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Abstract

This paper shows that, in the face of the recent return of inflation, the Fed failed to follow Taylor's principle as prescribed by conventional monetary policy. In particular, the Fed did not raise the policy rate by enough in the face of rising inflation. The paper discusses the reasons underlying this policy choice and classifies them into temporary and longer term. Temporary considerations, such as a belief that inflation is temporary are likely to fade away over time. Longer term effects, such as regulatory reform during the global financial crisis (GFC) and a persistently high Debt/GDP ratio inherited from the GFC and the pandemic are likely to affect Fed's policy for quite a while in the future. The paper evaluates the extent to which this change in policy is desirable and concludes, in view of the longer term effects, that it is. Similar considerations apply to other major central banks such as the ECB and the Bank of England.

JEL Classification: E5, E4, E3

Keywords: Violations of Taylor's principle, inflation, policy rates in aftermath of pandemic and GFC, regulatory reform, debt overhang

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Recent violations of Taylor's principle by the Fed: Documentation, reasons and relevance for the future

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February 28 2023

ABSTRACT

This paper shows that, in the face of the recent return of inflation, the Fed failed to follow Taylor's principle as prescribed by conventional monetary policy. In particular, the Fed did not raise the policy rate by enough in the face of rising inflation. The paper discusses the reasons underlying this policy choice and classifies them into temporary and longer term. Temporary considerations, such as a belief that inflation is temporary are likely to fade away over time. Longer term effects, such as regulatory reform during the global financial crisis (GFC) and a persistently high Debt/GDP ratio inherited from the GFC and the pandemic are likely to affect Fed's policy for quite a while in the future. The paper evaluates the extent to which this change in policy is desirable and concludes, in view of the longer term effects, that it is. Similar considerations apply to other major central banks such as the ECB and the Bank of England.

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1. Introduction

Taylor's principle is a basic tenet of Taylor's rule for the conduct of optimal monetary policy for central banks (CBs) whose objective is to minimize a linear combination of quadratic deviations of inflation from the inflation target (IT) and of output from its potential value. Taylor's principle (TP) states that when inflation increases by one percent the Federal Funds rate (FFR) should be increased by more than one percent in order to raise the exante real rate of interest. The underlying theory is that moderation of inflation operates by restricting aggregate demand which is achieved, in turn, by an increase in the real rate. Raising the FFR by less than one percent implies that, in the face of rising inflation, CB policy is not optimal. This principle was first formulated by Taylor (1993) and subsequently incorporated into the formal New-Keynesian framework by Clarida, Gali and Gertler (1999, CGG in the sequel) and many others.

This paper opens by documenting the co-movements between US inflation and the exante real FFR. The data reveals that when US inflation started to increase during the first half of 2020 the exante real FFR actually decreased for about a year and a half, raising aggregate demand and adding further fuel to inflation fires rather than taming it. Even when this trend was reversed at the end of 2021 the real rate increase lagged behind the TP. The paper then discusses reasons for this large persistent deviation from the TP. At least initially, fear of killing an emergence recovery and a belief that the rise of inflation is temporary played an important role. But as the US economy gathered momentum and inflation did not moderate much, two longer run reasons for a continued downward deviation from the TP are the emergence of new financial stability considerations and accumulation of a large public debt both of which were triggered by the global financial crisis (GFC) and the pandemic crisis (PC).

Section 2 documents recent persistent violations of TP by the Fed. Section 3 discusses policy considerations underlying those violations and classifies them into short term and longer term considerations. Section 4 argues that the factors behind the long term considerations are (justifiably) likely to shape the Fed's monetary policy in the foreseeable future. This is followed by concluding remarks.

2. Recent evidence on violations of Taylor's principle by the Fed

Figure 1 shows the evolution of the real exante FFR and of CPI inflation. The real exante FFR is calculated as the difference between the monthly FFR and the average one year ahead expected inflation from the Survey of Professional Forecasters (SPF).[2] The Figure shows that after a temporary dip to 0.12% in May 2020 inflation climbs to over 4% in April 2021 reaching over 8% at the beginning of 2022.

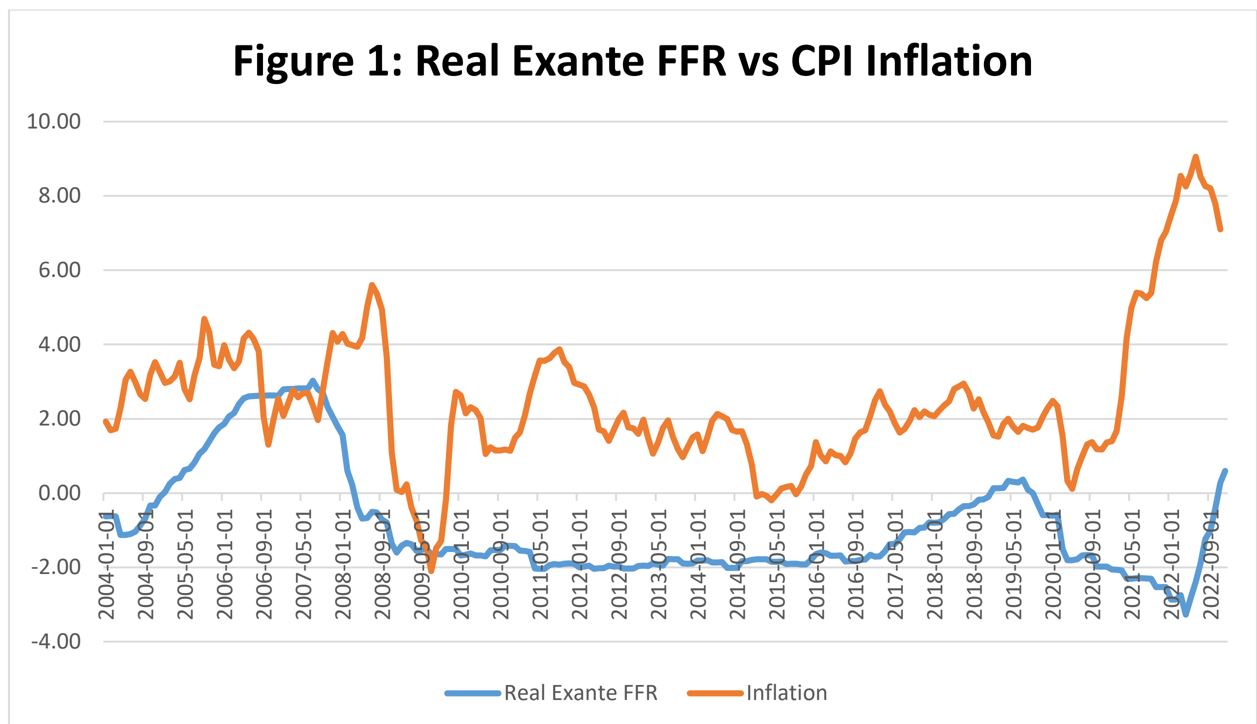

Figure 1: Real Exante FFR vs CPI Inflation

In stark contrast to Taylor's principle the exante real FFR rate has been decreasing monotonically over the same period, rather than increasing. Essentially, in the face of rising one year ahead inflationary expectations, the Fed did not adjust its policy rate at all during 2021, and

[2] Among the existing various data sets designed to capture inflationary expectations the SPF expectations are likely to be closest to those of the business community as well as those of policymakers at the FED. Those expectations are published at quarterly frequencies and are documented at:
https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters.
Monthly expectation in the figure within each quarter are approximated by the uniform quarterly observation. Although this abstracts from within quarters variations in expected inflation it is unlikely that this invalidates the main conclusion of this section since the variation across quarters is moderate.

when it finally started to do that in 2022, the adjustment was smaller than the increase in inflationary expectations. During all this period the exante policy rate was negative crossing into the positive range only during the last quarter of 2022. This happened in spite of the fact that, after a deep but short recession in 2020, US employment and GDP growth recovered nicely over 2021. During the entire first half of 2022 the gap between inflation and the exante real FFR was over 10%. In July 2022 there was a marginal change in this trend as inflation decreased a bit and the exante real FFR became less negative. In spite of this change the cumulative gap between inflation and the exante real FFR in July 2022 was still over 10% and was still in the negative range.

3. Why did the Fed choose to disregard conventional wisdom with respect to Taylor's principle (TP)?

A number of factors combined to induce the Fed to disregard the prescription of TP. Some of those are relatively less persistent and others are likely to persist for quite a while. Initially, fear of killing an emergence recovery and a belief that the rise of inflation is temporary played an important role. The belief that the increase in inflation is temporary was partly nurtured by the extended period of low and even negative inflation during the GFC and the PC. Indirect support for this view is provided by the reaction of the exante policy rate to inflation in the pre-GFC era in Figure 1 during 2005-2007. The figure shows that during this period the exante policy rate reacted swiftly to inflation and became even higher than inflation during part of that period. If inflation persists for a sufficiently long time those factors are likely to gradually fade away.

But, beyond that, there are two long factors that are likely to affect the conduct of monetary policy for an extended period of time. They are: 1. Sweeping reform of the financial regulation and supervision that substantially raises the involvement of the CB in that reform. 2. The large national debt inherited from the GFC and the PC along with the fact that this debt is unlikely to decrease by much in the foreseeable future. Those are discussed in what follows:

Reform of financial regulation and CB involvement: The near collapse of the global financial system in the aftermath of Lehman's collapse prompted most developed economies to introduce tighter regulation and supervision of financial systems. In the US the July 2010 US Dodd-Frank Act created a Financial Stability Oversight Council (FSOC) of about ten regulators, chaired by

the Treasury secretary, in which the Fed plays a central role.[3] Those regulators are expected to meet on a regular basis and to issue specific regulations designed to achieve the broad goals of the act. One of the main pre-crisis problems of the US regulatory system was the fractionalization of regulatory functions across different regulators, often with patches of the financial system that were uncovered by regulation. The objectives of the Dodd-Frank Act were to eliminate such patches and to increase coordination and information exchange among different regulators within the FSOC. In this spirit the Fed was made responsible for macro-systemic financial stability. The council is charged with identifying and responding to emerging risks throughout the financial system and, among others, the council is directed and authorized to make recommendations to the Federal Reserve for increasingly strict rules for capital, leverage, liquidity, risk management, and other requirements as companies grow in size and complexity, with significant requirements on companies that pose risks to the financial system.[4]

The upshot is that the fact that the Dodd-Frank Act makes the Fed legally responsible for Macro-Systemic financial stability essentially saddles it with an additional permanent objective that is not explicitly represented in Taylor's rule.

The impact of an historically high debt/GDP ratio: Due to the large fiscal packages deployed during the GFC and the PC the US debt/GDP ratio at the end of 2022 reached an historical peak of over 120% of GDP. Since the second half of 2022 till February 2023 the Fed raised the FFR from a bit over zero to 4.75%. This led to a general increase in rates, including in particular, the interest paid on national debt by the US government. As a consequence, debt service jumped by over 40% within a year reaching 213 Billion USD in the last quarter of 2022. Further increases in the policy rate would lead to additional increases in the cost of servicing the debt, increase debt servicing costs even further, and may push the US Debt/GDP ratio into an unsustainable range. There is little doubt that this consideration played an important role in the Fed's slow response to inflation and is likely to moderate its anti-inflationary measures in the future as long as the debt hangover is large.

Since the high debt/GDP ratio will most likely persist for an extended period of time this break on the implementation of TP will persist in the long run. Essentially, in the presence of a

[3] Dodd-Frank Act Implementation (2013),
[4] Further details appear in section 6.5 of Cukierman (2019).

high and even growing Debt/GDP ratio Fed's policy is also motivated by a desire to maintain the cost of government finances within a reasonable range.

4. Should the CB stick to Taylor's principle in spite of long term changes in its responsibility for systemic financial stability and a persistently high Debt/GDP ratio?

Although it did not appear as one of the main objectives of the CB, even prior to the GFC the financial stability motive occasionally affected monetary policy decisions. The collapse of Lehman Brothers in September 2008 along with the ensuing imminent threat to the stability of the global financial system and the disappearance of inflation temporarily injected this motive into the conduct of monetary policy. By making the CB formally responsible for systemic financial stability the 2010 Dodd-Frank Act permanently added the maintenance of financial stability to the traditional objectives of the Fed. Since of all the many US financial regulatory and supervisory institutions the CB appears to be the most suitable for assuring systemic stability this change is desirable in spite of the fact that it interferes with the strict application of Taylor's rule.

The persistently high public debt inherited from the GFC and the PC reinforces this argument. By raising interest rates strict application of TP would further raise the cost of public debt and may precipitate debt dynamics into an unstable region.

5. Concluding remarks

This paper presented evidence showing that, in the face of rising inflation, the Fed adjusted its policy rate by less than required by Taylor's principle (TP) and discussed the short and longer term factors that led to this policy stance. Some of those factors may fade away after a while but other longer term changes such as regulatory reform and a persistently high debt/GDP ratio are likely to alter the nature of Fed's monetary policy permanently. Since, in the aftermath of the GFC and the PC, such long term changes also occurred in other Western CBs such as the Euro area and the UK, similar future violations of TP can be expected from their CBs as well.

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