Still flying blind after all these years: The Federal Reserve’s continuing experiments with unobservables

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ABSTRACT

In 1994, we examined the Fed’s abandonment of monetary targets in favor of “omens of impending inflation” (Papadimitriou – Wray 1994). Here we are, three decades later, and the Fed is still fumbling around with unobservable indicators of inflation in its quest to target stable prices. In what follows, we examine the evolution of the Fed’s thought and practice over the past three decades, a period in which the Fed has increasingly turned to unobservable indicators that are supposed to predict inflation and unobservable tools that are supposed to fight inflation. We will show that our criticisms have also been raised by the Fed’s own members and research staff. Moreover, we suggest that the Fed has far less control over inflation than is presumed, and, at worst, might have the whole inflation-fighting strategy backwards. We conclude with an assessment of the latest round of rate hikes.

KEYWORDS

inflation, monetary policy targets, New Monetary Consensus, inflation expectations

JEL CLASSIFICATIONS

E31, E32, E52, E520

1. INTRODUCTION: FLYING BLIND IN THE 1990S

Back in the early 1990s, the US economy was recovering from our first “jobless recovery.” Even with little evidence of inflation (running at 2.9 percent), high unemployment (8 million seeking
work), and moderate wage growth, the Fed sought justification for raising interest rates. As we wrote in 1994, the Fed was “on a fruitless search to identify a monetary target that is both a reliable harbinger of inflation and can be influenced directly by the Fed” (Papadimitriou – Wray 1994: 8). Over the previous decade, the Fed had tried a number of monetary targets: reserve aggregates (both borrowed and nonborrowed), M1, and M2. Each was brought forward with great fanfare and then summarily dropped as it became uncorrelated with the growth of prices and output.

We argued that public statements by the Fed showed that it had become rudderless when it was forced to abandon the simplistic monetarist view that the central bank could control money’s growth rate and thereby hit inflation targets. Neither of these proved to be true: the Fed could not hit money targets, and money’s growth did not correlate to the inflation rate. Ironically, this was what Charles Goodhart (1975) had proposed as a law of policy: any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes. That is, trying to take advantage of a correlation between money’s growth and inflation by targeting the money supply would lead to a breakdown of the correlation. And, indeed, the simple correlations between money aggregates and inflation did fall apart.

The Fed then proceeded to consider a wide variety of other potential targets, including P-star (a supposed long-term relation between prices and M2), price indexes, gold prices, real (ex ante) equilibrium interest rates, and expected inflation. We argued that even “if one were to accept that the Federal Reserve’s sole goal should be to stabilize prices, there simply is nothing approaching a consensus among economists that any of these targets is reliably linked to changes of price levels” (Papadimitriou – Wray 1994: 10). We also argued that there was no general agreement among economists regarding “the causes or the costs of inflation; they have not reached a consensus that the costs of fighting inflation are substantially less than the benefits of stable prices” (Papadimitriou – Wray 1994: 11). In spite of the lack of consensus, Chairman Greenspan proclaimed there “has emerged a growing consensus throughout the world that a monetary policy geared towards the pursuit of price stability over time is the central bank’s most significant contribution to achieving maximal growth of a nation’s well being” (Papadimitriou – Wray 1994: 18).

Over the course of the early 1990s Greenspan increasingly focused on an “equilibrium real interest rate” (nominal rate minus expected inflation) that appeared to be based on the Wicksellian notion of a “natural rate” that would produce an equilibrium with all markets clearing. He admitted that one could not estimate it “with a great deal of confidence,” but one could be sure that estimates would be accurate “enough to be useful for monetary policy” (Papadimitriou – Wray 1994: 21). Further, he conceded that the real rate that matters is a long-term rate, and that the Fed’s policy would only affect the short-term rate directly. Finally, he admitted that real rates are not observable but asserted they can be estimated using data on nominal rates and estimates of expected inflation.

Policy would move the short-term nominal fed funds rate based on hunches regarding expected inflation to hit an unobservable short-term real rate to move the unobservable long-term real rate toward the natural long-term real rate consistent with general equilibrium. At that point, all markets can clear without pressure on prices. The Fed, then, chose to raise rates in 1994 despite a lackluster recovery because Greenspan was convinced that inflation expectations had risen during 1993, lowering the unobservable real interest rate below the unobservable real natural rate—which could be taken as a harbinger of future rising inflation.
Greenspan faced a broad outcry from economists, financial markets, and policymakers, including Paul Samuelson, Henry Kaufman, Robert Brusca, and Congressman Henry Gonzalez, who objected that measures of inflation showed it was well-contained, that “real interest rates can be judgmentally inferred, but never objectively observed” (Soss 1993: 28), and that rather than tackling accelerating inflation, the “policies are certain to lead to continued stagnation, decline, and hardships for millions” (Gonzalez 1993: 31).

Greenspan was not moved by the criticism. He rejected economic variables traditionally thought to predict forthcoming inflation—high levels of resource utilization, tight labor markets, rising capacity utilization, rising private borrowing, and even current inflation—as performing poorly in the past, or because their then-current values did not indicate imminent inflation. His February 22, 1994 testimony was devoted to the role that inflation expectations play in causing inflation, and his determination to use them “as a direct guide to policy” (Greenspan 1994: 14). He laid out a “clear lesson” learned since World War Two:

Lower inflation and inflation expectations reduce uncertainty in economic planning and diminish risk premiums for capital investment. […] [The] reduced inflation expectations of recent years have been accompanied by lower bond and mortgage interest rates, slower actual inflation, falling trend unemployment, and faster trend productivity growth. […] [The] implication is clear: when it comes to inflation expectations, the nearer zero, the better. It follows that price stability, with inflation expectations essentially negligible, should be a long-run goal of macroeconomic policy. We will be at price stability when households and businesses need not factor expectations of changes in the average level of prices into their decisions. How these expectations form is not always easy to discern, and they can for periods of time appear to be at variance with underlying forces. (Greenspan 1994: 13)

He insisted that one could not necessarily divine whether monetary policy was fighting inflation merely by examining its tightness because easy policy could be evidence that the fight against inflation was already successful: “The test of successful monetary policy in such a business cycle phase is our ability to limit the upward movement of long-term rates from what it would otherwise have been with less effective policy” (Greenspan 1994: 14). If policy lowers long-term rates relative to where they might have been, it is successfully fighting inflation. The only test of the effectiveness of monetary policy is inflation itself.

Not only does the Fed use unobservables as intermediate targets, it must compare the policy’s effect on actual long-term rates (which are the rates that matter) against the unobservable long-term rates that might have existed in the absence of policy. This is about as deep into Alice’s rabbit hole as we might fall, yet we are ultimately and eventually saved by the jolt of actual inflation rates: if inflation is on target, the Fed has done its job.

We concluded our 1994 policy brief with the view that the Fed’s policy had become largely unhinged since its abandonment of practical monetarism—which had at least provided an observable policy instrument, the money supply. Governor Lindsey’s statement summarizes the problem faced by the Federal Reserve: “I came on believing what I had been taught—and taught as a professor—which was M2. I don’t think I can use it anymore” (Bradsher 1994; see also Papadimitriou – Wray 1994: 49).

In short, we said, the Fed is flying blind.

In a 1996 follow-up, we argued that while inflation had remained moderate, the Fed did not necessarily deserve credit (Papadimitriou – Wray 1996). We acknowledged what many other critics had noticed: that the Fed appeared to choose whatever target happened to point in the
“right” direction to justify its moves. But we more fundamentally questioned the view that the Fed ought to be focused on fighting inflation. We looked in detail at the components of the basket of goods and services that go into determining the Consumer Price Index (CPI). That index would ideally reflect market-caused price increases, and if we are to use monetary policy to tackle those, the contributors to measured CPI inflation ought to be under the influence of the Fed. Historically, since 1970 the drivers of high US inflation are largely the prices of food, oil, and components that do not have market-determined prices—such as shelter services.\(^1\) The food and oil commodities that drive domestic inflation have prices that are determined internationally—in large measure, prices that are administered by OPEC or huge international conglomerates.

The other large contributor is the imputed price of “owner’s equivalent rent”—how much one would have to pay to rent housing equivalent to the home owned by the occupant. We explained why that is a poor proxy for “market pressures” in housing that might be subject to Fed policy, and, indeed, argued that tightening up monetary policy might increase the imputed price—inadvertently causing measured inflation to rise. This would perversely lead to further tightening and more measured inflation. We will not repeat the full analysis here, but we believed using monetary policy as the main weapon against the kind of inflation the US experienced is misguided. We do not believe that our complaints made a quarter century ago have been adequately addressed; indeed, as we will argue below, if anything the view that monetary policy alone should be held responsible for inflation-fighting has only grown stronger.\(^2\)

2. THE FED AND THE RISE OF THE NEW MONETARY CONSENSUS

The situation the Fed faced in 2004 was similar to that of 1994: the economy was in another jobless recovery and the Fed had kept interest rates low for an extended period of time. However, yet again, the Fed began to worry about rising inflation pressures and began to raise rates—again, with critics arguing the hikes were premature (see Wray, 2004a,b). By this time, much of the academic profession had adopted the New Monetary Consensus (NMC) to macroeconomics. We will not go into the details of the theory here, but the important point is that it is based on the view that the economy can move above or below a full market-clearing equilibrium in the short run—called a “demand gap.” A positive demand gap means the economy is overheated; a negative gap means it is operating below capacity. Other than random shocks, the main disturbance preventing general equilibrium is a deviation of the real interest rate from the natural rate. The policy solution is to adjust the nominal fed funds rate to move the real rate to the natural rate. Both adaptive and rational expectations come into play as inflation expectations that determine the real rate are both forward looking and backward looking. Instead of using money supply as a policy tool, the Fed follows a Taylor rule in setting the fed funds rate target.

\(^1\)See below: another driver of inflation is borrowing costs—the Fed’s policy of raising interest rates to fight inflation could add fuel to the inflation fire under some conditions.

\(^2\)Indeed, in the post-COVID high inflation period, the focus in the USA and in the UK has been exclusively on the responsibility of the central bank to fight inflation. While it is true that the Biden administration is investigating the role played by rising mark-ups in rising prices, there has not been any significant calls for adjustment to fiscal policy.
To the extent that it can align inflation expectations with its own ultimate inflation target, the Fed is able to get actual inflation in its target range (typically close to a measured 2 percent rate). As Greenspan had argued back in 1994, central bank success at achieving this is the key to ensuring stable economic growth at a sustainable pace.

The NMC and Greenspan both rejected the notion of a simple Phillips Curve trade-off. This, however, poses a conundrum for policy: traditionally, the Fed would use low unemployment rates as an indication of overheating, and thus an early warning sign for inflation. The NMC, however, posits strong equilibrating forces that would be reinforced by stable inflation expectations. In this view, the Fed should downgrade unemployment as an indicator and even abandon the notion of a trade-off. Rather, if anything, low inflation promotes growth and full employment.

The neutral rate is the modern version of the natural rate: it is the interest rate consistent with elimination of the demand gap. The Fed admitted that the neutral rate varies across countries and through time and, thus, cannot be known with certainty. Still, the Fed asserted that it would recognize the neutral rate once it was achieved. At that point, there would be no demand gap, and both actual inflation and expected inflation would be aligned with the Fed’s ultimate inflation goal. This is consistent with the Taylor rule. However, as we will discuss, according to the underlying theory it is the long-term real interest rate that matters for economic decision-making, but the Taylor rule’s policy rate is a short-term rate (i.e., the fed funds rate).³

After the Fed’s rate hike in 2004, the justification had changed—from reading tea leaves to a focus on the neutral rate. When questioned by Robert F. Bennett, R-UT, during his July Congressional testimony, Chairman Greenspan responded:

Actually, we don’t know what neutrality is until we get there. And the reason I say that is the notion of stability or a state where the financial markets are in some form of equilibrium depends on a number of things. You can tell whether you’re below or above, but until you’re there, you’re not quite sure you are there. And we know at this stage, at one and a quarter percent federal funds rate, that we are below neutral. When we arrive at neutral, we will know it, and we could take whatever actions we consider desirable or not desirable at that time. But I think that estimates that people try to make as to where that so-called neutrality is is a fairly broad range, and I would just choose not to speculate where it is. (Greenspan 2004)

Interestingly, Chairman Powell nearly parroted Greenspan when he summed up current policy on September 20, 2023:

We are navigating by the stars under cloudy skies […] We are prepared to raise rates further if appropriate, and intend to hold policy at a restrictive level until we are confident that inflation is moving sustainably down toward our objective. (Rushe 2023)

You know “sufficiently restrictive” only when you see it…We want to reach something that we’re confident gets us to that level…and then the question is, how long do you stay at that level? And that’s a whole other set of questions. (Klein 2023)

³We thank a referee for pointing out that it should be the risky long-term interest rate that matters—not the long-term rate on sovereign government debt (for example). While we do not want to go into the debate about whether it is the “real” (inflation adjusted) or nominal rate that should matter, we adopt Keynes’s view that it is the nominal rate that matters. However, that is not consistent with the New Monetary Consensus.
How can we tell if the Fed has reached the destination? There will be no demand gap and inflation expectations as well as inflation itself will converge to the Fed’s preferred inflation rate. Not only is the Fed following clues left by unobservables, there is no way to refute the Fed’s theory and method on the basis of policy outcomes. While we may never arrive at the magical point of bliss, the Fed is always leading us on the journey to it. Trust the Fed.

3. CRITIQUES OF THE NEW MONETARY CONSENSUS

We are not alone in our doubts about the usefulness of the NMC as a guide to policymaking. Indeed, there have been a number of recent acknowledgments by Fed officials stating that some important variables are based on unobservables—i.e., the natural rate of unemployment and the level of potential GDP (Mester 2018)—along with some trenchant critiques from researchers within the Fed. For example, Jeremy Rudd authored a research paper in the Federal Reserve Board’s Finance and Economics Discussion Series that is brutal in its criticism of the belief that inflation expectations drive actual inflation. His paper begins by listing mainstream ideas that “everyone knows’ to be true, but that are actually arrant nonsense” (Rudd 2021: 1). The first three of these “nonsense” ideas form the basis of neoclassical economics (essentially all varieties): use of aggregate production functions, belief that flexible prices lead to full market clearing, and downward sloping market demand curves. However, Rudd goes on to tackle what he sees as a fourth “truism”: that inflation expectations should play an important role in theory and policymaking, and that inflation expectations are a—perhaps the—determinant of inflation:

using inflation expectations to explain observed inflation dynamics is unnecessary and unsound: unnecessary because an alternative explanation exists that is equally if not more plausible, and unsound because invoking an expectations channel has no compelling theoretical or empirical basis and could potentially result in serious policy errors. (Rudd 2021: 1–2)

Briefly, he posits that it is simpler and more reasonable to argue that actual inflation determines inflation expectations. Or, as we would put it: expectations converge to reality. Those who maintain that it works the other way around generally refer to collective bargaining by workers: when workers expect higher inflation, they negotiate higher wages, that get passed to higher prices. While there could be some historical examples of this, Rudd argues it does not fit the US case in recent years, where only a tiny fraction of workers (currently about 6% of private workers) are unionized, in strong competition with low-wage workers abroad. At best, wages play catch-up. In any event, inflation has been so low for the past three decades that it has not been a big concern in wage demands.4 While unit labor costs are a major determinant of price inflation, those are not driven by inflation expectations, either. Further, the costs (hence, prices of inputs) that matter to a firm are its own costs—not the aggregate price level. Since competition is largely local, there is little need for a firm to focus on either aggregate prices or national inflation expectations.5

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4We understand that the recent rise of inflation in the recovery from the pandemic could change this—a topic we address below.

5See Nersisyan and Wray (2022a) for a discussion of the role played by rising mark-ups in the post-COVID inflation; firms with substantial market power used inflation as a justification for raising their own prices.
Rudd raises another important objection to the Fed’s use of inflation expectations in its approach: the theoretical basis is weak. From monetarism through the new classical and finally the NMC versions, the real impacts of monetary policy occur due to mistakes of short-term inflation expectations. In the long run, the Phillips Curve is vertical and expected inflation equals actual inflation, while unemployment is at the natural level—implying no demand gap. It is only in the short run that expectations deviate from actual outcomes. However, the Fed’s focus is on anchoring long-term expectations—which according to theory ought to coincide with actual inflation anyway, regardless of policy. In other words, expectations are irrelevant—they do not determine anything in the long run, where only real variables matter. Finally, Rudd argues that what little evidence we have on transmission of expectations to inflation shows that it is limited to long-run inflation expectations, not short-term expectations. This is not consistent with the theory underlying the NMC.

Rudd concludes that simply showing that actual inflation is influenced by past inflation experience, or that expected inflation fell along with trend inflation, does not demonstrate that expectations caused the downward trends. He also worries about the use of an unobservable—inflation expectations—for policymaking, likening it to the earlier use of a natural rate of unemployment (or a NAIRU), which is another unobservable.

An earlier paper by former Governor Daniel Tarullo also criticized the Fed for its attachment to “problematic concepts and hard-to-estimate variables” (Tarullo 2017: 2). While the dual mandate provides a basis for evaluating how well the Fed is performing (low unemployment and stable inflation), the Fed must set its interest rate policy with a forward-looking economic forecast and a view as to how its policy might improve outcomes. He worries that the outcome might depend on unobservables, including potential GDP growth, the natural rate of unemployment, and the neutral interest rate—warning these are concepts, not data. While we can look backward at some variables that are supposed to affect these unobservables, that does no good as policy must look forward. The fourth critical unobservable is the inflation rate to which the economy might converge, finessed by central bankers presuming it will be 2 percent.

Tarullo was particularly critical of overreliance on inflation expectations, noting they are “arguably a unique” kind of unobservable. While we do have surveys of expectations of professional economists, consumers, and financial market traders, ironically, we do not have surveys of nonfinancial businesses—that have the power to set prices. The others do not. Businesses claim to set prices based on what the market will bear, not according to inflation expectations.

Like Rudd, Tarullo argues that the Fed does not have a good handle on the mechanism through which expectations affect inflation. The Fed presumes—without a well-grounded theory—that it can affect expectations, which will then determine inflation. It takes credit for “well anchored inflation expectations” that result in low expectations—the Fed’s focus on fighting inflation was successful because inflation was low. However, in the post–global financial crisis (GFC) world, the Fed failed to reach its inflation target nine years in a row. But why, one might ask, is policy asymmetric? It is a plausible conclusion that the Fed’s actions have little to do with inflation outcomes.

Tarullo recommends paying more attention to observables. Nor should the Fed adopt rules—such as the Taylor rule—that require knowledge of both the natural (or neutral) interest rate and the demand gap. The structure of the economic world is continually changing and renders
policy-by-rule too inflexible. This does not just apply to Friedman’s money growth rule, but also to Taylor’s interest rate rule.

These brutal critiques coming from within the temple should be taken more seriously.

4. IS MONETARY POLICY THE BEST WAY TO TACKLE INFLATION?

Nearly 30 years later monetary policy remains in a state of disarray, rudderless, trying to divine inspiration from unobservables. Over these past three decades, the economy has experienced the dot-com bubble and collapse, the housing and commodities market bubbles and collapse, and the COVID pandemic collapse. Each has taken bigger interventions to reboot recovery. Recovery from each has been sluggish, and at least initially jobless. To put it simply, the trend since the early 1990s can be characterized as one of secular stagnation punctuated by growth led by bubbles in the financial sector. Over this period, the Fed has focused on inflation and inflation had indeed moderated. Meanwhile, life for most Americans has improved little (if at all) and inequality has boomed. The Fed takes the credit for the low inflation; the rest is collateral damage: stagnant wages, high consumer debt, loss of good jobs (pay, pensions, and job security), deteriorating infrastructure, and recognition of an impending climate catastrophe.

To be clear, we do not blame the Fed for this. It is not the Fed’s fault that we have increasingly downgraded fiscal policy over the past half-century. To some extent, that forced the Fed to take on more responsibility for economic performance. When we crashed into the Global Financial Crisis, the Obama administration was able to amass just $800 billion in a weak fiscal response. The rest was left up to the Fed—which responded with $29 trillion in lending and spending to rescue the global financial system (Felkerson 2011), plus trillions more of unconventional monetary policy (mostly buying securities) that was supposed to help Main Street. That left us with nearly permanent low interest rates, which probably helped refuel financial markets—that resumed their bubbles. Positive impacts on Main Street were few and far between. It is not the Fed’s fault that we asked it to shoulder most of the burden.

Aside from the smoke and mirrors of unobservable inflation expectations, the Fed only has one policy tool to impact inflation: setting the fed funds rate. At the height of the GFC, the Fed quickly dropped that to zero, then tried to add some new smoke and mirrors called quantitative easing to get a bit more goose out of the zero interest rate policy (ZIRP). It is questionable whether the trillions of dollars of reserves the Fed put into the banking system had any direct economic impact, although quantitative easing may have had only a marginal effect on long-term interest rates.6 It did, however, increase the focus on the Fed: “Look at everything we are doing to help!” That the Fed continued to miss its self-proclaimed most important target—inflation, on the downside—was mostly overlooked. Except for a few hyperinflation worriers, the trillions the Fed pumped into banks did not raise inflation expectations, which remained rooted in the reality that inflation as we once knew it had been banished.

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6The Fed’s own research shows that the effect was small: “By reducing the net supply of assets with long duration, the Federal Reserve’s LSAP programs appear to have been successful in reducing the term premium. The overall size of the reduction in the 10-year term premium appears to be somewhere between 30 and 100 basis points, with most estimates in the lower and middle thirds of this range” (Gagnon et al. 2011).
It is time to reflect on the possibility that most economists have had it wrong all along. Perhaps the Fed and monetary policy are not only largely impotent, but whatever impact they might have is the reverse of what is believed. What if “tight” monetary policy is inflationary and “easy” policy helps to fight inflation? Paul Volcker’s high rates helped fuel inflation; Bernanke’s low rates helped fuel disinflation.

Bear with us.

If you asked a group of 100 economists what would happen to inflation if oil prices quadrupled, all would agree that inflation rises. If you asked what would happen if wages doubled, a large majority would agree that prices would rise. If commercial (and residential) rents rose? Inflation. What if prices of the important crops (wheat, rice, soybeans) rose? Inflation. We all agree: rising costs of inputs are passed along to higher prices. What if we quadruple the interest rate? Well, inflation … falls, of course! When input prices rise, that is inflationary—except for the costs of borrowing money. That view, though common, should be counterintuitive—at least as an unconditional statement.

The theory is that as interest rates rise, borrowers borrow and spend less. Yet, empirical estimates of the interest elasticity of spending generally show it is weak—with the exception of purchases of residential real estate. Low rates probably boost asset markets—including housing—but that does not feed directly into inflation. As discussed, housing enters the CPI largely through imputed rentals on owned homes, which do not necessarily track housing prices—indeed, they can move in the opposite direction. Rising asset prices can produce a wealth effect, boosting consumption, but the marginal propensity to spend out of wealth is relatively small.

Careful study by Steven Fazzari has shown that for most types of firms, the interest rate is not an important determinant of investment spending, the classical transmission mechanism of monetary policy, for the simple reason that what matters is expected profits (Fazzari 1993). When optimism is high, a few percentage points higher borrowing costs do not change the net returns much. The interest rate-investment link is weak and in the past few decades investment spending has not been a driver of the cycle, anyway.

On the other hand, interest is a significant cost of doing business, and firms pass higher interest costs along to consumers and purchases by firms of intermediate inputs. The impact should be quite similar to that of a wage hike or an OPEC-led raising of oil prices. Interestingly, the Carter administration argued that Fed Chair Volcker’s huge hike of interest rates was fueling inflation:

the Carter Administration had recognized that the main driver of inflation was fuel costs, followed by Volcker’s interest rate increases (which were themselves established in the interest of halting inflation). “Very large advances in energy prices and in the costs of home purchase and finance were dominant factors in the 13 percent rise in the consumer price index (CPI) during 1979,” the Council of Economic Advisors noted in the 1980 Economic Report of the President. Food costs had also been a consistent source of inflation throughout the decade. The subsequent year’s Economic Report of the President again affirmed this analysis. “[H]alf of the CPI is accounted for by energy, food, and home purchase and finance,” Schultze and his colleagues wrote. (Freund – Stein, forthcoming)

It is not coincidental that interest costs (of mortgages) were removed from the CPI during the high interest rate regime imposed by Volcker: raising rates fed directly into the measure of inflation. That is why imputed rental costs replaced actual housing costs for owner-occupied
housing. But interest costs still feed through to actual rents and many other consumer items that remain in the CPI basket.\footnote{Cynamon and Fazzari (2017) argue that use of imputed values to construct household income leads to significantly overstated estimates of the actual cash flows available to finance consumption. For example, they report that the NIPA measure (that includes imputed housing services) of household disposable income is $12.5 trillion, while their alternative measure (that excludes such imputations) is only $9.1 trillion. This “bias” in turn understates household debt ratios and debt burdens. On the other hand, use of the imputations tends to smooth the income (and spending) series—which one could argue makes the NIPA measure more useful for some aspects of analysis (such as Friedman’s consumption function) and for policy-making (given the supposed long lags of monetary policy). We thank a referee for making these points.}

It is not controversial to argue that the Fed raises rates when it thinks the economy is becoming overheated—this is called “taking away the punchbowl before the party gets out of hand.” As Fig. 1 shows, the Fed’s rate hikes have been impeccably timed: they raised rates going into recessions, and lowered them coming out.

Inflation generally rises before recession (especially at the end of the 1970s) and falls over the recession. Rate hikes and inflation are positively correlated, with unemployment lagging—rising over the recession and even after it ends. Note, however, that while the Fed continues to raise rates going into recession, and lowers them coming out, inflation has not shown strong pro-cyclical trends since the early 1990s. A maniacally active Fed after the mid-1980s can be contrasted with quiescent inflation that lasted an entire generation. The unemployment rate has remained strongly anti-cyclical (falling when growth quickens) even as inflation has not.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig1.png}
\caption{Inflation and the federal funds rate}
\textit{Source: FRED.}
\end{figure}
remained strongly pro-cyclical. Recovery of employment takes longer, and the cyclical recovery is longer compared to the earlier period. Recoveries do not generate inflation in recent years—up to the recovery from the pandemic. In addition, while the fed funds rate was typically far above the inflation rate before 2000, it has typically been well under the inflation rate since then. If the Carter administration was correct, the low fed fund rates of the past three decades helped to keep inflation down.

If one did not know whether the Fed was targeting inflation or unemployment, the data displayed in Figs 1 and 2 indicates that policy is most focused on unemployment—raising rates when unemployment falls. While this simply might be because the unemployment rate falls in the expansion, reaching a bottom just before recession (which coincides with the typical rate hike), it certainly looks like the Fed is targeting unemployment.

In summary, the simple correlation of interest rates and inflation rates shows that they tend to move together, although in recent years the movement of inflation had been quite constrained before the post-Covid high inflation period. There are three obvious and competing explanations. First, if the Fed raises rates in response to actual inflation pressure, then there will be a positive correlation. Second, if the Fisher effect is operative, as inflation rises, lenders raise

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**Fig. 2. Unemployment and the federal funds rate**

*Source: FRED.*

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8That is the theory that the nominal interest rate equals some real interest rate plus expected inflation. It is based on the notion that a lender needs a “real return” that compensates for rising prices. We do not accept this view and instead adopt Keynes’s analysis. See Wray (2007) for a discussion.
nominal rates to preserve a real return on loans—so, again, the correlation will be positive. The third explanation relies on reverse causation: high interest rates mean high costs, increasing the incentive to raise prices. The first two are widely believed; the third is wildly heretical.

The Fisher effect implies negative inflation-adjusted interest rates are an anomaly—it is irrational to lend at a nominal rate that ignores expected inflation. In practice, we cannot test this because—again—we do not observe expected inflation. However, we can measure “real rates” ex post—and we find that negative real ex post interest rates have been quite common, particularly in the period before Volcker. The Fisher effect does poorly by this test.

The common view is that as the Fed raises rates, markets expect inflation to fall, and so it falls. The sooner the Fed raises rates, the more convinced markets are that the Fed is doing its job, so inflation expectations and actual inflation fall. Indeed, raising rates before inflation appears is even better—expectations of inflation dissipate so inflation never shows up. If the Fed lowers rates when inflation is too low, the market will expect higher inflation and so inflation will rise. However, while the empirical record may be consistent with the first example, it has not been consistent with the second. Near-zero rates after the GFC did not increase actual inflation (while this is not surprising from a Keynesian view, it casts doubt on the relegation of macroeconomic policy to the central bank).

Interestingly, Rudd shows that households, especially, have been more reluctant to lower their expectations of inflation since the days of Volcker: they always expect inflation to be about a percentage point above what professional forecasters expect and what actual inflation turns out to be. However, the near-continual ZIRP policy over the dozen years following the GFC did not cause households to raise their expectations at all, nor did professionals raise theirs. They held their expectations essentially constant over the whole period.

The third possibility is simpler and consistent with both the high inflation and the low inflation periods: perhaps the Fed’s high interest rate policy in high inflation periods helps to keep inflation up; its low interest rate policy in low inflation periods helps to keep inflation down. This does not mean that monetary policy’s reverse causation is the only explanation—or even the main explanation—for the correlation. Perhaps Fed policy is not the main driver of inflation (or disinflation). When inflation finally runs out of steam (in recent years, a financial bubble bursts and causes a downturn; in the Volcker experiment, oil and commodity prices stabilized; in either case, price pressures settle), the Fed lowers rates as inflation falls—then lower rates take more steam out of the economy—as we explain next.

There is yet another channel through which interest rates affect inflation: the income channel. Interest income rises as the Fed increases target rates, although impacts are complicated: rising interest rates on private sector debt shift income from debtors to creditors who have higher income and wealth and a lower propensity to consume—which should be deflationary. However, rising interest rates on debt increases government spending on interest, boosting private sector income. An analysis by Tauheed and Wray (2006) uses a system dynamics model

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9The Cynamon and Fazzari study cited above argues that use of NIPA data understates the debt burden of households. Raising interest rates increase household interest payments. They found that in the 1970s and 1980s households did not reduce consumption but borrowed more relative to income. The household saving rate (by their measure) was strongly negative from the 1980s to 2007, when the economy crashed into the Great Recession. With respect to household consumption, then, raising interest rates did not cause consumption to fall but instead worked by increasing financial fragility on trend.
with plausible parameters to show that higher interest rates could stimulate spending through the interest income channel, depending on initial conditions. If the private debt ratio is small, and given low interest rate elasticity of private spending, a higher rate will not reduce private spending significantly. However, if the national government’s debt-to-GDP ratio is high, rate hikes increase government spending, increasing private sector income and spending.\textsuperscript{10} This can stimulate the economy. Rate reductions have the opposite effect. Together with the effect of higher interest rates on business costs discussed above, this interest income channel could increase pressure on inflation.

These results are conditional on the government debt ratio, propensity to spend out of interest income, and the interest-elasticity of private spending. The private debt ratio also matters because higher interest rates increase debt burdens (most of the interest paid by private debtors will be received as private interest income, but with an asymmetric effect such that the net effect is disinflationary)—potentially triggering a financial crisis (as Volcker’s policy and the Fed’s rate hikes after 2004 did).

As Fig. 3 shows, recent interest rate hikes have added interest income equal to 2\% of GDP. While much smaller than Volcker’s boost, we are still in the early stages of tightening. The higher rates add to the government’s deficit and pump more higher-paying treasuries into the economy. After Volcker’s hikes, government spending on interest added 4\% to GDP for a decade.

At the same time, the higher rates to consumers have significantly increased costs of home-ownership and of purchasing new cars. The autoworker’s union has highlighted these costs during its September 2023 strike for higher wages. As Stoller (2023) reports, “in Q2 of 2022, the

\begin{figure}
\centering
\includegraphics[width=\textwidth]{fig3}
\caption{Federal government interest payments net of interest receipts and federal reserve dividends, percent of nominal GDP, 1960–2023}
\label{fig:interest}
\end{figure}

\textit{Source: FRED.}

\footnote{Federal government interest spending has risen from \$508.5 billion in 2020 third quarter (seasonally adjusted annual rate) to \$981.3 billion in the third quarter of 2023—providing a significant boost to income (Fred 2023).}
average monthly payment for a car was $678, in Q2 of 2023, it was $733", even though the sticker price of new cars had fallen “because average interest rate for a new car jumped to 6.63 percent in the second quarter of this year. It was 4.60 percent in Q2 of 2022, and 4.17 percent in Q2 of 2021”. Further, “the typical mortgage payment is up 20 percent from a year ago.” These higher rates do not feed directly to inflation (because, as discussed, housing services of owner-occupied houses are imputed) but can indirectly through wages and imputed prices.

5. TOWARD A BETTER MIX OF FISCAL AND MONETARY POLICY

In conclusion, control over the fed funds rate provides less control over spending and inflation than typically presumed, and it might not even move spending in the direction desired. At the very least, we need to consider putting more responsibility on fiscal policy for maintaining aggregate demand with reasonably constrained inflation and high employment. Fiscal policy has more tools—including the conventional tools of targeted spending and taxing.

Congress also has tools that go beyond usual fiscal policy. It has used trade policy, regulations, wage and price controls, subsidies, and even rationing to fight past inflation. It can also release commodity buffer stocks (as President Biden did to reduce pressure on oil prices) to reduce price pressures. Further, fiscal policy can be targeted in a way that monetary policy cannot: the Fed can raise or lower the fed funds rate, but it is difficult to use that to focus the impact on a region of the country or a particular kind of activity. Fiscal policy can directly promote building capacity to relieve price pressure. While the Fed can use nonconventional monetary policy to direct credit to particular groups (buying mortgage-backed securities to support home lending and municipal bonds to support local government), this faces two kinds of problems. The first is the “you can lead a horse to water, but you cannot make her drink”: the Fed still needs willing lenders and borrowers, both scarce in a slump. Second, the Fed is a body of experts that does not face reelection, not a democratic body representing the interests of the electorate. Targeted policy picks winners and losers, a job better left to elected representatives.

The current dilemma brings into sharp focus the danger of relying on monetary policy. What began as a supply-side shock morphed into a demand-side problem as incomes fell because people could not go to work, and many service-sector firms had to close. Complicated supply chains plus just-in-time production led to shortages of key components so that even with huge relief spending to replace lost income, recovery of production was constrained. As a result, prices rose rapidly. Eventually and inevitably, the Fed’s patience ran out.

Yet, raising rates was the wrong medicine, especially if interest elasticity of investment spending is high. Fighting the combination of slow growth and high inflation with higher interest rates would not help to restore the supply side. The correct response was to ramp up the supply side to relieve shortages—which requires finance. If the conventional views of interest rate effects are correct, it is bad policy to raise rates when the supply side is struggling.

Fiscal policy is better equipped to ramp up capacity in key areas. If monetary policy is to play any role, low rates are more conducive to capacity building. We are reminded of the misguided austerity response to oil price shocks of the early and late 1970s, sparking inflation along with high unemployment—stagflation. The correct response then, and now, is to become more energy-efficient and to promote alternative energy sources. Not only would that have avoided prolonged stagnation in the 1970s, it would also have reduced reliance on oil. Today we realize
that we have no choice: we must stop using fossil fuels. But the point is that austerity is not the right choice when inflation is fueled on the supply side.

6. CONCLUSION

The mainstream consensus is that slow growth is a supply-side problem while inflation is a demand-side problem. In the run-up to the COVID downturn, Larry Summers warned of long-term secular stagnation. Pundits attributed this to a variety of supply-side factors, including slow growth of the labor force (due to aging), slow productivity growth (absence of innovation), low saving rates (constrained loanable funds), and excessive government budget deficits (divert savings to inefficient uses). Given slow growth on the supply side, austere fiscal and monetary policy should keep demand in check to prevent inflation. The prevailing wisdom was that the central bank should enforce economic speed limits. When the GFC brought on the worst recession since the Great Depression, President Obama’s miniscule relief package reflected that thinking—and recovery took a decade.

The economic disruptions from COVID caused a sharper downturn due to lockdowns and supply chain breakages. Congress and two successive Presidents responded with much larger relief packages. (Papadimitriou et al., 2021) The first round went to over-due bills and precautionary savings; the second round brought spending close to pre-pandemic levels. Larry Summers soon began to warn of inflation due to excessive demand, proclaiming unemployment would have to rise sharply to eliminate inflation pressures.

In truth, as Nersisyan and Wray (2022a, 2022b) have shown, inflation picked up steam after the relief programs had run their course. Like high inflation periods of the 1970s, inflation was driven by rising prices of energy, food, and shelter costs—with some anomalies such as used car prices (boosted by a shortage of new cars). Oligopoly pricers took advantage, boosting profits while proudly reporting to shareholders record markups. Pundits warn of another wage-price spiral that will produce intransigent inflation, but the truth is that US wages did not keep pace with inflation in our previous high inflation periods and is not doing so—at least, not yet. In spite of claims that labor markets are tight, real wages are not rising across the board, although there have been some much-needed increases at the bottom.

Higher oil prices feed quickly to food, shipping, and other transportation costs. The biggest portion of shelter costs is the imputed rent of home-owner occupied housing—a fabricated number that can be impacted by rising rents, but a poor proxy for actual costs faced by home-owners and overstates the inflation burden. While, there are price pressures across an ever-changing range of consumer items, many of these are linked to long and complex supply chains, to difficulties in staffing workplaces, and to exercise of pricing power.

President Biden—like all the Presidents since Jimmy Carter—has proclaimed that inflation control is the Fed’s job. Its favorite tool is the overnight rate target. As the joke goes, if all you’ve got is a hammer, everything looks like a nail. Chairman Powell looks to Paul Volcker, who hammered the rate above 20%, helping to bring on the stagflation that tanked Jimmy Carter’s presidency and secured the neoliberal era that brought us decades of secular stagnation.

Raising rates is precisely the wrong medicine—spending is not sufficiently interest-sensitive, while interest is a cost and a source of income. Higher rates have cooled mortgage markets and take income away from households with floating rate debts while reducing the incentive to build housing to relieve a severe housing shortage. They increase the cost of purchasing...
new cars—which makes Americans hold on to used cars, pushing up their prices, too. Higher finance costs of purchasing new cars delay the transition to electric vehicles. We also need investments in infrastructure—including, most importantly, investments in greening our economy—that will be postponed. And if it is true that we’ve entered a “new normal” period of lower labor market participation, we need investments in labor-saving technologies. The answer to supply side constraints is to make investments in the supply side—not to cripple aggregate demand.

Even if Larry Summers was correct that relief spending was too big, the fiscal stance had already tightened significantly before the Fed’s hikes. Relief spending ended and tax revenues were booming, pulling two trillion dollars out of the economy. Recession was already a possible outcome—even without raising rates. Now, ironically, the high rates have increased government spending on interest—turning the fiscal drag into a stimulus. However, interest income is not well targeted—much of it goes abroad, to institutional savings, and to high wealth households.

For many months, the Fed had adopted the correct policy: patience. The pandemic turned out to be much worse and longer-lasting than most expected. Further, it revealed the vulnerability of global supply chains that Neoliberalism created and relied upon. What is needed is fundamental economic reform—a longer-term project. For now, we need to end rate hikes and renew relief spending better targeted to those who need it most. We need more investment in low income housing (to moderate rent hikes), more investment in alternative energy (to reduce dependence on volatile and planet-destroying oil), and to tackle price-gouging by the megacorps that dominate. There is no magic bullet that will bring inflation below 2%, but it will eventually moderate. Some inflation is acceptable if we can keep employment up, reduce poverty, and put the economy on an environmentally sustainable path.

Most importantly, we need to rethink our approach to monetary policy and its usefulness in fighting inflation.

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