Robert L. Hetzel (April 12, 2023)[1]

Should the Fed Let Markets Work?[2]

The FOMC chooses the monetary standard. Congress has delegated that responsibility to the Fed. Given the existential importance of monetary policy, the FOMC should articulate the nature of the monetary standard that it has chosen.

In its public communication, the FOMC repeats its allegiance to the dual mandate of "stable prices" and "maximum employment." That communication, however, is just a profession of good intentions. The FOMC's instrument, the funds rate, is an overnight interest rate. Connecting the setting of the FOMC's funds rate target and achievement of its dual mandate objectives lies the structure of the economy. As the intellectual and political environment has changed, the FOMC's understanding of that structure has also changed.

Against a background of an extensive review of the economy, which gives the impression that the FOMC understands the structure of the economy, FOMC communication relies on intuition. When the objective of maximum employment is the primary concern, the FOMC lowers the funds rate, eases conditions in financial markets, and stimulates the economy. When the objective of stable prices is the primary concern, the FOMC raises the funds rate, tightens conditions in financial markets, and restrains the economy. Intuition, however, does not substitute for an explicit articulation of the monetary standard. How does the standard give the price level a well-defined value and how stable is it? To what extent does the monetary standard rely on the stabilizing properties of the price system to achieve its employment objectives and to what extent does it override the operation of the price system?

An answer to these questions depends upon an answer to more fundamental questions. Is inflation a nonmonetary phenomenon? If so, should the FOMC manipulate slack in the economy to make trade-offs between its unemployment and inflation objectives using the Phillips curve, which

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[2] The ideas in this paper draw on the monetarist tradition developed by a remarkable assemblage of economists at the Federal Reserve Bank of St. Louis in the 1960s and 1970s attracted by Homer Jones: Leonall Anderson, Richard Anderson, Anatol Balbach, Al Burger, Rik Hafer, Scott Hein, Jerry Jordan, Michael Keran, Jim Meigs, Robert Rasche, and Jack Tatom. They also publicized work by Karl Brunner, Allan Meltzer, and Anna Schwartz. See Bordo and Schwartz (2008). The paper is dedicated to Marvin Goodfriend, from whom the author drew inspiration for all his ideas.

provides an empirical relationship between them? Alternatively, is inflation a monetary phenomenon? If so, should FOMC procedures provide for the monetary control required for price stability while turning over to the unfettered operation of the price system the determination of real variables such as unemployment?

In the past, at different times, based on how the FOMC has answered these questions, monetary policy has been implicitly organized around two very different views of the optimal monetary standard and management of the dual mandate. They can be summarized as broadly based on either a Keynesian or a monetarist tradition.[3] The fact that the monetary standard has moved between these two traditions at different times provides the experiments needed to assess which standard is optimal. The FOMC has a responsibility not only to articulate the nature of the current monetary standard but also to defend it in terms of which of these alternative standards has worked satisfactorily in the past.

Such transparency is especially important at present. As of April 2023, the FOMC is committed to lowering inflation to its 2% target from an underlying level of around 4 ½ %. A restrictive monetary policy will surely engender the required disinflation. At the same time, the FOMC has not articulated a strategy for controlling disinflation so that it stops at 2%. Moreover, its silence also carries over to a long-run strategy for maintaining inflation at 2%.

To restore and then maintain 2% inflation, the FOMC needs a strategy that moves nominal output growth down to 2 percentage points above potential output growth and then maintains that difference. The proposal here is for a benchmark path for nominal output growth that restores and then maintains that difference. The Fed would adjust the path in line with ongoing estimates of potential output growth. The path would not be a target to be achieved with a feedback rule implemented with a funds rate instrument. Instead, it would be a guard dog in the background that would maintain an informal discipline on the FOMC's basic lean-against-the-wind procedures. That discipline would provide the stable nominal anchor, which stable money growth would have supplied before 1980 when the measured monetary aggregates lost their predictive power. It would be in the monetarist tradition and would credibly stabilize the public's expectation of price stability in that the FOMC would make no effort to manipulate the difference between the two series to control unemployment.

The most basic issue that the FOMC should address is how stable is a free-market economy? Is it inherently unstable so that the FOMC needs to routinely intervene in the economy? Alternatively, is it inherently stable so that the FOMC should provide a framework of price stability and give the market economy maximum latitude to operate? The answer is also inseparably tied to the instability or stability of the banking system. Is it inherently unstable and requires an extensive financial safety net? If so, extensive supervision and regulation of risk taking should be employed to mitigate the incentives to risk taking created by the moral hazard of the financial safety net. If not, the Fed and regulators should restrict the coverage of the financial safety net and rely on market discipline to regulate risk taking in the banking system.

Section 1 summarizes the two traditions that have in the past defined the FOMC's choice of the monetary standard: Keynesian and monetarist. The discussion associates them with two distinct

[3] For a more detailed discussion, see Hetzel (2022): *The Federal Reserve-A New History;* Hetzel (2012): *The Great Recession*; and Hetzel (2008): *The Monetary Policy of the Federal Reserve*.

monetary standards termed "LAW with trade-offs" and "LAW with credibility," where LAW is an abbreviation for "lean-against-the-wind." Section 2 makes monetarism relevant to current FOMC practice by explaining how procedures that use an interest rate target rather than a reserves target can provide for monetary control. Section 3 compares the Burns-Miller and Volcker-Greenspan eras as constituting an experiment in the optimal monetary standard.

Section 4 discusses the Bernanke FOMC and the Great Recession. Section 5 discusses the Yellen FOMC and the recovery from the Great Recession. Section 6 discusses the Powell pandemic monetary policy. It includes a discussion of the complications for the subsequent policy of disinflation added by the initial pandemic monetary policy using quantitative easing (QE) to add to the expansionary character of policy. The various monetary policies followed in these three recent periods constitute experiments comparable to the earlier Burns-Miller/Volcker-Greenspan experiment. Section 7 highlights the extent to which the Bernanke FOMC departed from the underlying policy of the Volcker-Greenspan era.

Section 8 asks whether the FOMC's current policy of disinflation is an ad hoc response to high inflation or whether it is part of a viable long-run strategy (rule). It outlines a strategy for returning to price stability constrained by a nominal-output/potential-output gap serving as a guidepost for monetary policy. Section 9 discusses the issues raised by the rescue of SVB and its uninsured depositors in the context of where instability in markets arises. Section 10 concludes and repeats the main issue of whether the optimal monetary standard should be interventionist or should respect the working of a free market economy.

1. The FOMC's dichotomous choice between monetary standards

Since the 1951 Treasury-Fed Accord, the choice of the monetary standard has possessed one of two characters: Keynesian or monetarist. The Keynesian tradition starts from the fundamental premise that the stabilizing properties of the price system are inadequate to ensure full employment. Monetary and fiscal policy must manage aggregate demand to preserve full employment. Given its responsibility for inflation, the FOMC must then juggle two objectives—low unemployment and low inflation. The focus of monetary policy necessarily becomes the Phillips curve—a presumed structural (predictable) relationship between unemployment and inflation. There are two cases depending upon whether at a particular time the FOMC is more concerned about low unemployment or low inflation. In case one, when the desire for lower unemployment is the primary concern, monetary policy should be expansionary. In case two, when the desire for lower inflation is the primary concern, monetary policy should be contractionary. Policy is presumed to exercise predictable control over the amount of slack in the economy, reducing it in case one and increasing it in case two.

A natural concomitant to the premise that the stabilizing properties of the price system are inadequate to maintain full employment is that at the microeconomic level prices do not function well to clear markets. The required variation in relative prices is frustrated by a variety of forces, especially, the market (monopoly) power exercised by large corporations and labor unions. This structural inability of relative prices to clear markets provides the Fed with a lever to control slack in the economy, typically measured by the difference between the unemployment rate and the NAIRU (non-accelerating inflation rate of unemployment). That is, a built-in rigidity of relative prices allows expansionary or contractionary monetary policy to exercise predictable control over real variables (output and employment).

Expectations impart persistence to inflation shocks causing the relative price shocks that pass through to the price level to propagate. The reason is that expectations are adaptive in that they are based on a weighted average of past inflation rates. In the extreme, inflation becomes a wage-price spiral in which the expectation of inflation is untethered to the FOMC's inflation target. An attempt by the FOMC to establish a nominal anchor would impose a real cost in terms of inflation. The cost of reducing an entrenched inflation is determined by the sacrifice ratio: the number of man-years of unemployment above full employment required to reduce the inflation rate by one percentage point. Controlling inflation requires a counterbalancing force in the form of increases in the unemployment rate. The classic statement of this trade-off was given by Arthur Burns (1979) in his tract, *The Anguish of Central Banking*.

The monetarist tradition starts from the premise that the stabilizing properties of the price system suffice to ensure full employment provided that the FOMC does not interfere with its operation. The FOMC should provide a stable framework of price stability to support the operation of a market economy. Within such a framework, relative prices work well to clear markets. A focus on price stability assumes that FOMC procedures should leave to the unfettered operation of the price system the determination of relative prices and of real variables (quantities) such as employment and output. As made explicit in the New Keynesian model of Goodfriend and King (1997), a monetary policy of price stability gives free rein to the operation of the price system to determine real variables as captured by the real business cycle core of the economy.

The stabilizing properties of the price system appear in the key role played by the natural rate of interest, which is the real rate of interest that distributes aggregate demand intertemporally to keep contemporaneous aggregate demand equal to potential output. As summarized by Barsky et al (2014, 38), "An interest rate path in which the actual real rate is always equal to the natural rate achieves both an output gap of zero . . . and zero inflation."

In the monetarist tradition, agents are forward looking. Provided that the FOMC operates with a rule that makes the evolution of the price level predictable, preferably through a policy of price stability, agents can sort out changes in the price level from changes in relative prices (Lucas 1972). They can then make optimal allocative decisions. Moreover, as long as the FOMC allows the price system to operate, despite shocks to the economy, agents will remain optimistic about the future. They will then maintain their current consumption to smooth their consumption over time. Modeled in terms of the New Keynesian model, the FOMC should stabilize sticky-price inflation while giving free rein to fluctuations in flexible-price inflation (Aoki 2001). A policy of keeping sticky-price inflation steady while allowing flexible-price inflation to fluctuate freely facilitates the unhindered determination of relative prices.

The fact that the FOMC implements monetary policy by setting a target for an interest rate, the funds rate, leaves ambiguous the role of the interest rate in the transmission of monetary policy. Should one think of the interest rate as part of the price system with the natural rate of interest as a price that clears the goods market? Alternatively, should one think of the interest rate as an influence on financial intermediation and on the degree to which banks extend credit?

The standard Fed narrative draws on the Keynesian tradition, which understands the transmission process as working through its effect on financial intermediation. Raising the funds rate tightens financial conditions and works to reduce inflation. Lowering the funds rate loosens financial conditions and works to increase employment. This narrative conveys to the public the impression

that the FOMC understands the structure of the economy and how funds rate changes translate into achievement of its objectives.

The Fed leaves unstated the numerous steps required to give substance to its narrative. To give the narrative substance, the FOMC should make explicit an empirical measure of the degree of tightness or looseness in financial markets. That measure would have to go beyond identifying increases in the funds rate as "tightening" and reductions as "easing." Second, given the FOMC's focus on the Phillips curve trade-offs between its two objectives, it would need to make explicit an empirical measure of the degree of slack in the economy such as a measure of the difference between the unemployment rate and the NAIRU. Third, it would need to explain how measures of tightness or looseness in financial markets translate into this measure of slack. Fourth, it would need to make explicit its measure of the trade-offs embodied in the Phillips curve.

The view of the transmission process in the monetarist tradition is particularly relevant at present to an understanding of the results of the significant monetization of government debt undertaken by the FOMC starting in March 2020. In "The Lag in Effect of Monetary Policy," Friedman (1961 [1969], 255-6) characterized the transmission process in terms of a portfolio balance effect:

> Suppose the monetary authorities increase the stock of money by open-market purchases. . . . Holders of cash will seek to purchase assets. . . . If the extra demand is initially directed at a particular class of assets, say government securities, or commercial paper, or the like, the result will be to pull the prices of such assets out of line with other assets and thus to widen the area into which the extra cash spills. The increased demand will spread, sooner or later affecting equities, houses, durable producer goods, durable consumer goods, and so on. . . . The key feature of this process is that it tends to raise the prices of sources of both producer and consumer services relative to the prices of the services themselves. . . . It therefore encourages the production of such sources (this is the stimulus to "investment" conceived broadly as including a much wider range of items than are ordinarily included in that term) and, at the same time, the direct acquisition of services rather than of the source (this is the stimulus to "consumption" relative to "savings.")

Specifically, a portfolio balance effect operates when open market purchases replace relatively illiquid assets like long-term Treasuries and MBS in the public's asset portfolio with liquid bank deposits. To reconcile the public to holding a more liquid asset portfolio, the price of illiquid assets must rise. That is, the price of equities, houses, consumer durables, commodities, and so on must rise (Tobin's Q). The rise in the price of assets relative to their service flows initially produces an increase in investment and real output. Later, inflation rises to restore the amount of real cash balances (liquidity) desired by the public. This process takes time to unfold and then unwind and is affected by extraneous forces. Friedman made it the basis for his long-and-variable-lags critique.

Friedman (1960) used the critique to explain the economic instability introduced with the FOMC's 1970s policy of activist aggregate-demand management characterized by alternating intervals of expansionary and contractionary policy. Friedman and Schwartz (1963b [1969], 234) wrote: "The central element in the transmission mechanism . . . is the concept of cyclical fluctuations as the outcome of balance sheet adjustments, as the effects on flows of adjustment between desired and actual stocks. It is this interconnection of stocks and flows that stretches the effect of shocks out

in time."[4] Despite the power of the portfolio balance effect, these lags made monetary policy an inappropriate tool for fine tuning the economy. Friedman (1970, 13) wrote: "Our present understanding of the relation between money, output, and prices is so meager, that there is so much leeway in these relations, that . . . discretionary changes do more harm than good."

2. Monetary control with an interest rate target

As understood within the monetarist tradition, how does the FOMC achieve monetary control with procedures that target the funds rate rather than a reserves aggregate? Given the monetarist assumption that price stability requires monetary control, the place to start is with an investigation of the periods in which the FOMC achieved price stability. Such an investigation requires an understanding of the associated procedures the FOMC has used in the past to implement monetary policy and how they changed over time.

After the 1951 Treasury-Fed Accord, the new FOMC chair, William McChesney Martin, had to reinvent monetary policy. Since March 1933, the Fed had been under the control of the Treasury whose main interest was selling its debt at a low interest rate. Inspired by the role played by American productivity in winning World War II, Martin and his colleagues believed firmly in a free market economy. They wanted price stability to avoid a return to the price controls and shortages of the war. The forced monetization of debt by the Fed with the Korean War combined with a surge in commodity price inflation spurred by the threat of a World War III forced a showdown with the Treasury that resulted in Fed independence, albeit tentative. Fortunately for the Fed, the Eisenhower administration, which succeeded the Truman administration, was also firmly committed to price stability.

To maintain price stability, Martin wanted growth of credit in line with sustainable growth in the economy. The FOMC implemented policy with free-reserves procedures, which made the price of bank reserves vary with the level of the discount rate plus an amount that varied positively with bank borrowing at the discount window. (Free reserves referred to the difference between excess reserves and borrowed reserves.) Martin never admitted that the FOMC was setting an interest rate in the money market. He portrayed free-reserves procedures as discouraging bank lending and credit creation when the economy was growing unsustainably fast and free reserves declined (borrowed reserves increased) and conversely during periods of sustained weakness and free reserves increased (borrowed reserves decreased). With these procedures, Martin could avoid sending a signal to the Treasury that the Fed was buying (monetizing) debt as it had been forced to do in the Korean War. In a break with the real bills views of the Fed that held sway in the 1920s and 1930s, Martin ceased to look at the stock market and firm inventory accumulation as signs of speculative excess and instead looked at the yields on long-term bonds for signs of inflationary expectations.

Martin used the term "lean-against-the-wind" (LAW) to summarize the resulting monetary policy. Specifically, the FOMC would assess whether the economy's rate of resource utilization was increasing at an unsustainable pace (the unemployment rate was declining persistently). If so, it would lower its free reserves target. By increasing the marginal cost of reserves to banks, through arbitrage, it was raising the interest rate in the New York money market. Converse statements hold for weakness. These procedures developed over time during the 1950s. When inflation rose in 1956

[4] See also Friedman (1963b [1969]), "Money and Business Cycles," 231-2.

to 3%, Martin drew the conclusion that the reason was the failure to undertake preemptive tightening in the money market following the May 1954 trough in the business cycle.

LAW with preemptive tightening to forestall an increase in inflation is termed here LAW with credibility. With the advent of the Johnson administration and the earlier campaign of the Walter Heller Council of Economic Advisers (CEA) to make 4% unemployment a national goal, LAW with credibility came under attack. Conflict arose over the issue of preemptive increases in the funds rate. The FOMC came under pressure not to raise the funds rate until the unemployment rate declined to near 4%. Because of Keynesian appointees to the Board of Governors, the Board was divided. With his house divided, Martin did not feel that he could challenge the administration and Congress. He opted for an accommodation, which entailed working with the Treasury to persuade President Johnson to send a proposal to Congress for a tax increase to turn the deficit into a surplus. Johnson sent the proposal to Congress but negotiations with Wilbur Mills, chairman of the House Ways and Means Committee dragged on.

When Congress finally passed an income tax surcharge in June 1968, Martin lowered the regional Bank discount rates in accordance with his assurance to Congress that a budget surplus would obviate the need for higher interest rates. Although the deficit turned into a surplus, money growth continued unabated, and inflation rose from near price stability in the first half of the 1960s to 6% in 1970. Although not undertaken in the spirit of the policy of aggregate-demand management of the 1970s, the Martin FOMC still provided a test of the Keynesian optimal instrument policy. That policy advised keeping interest rates low to protect the housing market while pursuing a restrictive fiscal policy to restrain aggregate demand and inflation.

Martin realized his mistake too late and pursued a disinflationary monetary policy in 1969. However, his time ran out as chairman in January 1970 before he could restore price stability. Although his replacement, Arthur Burns, was not a Keynesian, his acceptance of inflation as a nonmonetary phenomenon arising from cost-push forces, caused him to pursue monetary policy in a Keynesian spirit. In 1970, inflation (quarterly average core CPI) averaged 6.5%. At the same time, the unemployment rate rose from 3.5% in December 1969 to 6.1% in December 1970, well above the presumed full employment number of 4%. Both Burns and the Keynesians drew the conclusion that with slack in the economy inflation had to be due to cost push.

With the level of the Phillips curve presumed to have been pushed high above a level consistent with price stability at 4% unemployment, Burns pushed for wage and price controls to lessen the inflationary cost of full employment. He regularly postponed increasing the funds rate while bargaining with Congress over the implementation of the price controls he had advocated. In the Ford administration incomes policies were off the table because of opposition by the CEA headed by Alan Greenspan. However, Burns' lobbying for incomes policies resumed in the Carter administration. With two independent competing goals, low inflation and low unemployment, and with achievement of the low inflation goal made socially costly in terms of high unemployment due to cost-push forces, the FOMC often accepted inflation as the cost to be paid for a socially acceptable unemployment rate.

In the 1970s, the basic LAW with credibility became LAW with trade-offs. The latter abandoned preemptive increases in the funds rate during economic recoveries by raising the funds rate significantly only when inflation emerged. With the emergence of inflation, the FOMC raised the funds rate steadily until the economy weakened. Concerned that a reduction in the funds rate would signal to markets a willingness to accept the higher inflation, the FOMC resisted reductions

until the economy entered a recession. With recession apparent, the FOMC again made monetary policy expansionary and ultimately inflationary with sharp reductions in the funds rate. The result came to be known as stop-go (go-stop) monetary policy.

A counterfactual of how the 1970s would have unfolded if the FOMC had retained LAW with credibility requires an understanding of how it would have maintained monetary control. Again, those procedures rely on the assumption that inflation is a monetary phenomenon and that the monetary control required for price stability allows the stabilizing properties of the price system to keep the real economy fluctuating near full employment.

LAW with credibility concentrates not on output gaps but rather whether the economy's rate of resource utilization is increasing or decreasing (the unemployment rate is decreasing or increasing in a persistent way). A steady rate of resource utilization implies that the economy is growing at potential. (Unlike Keynes' assumption of *The General Theory*, there is no stable underemployment equilibrium.) The economy is growing at potential when the rate of resource utilization is steady. Unsustainably rapid growth in output with a persistent rise in the rate of resource utilization indicates that the real rate of interest lies below the natural rate of interest, with a converse implication in the event of persistent weakness. The natural rate of interest is the price of current resources in terms of future resources that allocates demand intertemporally to maintain equality between current aggregate demand and potential output.

LAW with credibility moves the funds rate in a way that tracks the natural rate of interest and keeps output growing at potential. With the FOMC maintaining an interest rate target, the banking system accommodates the accompanying increase in money demand. The public can always obtain additional bank deposits by selling a security to banks. The New York Desk accommodates increased reserves demand by buying a security to prevent the funds rate from rising above its target. Another way of expressing the idea of monetary control is that tracking the natural rate of interest prevents the disruptive effects of a portfolio balance effect. Disruptive increases in money entailed by failure to track the natural rate of interest are the macroeconomic counterpart of price fixing in individual markets. Keeping the real rate of interest equal to the natural rate of interest clears the goods market so that the Desk does not have to monetize associated excess demands or supplies in the bond market.

LAW with credibility disciplines the public's demand for money to grow in line with the real money demand consistent with price stability. Money is a veil. The fact that money does not necessarily predict inflation does not demonstrate the irrelevance of money. A confusion arises with the monetarist literature based on empirical evidence that money predicted nominal GDP and inflation. Friedman did not follow to its logical conclusion the observation of John Stuart Mill. Friedman (1969 [1968], 106) wrote: "The first and most important lesson that history teaches about what monetary policy can do—and it is a lesson of the most profound importance—is that monetary policy can prevent money itself from being a major source of economic disturbance. Friedman (1974c, 349) cited John Stuart Mill (1848 [1987], 488), and he added a sentence:

> There cannot . . . be intrinsically a more insignificant thing . . . than money; except in the contrivance for sparing time and labor. It is a machine for doing quickly and commodiously, what would be done, though less quickly and commodiously, without it: and like many other kinds of machinery, it only exerts a distinct and independent influence of its own when it gets out of order.

"Mill was perfectly correct although one must add that there is hardly a contrivance man possesses that can do more damage to a society when it goes wrong."

3. Burns-Miller vs. Volcker-Greenspan as an experiment in the optimal monetary standard

If the decade of the 1970s furnished the unique evidence available, one could only conclude that cost-push and high money growth explanations are observationally equivalent explanations of inflation. However, the historical record is replete with examples associating high money growth with inflation.

But what about the fact that M1 stopped being a good predictor of inflation when its velocity fell after 1980? The basic factor was a reduction in the cost of moving funds electronically between money market instruments and bank deposits. Banks only tardily adjust the rates they pay on their deposits when market interest rates change. The resulting difference in rates creates the incentive for reintermediation of funds out of money market instruments and into bank deposits when market rates fall. Disintermediation occurs when market rates rise. With the change in the composition of bank deposits, the liquidity represented by bank deposits changes. Reintermediation causes a decline in the liquidity of measured bank deposits even with an increase in their quantity, and conversely for disintermediation. The change in the "moneyness" of deposits makes them poor predictors of nominal output and inflation.

However, simply because there are no longer satisfactory empirical measures of the liquidity contained in the public's asset portfolio does not mean that the liquidity desired by the public is no longer captured by a stable functional form. There still remains a need for monetary policy to manage bank reserves creation to allow deposit creation to satisfy the liquidity needs of the public. LAW with credibility serves that function.

Goodfriend (2005, 244, 245, and 247) summarized monetary policy (LAW with trade-offs) in the 1970s:

> Inflation would rise slowly as monetary policy stimulated employment in the go phase of the policy cycle. By the time the public and Fed became sufficiently concerned about rising inflation for monetary policy to act against it, pricing decisions had already begun to embody higher inflation expectations. At that point, a given degree of restraint on inflation required a more aggressive increase in short-term interest rates, with greater risk of recession. . . . The absence of an anchor for inflation caused inflation expectations and long bond rates to fluctuate widely. . . . [It] became increasingly difficult to track the public's inflation expectations to tell how nominal federal funds rate policy actions translated into real rate actions.

Paul Volcker became FOMC chair in August 1979. Although committed to restoration of price stability, success was far from ensured. It was uncertain whether Jimmy Carter and then Ronald Reagan would tolerate a serious recession, much less Congress and the public. Also, the Keynesian consensus in academia held that price stability would require recurrent recourse to socially unacceptable high rates of unemployment. The commentary of Paul Samuelson with its obvious reference to Milton Friedman and the latter's trip to Chile expressed the consensus:

Samuelson (1979 [1986], 972) wrote:

> Today's inflation is chronic. Its roots are deep in the very nature of the welfare state. [Establishment of price stability through monetary policy would require] abolishing the humane society [and would] reimpose inequality and suffering not tolerated under democracy. A fascist political state would be required to impose such a regime and preserve it. Short of a military junta that imprisons trade union activists and terrorizes intellectuals, this solution to inflation is unrealistic—and, to most of us, undesirable.

Instead, the Volcker-Greenspan policy restored price stability and produced the Great Moderation.[5]

Given his commitment to a disinflationary monetary policy, Volcker had to convince markets that it was not a repeat of the stop phase of a continued go-stop monetary policy. Initially, he attempted to do so by giving substance to money targets, which the FOMC had vitiated in the 1970s by changing the base for targeted growth rates each quarter to incorporate the misses in money. When the velocity of M1 fell in 1982, the Fed gave up on money as an operational target. (Greenspan continued to follow M2 until FDICIA (FDIC Improvement Act) passed in December 1991 caused velocity to rise as banks pushed out interest sensitive deposits to limit required capital.) Volcker then returned to LAW procedures but with a focus on forestalling an increase in inflationary expectations, which would propagate into higher inflation.

Burned by the earlier inflation, the bond market vigilantes enforced the discipline with an acute sensitivity to any FOMC move that recalled the go phase of the earlier go-stop monetary policy. The result was a return to the preemptive increases in the funds rate, which William McChesney Martin had hoped but failed to make standard. Alan Greenspan, Volcker's successor, who inherited 4% inflation, determined to continue on the path to price stability. A student of Ayn Rand, Greenspan was determined to restore the expectation of price stability that had existed in the gold standard. The Greenspan FOMC completed the task of restoring credibility for near price stability when it raised the funds rate from 3% at its December 1993 meeting to 6% at its February 1995 meeting. It did so with CPI inflation remaining at 3% and without causing a recession.

With the bond market vigilantes dormant starting in 1995, Greenspan used signs of overheating in labor markets as the signal for preemptive funds rate increases. Over the interval 2001Q1 through 2006Q1, quarterly annualized CPI inflation averaged 2.6%. Greenspan (2004, 35) commented, "Unstinting and largely preemptive efforts over two decades had finally paid off " (cited in Orphanides 2006, 178). Preemptive increases in the funds rate precluded any attempt to exploit Phillips curve trade-offs as had been the hallmark of policy in the 1970s. In the Volcker-Greenspan era with its overriding objective of restoring price stability accompanied by the restoration of expected price stability, pursuit of the dual mandate meant providing a stable framework within which a market economy could operate. With price stability, full employment emerges as a byproduct of a healthy economy.

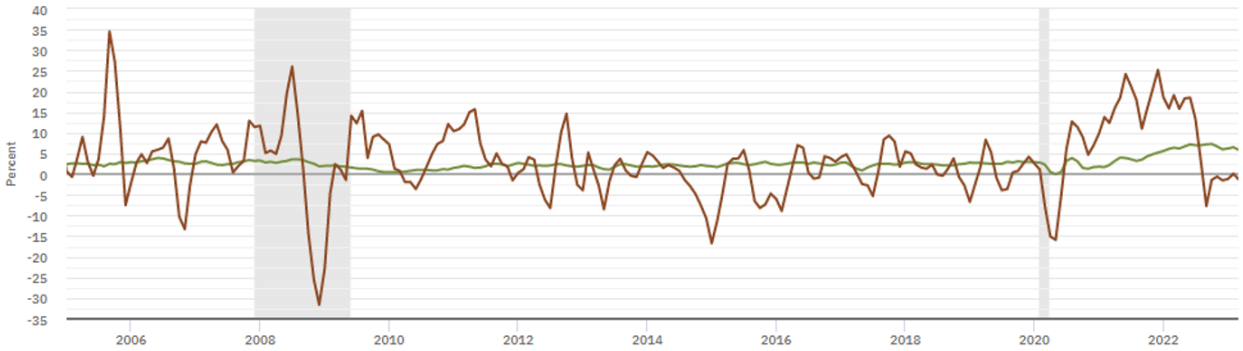
4. The Bernanke FOMC and the Great Recession

Contractionary monetary policy explains the Great Recession in line with earlier recessions without recourse to its popular attribution to a disruption to bank lending. The Great Recession departed from the earlier pattern in two respects. First, the high inflation of 2008 originated in a large, extended inflation shock rather than prior inflationary monetary policy. The inflation shock

[5] See the papers in Federal Reserve Bank of St. Louis (2005) and Hetzel (2022b) who summarizes Goodfriend's account of the change in the monetary standard that occurred with Volcker.

arose from an increase in commodity prices caused by the integration of the BRIC (Brazil, Russian, India, and China) economies into the world economy. Using the Atlanta Fed measures of sticky-price and flexible-price inflation, Figure 1 reveals the inflation shock through the excess of flexible-price over sticky-price inflation in the period starting in mid-2004.

Figure 1: Sticky-price and Flexible-price CPI Inflation (January 2005-March 2023)



Notes: 3-month annualized sticky-price (green line) and flexible-price (brown line) CPI inflation. Shaded areas indicate recessions. Source: Federal Reserve Bank of Atlanta.

Second, initially, the FOMC did lower the funds rate in response to the recession, which began in December 2007. However, after its April 2008 meeting, the FOMC ceased lowering the funds rate as the economy continued weakening. The unemployment rate rose steadily from 4.7% in November 2007 to 6.1% in August 2008 while the FOMC kept the funds rate unchanged at 2% after its April 30 FOMC meeting. After the April meeting, the FOMC remained focused on high headline inflation for fear that it would raise the inflationary expectations of the public. Although Bernanke recommended a reduction in the funds rate from 2% to 1 ½% on October 7, 2008, he did so to accommodate the ECB, which needed to assuage its hawks that it was following the FOMC (Hetzel 2022a, 460). The FOMC did not lower the funds rate to the zero lower bound (ZLB) until its December 15-16, 2008, meeting.

The mistaken belief that monetary policy was expansionary came from observing the near zero real funds rate, which the FOMC interpreted as expansionary monetary policy. From January 2008 through August 2008, core PCE inflation (compounded annual monthly changes, chain-weighted price index) averaged 1.9%. With a 2% funds rate, the real funds rate was near zero. Only later did it become clear that the natural rate of interest was negative—an unprecedented occurrence. That fact can be inferred from two observations. First, over the period from January 2009 through December 2016, the real funds rate averaged -1.24%.[6] Over the same interval, inflation (12-month percentage changes in the core PCE, chain-weighted deflator) remained steady at 1.5%. If monetary policy had been expansionary because the real funds rate lay below the natural rate of interest, inflation would have risen instead of remaining stable. Second, with the funds rate at the ZLB, economic recovery required both forward guidance and quantitative easing.

Confusion as to the source of the Great Recession also came from the post hoc ergo propter hoc association of the recession with the turbulence in financial markets that arose with the Lehman

[6] See figure 18.5 (Hetzel 2022). The series for expected inflation is from Board of Governors staff forecasts of inflation.

failure on September 15, 2008. What had been a moderate recession turned into a severe recession in summer 2008, however, when the business inventory/sales ratio shot up and businesses had to work off significant excess inventories (Hetzel 2022, figure 21.3). The payroll employment number for September 2008, for which the survey was conducted early in the month before the Lehman bankruptcy, declined at an annualized rate of -3.9%. The economy of the industrialized world went into recession in summer 2008 (Hetzel 2022, figure 21.7). However, because of the lag in data reporting, that fact was only reported in early October 2008, coincidentally shortly after the Lehman bankruptcy.

Because of the mistaken assumption that monetary policy was expansionary because of a near zero real funds rate, Bernanke believed that the recession was due to a disruption to financial intermediation. That disruption arose from the concern of banks for their capital levels rendered uncertain by the loss of value of the long-term mortgages held on their books. Bernanke was a student of the Depression and had studied Friedman and Schwartz (1963a). The latter emphasized the contraction of the money stock. Bernanke instead emphasized the contraction of the banking system with the attendant reduction in bank credit. Bernanke (1983) concluded that the length and the severity of the Depression came from disruption of a credit channel. For that reason, in fall 2008, the Fed turned to bailing out financial institutions like AIG and the money fund Primary Reserve. When cash investors, shocked by the retraction of the financial safety net when regulators allowed Lehman to fail, moved their funds to the too-big-to-fail (TBTF) banks like JP Morgan Chase, the Fed invented a plethora of credit facilities to undo the flight of the cash investors.

What should the FOMC have done in fall 2008? First, it should have addressed its concern over the unanchoring of inflationary expectations by announcing an inflation target, something it did not do until January 2012. Second, it should have undertaken QE to maintain the aggregate spending of the public (Sumner 2021). The emergency lending of the Fed after the Lehman failure provided liquidity but failed to stimulate demand. The reason was that the Fed loans were short term and had to be repaid with interest. It was the QE undertaken starting in early 2009 that demonstrated the power of the portfolio balance effect, which began with purchases of federal agency debt and MBS and continued with Treasury securities after March 2009.

On the statement date September 9, 2008, just before the Lehman bankruptcy, reserve bank credit amounted to $888 billion with $480 billion in securities held outright. As of November 5, 2008, reserve bank credit had jumped to about $2 trillion because of the Fed's emergency lending programs with almost no change in securities held outright. As of June 4, 2009, the month the recovery began, with no change in reserve bank credit, securities held outright (mainly treasuries and MBS) amounted to half the total of reserve bank credit. By January 6, 2010, again with little change in reserve bank credit, securities held outright had basically replaced emergency lending and amounted to almost all reserve bank credit.[7]

5. The recovery from the Great Recession and a temporary return to LAW with credibility

Recovery from the Great Recession began in June 2009. In the past, strong recoveries had always followed deep recessions. Although the funds rate was at the ZLB, the yield curve sloped

[7] Data from Federal Reserve Statistics, statistical release H.4.1. For a graphical overview, see Hetzel 2022, figure 21.5.

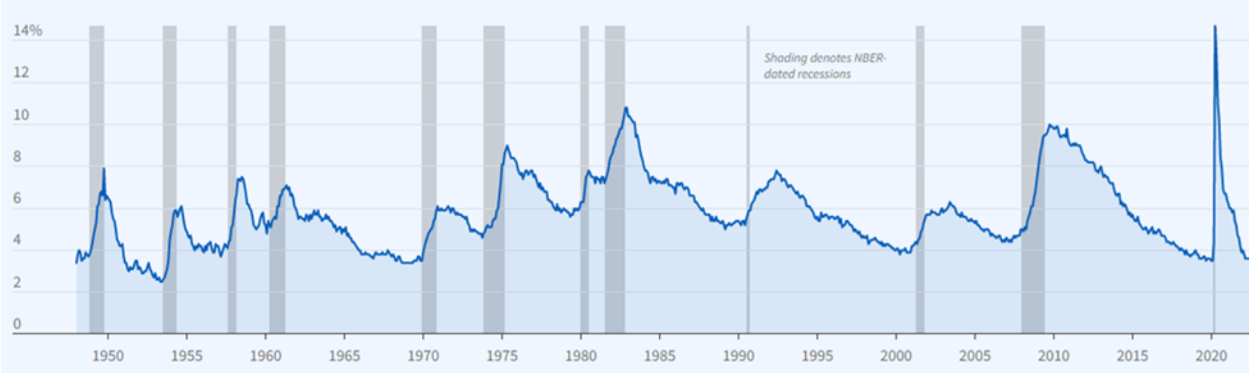
steeply upward. Even though QE was acting to raise the natural rate of interest through a portfolio balance effect, the yield curve worked to keep monetary policy close to neutral.

As shown in figure 1, in the recovery, the stability of sticky-price inflation in the pre-2020 period combined with a steady reduction in the unemployment rate shown in figure 2 is striking. These results suggest that the design of a long-term strategy should start by asking what the FOMC did right in the earlier prepandemic period. In the recovery from the Great Recession, the Yellen FOMC had absorbed the lessons of the Great Inflation incorporated by Volcker and Greenspan in the policy of preemptive increases in the funds rate to forestall a rise in inflation. Yellen (2017b, 16) said:

> We should also be wary of moving too gradually. Job gains continue to run well ahead of the longer-run pace we estimate would be sufficient, on average, to provide jobs for new entrants to the labor force. Thus, without further modest increases in the federal funds rate over time, there is a risk that the labor market could eventually become overheated, potentially creating an inflationary problem down the road that might be difficult to overcome without triggering a recession. Persistently easy monetary policy might also eventually lead to increased leverage and other developments, with adverse implications for financial stability. For these reasons, and given that monetary policy affects economic activity and inflation with a substantial lag, it would be imprudent to keep monetary policy on hold until inflation is back to 2 percent.

Yellen (2017a) summarized, "[I]f the economy ends up over heating and inflation threatens to rise well above our target, we don't want to be in a position where we have to raise rates rapidly, which could conceivably cause another recession. So we want to be ahead of the curve and not behind it."

Figure 2: Unemployment Rate (January 1948 to June 2022)



Notes: Figure copied from NBER "Business Cycle Dating." nber.org/research/business-cycle-dating

The recovery from the Great Recession represented the ultimate goal of policy for Volcker and Greenspan. They wanted a monetary standard in which price setters could set dollar prices without concern for inflation. Greenspan (2002, 6) said, "Price stability is best thought of as an environment in which inflation is so low and stable over time that it does not materially enter into the decisions of households and firms." Previously, Volcker (1983, 5) had said:

> A workable definition of reasonable "price stability" would seem to me to be a situation in which expectations of generally rising (or falling) prices over a considerable period are not a pervasive influence on economic and financial behavior. Stated more positively, "stability" would imply

> that decision-making should be able to proceed on the basis that "real" and "nominal" values are substantially the same over the planning horizon—and that planning horizons should be suitably long. (Both citations from Orphanides 2006, 179-180).

With the policy of flexible average inflation targeting (FAIT), the Powell FOMC abandoned this desideratum of price stability in favor of manipulating inflation. FAIT entailed raising inflation above 2% for an unspecified time and by an unspecified amount and then lowering it to 2%, somewhat above the value existing before the pandemic. (The adjective "flexible" referred to the fact that the FOMC would forgive overshoots of inflation as occurred in 2021 but not undershoots.)

6. The Powell FOMC pandemic monetary policy

The go phase

With the onset of the pandemic in March 2020, the strategy of monetary policy changed by making low unemployment an independent, competing goal with low inflation. Necessarily, as a prerequisite for predicting the trade-offs between unemployment and inflation, just as in the 1970s, the empirical relationship termed the Phillips curve became central.

The highly expansionary go phase of the post-pandemic monetary policy initiated in March 2020 relied on the presumed existence of a flat Phillips curve and the resulting ability to reduce the amount of slack in the economy measured by the unemployment rate with a minimal increase in inflation. In 2021, the assumption of an undesirable amount of slack (unemployment) in the economy retarded the FOMC's response to overheating in the labor market and rising underlying inflation. The stop phase initiated in March 2022 focused on raising the amount of slack in the economy again measured by the unemployment rate. This framework follows Modigliani-Papademos (1975) in which monetary policy trades off between slack in the economy (the difference between the unemployment rate and NAIRU) and changes in inflation. The framework rationalized the policy of aggregate-demand management when the earlier Samuelson-Solow (1960) Phillips curve, which assumed a trade-off between unemployment and the level of inflation, no longer worked.

Within the Modigliani-Papademos framework, the Powell FOMC considered faulty the prepandemic monetary policy followed in the recovery from the Great Recession. Prepandemic inflation (core PCE inflation) averaged 1.6% over the interval 2013Q1 through 2019Q4. The FOMC faulted the practice of the prior Yellen FOMC of raising the funds rate preemptively to prevent the emergence of inflation. The assumption was that without the preemptive increases the FOMC could have achieved an even lower unemployment rate than the February 2020 cyclical low of 3.5% with a minimal increase in inflation. Given its Keynesian temperament, the FOMC considered irrelevant the stability of underlying inflation during the recovery.

The Powell FOMC based its post-pandemic monetary policy on the premise that the preemptive increases in the funds rate during the recovery from the Great Recession prevented attainment of a socially desirable low unemployment rate. The FOMC based its assumption that the Phillips curve was flat on the observed steady decline in the unemployment rate in the recovery from the 2008-2009 recession accompanied by price stability. The FOMC then believed that in response to the pandemic rise in the unemployment rate an expansionary monetary policy could return the unemployment rate to the prepandemic level of 3.5%. With a transitory, moderate overshoot in inflation above 2%, it could probably lower the unemployment rate even further.

Powell's most informative statement of why the FOMC ignored the increase in underlying inflation in 2021 came in a speech at the Economic Club of New York. Powell (2021b) said:

> We need only look to February of last year [2008] to see how beneficial a strong labor market can be. The overall unemployment rate was 3.5 percent, the lowest level in a half-century. The unemployment rate for African Americans had also reached historical lows. . . . These late-breaking improvements in the labor market did not result in unwanted upward pressures on inflation, as might have been expected; in fact, inflation did not even rise to 2 percent on a sustained basis. There was every reason to expect that the labor market could have strengthened even further without causing a worrisome increase in inflation were it not for the onset of the pandemic.
>
> The revised statement [Review of Monetary Policy Strategy, Tools, and Communications] emphasizes that maximum employment is a broad and inclusive goal. This change reflects our appreciation for the benefits of a strong labor market, particularly for many in low- and moderate-income communities. Recognizing the economy's ability to sustain a robust job market without causing an unwanted increase in inflation, the statement says that our policy decisions will be informed by our "assessments of the *shortfalls* of employment from its maximum level" rather than by "*deviations* from its maximum level." This means that we will not tighten monetary policy solely in response to a strong labor market. (italics in original)

More succinctly, Powell (2021a) explained: "We have a flat Phillips curve, meaning there's still a small connection ["between slack in the labor market and inflation"] but you need a microscope to find it. We've also got low persistence of inflation, so that if inflation were to go up for any reason it [inflation] . . . doesn't stay up. . . . Remember, we're a long way from maximum employment. There's plenty of slack in the labor market.

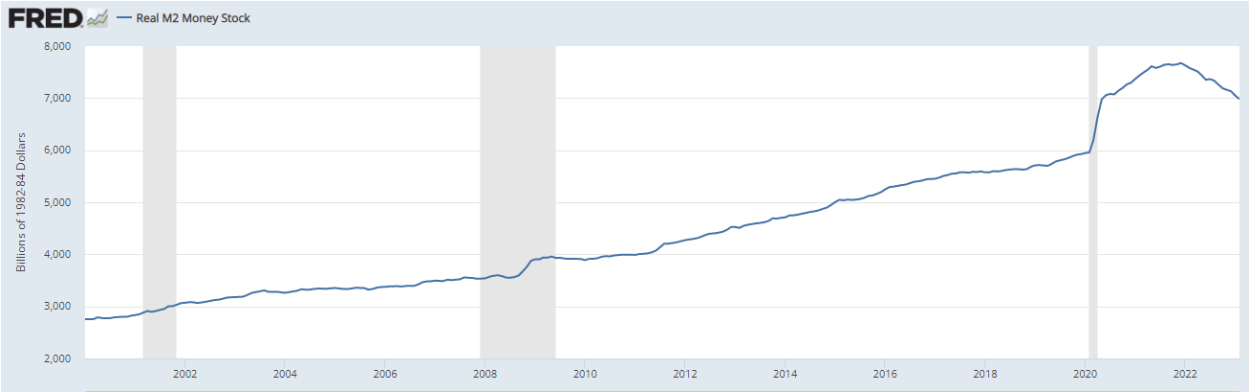
One complicating feature of the pandemic monetary policy was the creation of a monetary overhang. The public's effort to work off the overhang by dissaving could maintain the momentum of the economy long enough for the FOMC to raise the funds rate excessively. Perhaps to prevent any association of the FOMC with the rise in underlying inflation that began in 2021, Powell dismissed the behavior of money as irrelevant. As explained above, QE works through a portfolio balance effect. However, QE does not occur in isolation. QE raises the value of the natural rate of interest. If the FOMC is implementing a strategy that entails moving the funds rate in a way that tracks the natural rate of interest, aggregate expenditure is unaffected by QE and money is a veil.

In the early part of the recovery from the Great Recession, QE was desirable in that it raised the value of the natural rate of interest when the FOMC did not make the funds rate negative. In the post March 2020 period, however, QE added to the inflationary character of monetary policy. With the funds rate at the ZLB and the FOMC's forward guidance of "lower for longer" replacing the Volcker-Greenspan policy of preemptive increases in the funds rate, the resulting deposit creation produced helicopter money. Helicopter money raises inflation. Sticky-price inflation (3-month annualized rate of growth of the CPI) rose from an average of 2.5% in the prepandemic period to 5.5% in January 2023 (figure 1). During the time required for the monetary overhang to decline through inflation and debt reduction that extinguishes bank deposits, the economy could continue to expand despite a level of the funds rate that ultimately makes monetary policy contractionary.

Figure 3 shows real M2 balances (M2 divided by the CPI). Careful examination reveals how increases in market rates of interest cause disintermediation from the banking system (deposits

transferring into money market instruments) while decreases in market interest rates cause reintermediation. As explained above, the reason is the incentive to move funds created by the fact that banks change the rates they pay on deposits only with a lag after changes in money market rates.[8] Note how prior to the cycle peaks of March 2001 and December 2007, when the FOMC was raising the funds rate (and market rates), M2 growth was flat. It then rose in recessions when the FOMC was lowering the funds rate (and market rates). As a result, as long as market interest rates remain relatively high, real M2 balances may not decline to a value in line with the prepandemic trend. Nevertheless, continued decline will reduce the monetary overhang. When that happens, the economy could weaken sharply.

Figure 3. Real M2 (January 1998-February 2023)



Notes: M2 divided by the CPI. Shaded areas indicate recession. Source: St. Louis FRED.

The stop phase

The fact that a stop phase followed the post-pandemic go phase accords with Friedman's critique of Keynesian aggregate demand policies of variously stimulating the economy when unemployment is of concern and then having subsequently to reverse the stimulus with contractionary monetary policy. Michael Kiley (2023, 5) offered a more recent summary of the Friedman critique. "After four quarters, the other side of the hump-shape is reached—the initial impulse is reversed. As a result, a recession sets in after a year following an expansionary shock. This recession is preceded by the low level of the unemployment rate: Following an expansionary shock, unemployment falls to low levels, but then reverts to its long-run level, which requires a recession."

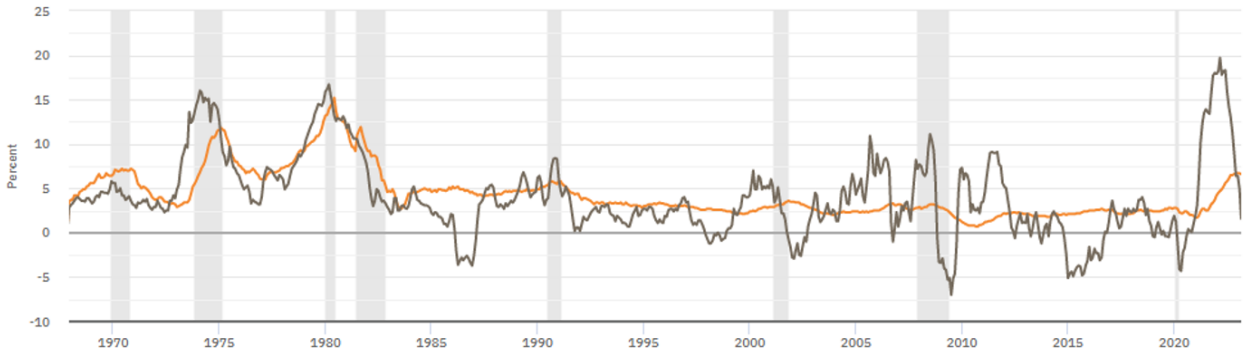
Starting in March 2022, to lower underlying inflation, the FOMC began to raise the funds rate sharply to create and then to maintain slack in the economy. However, the FOMC lacks a reliable way of measuring, controlling, and calibrating the degree of slack to lower inflation in a predictable way. FOMC participants no longer talk about a Phillips curve, much less a flat Phillips curve. As an indirect way of determining whether it has created sufficient slack to produce disinflation, the FOMC is observing whether a reduction of tightness in the labor market is reducing wage inflation.

[8] Rachel Louise Ensign (2023) wrote in WSJ PRO, "The typical savings account is paying a 0.33% interest rate, according to the Federal Deposit Insurance Corporation. Treasury notes, money-market funds and brokered certificates of deposit, meanwhile, are all paying between 4% and 5%."

A reduction of labor-market tightness requires an increase in the unemployment rate. However, the unemployment rate is a lagging indicator of cyclical movements (figure 2). In the 2008-2009 recession, for example, at the cycle peak in December 2007, the unemployment rate was 5.0%, up from an average of 4.6% over the earlier months of 2007. The unemployment rate did not begin to increase strongly until after April 2008 when it rose from 5.0% to 5.4% in May 2008. It then rose steadily until reaching a peak of 10% in October 2009, well after the cycle peak in June 2009. By the time that the unemployment rate begins to rise steadily, the economy is already in recession (figure 2).

The FOMC likely understands that it is basing policy on a lagging indicator of the stance (contractionary or expansionary) of monetary policy, the unemployment rate, but is boxed in by its public communication about staying the course in returning inflation to 2%. The problem is that as a lagging indicator underlying inflation continues unabated well into recessions (figure 4). The FOMC could then continue with a restrictive monetary policy to the point at which it creates a serious recession. In that respect, the Fed is constrained in the same way that it was constrained in the stop phases of the earlier go-stop monetary policy that began after the mid-1960s and continued throughout the 1970s. Even after the FOMC had raised the funds rate to the point at which the economy had begun to weaken, it still felt constrained to not lower the funds rate out of fear that markets would interpret the lowering as an easing of monetary policy and a retreat from the commitment to restore price stability.

Figure 4: Sticky-price and Flexible-price CPI Inflation (December 1967-March 2023)



Notes: 12-month annualized sticky-price (green line) and flexible-price (brown line) CPI inflation. Shaded areas indicate recessions. Source: Federal Reserve Bank of Atlanta.

The FOMC needs a viable strategy (rule) for producing a sustained decline in inflation, for stopping the decline at 2%, and then for maintaining that 2% value. However, to construct such a strategy, one must ask whether the implementation of monetary policy works through the monetary control that avoids the portfolio balance effects initiated by destabilizing monetary emissions or absorptions. Alternatively, does it work through its influence on financial intermediation?

7. Is the FOMC determining money creation or influencing financial intermediation?

The discussion here has associated the LAW with credibility monetary policy of Volcker, Greenspan, and Yellen with procedures that track the natural rate of interest.[9] The term "natural rate of interest" is shorthand for the risk-free yield curve that incorporates the stabilizing properties of the price system. The FOMC's reaction function causes the risk-free yield curve to move in a way that stabilizes the economy's rate of resource utilization. Financial markets understand the FOMC's reaction function and move the yield curve in a stabilizing way in response to new information about the strength or weakness in economic activity. Credibility for price stability means that all the movement in the forward rates of the yield curve is real rather than in inflation premia. This understanding of the optimal monetary standard concentrates on allowing the price system to work to determine the intertemporal price of resources.

The spirit of LAW with credibility is "guess and correct." The FOMC lacks the structural model of the economy required for accurate predictions. Greenspan (Board of Governors, 2004, 78) told the FOMC, "When it comes to policy . . . we have to acknowledge to ourselves that our forecast is going to be wrong. It always is. We expect it to be wrong."[10] Conducted without cyclical inertia imparted to the funds rate, LAW with credibility maintains the yield curve fluctuating around the "natural yield curve." In contrast, LAW with trade-offs, which imparts inertia to the funds rate in an effort to target an assumed desirable low unemployment rate, sets off a destabilizing portfolio balance effect due to the failure to preserve monetary control.

LAW with credibility is reflected in the characterization of Bernanke (2005) of monetary policy in which he ignores any role played by monetary policy in financial intermediation:

> The Fed controls very short-term interest rates quite effectively, but the long-term rates that really matter for the economy depend not on the current short-term rate but on the whole trajectory of future short-term rates expected by market participants. Thus, to affect long-term rates, the FOMC must somehow signal to the financial markets its plans for setting future short-term rates. . . . FOMC talk probably has the greatest influence on expectations of short-term rates a year or so into the future, as beyond that point the FOMC has very little, if any, advantage over market participants in forecasting the economy or even its own policy actions. . . . First, to the extent practical, the FOMC strives to be consistent in how it responds to particular configurations of economic conditions and transparent in explaining the reasons for its response. By building a consistent track record, the FOMC increases its own predictability as well as public confidence in its policies. Second, more generally, comments by FOMC officials about the Committee's general policy framework, including the Committee's economic objectives and members' views about the channels of monetary policy transmission and the structure of the economy, help the public deduce how policy is likely to respond to future economic circumstances.

Woodford (2004, 16) wrote similarly:

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[9] At the ZLB, additional tools are committed forward guidance and quantitative easing. Forward guidance can influence the shape of the yield curve while quantitative easing through a portfolio balance effect can raise the natural rate of interest.

[10] A recent example occurred at the December 2021 FOMC meeting when the Summary of Economic Projections (SEP) showed that FOMC participants expected that the funds rate would remain below 1% through the end of 2022 and then to just exceed 2% by end 2024.

> Not only do expectations about policy matter, but, at least under current conditions, very little *else* matters. Few central banks of major industrial nations still make much use of credit controls or other attempts to directly regulate the flow of funds through financial markets and institutions. Increases in the sophistication of the financial system have made it more difficult for such controls to be effective. And, in any event, the goal of improvement of the efficiency of the sectoral allocation of resources stressed above hardly would be served by such controls, which (if successful) inevitably create inefficient distortions in the relative cost of funds to different parts of the economy. (italics in original)

During the financial crisis of 2008, Bernanke reinvented the Fed as a combination central bank and financial intermediary such as a housing GSE. Accordingly, monetary policy needs to work through a credit channel to allocate credit to underserved parts of the economy. Bernanke (2009) explained:

> The provision of ample liquidity to banks and primary dealers is no panacea. Today, concerns about capital, asset quality, and credit risk continue to limit the willingness of many intermediaries to extend credit, even when liquidity is ample. Moreover, providing liquidity to financial institutions does not address directly instability or declining credit availability in critical nonbank markets, such as the commercial paper market or the market for asset-backed securities, both of which normally play major roles in the extension of credit in the United States. To address these issues, the Federal Reserve has developed a second set of policy tools, which involve the provision of liquidity directly to borrowers and investors in key credit markets.

While temporarily abandoned by the Yellen FOMC, Bernanke's redesign of monetary policy paved the way for the extensive credit allocation with the pandemic monetary policy of the Powell FOMC. For example, Richard Clarida quoted in *The Wall Street Journal* (2020) in an article aptly entitled "The Fed is Changing What It Means to Be a Central Bank" said of the Fed's credit facilities: "The Fed last week announced an expansion of nine different programs it has unveiled to support lending to U.S. states and businesses. It has said those programs will enable $2.3 trillion in new lending."

Since its creation, the Fed has alternated between monetary standards. Policy makers should treat this change in standards as semi-controlled experiments for designing the optimal monetary standard. However, learning is impeded because Fed ambiguity about the nature of the monetary standard it creates and implements remains the rule. The Fed has the resources to do the historical research required to learn from experience and make explicit its design of the optimal monetary standard. In doing so, it should answer key questions. Is inflation a monetary or a nonmonetary phenomenon? Should the Fed pursue its objectives by relying on the stabilizing properties of the price system or ignore them by working off Phillips curve trade-offs? Can private markets evaluate risk so that the Fed should leave the allocation of credit to markets? Can the Fed articulate a consistent strategy in the form of a rule?

8. Price stability and a benchmark path for nominal output

In the stop-go era, a characteristic of recessions was the persistence of cyclically high interest rates past cyclical peaks accompanied by monetary deceleration (Hetzel 2022, ch. 3). The reason for this inertia was that the FOMC feared that a reduction in the funds rate, even as the economy weakened, would signal a lack of resolve to lower inflation. The issue at present is how to introduce reductions as well as increases in the funds rate even before disinflation has reduced inflation to 2%.

The issue is especially important because underlying inflation persists past cyclical peaks in the business cycle (figure 4).

The proposal here is that the FOMC set a benchmark path for nominal output (final sales to private domestic purchasers), which would rise over time but at a declining rate until the slope reached a value consistent with 2% inflation. That is, nominal output growth would be 2 percentage points more than potential output growth. Because variable productivity growth affects the level of the benchmark path consistent with price stability, the FOMC would adjust the level of the benchmark path when it believed that trend productivity growth had changed. The FOMC would then follow LAW with credibility as a strategy but always mindful of moving nominal output around the benchmark path. Such a strategy would militate against a sharp recession while reducing inflation over time. It would provide a stable nominal anchor and allow the stabilizing properties of the price system to work. Hopefully, the introduction of this source of long-term discipline on inflation would give the FOMC credibility to reduce the funds rate significantly if the economy were to suddenly enter a recession.

9. The financial safety net—a source of stability or instability?

If a free-market economy is inherently unstable, how much discretion should the Fed exercise to intervene in the economy? If it is self-equilibrating given stability in the monetary environment, what kind of rule should the Fed follow to provide that stability? These questions are related to the role of the Fed in providing a financial safety net and the moral hazard such a safety net creates.

A convenient way to describe the extent of the financial safety net for banks is to examine the rescue of Silicon Valley Bank (SVB). It had significant assets in the form of long-term Treasury securities in a category classified as held-to-maturity (HTM). Regulators do not require banks to mark to market HTM securities, which would reveal losses as interest rates rose. Moreover, despite this duration risk, regulators do not impose capital requirements on Treasury securities. That is, they only consider credit risk. As recounted by Templeman and Pozdnyakova (2023), SVB's "reliance on held-to-maturity securities to back deposits led to unrealized losses of $15.2bn in 2022, almost equal to total equity ($16.3bn), as rates skyrocketed."[11] SVB had initiated an effort to raise capital but a run on its deposits occurred largely on a Friday before it was completed. The rapidity of the run meant that the FDIC could not arrange for a sale to a healthy bank over the weekend.

By law, the FDIC must use a least-cost resolution procedure when closing a bank, unless it declares that closing the bank poses a "systemic risk," which it did in the case of SVB. Regulators cannot issue a blanket commitment to protect all bank deposits regardless of size but must decide on a case-by-case basis. Treasury Secretary Yellen (2023) could only intimate that all bank deposits would be protected: "Let me be clear: the government's recent actions have demonstrated our

[11] Jiang et al (2023) reported: "We analyze U.S. banks' asset exposure to a recent rise in the interest rates with implications for financial stability. The U.S. banking system's market value of assets is $2 trillion lower than suggested by their book value of assets accounting for loan portfolios held to maturity. Marked-to-market bank assets have declined by an average of 10% across all the banks, with the bottom 5th percentile experiencing a decline of 20%." Granja (2023) reported: "Banks with lower capital ratios, higher share of run-prone uninsured depositors, and whose portfolios were more exposed to interest rate risk were more likely to reclassify securities to HTM during 2021 and 2022.

resolute commitment to take the necessary steps to ensure that depositors' savings and the banking system remain safe." The Fed backed her implicit assurance that all deposits would be protected by creating a new lending facility in addition to the discount window.

Significantly, the Fed facility would take as collateral securities valued at par. The Fed Press Release (Board of Governors 2023) read: "The additional funding will be made available through the creation of a new Bank Term Funding Program (BTFP), offering loans of up to one year in length to banks, savings associations, credit unions, and other eligible depository institutions pledging U.S. Treasuries, agency debt and mortgage-backed securities, and other qualifying assets as collateral. These assets will be valued at par. The BTFP will be an additional source of liquidity against high-quality securities, eliminating an institution's need to quickly sell those securities in times of stress." As opposed to borrowing from the discount window with its penalty rate, presumably solvent and insolvent banks would use the BTFP. In that way, the Fed could eliminate the stigma from using it.

In Diamond and Rosengren (2023), Douglas Diamond, Nobel Prize winner for his work on bank runs (Diamond and Dybvig 1983), and Eric Rosengren, former president of the Federal Reserve Bank of Boston, offered contrasting views on the rescue of SVB's depositors centered on the definition of insolvency. Diamond (Diamond and Rosengren 2023) said:

> [Banks are] supposed to hold a diversified portfolio of assets and stay away from common systematic risks, like interest-rate risks or GDP risks, to the extent they can. That's on the asset side. And on the liability side, the deposit side, they're supposed to have diversified funding sources. Not everybody needs their money at the same time; they don't communicate with each other; they don't share a same social network. Silicon Valley, in their risk management and just setting things up, violated both rules. They didn't really diversify, and they were mainly exposed to interest-rate risk. . . . The run was because they were insolvent.

According to Rosengren, however, using a definition specific to regulators, SVB was solvent because its long-term Treasuries, if held to maturity, would pay off. The role of the financial safety net is to create "lazy" deposits, that is, deposits that remain with a bank regardless of the bank's condition. In that way, a bank can always work with regulators to rectify its problems. As related by Rosengren, all bank deposits are insured no matter how much they exceed the $250,000 FDIC limit. (See also Walter and Weinberg 2002 who quantify the extent of the financial safety net.) The way it works is that the FDIC comes in over a weekend and arranges a merger with another bank by putting in whatever amount of money is required to make the acquiring bank take all the deposits, no matter how much individual deposits exceed the $250,000 limit, without imposing any losses. The claim of regulators is that there is no cost to taxpayers. However, bank capital is fungible. A tax on banks will be paid through lower interest by depositors or higher interest on borrowers, both of whom are taxpayers.

The problem with SVB for regulators was that the run happened so fast on a Friday that the FDIC could not sell it over the weekend. Because regulators did not want large depositors to believe that there had been a retraction of the financial safety net, they scrambled to convey the implicit message that all bank deposits are covered. Regulators did not want a repeat of the Lehman bankruptcy where cash investors believed that the safety net had been retracted and they pulled their funds from investment banks with long-term, dodgy mortgage portfolios and deposited them in the TBTF banks like JPMorgan Chase. For one thing, that would look bad because once again TBTF reveals how the safety net favors large banks over small, community banks.

Monetarists highlighted the basic issues assuming one believes that free markets are inherently stable and the central bank should provide a framework within which they can operate. That framework possesses two aspects. First, on the macroeconomic level, the FOMC should provide an environment of price stability. Second, on a microeconomic level, regulators should provide an environment leaving the trade-offs between risk and return to the marketplace. Rescuing the uninsured depositors of SVB makes the banking system more fragile in the long run by eliminating the need for large depositors to evaluate bank riskiness. There is no need for credit rating firms specializing in evaluating the soundness or weakness of banks.

Mary Anastasia O'Grady (2023) wrote: "The economist Allan Meltzer liked to say that 'capitalism without failure is like religion without sin. It doesn't work.' After the 2008 financial crisis, Meltzer worried that bank bailouts were undermining public support for capitalism. He feared that politicians would steer the financial system toward more government regulation and away from the natural regulatory power of market competition. More Americans would begin to believe that only the state could protect them from the instability that comes with economic freedom." O'Grady quoted Thomas Hoenig, former president of the Kansas City Fed, "One of the worst things I think that's happened, and I've watched," he says, is that "market discipline has atrophied. There is none."

Earlier, Milton Friedman (1960, 8) warned:

> The appropriateness of the governmental responsibility for the monetary system has of course been long and widely recognized. . . . This habitual and by now almost unthinkable acceptance of governmental responsibility makes thorough understanding of the grounds for such responsibility all the more necessary, since it enhances the danger that the scope of government intervention will spread from activities that are to those that are not appropriate in a free society, from providing a monetary framework to determining the allocation of resources among individuals.

After the bailout in 1974 of Franklin National, rendered insolvent through speculation in the foreign exchange market, in a letter to Senator William Proxmire, Milton Friedman expressed concern for the moral hazard of the financial safety net. Friedman (1974) wrote:

> I share very much with you the feeling you express that a failure of one or two banks once in a while would be a very good thing for the banking system. The tender care which the FDIC and the Fed have lavished upon commercial banks is sharply reflected in their capital accounts. . . . The ratio of capital accounts to assets at risk [assets minus government securities and cash] was 30% in 1900 . . . and 9% as of December 31, 1973. . . . A margin which would be utterly intolerable if it were not for the protection provided by the FDIC and the Fed.[12]

Friedman was consistent in his application of market discipline. Friedman (1964, 170) wrote:

> An effective system for fostering growth must contain a method of separating the successful from the unsuccessful experiments and, equally important, for terminating the unsuccessful experiments and backing the successful ones. This is one of the great strengths of the market, when it is allowed to operate. The so-called profits system is really a profit and *loss* system and the *loss* part is at least as important as the profit part. The discipline of the market is impersonal

[12] See Kaufman (1989).

> and inescapable. The enterprise that engages in an unsuccessful experiment loses money and, whatever it may want to do, it has no choice but to call a halt. (italics in original)
>
> Paul Volcker highlighted the issue of moral hazard and excessive risk taking:
>
> A large concern is the residue of moral hazard from the extensive and successful efforts of central banks and governments to rescue large failing and potentially failing financial institutions. The long-established safety net undergirding the stability of commercial banks, deposit insurance and lender of last resort facilities has been both reinforced and extended in a series of ad hoc decisions to support investment banks, mortgage providers and the world's largest insurance company. In the process, managements, creditors and to some extent stockholders of these non-banks have been protected. The phrase too big to fail has entered into our everyday vocabulary. It carries the implication that really large, complex and highly interconnected financial institutions can count on public support at critical times.
>
> The result is to provide these institutions with a competitive advantage in their financing, in their size and in their ability to take and absorb risks. As things stand, the consequence will be to enhance incentives to risk-taking and leverage, with the implication of an even more fragile financial system. (citations from Sargent 2011)

Stanley (2023) raised the relevant issue: "Uninsured depositors are supposed to be the ones who are watching over their bank's behavior, since they are subject to losing some portion of their deposits if the bank runs into trouble. If all depositors come to believe that the government will bail them out, then there will be no market discipline. Then, regulators, rather than being the last line of defense against bad behavior, will be the only line of defense." More generally, banks allocate resources optimally by weighing off risk against return. For that to work, they need to be subject to market discipline against excessive risk taking.

In bailing out the uninsured depositors of banks, regulators are undertaking fiscal policy and disregarding congressional intent. In its legislation, Congress has voted against bailing out banks. To avoid a repeat of the S&L bailout, Congress passed the FDIC Improvement Act (FDICIA) in 1991. Regulators would have to close banks before they became insolvent. Hetzel (1991, 11) wrote: "[FDICIA] addresses the problem of timely closure by requiring regulators to close a bank when its capital falls below a specified level. . . . It requires regulators to classify as critically undercapitalized any bank with a capital-to-assets ratio of 2 percent or less. Regulators must close such a bank within 90 days. Furthermore, the act legislates a list of strictures that bank regulators must impose on banks in the undercapitalized and significantly undercapitalized categories."

As stated in the introduction to the Dodd-Frank Wall Street Reform and Consumer Protection Act passed in 2010, the Act "Requires the Council [the Financial Stability Oversight Council] . . . to . . . promote market discipline, by eliminating expectations on the part of shareholders, creditors, and counterparties of such companies that the Government will shield them from losses in the event of failure." Key to enforcement of the law by rendering credible the resolution of large banks is that "The Dodd-Frank Act requires large banking organizations and certain other firms to periodically submit resolution plans to the Federal Reserve and the Federal Deposit Insurance Corporation. Each plan, commonly known as a living will, must describe the company's strategy for rapid and orderly resolution in the event of material financial distress or failure of the company" (Board 2021).

Also, Dodd-Frank gave the FDIC the "orderly resolution authority" to close failing banks. The FDIC (2023) website states: "The FDIC is responsible for the orderly resolution of failing banks.

In the event of a bank failure, the FDIC acts in two capacities. First, as the insurer of the bank's deposits, the FDIC pays insurance to the depositors up to the insurance limit. Second, as the 'receiver' of the failed bank, the FDIC assumes the task of selling the assets of the failed bank and settling its debts, including claims for deposits in excess of the insured limit." In a *New York Times* article, reporter Linda Qiu reported: "Congress was so concerned with moral hazard and 'bailouts' that it seemed to limit the receipt of F.D.I.C. assistance to the imposition of an F.D.I.C. receivership, unless Congress specifically approved a subsequent F.D.I.C. alternative,' said Jeffrey N. Gordon, a law professor at Columbia University and expert on financial regulation."

An obstacle to subjecting banks to the kind of market discipline to which nonfinancial businesses are subject is the subsidies conferred on banks by the financial safety net in lowering their funding costs. One way to enforce market discipline would be for the FDIC to insure all bank deposits, but to associate each individual deposit holder with their social security number or taxpayer identification number (TIN). The FDIC would then be limited to paying out only $250,000 ($500,000 perhaps for the TIN of a business) per year per social security number or TIN. All small depositors would be covered. Norbert Michel (2023) reported that "Of all the financial institutions reporting, including commercial banks and federal savings banks, there are approximately 860 million deposit accounts. . . . But fewer than one percent–just 0.83 percent–of these accounts have more than $250,000. . . . Moreover, roughly half of the accounts with balances larger than the $250,000 FDIC cap are in the nation's 13 largest banks, all of which have assets greater than $250 billion. A risk averse large depositor could still always put their funds into a government money market fund.

Regulators focus exclusively on the immediate disruption caused by financial turbulence on their own watch. Ignored is the long-term cost caused by the damage done to support for a free market economy. Regulators do not accept that banks should be like other private businesses that are shut down by market discipline when they are insolvent. The standard Fed narrative implicitly conveys the message that financial markets and a free-market economy are inherently unstable. Allowing markets to discipline risk taking behavior would, it is implicitly presumed by regulators, create unacceptable instability. The public takes away the message that capitalism is a system rigged in favor of the rich even though that reality is an artifact of the moral hazard due to the financial safety net.

10. Concluding comments

It is important to distinguish between forward guidance and a consistent strategy. As of early 2023, FOMC participants were using forward guidance to communicate to markets a path for the funds rate with a terminal value of 5¼% maintained throughout 2023. The belief that such a path would produce a return to price stability with a soft-landing was pure conjecture. Such guesswork does not replace a strategy.

Without articulation of an explicit strategy by the FOMC, the public cannot know whether the go-stop monetary policy initiated with the pandemic will cause the FOMC to continue with the pandemic policy of trade-offs between unemployment and inflation with the concomitant alternation between expansion to lower unemployment followed by contraction to lower inflation (go-stop). Alternatively, will the FOMC return to the Volcker-Greenspan-Yellen policy focused on price stability undergirded by preemptive increases in the funds rate to preserve price stability and, by implication, allow the price system free rein to achieve full employment?

An explicit strategy would force the FOMC to debate the difficult situations that will likely arise on the way back to price stability. What should the FOMC do when inflation is moving down, and the unemployment rate is rising off its cyclical low? Should the FOMC start to lower the funds rate to avoid the hard landings of the earlier stop-go era? If so, how does the FOMC assure the public that it is not initiating a repeat of the pandemic go-stop cycle, which raised underlying inflation? In addition, a long-term strategy should assure the public that the FOMC has a policy not only for producing a decline in inflation, but also for stopping the decline at 2% and then maintaining that value. Finally, regulators must ask whether the fragility of the banking system is an inherent flaw in a capitalist economy. Alternatively, is it an artifact of the way in which the financial safety net protects banks from market discipline?

The necessary debate would require explicit articulation of the monetary standard. That explicitness would in turn highlight the underlying premises of the monetary standard that the FOMC chooses and implements. Is a free market economy inherently unstable such that stability requires a monetary and regulatory policy that regularly intervenes in its operation? Alternatively, is a free market economy inherently stable in the absence of monetary instability and the moral hazard created by an extensive financial safety net? If so, should the FOMC and regulators create a stable framework of price stability and market discipline that gives maximum latitude for a free-market economy to operate?

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