Written Statement of Eric M. Leeper*
to the Committee on the Budget
of the United States Senate
Hearing on

"Investing in the Future: Safeguarding Municipal Bonds from Climate Risks"
10 January 2024

Chairman Whitehouse, Ranking Member Grassley, committee members, thank you for inviting me to talk with you.

My testimony aims to broaden the perspective on the subject of this hearing by focusing on federal budget policy and its implications for financing expenditures associated with climate change. I draw on consensus economic theory about optimal public finance at the macroeconomic level and review recent developments in the market for Treasury securities.

1 Government Bond Valuation

Treasury securities and municipal bonds, like any assets, derive their value from expected future payoffs, discounted to the present. For government-issued bonds, those payoffs are budget surpluses, excluding interest payments, called "primary surpluses." Higher expected payoffs raise demand for and the value of bonds, so governments can borrow on more favorable terms.

This is not a controversial view, as it derives from the fact that government policies—fiscal and monetary—must "add up" to satisfy an accounting identity each period. A little

*Paul Goodloe McIntire Professor in Economics, Department of Economics, University of Virginia, Charlottesville, VA 22903-4182; eleeper@virginia.edu.

notation helps to make the concepts concrete.[1]

I adopt the accounting convention that gathers all government liabilities into a single object called "total privately-held government debt." Two government entities lie behind the budget condition—the Treasury and the Federal Reserve. Each entity has its own budget. Because the entities are part of the same government, economic analyses often consolidate the two budgets into a single "government" budget. Total government liabilities to the private sector include Treasury bills and bonds, currency, and bank reserves. Fed purchases of Treasury securities in the open market do not reduce total government indebtedness. They merely alter the maturity structure, ownership, and labeling of privately-held debt.[2]

The consolidated government budget identity may be written as[3]

$$\frac{Q_t^P B_t^P}{P_t} + T_t = G_t + \frac{Q_t^P B_{t-1}^P}{P_t}$$

where

Q_t^P = market price of total privately-held government—Treasury plus Federal Reserve —debt portfolio at t

B_t^P = total nominal privately-held government debt at t

P_t = aggregate price level at t

T_t = real value of tax receipts at t

G_t = real government outlays, excluding interest payments, at t

The left side of the budget identity reflects total sources of revenue broadly construed: tax revenues, T_t and new borrowing from the public, B_t^P, at the portfolio price of Q_t^P. Those

[1] This draws on the exposition in Anderson and Leeper (2023).

[2] In a series of important papers, Hall and Sargent (2011, 2022b, 2023) adopt a different convention that focuses on privately-held government bills and bonds, treating Fed holdings of Treasury securities as seigniorage.

[3] Anderson and Leeper (2023) describe how to arrive at this form of the consolidated budget identity.

revenues must equal total outlays: government spending plus redemptions of outstanding debt.

It is natural to measure government debt relative to the size of the economy by scaling everything in the budget identity by real GDP at time t, Y_t. Imposing this and manipulating the right side of the identity leads to useful interpretations of the spending side of the budget.

$$\frac{Q_t^P B_t^P}{P_t Y_t} + \frac{T_t}{Y_t} = \frac{G_t}{Y_t} + i_{t-1,t}^P \frac{Q_{t-1}^P B_{t-1}^P}{(1+\pi_t)(1+g_t)P_{t-1}Y_{t-1}} + \frac{Q_{t-1}^P B_{t-1}^P}{(1+\pi_t)(1+g_t)P_{t-1}Y_{t-1}}$$

where the new notation is

$$\begin{aligned} 1 + i_{t-1,t}^P &= \text{gross one-period nominal weighted holding period return on the total} \\ &\qquad \text{government portfolio between } t-1 \text{ and } t \\ 1 + \pi_t &= \text{gross rate of inflation} = P_t/P_{t-1} \\ 1 + g_t &= \text{gross growth rate of real GDP} = Y_t/Y_{t-1} \end{aligned}$$

On the right are three types of spending as shares of GDP—expenditures on goods, services, and transfers, interest on outstanding borrowing, and reduction in debt-GDP due to inflation and economic growth.

A final simplification of the budget identity defines the primary surplus, S_t, as total revenues less total spending—excluding interest payments on the debt—to give us

$$\frac{Q_t^P B_t^P}{P_t Y_t} + \frac{S_t}{Y_t} = \left(\frac{1 + i_{t-1,t}^P}{(1+\pi_t)(1+g_t)} \right) \frac{Q_{t-1}^P B_{t-1}^P}{P_{t-1}Y_{t-1}} \tag{1}$$

This budget identity lays out precisely how policy can meet its obligations. Start with the obvious ways: government can raise revenues or cut spending to increase the primary surplus or it can borrow more by selling new debt instruments at the price Q_t^P. These obvious ways receive most of the attention in policy discussions.

But the terms on the right side of the identity embody three other sources of financing.

First, the holding period return, $i^P_{t-1,t}$, is negative when debt prices at t fall below those in the previous period. By reducing returns on debt, debt-service costs and the debt-GDP ratio fall. Second, higher inflation—P_t and π_t—has two effects: it reduces the real return on existing debt and it reduces the real value of new debt. Most government debt instruments are a promise to repay in dollars. By eroding the purchasing power of those dollars, higher inflation makes repayment cheaper in terms of goods and services. Finally, because the identity expresses debt relative to total goods and services the economy produces, higher real GDP—Y_t and g_t—reduces both the (growth-adjusted) return and debt's share of the economy.

Real primary surpluses represent the government's command over resources that can be used to pay off debt while maintaining debt's purchasing power. If the government sells new bonds today that increase the debt-GDP ratio 1 percent, then investors expect the government will raise future surpluses (in present value) by 1 percent of current GDP. If instead investors believe the present value of surpluses will not change, then with no increased backing, the value of debt cannot increase. Even if the government sells more nominal bonds, their real value and share of GDP cannot change. Prices of debt and of goods and services must adjust to realign the value of debt with its backing.

We summarize how debt instruments are valued with an expression, derived from the government budget identity and some behavioral assumptions, that links the current value of the total government debt-GDP ratio to the present value of future surplus-GDP ratios[4]

$$\frac{Q^P_t B^P_t}{P_t Y_t} = \text{Expected discounted stream of } \frac{S_{t+1}}{Y_{t+1}}, \frac{S_{t+2}}{Y_{t+2}}, \frac{S_{t+3}}{Y_{t+3}}, \ldots \tag{2}$$

Expression (2) is an asset-pricing relation for government debt that lurks in most macroeconomic models. It says that the value of debt relative to the size of the economy can rise or fall only if the current value of expected backing—in the form of future real surpluses

[4]We assume investors make choices that eliminate all arbitrage opportunities across assets and that they do not over-accumulate saving.

relative to GDP—rises or falls. If legislation were to be enacted that raises the future path of primary surpluses relative to the economy, the right side of expression (2) would increase. By increasing expected real payoffs to debt, the legislation raises the demand for government bonds. To keep the reasoning simple, assume the fiscal news has no effect on nominal GDP (P_tY_t) initially. Then higher bond demand, with no change in bond supply, bids up bond prices today, so Q_t^P rises. Higher bond prices correspond with lower interest rates, so the government can borrow on more favorable terms.

2 Optimal Public Finance

Virtually all taxes that governments levy directly affect rates of return and, therefore, alter the margins that decision makers face. Payroll taxes, for example, reduce take-home pay and lower the after-tax return on labor. Big swings in payroll tax rates would induce correspondingly big swings in labor supply choices and after-tax income for workers. Because households generally seek to avoid big swings in their consumption—this is why people save to provide for lean days in the future—large fluctuations in tax rates reduce social welfare.[5]

This logic underpins the decision of whether to financing fluctuating government expenditures with taxes or borrowing. If a large temporary increase in spending—like that associated with Covid-relief—were to be financed contemporaneously with tax revenues, tax rates would need to jump up with the emergency spending and then decline sharply when the emergency ends. Tax distortions tend to rise at an increasing rate with the level of tax rates: the distortion in moving from a 10-percent to a 15-percent tax rate is less than in moving from a 20-percent to a 25-percent tax rate.

To make these ideas concrete, I examine three examples of spending patterns and how theory says the spending should be optimally financed. The examples are stylized—not

[5]Analogous arguments apply to fluctuations in various components of government expenditures. If infrastructure funding expires before a new bridge is completed, for example, society is worse off because resources have been wasted on an unusable bridge. For simplicity, the optimal financing literature that follows Barro (1979) and Lucas and Stokey (1983) treats government expenditures as given to focus on the optimal choice of tax vs. debt financing.

intended to be realistic—but they can be readily extended to more plausible cases.[6]

2.1 An Anticipated War of Known Duration

Government receives information at date 0 that in five periods spending will rise and remain elevated for three periods before returning to its initial level [see figure 1]. Optimal policy raises revenue immediately and permanently keeps it at that level. Until spending increases, positive primary surpluses retire debt. During the war, spending and borrowing rise. With constant revenue, policy runs primary deficits during the war. After the war ends, spending falls and the government returns to running positive primary surpluses to service the permanently higher level of debt.

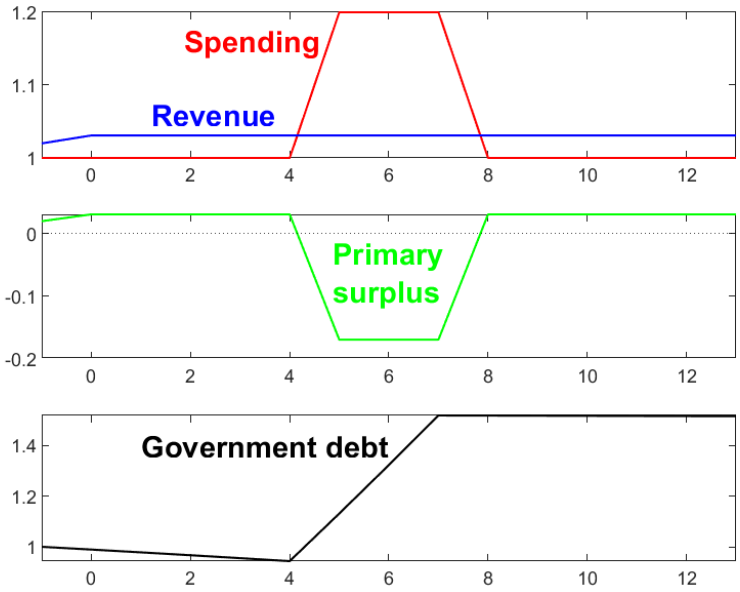

Figure 1: At date 0, government knows spending will rise in period 5 for 3 periods, then return to initial levels.

By raising revenue once and for all, the policy minimizes tax distortions. Importantly, policy must generate primary surpluses after the spending burst subsides in order to maintain

[6] I derive the figures below from a formal model with an infinitely-lived representative household and a constant equilibrium real interest rate. All variables are real, abstracting from inflation.

the value of outstanding government debt. As expression (2) implies, a higher level of debt requires a higher expected present value of primary surpluses.

2.2 One-Time Surprise Spending Increase

The second example resembles the Covid episode. Spending is expected to remain constant, but in period 2 there is a surprise increase in spending that lasts one period. Policy reacts to higher spending with a combination of somewhat higher revenue and new borrowing. Notice that the increase in revenue is only a tiny fraction of the increase in spending. The bulk of the financing is through borrowing. Elevated spending increases the primary deficit for one period.

As before, once the crisis passes, policy returns to running steady positive primary surpluses to sustain the higher level of debt.

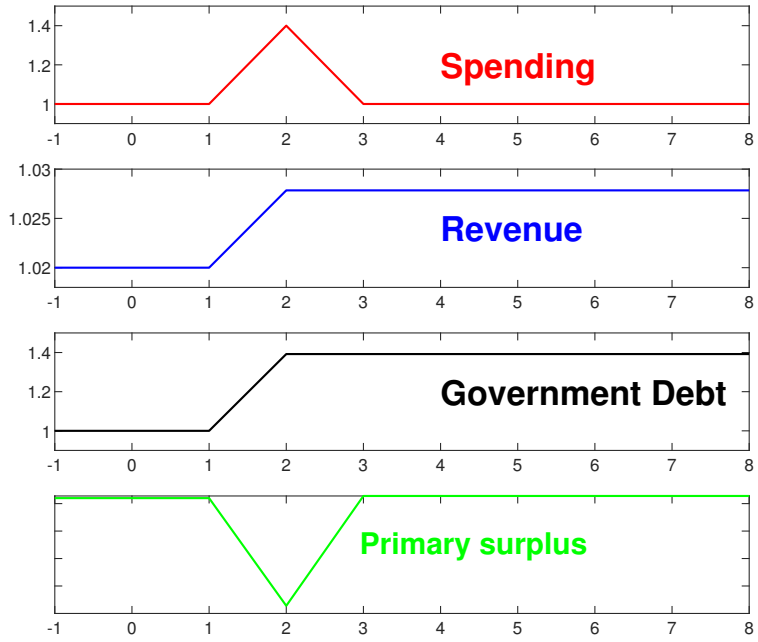

Figure 2: At date 0, spending is expected to be constant. It rises surprisingly for a single period at time 2.

2.3 Permanent Increase in Spending

The final example bears some resemblance to increased spending to deal with the consequences of climate change. At date 0, it is known that spending will rise permanently beginning in period 2. Figure 3 shows that optimal policy raises revenue before spending rises and then maintains revenue above the new level of spending. In the initial periods policy runs a substantial surplus, which reduces the level of debt.

Notice that permanent spending requires permanent revenue. This is because it is not feasible to finance the spending by borrowing. Doing so would make government debt explode, which cannot be sustained indefinitely.

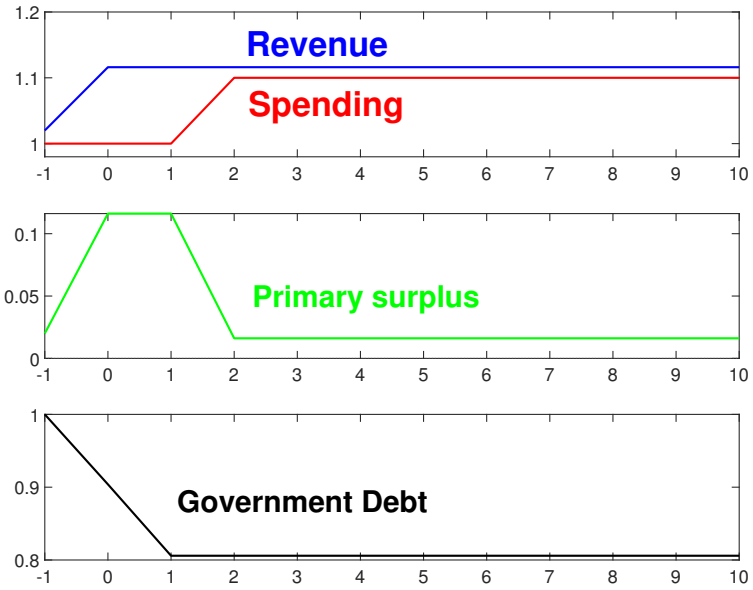

Figure 3: At date 0, government knows spending will rise permanently beginning in period 1.

These examples treat spending as beyond the control of policy. An alternative specification would permit some other component of spending to adjust to compensate for the component that rises.[7] That analysis, while feasible, requires far more detailed modeling.

[7] If spending components involve government investment, rather than consumption—as is true of some

2.4 Hall and Sargent's Three Wars

In a series of papers, Hall and Sargent (2022a,b, 2023) examine the financing of spending during World Wars I and II and the Covid period to ask how closely actual behavior aligns with the theory just explained. Figure 4 plots federal spending and receipts since 1900, including Congressional Budget Office projections for 2022–2031.[8]

Outlays in the blue line exhibit three spikes associated with World War I, World War II, and Covid-19. During the world wars, receipts in the orange line rose but by only a fraction of the increases in spending: most of the war expenditures were financed by borrowing. The pattern resembles the war of known duration in the example in section 2.1. Actual outcomes, unlike the example, do not contain the anticipatory "pre-financing" in figure 1, where revenue exceeds spending before the war. But as in the optimal financing example, government ran primary surpluses for several years after the wars ended.

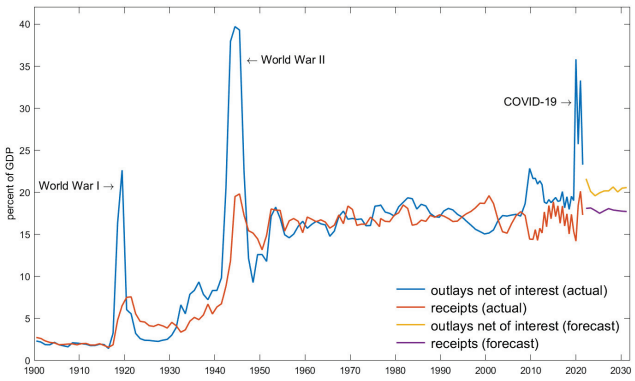

Figure 4: U.S. federal government expenditures and receipts: 1900–2031 from figure 2 in Hall and Sargent (2022a).

How things will play out after the fight against Covid remains to be seen. Most of the increase in Covid-related spending was financed by borrowing. CBO does not project post-

types of infrastructure spending—optimal financing becomes more complex because the rate of return on the spending must be taken into account. Leeper, Walker, and Yang (2010) examine fiscal multipliers for infrastructure investments.

[8] Outlays are net of official interest payments. 1900–2010 annual by fiscal year; 2011-present monthly data aggregated to 6-month periods. Outlays and receipts from 2022–2031 are computed using CBO projections.

Covid primary surpluses. Instead, primary deficits are expected to persist over the projection period.

Optimal public finance theory provides a useful benchmark for policy makers. The theory reports how to finance bursts in government expenditures in the least-distorting manner, with the goal of maximizing social welfare.

3 Treasury Market Developments

Optimal public finance *presumes* there is a robust market for government debt instruments in which the government never defaults or reduces its liabilities through inflation. The actual U.S. Treasury market has often functioned close to that theoretical ideal. Since the Covid period, some troubling signs of weakness have emerged from that market.

3.1 The Value of Treasurys

Return to the expression for the market value of debt as a share of GDP in expressions (1) and (2). B_t^P is the face (or par) value of the total U.S. government bond portfolio and Q_t^P is the price of that portfolio.[9] Figure 5 plots the par value (blue line) and market value (red line) of debt as a percentage of GDP from the 2020-Q1 to 2023-Q3. The par value ratio rose 14 percentage points, while the market value share *fell* 2 percentage points.

The difference between the two measures is accounted for entirely by the price of the bond portfolio, Q_t^P. Figure 6 tells the story. Since the beginning of Covid the price of the Treasury bond portfolio has declined 18 percent. The figure places this decline in historical context: the price is currently at levels not seen since the late 1970s. The recent drop in price is the sharpest and fastest in the post-war period.

[9] In what follows, I use the marketable debt definition and the face value and market values of that definition, as computed by the Federal Reserve Bank of Dallas, available at https://www.dallasfed.org/research/econdata/govdebt. I compute the price of the portfolio by dividing the market value by the face value. Marketable debt includes debt held by the public and by the Federal Reserve.

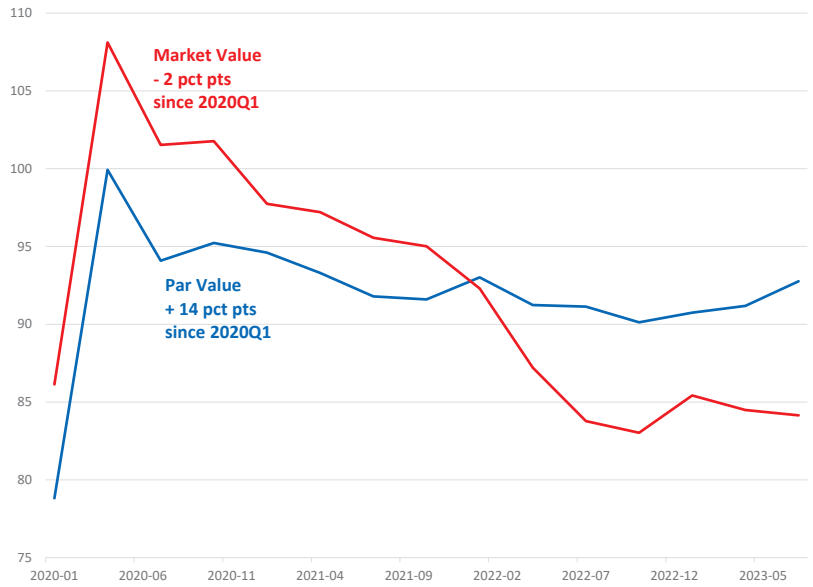

Figure 5: Face value—blue line—and market value—red line—of marketable Treasury debt as a share of nominal GDP from 2020-Q1 to 2023-Q3.

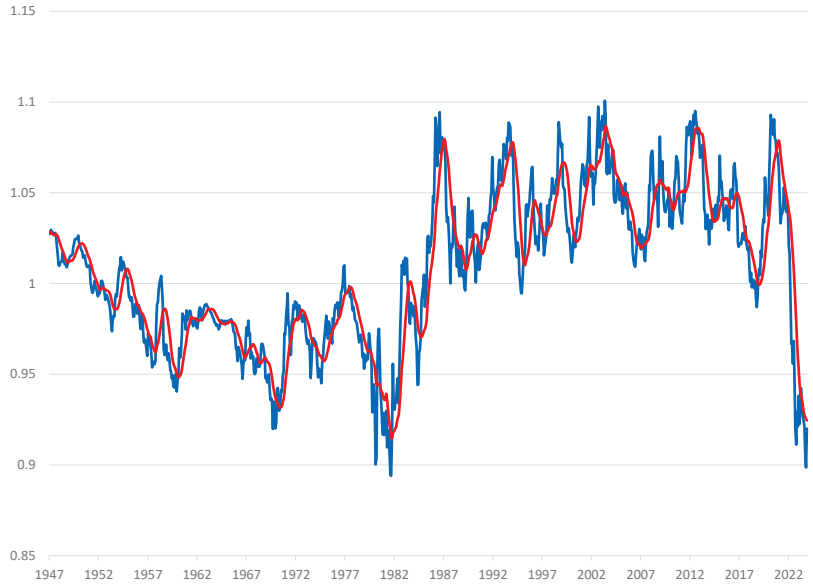

Figure 6: Price of the bond portfolio, Q_t^P, from January 1947 to November 2023. Blue line is actual data and red line is a smoothed, one-year moving average.

3.2 Recent Treasury Auctions

Treasury auctions in the last quarter of 2023 showed marked weakness compared to normal. Wallerstein (2023) describes the difficulties the Treasury has had selling new bonds,

particularly at longer maturities. Two direct signs of auction weakness have emerged: primary dealers, who are required to place bids, end up buying more bonds; the government ends up selling bonds at lower prices than the market expected (called "tailing auctions"). November's auction had "a massive tail by historical standards," according to Wallerstein, and primary dealers bought more than twice as much as they usually do.

The secondary market for Treasurys has shown unusual volatility. The 10-year yield peaked at 5 percent in October and has since fallen to below 4 percent. And in 2022 the Bloomberg aggregate bond index lost 13 percent, before rebounding in 2023 with the prospect of interest rate cuts by the Fed [Wallerstein (2024)]. Large movements in long yields over short periods may reflect increased uncertainty about fiscal financing.

3.3 Interest Payments of the Debt

Interest payments on outstanding debt is one of the first places in which monetary policy actions have fiscal consequences.[10] When the Fed cuts the federal funds rate and the rate on reserves, both short-term rates, it reduces incentives for the banking industry to sit on its liquidity and collect interest. The lower the rate, the stronger the incentives for households and businesses to borrow to finance their consumption and investment choices. This is the conventional channel for monetary stimulus, which the Fed pursued for two years starting in March 2020.

The short-term policy interest rate is woven into the fabric of financial markets. Current and expected future rates cascade to affect decisions that banks, firms, and households make. All interest rates tend to rise or fall with the path of short rates. Easier monetary policy in 2020 raised bond prices and reduced interest payments from the Treasury to debt holders. Fed tightening triggered opposite movements. Figure 7 plots interest payments as a share of non-interest federal expenditures. Payments rose slowly in 2021 as borrowing expanded but interest rates remained low. Since the Fed started to tighten in 2022, interest payments

[10] This section draws on Anderson and Leeper (2023).

have risen rapidly. With those interest payments, marketable Treasury debt has grown over $2 trillion in the first 11 months of 2023.

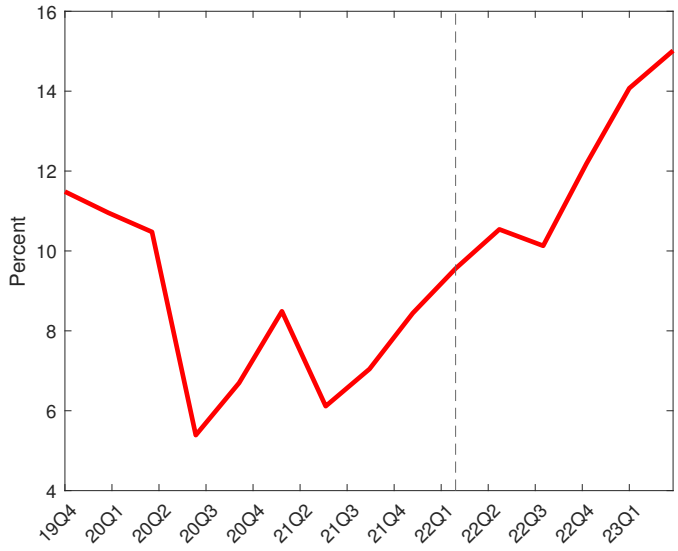

Figure 7: Interest payments on Treasury bonds as percentage of federal expenditures less interest payments. Vertical line marks beginning of Fed tightening.

It matters how the government chooses to finance rising interest payments. Will primary surpluses rise or will government borrow to meet interest needs? If Congress chooses to roll interest payments into more rapid growth in nominal debt, we can expect more inflation in the future. A higher expected path of interest rates reduces bond prices, so the market value of debt declines with no change in face value. The immediate impact on inflation is beneficial because the price level can fall along with bond prices to maintain the debt-GDP ratio in valuation equation (2). But this is only the immediate impact.

Fed tightening raises real rates in the short run and future interest payments over longer horizons. The shorter the maturity structure of government debt, the sooner the interest-rate impacts on interest payments show up. As monetary policy's impacts on real rates diminish, we are left only with higher interest payments on the debt. Eventually a higher average funds rate manifests as a higher inflation rate. Fed efforts to combat fiscal inflation are ephemeral: tighter monetary policy pushes inflation into the future, but it cannot eliminate the inflation

that Covid spending triggered.

4 The Hamilton Norm

Over many years, stable democracies have developed certain norms for policy behavior.[11] In the United States and elsewhere, monetary norms have emerged largely from the legislative process. Central banks' responsibilities and powers have adjusted, sometimes rapidly, to prevailing economic conditions. But they are lodged in law.

American fiscal norms, in contrast, are not codified. They have evolved informally over the country's history and owe much to Hamilton's understanding of dynamic economic behavior.[12,13] For example, the United States has earned a reputation for repaying, rather than inflating away or defaulting on its public debt. This reputation is sustained without formal commitments of a gold standard, collateral or other recourse, specific streams of revenues tied to repayment, or other devices common through history.

Despite their informal nature, fiscal norms have imposed constraints on fiscal institutions in the sense that North (1990) describes. Today Hamilton's monetary vision has been realized: U.S. treasurys possess the unique status as the world's go-to safe asset and perform a central role in global financial markets. Treasurys serve many of the functions of money throughout the world.

There are troubling signs that American fiscal norms may be eroding. Recurring nibbling away at fiscal norms is bound eventually to affect what people expect of fiscal policy. Those expectations feed directly into bond prices, inflation, and real economic activity. They can also undermine the desired impacts of monetary policy.

In light of economic and policy developments since the global financial crisis, it is useful to step back to ask what policy norms now exist. If we can agree on today's norms, we can

[11] This section draws heavily on Leeper (2022b).

[12] A large number of countries have adopted formal and informal, frequently explicit, rules to govern fiscal behavior. The IMF maintains a dataset on fiscal rules [International Monetary Fund (2017)].

[13] Sargent (2012) makes closely related points, but in more detail and with greater eloquence.

then ask if the norms will serve us well going forward.

What is a "norm?" It is *not* a policy objective. Monetary policy objectives have not changed recently. They remain full employment, stable prices, and well-functioning financial markets. But central bank behavior has changed markedly.

Fiscal policy objectives in the United States have always been anyone's guess. Fiscal priorities vary with the party in power, as they should in a democracy. But it's not clear what, if any, macroeconomic objectives have remained constant across time.

In the absence of consistent macroeconomic fiscal objectives, norms take on greater importance. Norms are patterns of behavior that are relatively stable or change in predictable ways over time.

4.1 American Fiscal Norms

I emphasize three norms that have guided fiscal decisions in the United States.

Alexander Hamilton's (1790) *Report on Public Credit* established America's primary fiscal norm:

> **Fiscal Norm #1:** Deficits beget surpluses to repay debt in full.

Hamilton's *Report* lists several benefits that flow from this norm; for our purposes I highlight two. The first is that "proper provision for the public debt" arises when it is "well funded" and "has acquired an *adequate* and *stable* value" (p. 3, emphasis in original). This ensures that a government that borrows will be able to borrow again, should the need arise. The norm anchors fiscal expectations, a point that Sargent (2012) emphasizes.[14]

A second benefit, particularly relevant today, was to establish a robust market for government debt to grow the financial system. Hamilton foresaw the advantages of public debt as a "*substitute* for money" (p. 3, emphasis in original). Because money then was commodity money, it was fully backed. Any substitute for money would have to be similarly backed,

[14]See also Gordon (1997) for further discussion of the *Report*.

requiring confidence that new debt issuances would ultimately bring forth higher taxes.[15]

The history of government debt in the United States is one of run ups, usually due to wars, and retirements [Hall and Sargent (2021)]. This is even true in the past 75 years under a fiat currency regime [Hall and Sargent (2011)]. Since 2008, government debt in advanced economies looks more like a step function, as table 1 shows. And in the United States there seem to be no plans for returning government debt to pre-2008 levels.

Is Hamilton's norm on shaky ground? Do doubts that the norm will be maintained affect the moneyness of public debt?

	2006	**2016**	**2021**
Canada	69.4	91.7	116.3
France	63.6	98.0	115.2
Germany	67.6	69.3	70.3
Japan	191.3	232.5	256.5
United Kingdom	43.1	86.8	107.1
United States	61.1	106.6	132.8
Advanced countries	73.8	105.5	122.5

Table 1: General government gross debt as a percentage of GDP. Source: IMF, *Fiscal Monitor*, various issues.

A second norm, supported by modern macroeconomic theory, has been applied off and on in the United States:

> **Fiscal Norm #2:** Ordinary and emergency spending may be differently financed.

Emergency spending usually applies to wars, but the argument can be extended to any emergency that calls for substantial, but temporary, deficit spending. Hall and Sargent (2021) examine 10 historical episodes of emergency spending to understand how it was financed, contrasting the prescriptions of Barro (1979) and Lucas and Stokey (1983). Barro's

[15]This point about fiscal backing for "money" is implicit in, but frequently ignored by modern monetary theory discussions. See Leeper (2022a) for further analysis of MMT.

policy leaves *ex-post* returns on government bonds unchanged, while Lucas and Stokey's policy adjusts *ex-post* returns to bond holders.[16]

One interpretation of the norm is that ordinary spending—what would occur without the emergency—should be financed by taxes, while emergency spending may be financed in part by surprise changes in inflation and bond prices, which reduce *ex post* real returns on the debt. Franklin D. Roosevelt adopted this norm when he took office in 1933. Roosevelt's treasury maintained a dual budget, which differentiated between ordinary spending and the emergency spending that aimed to fight the Great Depression. Roosevelt balanced the ordinary budget, but pledged to run debt-financed deficits on the emergency budget until the economy recovered. Jacobson, Leeper, and Preston (2023) argue that differently financed emergency spending raised the price level and output by more than would tax-financed spending. Bianchi, Faccini, and Melosi (2023) and Barro and Bianchi (2023) apply this reasoning to Covid spending.

The U.S. federal government has spent $4.3 trillion in Covid-19 related programs and appropriated $4.6 trillion [see usaspending.gov]. This is not unlike fighting a temporary war. Although there has been extensive political debate about how to pay for proposed infrastructure spending, little discussion of financing accompanied the Covid-19 bills.

This is a missed opportunity. Covid bonds could have been issued to support the spending, along with a clear statement from policy makers that taxes will not rise to finance the debt until the crisis is well passed and the economy has recovered. With FDR's experiment as a guide, this approach would have delivered larger stimulus to demand. Should we assume the norm is operative?

A third fiscal norm comes from an observation based on American fiscal behavior since World War II:

Fiscal Norm #3: Fiscal consolidation occurs when interest payments on

[16]Recent work in models with nominal rigidities finds that jointly optimal monetary and fiscal policies finance fiscal needs with a combination of taxes and surprise inflation and bond prices that create capital gains and losses to bond holders [Sims (2013), Leeper, Leith, and Liu (2021), Leeper and Zhou (2021)]. In that work, optimal fiscal finance depends explicitly on the maturity structure of government debt.

outstanding debt become a sufficiently large fraction of federal expenditures.

Three major consolidations—late 1940s, second half of 1980s, mid-1990s—were prompted by high debt service. Political dynamics behind the reforms are easy to understand. Elected officials don't feel the bite of debt service until it crowds out spending programs that observably benefit their constituents.[17]

Secretary of the Treasury Janet Yellen sought to tamp down inflation concerns by reassuring people that "The Federal Reserve has the tools to address inflation, should it arise."[18] To be sure, Paul Volcker showed a doubting world that a central bank with sufficient resolve can wring inflation out of the economy.[19] But today's fiscal setting is very different. In 1980, the debt-GDP ratio was about 25 percent; now it is 100 percent. Today a five percentage point increase in interest rates raises debt service about $1 trillion. The prevailing level of debt amplifies the fiscal consequences of monetary policy.

Fiscal consequences of these magnitudes require large consolidations that will put the third fiscal norm to the test.

4.2 Fragility of Fiscal Norms

For better or worse, fiscal policy decisions are inherently political. Broad acceptance of norms limits the range of possible fiscal outcomes. Norms arise from clear consensus about how to conduct policy. As consensus erodes, so too do the norms. Legislation to raise the American debt ceiling or even to keep the federal government running have become political footballs, battled over for reasons unrelated to fiscal policy. The "fiscal cliff" in 2013 grew from a confluence of fiscal choices based on political expediency, rather than sound policy. In 2016 one presidential candidate floated a muddled idea that some observers interpreted as renegotiating Treasury securities contracts. Some elected officials at the other end of the political spectrum have embraced Modern Monetary Theory's key prescription to print

[17] See Leeper (2023) for more discussion.

[18] On "Meet the Press," 2 May 2021.

[19] Although Silber's (2012) biography of Volcker, with which I wholly agree, emphasizes the central role of fiscal reforms in the success of Volcker's disinflation efforts.

money to pay for government spending. Viewed as a pattern, these factors cast doubt on the durability of America's most venerable fiscal norm.

If centuries-old norms like Hamilton's can be wantonly tossed aside, they are powerless to prevent fiscal policy from being a source of instability in the economy. Perhaps the time has come to institutionalize the norms through rules and procedures that bite.

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