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POLICY BRIEF

Fiscal Policy and Inflation Control: Insights from the COVID Economic Response

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Introduction

After averaging less than 2 percent for the decade ending in 2020, the rate of inflation rose to 9.1 percent for the year ending in June 2022.[1] Although supply shocks raised the prices of some goods, the rapid growth in aggregate demand drove much of the inflation during this period. The magnitude of the increase in demand is best understood as the result of a combination of monetary and fiscal policy, rather than monetary policy alone. The large increase in inflation is the result of $5 trillion in new spending on COVID relief, financed entirely by borrowing.[2] If government is to maintain control of inflation in the future, it cannot do so by relying on monetary policy alone. Congress must manage fiscal policy so that government debt holders have confidence that the real value of debt will remain relatively stable, which depends on investor expectations of future budget policy.

The COVID inflation provides a natural experiment to illustrate the relationship between fiscal policy, monetary policy, and inflation.[3] Following 2019, during which the US economy experienced moderate inflation and economic growth, the Federal Reserve and the Treasury orchestrated an unprecedented fiscal and monetary expansion in response to the COVID pandemic. A straightforward way to understand the inflationary consequences of this expansion is in terms of the fiscal theory of the price level (FTPL).

With the Congressional Budget Office (CBO) projecting rising deficits and debt over the next 30 years and beyond, the likelihood of persistently high inflation is something the government must grapple with. The CBO projects that without fiscal reforms, annual deficits will rise from 6.2 percent to 8.5 percent of GDP between 2023 and 2054. This finding means that the total debt of the US government will be 166 percent of GDP in 2053, much higher than it has ever been.[4]

To better show the potential consequences of alternative fiscal policy paths, this paper first explains the relationship between fiscal policy and the price level. It then discusses how the FTPL explains historical periods of inflation and disinflation in the United States and elsewhere. After that, the paper discusses the relationship between monetary and fiscal policy in explaining inflation. The final section concludes.

Understanding the Fiscal Theory of the Price Level

The FTPL emphasizes the relationship between government debt and the ability of the government to repay that debt with future primary surpluses (revenue minus expenditures, excluding interest payments on the debt). According to the FTPL, the total value of privately held government liabilities must equal government assets. These assets include not only the current surplus, but also all anticipated surpluses, which can support the outstanding liabilities.[5]

Privately held government liabilities include all federal government liabilities to the private sector—securities issued by the Treasury and reserves and currency issued by the Federal Reserve. Bank reserves, which are the result of the Fed buying Treasury securities on the open market, are part of the government debt held by the private sector. Price stability hinges on the government's credible commitment to generate surpluses sufficient to cover interest payments and stabilize the debt, ensuring that the present value of expected future surpluses equals the value of government debt.

The price level is the rate at which nominal government liabilities—currency, bank reserves, Treasury bills, bonds, and notes—exchange for goods and services. The value of government liabilities is a function of the present discounted value of its expected cash flows—primary surpluses.[6] Thus, the value of government liabilities depends on what traders in government debt markets expect about future primary surpluses and discount rates—the rate at which the private sector discounts future cash flows.[7]

Fiscal theory emphasizes that the rate of inflation depends on total government liabilities relative to the expected discounted value of the future surpluses that will be used to repay them.[8] In the current monetary policy regime, government (the Fed and the Treasury) controls bank reserves and government debt. The Fed pays interest on bank reserves that is comparable to the interest rate on short-term government debt. Government debt, which government promises to repay with money, "is just as inflationary as money itself."[9]

Aggregate demand—how much people are willing to spend—depends on how wealthy people perceive themselves to be, and thus, aggregate demand depends on money and bond holdings. Checking accounts, which are not government liabilities, are assets of the public but liabilities of banks. More money in checking accounts does "not make the private sector as a whole feel wealthier" and so does not have much impact on the level of aggregate demand.[10] Thus, the level

of bank reserves and the bond holdings of the public, but not the amount held in checking accounts, are important for inflation determination.

Inflation occurs when liabilities expand relative to the private sector's beliefs about government's willingness to repay those liabilities in goods (primary surpluses) rather than newly created dollars (bank reserves or Treasury securities). If demand for debt falls relative to the supply because of an expectation of smaller future surpluses, people will try to reduce their holdings of debt and increase their demand for goods, services, and private assets, thereby causing inflation. Changes in interest rates also affect the demand for government bonds and their market value.

The Fiscal Theory in Historical Context

A careful study of the dynamics of inflation in the past both in the United States and elsewhere provides some evidence in favor of the FTPL.

The COVID inflation is best explained by the combined impact of fiscal and monetary policy. In 2020 and 2021, the Treasury issued $5 trillion in new government bonds to pay for stimulus programs enacted by Congress in response to the COVID pandemic, and the Federal Reserve bought $2 trillion of those bonds with newly created bank reserves.[11] The inflation can be blamed on the $5 trillion expansion in government indebtedness, regardless of how the public's debt holdings were divided between bonds and bank reserves.

When government issues bonds to fund transfer payments, as it did during COVID, the inflationary impact depends on how the public views the transfers. Government officials communicated that these payments were gifts and not loans, so the public did not expect to incur higher future taxes to pay off the bonds.[12] If people's expectations had been different, they would have saved some of the transfers to pay for future tax obligations. But instead, they spent a large percentage of the stimulus money on consumption, raising aggregate demand and prices.[13]

The path of inflation, bond prices, and the ratio of debt to GDP between 2020 and 2022 all illustrate the application of the fiscal theory of the price level. The nominal value of government debt increased substantially in 2020 and 2021. At first, this change was reflected by an increased real value of the debt in 2020. But prices and interest rates started rising in early 2021. The higher interest rates reduced the market value of outstanding government debt. In addition, rising prices raised the value of nominal GDP substantially. As a result, despite an increase of 43.4 percent in the face value of the debt, debt as a share of GDP rose by only 14.4 percentage points between the fourth quarter of 2019 and the second quarter of 2023.[14] The much smaller increase in debt as a share of GDP was due to a combination of inflation, higher interest rates, and real economic growth. Government bondholders experienced capital losses from rising interest rates. Holders of government debt and of money paid an inflation tax that totaled more than 15 percent over this three-year period.[15]

The FTPL is also useful for explaining inflation dynamics during other periods in the United States and elsewhere. Although the traditional understanding of what caused high inflation in the 1970s and disinflation in the 1980s emphasizes the role of monetary policy, fiscal policy also played an important role. During the 1970s, the Nixon administration repudiated the Bretton Woods agreement. Removing the official link between the dollar exchange rate and gold opened the door for persistent trade deficits and foreign financing of budget deficits.[16] Growth slowed in the 1970s, reducing GDP relative to previous trends, while budget deficits increased. This situation may have led people to expect smaller future surpluses, thereby reducing the demand for government debt and increasing the demand for goods and services, resulting in faster inflation.

Recorded deficits rose in the early 1980s, but much of that increase was due to high interest rates.[17] But the FTPL frames inflation in terms of primary deficits that do not include interest costs, which rose only temporarily because of the recession. And deregulation encouraged faster growth in GDP.[18] Although tax rates were reduced, the tax base increased, and tax reform resulted in closing loopholes.[19] Beginning in 1983, the rate of economic growth increased, and as a result, tax revenue and primary surpluses increased.

Hyperinflations, such as those in the 1920s in Germany and Austria, occur "when governments print money to finance intractable deficits."[20] Those and other hyperinflations ended following regime changes, resulting in the governments resolving their fiscal problems.[21] When a hyperinflation ends, the central bank typically expands the money supply rapidly to accommodate increased money demand.[22]

The Relation between Monetary and Fiscal Policy in Explaining Inflation

The effect of monetary policy on inflation depends on the expected fiscal policy. If the Federal Open Market Committee changes monetary policy to combat a recession or in response to inflation, the impact of this change will depend on what happens to fiscal policy. In particular, the inflationary impact of monetary policy depends on existing government debt and on expectations about whether the government will run surpluses in the future to pay the cost of servicing that debt.

Trying to explain inflation as a function of monetary policy alone can be misleading. During the Great Recession and during COVID, the Federal Reserve pursued similar expansions of the monetary base—the quantity of bank reserves and currency. Between 2008 and 2015, the Fed expanded the monetary base by about $3.7 trillion and by an additional $4.25 trillion in response to COVID.[23] A simple monetarist model would predict similar rates of inflation during each period.[24] But according to the FTPL, inflation depends not only on the supply of liabilities but also on the real assets that back those liabilities, which is the expected present value of future primary surpluses.[25] And this expected value behaved differently during the Great Recession than it did during the COVID recession.

During the Great Recession, interest rates fell dramatically, with the federal funds rate falling from 5.25 percent in July 2008 to close to zero in 2009 and staying below 0.25 percent until 2016.[26] The fall in interest rates reduced the cost of servicing the debt by more than enough to offset the large deficits incurred during that period. Even though the nominal value of the debt increased, expectations about the government's ability and willingness to repay it did not change much; therefore, the value of government liabilities remained stable and inflation was low.

By contrast, during the COVID recession, interest rates fell sharply, but by a much smaller amount than during the Great Recession, and the government did not indicate any plans to pay for all the extra spending.[27] The increase in government debt of more than $5 trillion owing to stimulus spending was also much larger during COVID than during the Great Recession.[28] As a result, inflation rose substantially beginning in 2021.

Inflation reduces the burden of existing government debt. But if government continues to incur large deficits without sufficient expected future surpluses, inflation will continue in the future, with the rate being as high as is consistent with debtholders' expectations of what they will be able to earn from rolling over their debt. Any changes in expected future surpluses relative to the value of outstanding debt will alter the proceeds expected from rolling over debt and therefore will alter the debt's current market value.

If the present value of expected surpluses declines relative to the nominal value of existing debt, debtholders will sell debt and use the proceeds to buy goods, services, and private assets, which will raise the price level. Equilibrium will be restored when the price level changes by enough so that the real value of existing debt declines to equal the present value of expected future surpluses.

Fiscal policy influences the relationship between inflation and the Federal Reserve's monetary policy, which is implemented by controlling the interest rate on bank reserves. When the Fed changes interest rates, the effect on inflation depends on how and whether fiscal policy changes in response.

In response to inflation that began in 2021, the Federal Reserve started raising interest rates in March 2022, with the intention of bringing inflation down to its target level of 2 percent. But the Fed's ability to sustainably reduce inflation depends on expected fiscal policy. Higher interest rates reduce the value of outstanding government debt. This reduction in wealth to debt holders may lead to aggregate demand and inflation declining. But if bondholders do not expect an increase in future surpluses, then eventually inflation must increase to offset the higher interest cost of financing the debt. With no change in expected surpluses, inflation will increase by the amount of the nominal interest rate increase. In the long run, monetary policy has no effect on real interest rates, so inflation will be positively correlated with changes in interest rates caused by monetary policy.

Conclusion

If government debt is not fully backed by expected primary surpluses, inflation will continue to be a problem. Tightening monetary policy by raising interest rates, by itself, cannot sustainably reduce inflation. With no change in expected future surpluses, the rate of inflation will eventually increase in response to an interest rate increase. If some of the debt is long term, an interest rate increase can result in a temporary reduction in the rate of inflation.[29] But as interest payments on the debt rise, the rate of inflation should increase to keep the real interest rate constant.

Without offsetting fiscal policy, the most that Federal Reserve interest rate increases can do is temporarily reduce inflation, lowering it in the short run but raising it by more in the long run to maintain a stable real rate of interest. A sustainable reduction in inflation depends on fiscal policy keeping expected revenues high enough relative to expected spending over the long run to limit the rate of depreciation of government liabilities. According to Anderson and Leeper, "You cannot extinguish a fiscal fire with only a monetary policy hose."[30]

About the Author

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Notes

1. US Bureau of Labor Statistics, "Consumer Prices up 3.0 Percent over the Year Ended June 2023," *TED: The Economics Daily*, July 17, 2023.
2. Joe Anderson and Eric M. Leeper, "A Fiscal Accounting of COVID Inflation" (Mercatus Special Study, Mercatus Center at George Mason University, Arlington, VA, December 2023).
3. Anderson and Leeper, "Fiscal Accounting of COVID Inflation."
4. Congressional Budget Office, *The Long-Term Budget Outlook: 2024–2054*, Pub. 59711, March 20, 2024.
5. In a comment on an earlier draft, Eric Leeper suggested that I express the budget constraint this way.
6. In addition to expected cash flows, the value may also include the value of transactions service flows they yield, as noted by Anderson and Leeper in "Fiscal Accounting of COVID Inflation."
7. Anderson and Leeper, "Fiscal Accounting of COVID Inflation," 10.
8. John Cochrane, "Fiscal Histories," *Journal of Economic Perspectives* 36, no. 4 (2022): 130.

9. Cochrane, “Fiscal Histories,” 129.
10. Cochrane, “Fiscal Histories,” 129.
11. Eric Leeper, “Monetary-Fiscal Policy Interactions for Central Bankers” (research paper for review by the Reserve Bank of Australia, 2023).
12. Leeper, “Monetary-Fiscal Policy Interactions,” 11.
13. According to the Federal Reserve Bank of San Francisco, the public accumulated $2.1 trillion of excess savings between March 2020 and August 2021, but then people reduced their savings below trend so that excess savings amounted to only about $500 billion as of March 2023. See “The Rise and Fall of Pandemic Excess Savings,” FRBSF Economic Letter 2023-11, Federal Reserve Bank of San Francisco, May 8, 2023.
14. Anderson and Leeper, “Fiscal Accounting of COVID Inflation,” 19–20.
15. Anderson and Leeper, “Fiscal Accounting of COVID Inflation,” 13.
16. Cochrane, “Fiscal Histories,” 132.
17. Federal Reserve Bank of St. Louis, “Federal Government Budget Surplus or Deficit,” last updated November 20, 2023, https://fred.stlouisfed.org/series/M318501Q027NBEA.
18. Cochrane, “Fiscal Histories,” 133.
19. Social Security reform, enacted in 1983, also played an important role by increasing payroll tax rates and reducing expected spending by gradually raising the retirement age. See John A. Svahn and Mary Ross, “Social Security Amendments of 1983: Legislative History and Summary of Provisions,” *Social Security Bulletin* 46, no. 7 (1983): 3–48.
20. John Cochrane, *The Fiscal Theory of the Price Level* (Princeton, NJ: Princeton University Press, 2023), 339.
21. Thomas Sargent, “The Ends of Four Big Inflations,” in *Inflation: Causes and Effects*, ed. Robert E. Hall (Chicago: University of Chicago Press, 1982): 41–97.
22. Cochrane, *Fiscal Theory of the Price Level*, 339.
23. Federal Reserve Bank of St. Louis, “Assets: Securities Held Outright: Securities Held Outright: Wednesday Level,” accessed May 31, 2024, https://fred.stlouisfed.org/series/WSHOSHO.
24. More sophisticated monetarist models, such as that used by Robert Hetzel, can account for the difference by noting that during the Great Recession, the Fed kept the interest rate at or above the natural rate of interest, while it held it below the natural rate during the recovery from the COVID recession. See Robert L. Hetzel, “Getting Monetary Policy Right: What Should the Federal Reserve Have Learned from Its Pandemic Response?” (Mercatus Special Study, Mercatus Center at George Mason University, Arlington, VA, February 2024).
25. Leeper, “Monetary-Fiscal Policy Interactions,” 6.
26. The Obama administration also promised that debt reduction would follow the stimulus, but the public might not have considered that to be a credible commitment. See Cochrane, “Fiscal Histories,” 134.
27. Anderson and Leeper, “Fiscal Accounting of COVID Inflation,” 4.
28. Cochrane, *Fiscal Theory of the Price Level*, 479.
29. Cochrane, *Fiscal Theory of the Price Level*, 69–70.
30. Anderson and Leeper, “Fiscal Accounting of COVID Inflation,” 16.