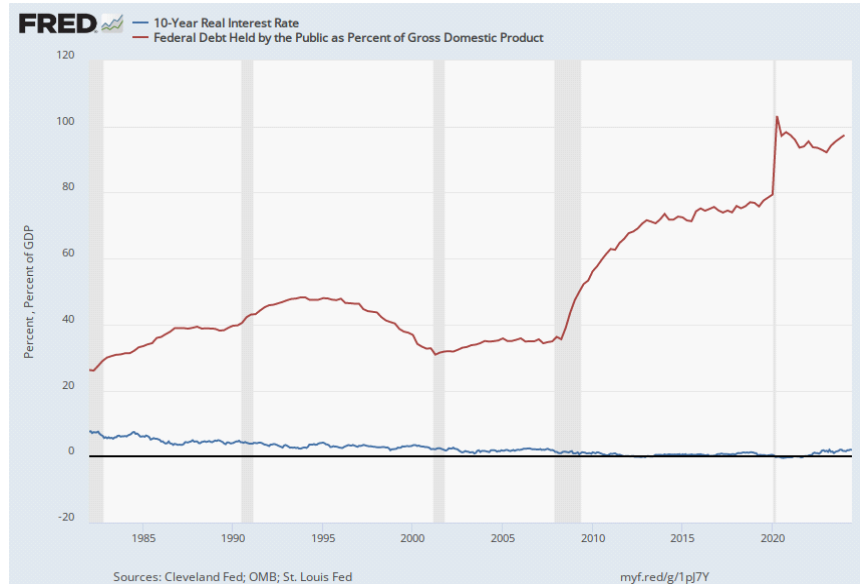
This is a track record for the fiscal alarmists that would make Chicken Little jealous. The following graph superimposes the debt-to-GDP ratio on the ten-year inflation-adjusted ("real") government bond rate from 1982 until now. The top line is the debt-to-GDP ratio. (recessions are shaded).

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year. Expected 10-year inflation on June 12 2024 was 2.45%. Thus the expected real rate might be thought of as about 1.5%.

Over the 12 months (June 2023-May 2024) the average from the St. Louis Federal Reserve series is 1.75%.

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