

ORIGINS OF US INFLATION

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Many discussions of the history of inflation from 1950 through the early 1980's focus on the interaction of monetary policy with apparently "exogenous" shocks, or even attribute the rise and eventual fall of inflation as entirely due to monetary policy actions. The fiscal theory of the price level (FTPL) points out that every monetary policy action has fiscal consequences, that the fiscal policy response to monetary policy actions can modify their effects, and that changes in fiscal policy can change inflation. It is therefore certainly worthwhile to bring the history of fiscal policy into the narrative.

This paper, after a brief informal characterization of FTPL, develops a narrative of the interaction of fiscal policy and inflation from 1950 through the early 1980's, that ignores monetary policy. This is in the spirit of monetarist and New Keynesian narratives that, while admitting that fiscal policy could matter, treat it as background, part of the "transmission mechanism" that determines the effects of monetary policy. We will instead treat monetary policy that way.

This narrative, though, has to compete with others that are widely accepted. One story, for example, is that inflation rose through the 1960's and 1970's because monetary policy makers believed through the 1970's in a "long run Phillips Curve" that justified accepting increasing inflation as a side effect of lower unemployment. Another, related, idea is that inflation is an entirely monetary phenomenon, that monetary policy responded too feebly to inflation until Paul Volcker took office as the Fed chairman, and that when he took sufficiently strong monetary policy action the inflation ended, despite being accompanied by expansionary fiscal policy. We will discuss these alternative narratives.

The recent inflation and large fiscal deficits, following a long period in which monetary policy persistently failed to bring inflation up to its target, has increased interest in FTPL and its possible implications for current policy and projections. We will conclude by looking at similarities and differences between the current fiscal policy and inflation situation and possible historical analogues.

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I. FTPL AS A WAY OF THINKING: WITHOUT EQUATIONS

The quantity theory offers a simple causal story about price level determination. The government controls the stock of non-interest-bearing “money”, which the public is willing to hold, despite its zero rate of return, because it finds this type of asset useful, for “transactions”. But what is demanded by the public is not the dollar stock of money M , but real balances M/P . If the government issues more M , P must increase to bring M/P in line with the public’s demand. There is an intuitive story about the mechanism generating the adjustment, too: If M increased and P initially did not, people would find themselves with more real balances than they want, and would try to spend down the excess, thereby generating the required inflation.

But in modern rich economies, non-interest-bearing money is a relatively small part of government liabilities. Interest bearing government debt (which now in most countries includes central bank reserve deposits) is valued not only for its possible “transactions” or “liquidity” services, but also for the return it offers. It remains true that the public values real debt B/P , not its numerator nominal debt B , and thus that when the government issues more liabilities $B + M$ than the total real value that the public wants, P must adjust, by the same argument and the same mechanism as applies in the quantity theory. However, unlike the transactions value of real balances, the yield on government interest-bearing debt is under direct policy control. Thus for example if the government increases $B + M$, it can avoid putting upward pressure on prices by appropriately increasing the rate of return on B at the same time, so the public demand for debt grows with its supply.

The causal story about price level determination in FTPL, then, is not simple. The government has in one **sense two, not three, levers that affect the equilibrium P** — the quantity of debt $B + M$, and the **return on interest-bearing debt**. But there’s an additional layer of complication. One of these two levers, the return on government debt, **requires the government to turn over to the holders of interest-bearing debt some real resources each period**. To obtain the resources **to pay this return, the government has to tax beyond what would be necessary to finance current expenditures**. The “return on government debt” policy lever, therefore, has **two components — the interest rate on government debt and the deficit or surplus of the government budget**.

Government debt is an asset, and its value therefore depends not only on its current return, but also on the discounted present value of all its future returns. The returns flowing to debt holders consist of interest payments, liquidity or transactions services provided by some components of the debt, capital gains and losses, and net redemptions of outstanding debt. Usually transactions services, measured by the gap between the return on government debt and that on non-government liabilities, are much smaller than the other components of the return on debt. If we ignore that component of the return, the relation between the real value of the debt

and future fiscal and interest rate policy is summarized by saying that **the real value of the debt is the discounted present value of the stream of future real primary surpluses, where the primary surplus is interest payments plus the gap between current non-interest expenditures and current government revenues.**

The math behind this relation of the value of government debt to future primary surpluses is the same as that behind the valuation of stock in a private business as the discounted present value of future net cash flows. Just as with equity prices, the future flows being discounted are highly uncertain, people may disagree about them, and beliefs about the future underlying current valuations can turn out to be quite wrong. The valuation of government debt as the discounted present value of primary surpluses does not provide a precise, uncontroversial, stable answer. Nonetheless, **thinking of the price level as determined by the balance between outstanding nominal debt B and discounted future fiscal effort is useful in understanding how policy affects inflation, even outside the context of rational expectations models.**

As anyone familiar with the literature will have seen, this non-technical summary of FTPL omits many important qualifications, extensions, and complications.¹ But it should be adequate to support our discussion of the history.

$$B/P = E(S)/(1+r) ??$$

(s being surplus)

II. FISCAL POLICY AND INFLATION

As can be seen in Figure 1 The history of US inflation from 1950 through the 1980's consists mainly of three major episodes: **The high inflation at the time of the Korean War in 1951-53, the steady upward trend in inflation from the late 1960's through the 1970's, and the reduction of inflation in the 1980's.**

II.1. Korean War inflation. The Korean War started in mid-1950. For the five quarters up through 1950:I, the US had run modest primary deficits (2-3% at annual rates, as a percentage of outstanding debt). In the latter half of 1950, as the war began, President Truman proposed, and Congress passed, major tax increases. Truman regarded the World War II fiscal policy, which made heavy use of debt finance and inflation, as a mistake.² The result was a switch to large primary surpluses, peaking at 12.5% in 1951:I, but remaining in surplus until the end of 1953.

However, though both Truman and Eisenhower prioritized budget balance because they thought deficits were likely to produce inflation, the primary surpluses did not prevent inflation. Inflation had been low or negative for the five quarters through 1950:I, but switched to high and positive in the latter half of 1950, running 8.5%, 7.4% and 14.2% in 1950:III through 1951:I. People had the recent experience of living with inflation, shortages, and rationing during World War II, and expected the outbreak of a new war to revive the inflation. If the public had had perfect foresight,

¹See Cochrane (2023).

²See Ohanian (1997) for discussion of the contrast in fiscal policies.

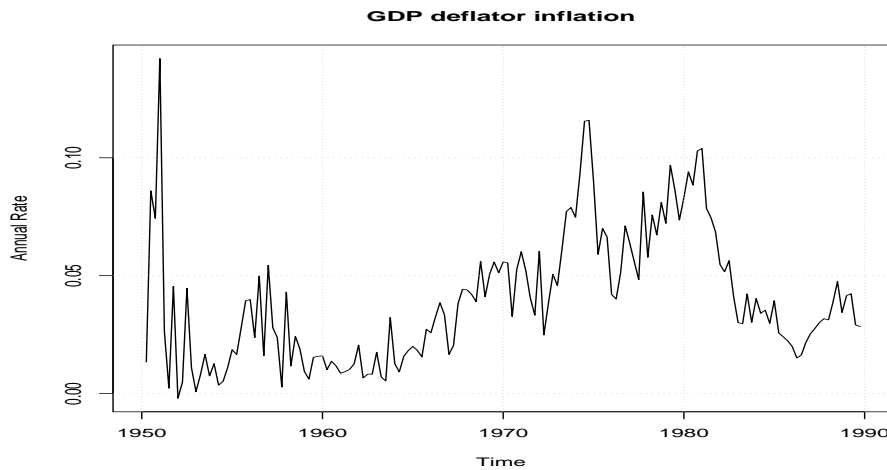


FIGURE 1

Quarterly differences of the log of the GDP deflator, multiplied by 400 to convert to annual percentage rate.

or had simply read the newspapers and trusted that government would deliver the promised fiscal stringency and low inflation, the inflation would not have occurred.

The inflation dropped suddenly in 1951:II to 2.6% and remained low through the war and several years thereafter. One explanation for this is that price controls were introduced. On the other hand, when the price controls were removed at the end of the war, there was no burst of inflation, suggesting that they were probably not strongly binding. And of course another explanation is that people realized that this war was not being financed like World War II: nominal debt actually fell over the course of the war.

This episode illustrates the strength of the effects of expectations about future fiscal policy, even when those expectations turn out to be mistaken. Also, the notion that there is a stable “persistence of inflation” is ruled out if we include this episode. Here fiscal policy action, with no change in monetary policy, promptly reduced high inflation.

II.2. The long rise of inflation from the 60’s through the 70’s. In the 1950’s, the notion that deficits were dangerous, and dangerous because they threatened to cause inflation, was common among policy makers. In February 1953 at a news conference Eisenhower (1953) said:

But I believe, and I think this can be demonstrated as fact by economists, both on the basis of history and on their theoretical and abstract reasoning, that until the deficit is eliminated from our budget, there is no hope of keeping our money stable. It is bound to continue to be cheapened, and if it is cheapened, then the necessary expenses of government each year cost more because the

money is worth less. Therefore, there is no end to the inflation; there is finally no end to taxation; and the eventual result would, of course, be catastrophe.

President Kennedy, though he campaigned promising a balanced budget, appointed a stellar crew of Keynesian academic economists to his Council of Economic Advisers and proposed an avowedly countercyclical tax cut. This was at time when the US was recovering from recession and, by the OMB budget, was running a deficit.³

This was a major shift in the policy rhetoric about fiscal policy, but was not in itself a dramatic fiscal policy intervention. Figure 2 shows the time path of the ratio of the primary deficit to the market value of the debt. This normalization of the deficit time series makes sense from the perspective of FTPL. **The primary surplus, divided by the debt, is the realized rate of return to holders of the government debt.** Its average over long spans of time reflects **the rate of return bond investors require.** A standard Keynesian framework might focus on the ratio of the conventional deficit (including interest expense) to the level of GDP, with expenditure flows and multipliers in mind. FTPL suggests instead that the pressure on prices from a given deficit to GDP ratio will be smaller when the level of debt is higher.

From the Figure we see that the primary deficit was negative until late in the 1960's. The 1964 tax cut took place in the context of primary surpluses and did not in itself lead to primary deficits. In fact conventional deficits, including interest expense, also remained negative by the NIPA measure, through 1966. It is unsurprising then, that inflation also remained low at first after the 1964 tax cut. But starting in late 1965, as Vietnam War spending increased, inflation began rising. Blinder (2022) argues that the inflation reflected the fact that the Johnson administration ignored the suggestion of most of its economic advisers that fiscal restraint was needed to avoid inflation. A temporary tax surcharge in 1968 did increase the primary surplus, to a peak of 12.5% in 1969:I, but inflation nonetheless accelerated. Primary deficits became positive in mid-1970 and remained positive, except for 1973-74 until 1978. In 1975, the Ford administration passed a tax cut that pushed the primary deficit, as a fraction of the debt, to over 20% at an annual rate, and it remained over 4.9% for the next six quarters.

Inflation did not respond directly to year by year fluctuations in the primary deficit, but it trended steadily upward in reaction to the underlying political economy that was revealing itself. The initial Kennedy tax cut reflected a changed reaction to deficits and a willingness to use them to stimulate growth — on the part of the Democrats. Bond buyers may still have thought that fear of deficits would return with the return to power of the Republicans. But in losing the presidency to Kennedy, Richard Nixon learned the lesson that Arthur Burns was trying to teach him and Eisenhower, that manipulation of aggregate demand had political as well

³Here and at many other points in this discussion I have made heavy use of Blinder (2022), though he is unlikely to agree with all of my interpretation of the history.

as economic effects. Blinder 2022, p.62 quotes Nixon as saying in 1971 that he was “now a Keynesian in economics”. The Republicans, not just the Democrats, had lost their fear of deficits. Then in 1975, a Republican president proposed and passed a tax cut that created the biggest primary deficit relative to debt since World War II. It was not even matched in size by the recent pandemic deficits (though of course this reflects the much higher value of the denominator in the 2020’s). Principled Keynesian economists might recommend fiscal restraint in the face of inflation, but it did not often occur.⁴

Another component of the political economy of the 1970’s was the rise of monetarism. Monetarism was the conservative counterpart to Keynesianism. It focused almost entirely on monetary policy in discussion of inflation-control policy, and its proponents often claimed that monetary policy *alone* was capable of controlling inflation. This seemed to suggest that the 1950’s fear of deficits as inducing inflation was unnecessary: **regardless of the path of fiscal policy, monetary policy could keep prices stable**. Sargent and Wallace (1981) showed (but not until 1981!) **that this was not true, but their insight was seen as new, after the 1970’s. Policy-makers in the 1980’s still acted, and even spoke, as if deficits and inflation had no connection** — a big change from Eisenhower’s 1953 press conference statement.

What about the widely held belief that Arthur Burns fed the inflation by failing to have the Fed respond to rising inflation with sufficiently large interest rate increases? The fact is, as we can see in Figure 3, the Fed did raise interest rates promptly in response to bursts of inflation, and this worked to bring inflation down. Interest rates then followed inflation down, but then again back up. The problem may have been that **standard Taylor rule dynamics was not capable of capping the longer term upward trend in inflation so long as the shift to larger and larger countercyclical deficits was not seen as ending**.

II.2.1. *Sidebar: Did policy makers try to run up the Phillips curve, until they learned it was unstable?* This section will discuss critically the econometric modeling by Sargent, Williams, Zha, Cogley and Primiceri, in various combinations of co-authorship that attempts to explain the rise in inflation as the consequence of policy makers believing in, and learning about, the Phillips Curve.

II.3. **Inflation ends in the 1980’s.** With the Reagan administration running large deficits, Volcker maintaining high interest rates, and inflation dropping, **the 80’s might seem a clear case of tight money ending inflation despite very loose fiscal policy**. But in this period the gap between primary and ordinary deficits was larger, for longer, than in any other part of the 1950-2023 period. As can be seen in Figure 4,

⁴(Blinder, 2022, p.27) says that it is hard to find any examples of counter-cyclical (as opposed to simple debt or deficit reduction) fiscal contractions in US postwar history, other than the Johnson temporary surcharge in 1968.

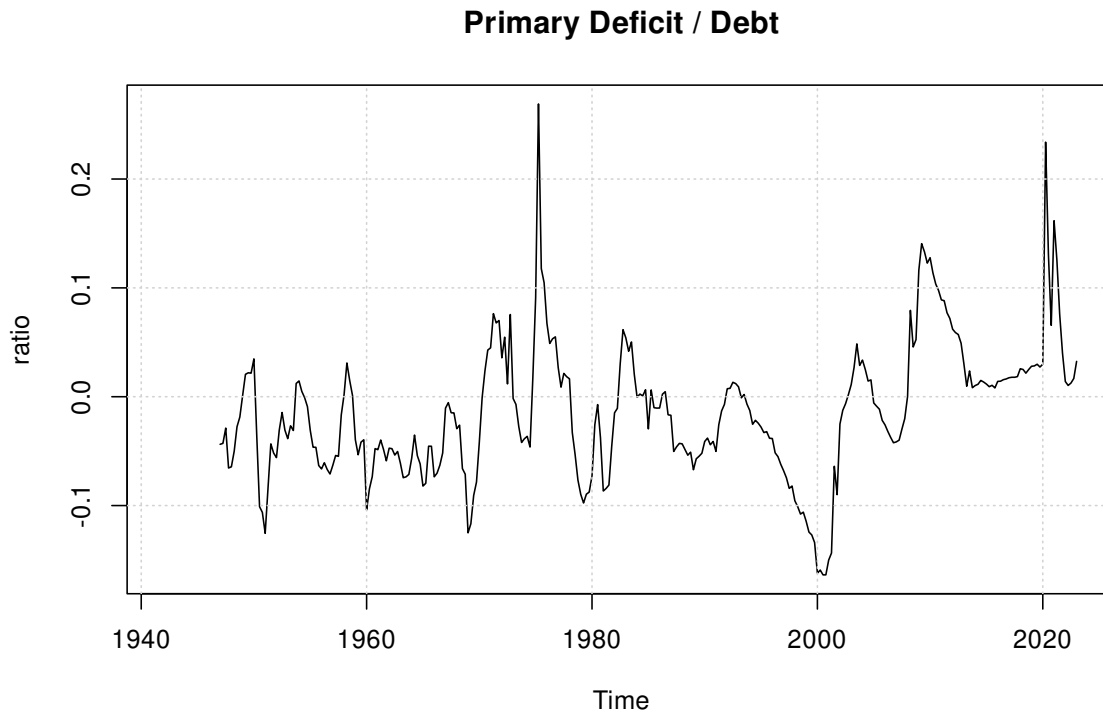


FIGURE 2

From the National Income and Product accounts. Current Federal Government Expenditures - Interest Expense - Receipts, seasonally adjusted at annual rates, as a ratio to the market value of marketable government debt as tabulated by the Dallas Federal Reserve Bank, but quarterly averaged.

while the conventional deficit did stay positive from 1982 to 1988, interest expense was pushed so high by Volcker's policy that the primary deficit was actually negative over most of the Reagan years, averaging a 1.4% surplus, as a fraction of total debt, over 1981:II through 1989:I. The only primary deficits of 1% or more were in 1982:III through 1983:IV. In the initial two years of the Reagan administration there were substantial primary surpluses, despite the economy undergoing a recession.

Contemporary discussion of budget policy in the 80's and 90's focused entirely on the conventional deficit, which was positive and unusually high for most of Reagan's term. Blinder claims, referring to 1982-1998,

...once the large Reagan deficits were firmly in place, all thoughts of using fiscal policy as a stabilization tool vanished into the political sands. (Blinder, 2022, p.172)

It may not have been only the deficits themselves that shifted the focus of policy discussion. Figure 5 shows the dramatic effect on the interest expense component

Fed Funds rate and PCE deflator inflation

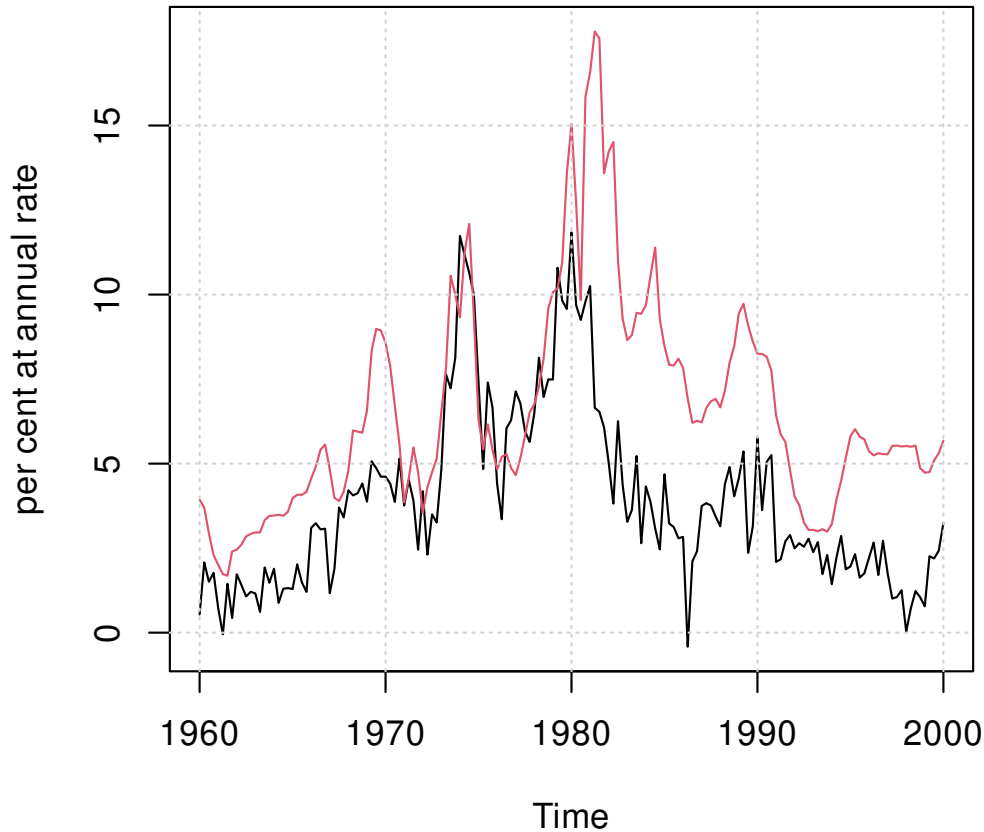


FIGURE 3. PCE deflator inflation and the federal funds rate (red)

of the budget produced by the high interest rates and high conventional deficits. As a proportion of total Federal revenue, interest expense rose steadily over 30 years from around 10% in the 1950's to 20% in 1980, and then in less than four years, from 1981 to 1985:II, to over 28%. It remained over 25% until 1994. The large share of revenue soaked up by interest expense sent an unavoidable message to Congressional budget policy makers that deficits had consequences, and that those consequences could snowball if not addressed. By 1990 Congress had introduced the PAYGO system, which was effective in reducing deficits.⁵ So how did the inflation end? Volcker's policies were an important element, but they succeeded because they generated frightening nominal deficits and a big bite out of the budget from debt service.

⁵See Blinder (2022, Chapter 10) for more detail.

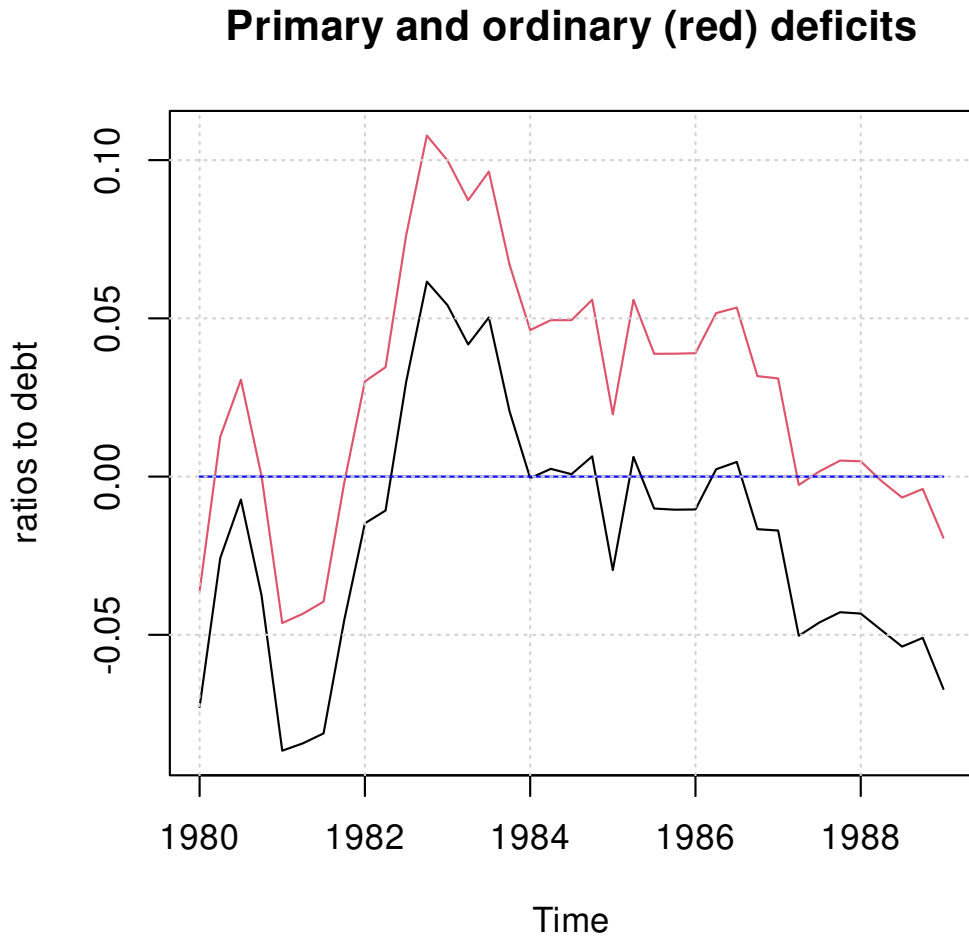


FIGURE 4. NIPA measures of the primary and ordinary (red) deficits during the Reagan administration. Shown as ratios to the market value of the federal debt.

The result was, at least for a while, a turn away from ever larger large countercyclical deficits. Bondholders were getting unexpectedly large, rather than unexpectedly small, returns for a change.

III. WHERE ARE WE NOW?

Inflation has come down in recent months from its peak in early 2022, apparently responding to the increase in interest rates by the Fed. Is this analogous to the Volcker disinflation of the early 1980's? Or is it analogous to the interest rate rise, with subsequent short-lived decline in inflation, that occurred in the mid-1970's? From the perspective of our narrative to this point, this depends on whether legislators

Federal Interest Expense / Federal Receipts

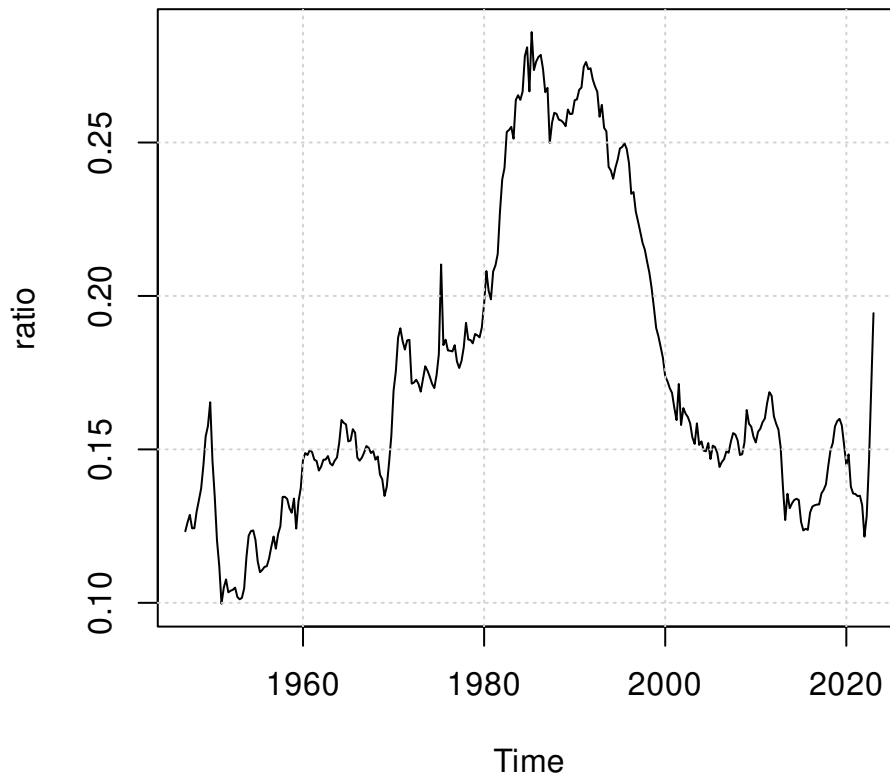


FIGURE 5

Ratio of Federal Government current interest expense to total receipts.

are yet ready to give priority to tax increases or spending decreases. Though the ratio of debt service to total revenues has risen sharply in recent months, it has not yet neared the levels it reached in the early 1980's. The primary deficit has remained positive for 20 years, longer than in any other period since 1950. If policy makers and voters learn from the experience of the 1970's, we may not need to repeat the high levels of inflation and interest rates of the late 70's and early 80's. But the current situation could be analogous to that in the mid-1970's, when bursts of inflation were damped by temporary monetary policy tightenings without accompanying fiscal reform.

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