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Fed Thoughts: Will The Federal Reserve Swipe Left or Right?

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Yes or No is All You Need to Know

The world is digital, with information encoded as a sequence of ones and zeros. Our binary focus is so pervasive that many social interactions rest on the decision to swipe left or right. This note argues that the conduct of the Federal Reserve's (Fed's) monetary policy over the past 70 years, and the consequences for investment opportunities, similarly depends on whether the answer to a single question is yes or no. Does price stability assuredly prevail? Not yet. We think the Fed plans to keep policy restrictive by grudgingly lowering the nominal policy rate over the next three years.

The Argument in Brief

Buying into this interpretation requires stepping back from the spurious precision of monetary policy science. Price stability is not achieved merely by hitting the numerical bogey of 2%, the Fed's stated long-run goal. Rather, we go back to the heuristic from Chairs Volcker and Greenspan that price stability holds when inflation has averaged long enough in a zone that the public does not worry about changeable prices when making decisions. For them, it was sufficient that inflation (as measured by the price index for personal consumption expenditures) remained between 1% and 3% long enough to give the private sector such assurance. We make this operational by identifying when a long trailing moving average of inflation is assuredly in that zone. This is implemented as a one-sided test because we think that the public does not share the Fed's official concern that inflation can get too low.

When inflation is above the zone of price stability, the Fed's attention shifts to a single focus on returning inflation to it. As a result, we believe the priority is to restrain aggregate demand to the limit imposed by supply. We find support in the macro data where over the past 70 years, outside the zone of price stability, the nominal and real (or inflation-adjusted) policy rate tends to be high. The nominal rate tends to adjust to make the real rate relatively insensitive to inflation. There is a countercyclical element in the relationship between the real rate and the unemployment rate. Bond and equity prices are positively correlated, suggesting that officials do not appear to systematically offset equity price declines (presumably because wealth losses work to restrain aggregate demand).

Inside the zone of price stability, the Fed can be more aggressive in spurring aggregate demand to test the limits of supply, progressing on the goal of maximum employment. In such circumstances over the past 70 years, we find the nominal and real fed funds rate tends to be low. The nominal rate does not adjust sufficiently to inflation so that it erodes the real rate, and there's no countercyclical element in the relationship between the unemployment rate and the real interest rate. Bond and equity prices negatively correlate, which we feel is suggestive of a policy response to buffer equity losses.

These systematic differences matter materially for macroeconomic regularities and investor opportunities. High real rates outside the zone of price stability are associated with estimates of the equilibrium real rate drifting higher. In contrast, the low real rate prevailing inside the zone of price stability should pull estimates of the neutral rate lower. Outside the zone of price stability, bond and stock prices positively correlate, making fixed income assets a poor hedge for equities and raising portfolio risks. Inside the zone of price stability, the two main asset classes negatively correlate, lowering premiums. The following table summarizes these stark differences.

The Federal Reserve Swipes Left or Right

	POSITION RELATIVE TO THE ZONE OF PRICE STABILITY	
	OUTSIDE	INSIDE
Responsibility	Stewardship of primary objective[i]	Ambition toward dual objectives[ii]
Goal	Restrain aggregate demand to aggregate supply	Spur aggregate demand to test limits of aggregate supply
Policy stance	Keep the real policy rate firm	Keep the real policy rate easy
Policy responsiveness	Accept wealth losses	Offset wealth losses
Chairs	Volcker, early Greenspan, and late Powell	Burns, Bernanke, Yellen, and early Powell

Source: Firm expectations, 5/28/24. [i]Primary objective – price stability. [ii]Dual objective – price stability and maximum employment. Projections or other forward-looking statements regarding future events or expectations are only current as of the date indicated. There is no assurance that such events or expectations will be achieved and actual results may be significantly different from that shown here.

There is a lot to unpack to support these claims, which is the objective of the rest of this note. We will:

- **Show** how the Fed's pursuit of its dual objective of price stability and maximum support lends itself to a zero-one interpretation with the support of comments from Chair Powell.
- **Identify** spells inside and outside the zone of price stability using a long time series on consumer price inflation.
- **Characterize** the behavior of the policy rate and correlation between bond and equity prices inside and outside the zone of price stability.

We conclude by placing our Fed call into this perspective. We think even well-behaved inflation will not convincingly demonstrate the return to the price-stability zone for another few years. During that time, the Fed will keep the real funds rate above its neutral rate. To accomplish this, we believe it is "one and done" this year, with the Federal Open Market Committee (FOMC) first easing one-quarter point at its December meeting followed by similar-sized moves quarterly through 2026.

Why the Fed Swipes Right or Left

Whenever the central bank is far offside its goals, its policy is predictable. Chair Powell captured this dichotomous responsibility of the Fed in his press conference on May 1 describing action in 2022 and 2023 when inflation was well north of the Fed's goal:

"...when you look at the two mandate goals, and if one of them is further away from goal than the other, then you focus on that one...it's the time to get back their times...how far it is from goal. And that was clearly inflation. So, our focus was very much on inflation."[1]

The Fed has stopped raising rates now that inflation has come well off its peak in 2024, although it is not yet at goal. Again, as the chair explained,

"The employment goal now comes back into focus."

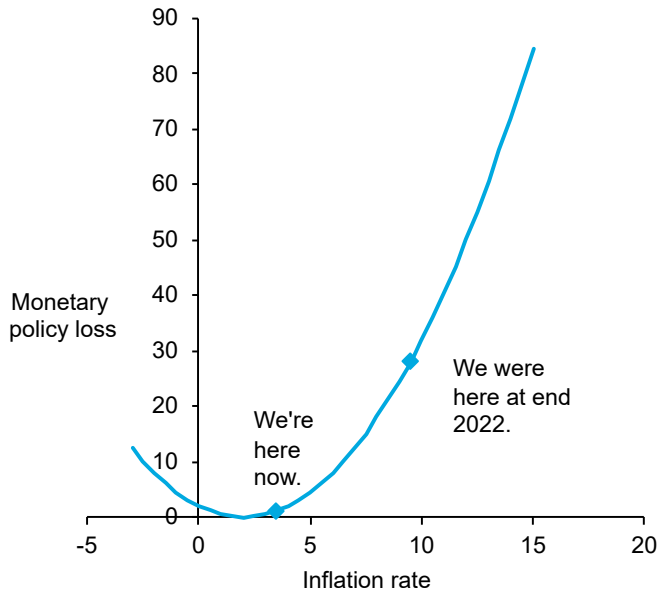
The chair was discussing the math of the traditional characterization of a central bank's objective function. All modern models of monetary policy making, from small theoretical ones that provide stark instructions to large ones that try to capture the economy more completely, assume that the Fed's contribution to society's welfare depends on how closely the economy performs relative to its dual goals of price stability and maximum employment. This is made operational by summarizing where inflation is relative to 2% and unemployment is relative to its natural rate (or sometimes real Gross Domestic Product (GDP) relative to its potential level). This is often put in negative terms: the Fed subtracts from society's welfare by straying from its goals. Officials' objective, then, is to minimize the loss from being away from the goals.

One such description is given in the chart, which is the loss function embedded in the large-scale staff model, FRB-US. The chart is plotted on the assumption that employment is at its feasible maximum (a close approximation to the past two years) and considers the societal loss when inflation strays from 2%. Two important features of this loss function, common to virtually every specification, are that loss is symmetric (low inflation is as much a problem as high inflation) and increases as it moves away from the goal.

The latter feature of escalating loss as inflation moves above 2% underlies the chair's comment. When inflation peaked at 9½% and price stability was remote, the Fed operated at an enormous deficit in its performance, and the possibility of even modest downward progress dominated policy choice. As a first approximation, the steepness of the loss function creates a binary choice, and the Fed swiped left to focus on the single goal of regaining price stability. When inflation has neared the goal for long enough that price stability prevails (closer to the flat part of the loss function), other considerations enter the frame, and the Fed swipes right to pursue both goals.

Hypothesized Monetary Policy Loss

Loss = $\frac{1}{2}*[(u-u^*)^2=(\pi-\pi^*)^2]$



Source: As in the Fed's large-scale model, the hypothesized loss function is quadratic in deviations of the unemployment rate (u) from its natural rate (u*) and inflation (π) from its goal (π*, currently 2%). Loss is measured arbitrarly and should be assessed relative to zero, when both goals are met. The chart is drawn for a 2% inflation goal and the unemployment rate remaining and it natural rate. Firm analysis, 7/7/24.

The highly nonlinear punishment for missing the Fed's goals creates this stark difference and, we think, explains the broad contours of policymaking over the past 70 years, including the situation at hand. We show how the data sorts into these two regions over time to demonstrate that this distinction matters.

When Does Price Stability Prevail?

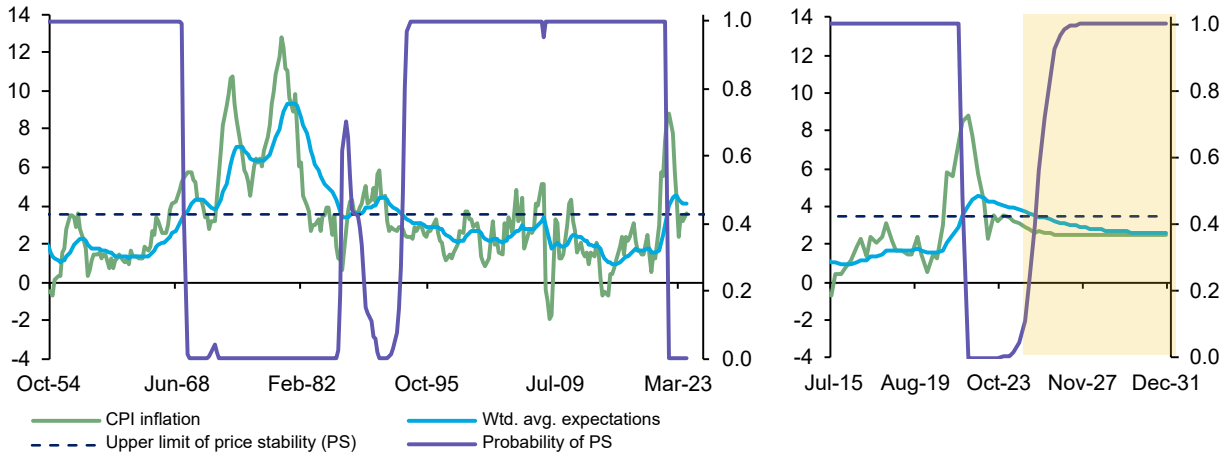
The Volcker-Greenspan definition of price stability is backward-looking. Has inflation been contained in a region low enough for long enough that households and firms do not materially factor changeable prices in their decisions?[2] We separate this into two parts by ***calculating*** a backward-looking weighted average of inflation to proxy expectations and ***testing*** if the current value of inflation expectations is assuredly low.

For the first part, we proxied inflation expectations as an exponentially weighted moving average of past actual inflation determined by the coefficient, α, which is between zero and one, and will be set shortly.[3] In this common scheme, expected inflation becomes the weighted average of all past inflation, with the weights receding back in time according to the pre-set coefficient α, as $\alpha(1-\alpha)^j$ for j periods earlier. A low value for the coefficient (close to zero) implies that the weights in the average decay only slowly, and the expectations proxy moves inertially. This requires a deep reach into history to calculate inflation expectations. A high value for the coefficient (close to one) implies that the weights in the average decay rapidly, and the expectations proxy varies considerably. This means only recent history influences inflation expectations.

We applied this to inflation calculated from the consumer price index (CPI) for all urban consumers. While not the Fed's preferred measure, the CPI has the virtue of readings that begin in 1913, which allowed consideration of very long backward-looking averages to proxy expectations, as opposed to the 1947 starting date for the price index for personal consumption expenditures (PCE), the Fed's preferred measure.[4] (Operationally, this means the zone of price stability ranges from 1½% to 3½% when assessed using the CPI, as that fixed-basket index is biased up about a ½ percentage point relative to the varying-basket PCE index.) In the event, we settled on α equaling 0.1, which provides a long look back and an expectations proxy varying slowly but significantly over its long history. The inflation proxy is plotted as the light blue, creeping along with actual inflation, the green line, with a lag.

Consumer Price Inflation and Confidence About Price Stability

Percent



Source: Bureau of Labor Statistics, consumer price index, all city average, four-quarter change, percent. Inflation expectations are an exponentially weighted backward-looking average with an expected half-life of 2.5 years. The probability is from a period-by-period t-test of whether the average is at or below 3.5%. The horizontal line is the upper end of the Volcker-Greenspan definition of price stability as 1 to 3% in inflation as measured by the personal consumption expenditure price index, adjusted for an assumed 0.5 percentage point bias when measured using the consumer price index. The forecast at the far right shaded area extrapolates the latest median outlook in the FOMC's Summary of Economic Projections. Firm analysis with data accessed from FRED 7/7/2024.

For the second part of implementing the Volcker-Greenspan definition, we tested period-by-period if the inflation proxy was significantly below 3½% given its own history. This was a one-sided t-test, given that the public seems less concerned about very low inflation than the Fed and very low readings are infrequent in the time series.

- The dark blue line, which is the probability of being in the zone of price stability, breaks up the last 70 years into four episodes. Inflation was low enough until 1968 to give the private sector confidence in planning, but that reassurance was lost for about 15 years, until the early 1990s. The combined efforts of Chairs Volcker and Greenspan reasserted price stability as the norm, which prevailed until the Pandemic. We are living with the consequences, outside the zone of price stability.

- Once price stability is lost, it takes some time to reestablish confidence, as witnessed by the 1994 crossing date for inflation assuredly expected to be below 3½%, or 15 years into the Volcker-Greenspan fight against inflation.

- The difficulty in regaining lost ground implies that even if inflation falls as smoothly as in the Fed's latest projection, price stability will not be confidently won until it prevails at goal for three years (the right panel).

Swiping Right or Left in Practice

We first worked through the Fed's social welfare function to show that price stability weighs more importantly the further it is from being achieved. We previously demonstrated that the past 70 years divide into long stretches inside and outside the zone of price stability. In this section, we show that, as a consequence of the first theoretical observation given the second empirical property, there are significant differences in the policy outcomes of the two regimes.

- **What to look for.** A Fed focused on inflation when it is high must restrain economic activity to achieve a balance between aggregate demand and supply that points inflation downward. Moreover, its ability to respond to adverse financial shocks is limited by the need to keep policy restrictive. In contrast, a Fed within the zone of price stability can offer accommodation to make progress on its employment objective and has more leeway to offset financial shocks.

- **Where to look.** Our dataset is quarterly, beginning in the third quarter of 1954 and mostly assembled from the Fed's Financial Accounts of the US. The variables included policy choices (the nominal and real fed funds rates), macroeconomic outcomes (the unemployment rate and PCE inflation), and financial indicators (the price indexes of Treasury securities and equities and, since 1961, an estimate of the term premium in the 10-year Treasury yield).

In the table below, we report the results of simple regressions of these variables that include a dummy indicator of whether price stability prevailed that quarter. In the first two sets of regressions, the dummy is the only explanatory variable as we look for systematic differences in policy outcomes. In the second two sets, we regress the unemployment rate and inflation rate on the real fed funds rate and the price-regime dummy to gain insight on the systematic part of Fed policy.[5] The last two sets look at financial market responses, with the first considering the relationship between bond and equity prices and the second looking at the average term premium on the 10-year Treasury note.

Scanning the two sets of columns, outside the zone of price stability:

- The nominal and real (or inflation-adjusted) policy rate tends to be high, at 7.68% and 2.36%, respectively.
- Inflation tends to be unrelated to the real policy rate, implying that the nominal rate must move effectively one-for-one with inflation to keep the real rate from changing.
- The unemployment rate is negatively related to the real rate, suggesting an effort to counter the business cycle.
- Bond and equity prices are positively related, implying that officials do not attempt to offset equity price declines with rate cuts (and bond price gains), presumably because wealth losses work to retrain aggregate demand.

Relationships Among Key Indicators

Estimated 1954:Q3 to 2023:Q4 quarterly changes, percent and percentage points

	RELATIVE TO THE ZONE OF PRICE STABILITY					
	OUTSIDE		INSIDE		GOODNESS OF FIT	
	Responsiveness	Constant	Responsiveness	Constant		
Nominal fed funds rate						
as explained by a price stability dummy		7.68 *29.29*		2.75 *13.47*	0.79 *< t-statistic*	< R^2
Real fed funds rate						
as explained by a price stability dummy		2.36 *10.04*		0.87 *4.76*	0.31 *< t-statistic*	< R^2
Unemployment rate						
as explained by the real fed funds rate	-0.081 *-1.98*	0.031 *0.45*	0.010 *0.11*	-0.030 *-0.55*	0.016 *< t-statistic*	< R^2
Inflation						
as explained by the real fed funds rate	-0.053 *-1.92*	-0.047 *-1.00*	-0.565 *-9.53*	0.035 *0.94*	0.262 *< t-statistic*	< R^2
Equity prices						
as explained by debt prices	0.968 *2.25*	1.845 *2.36*	-0.022 *-0.05*	0.035 *0.94*	0.076 *< t-statistic*	< R^2
Ten-year Treasury term premium (since 1961:Q2)						
as explained by a price stability dummy		2.36 *20.94*		0.85 *8.86*	0.67 *< t-statistic*	< R^2

Source: Bureau of Labor Statistics, unemployment rate, Bureau of Economic analysis, personal consumption price index, and Federal Reserve, fed funds rate and NYSE Composite Index. The average price of Treasury debt is from the Federal Reserve Bank of Dallas. The real funds rate is the nominal less the four-quarter percent change in PCE prices. The term premium is from the Federal Reserve Bank of New York. The dating of within and without the zone of price stability is from the prior chart. Firm analysis with data accessed from FRED 5/7/2024.

Inside the zone of price stability:

- The nominal and real fed funds rate tends to be low, about 5 percentage points and 1½ percentage points lower than in the higher-inflation regime.
- Inflation and the real rate are negatively related, implying that the nominal rate does not keep up with changes in inflation.
- The unemployment rate is not related to the real rate, consistent with no attempt to impose countercyclical policy.
- Bond and equity prices are negatively correlated, suggesting that losses from equity prices are offset with rate declines to buoy bond prices to preserve wealth.

These systematic differences matter materially for macroeconomic regularities and investor opportunities. High real short rates outside the zone of price stability associate with estimates of the equilibrium, or neutral, real rate drifting higher. Conversely, the low real rate prevailing inside the zone of price stability pulls estimates of the neutral rate lower.

Outside the zone of price stability, bond and stock prices positively correlate, making fixed income assets a poor hedge for equities and raising portfolio risks. Accordingly, investors should be compensated for bearing that risk in the form of higher term and other risk premiums. Inside the zone of price stability, the two main asset classes negatively correlate, working to lower premiums. Supportive of this, the estimate of the term premium on the 10-year Treasury note is considerably higher outside the zone of price stability.

The Last Word

We think location matters, especially for the Fed when the location is the zone of price stability. When prices are stable, officials have the luxury of exercising their ambitions toward the goal of maximum employment. Policy can be accommodative, and the Fed can try to cushion bumps along the investing road. This was the record of Chairs Bernanke, Yellen, and Powell in his first term. However, given the social cost of missing on its objectives, the Fed must become the single-minded steward of price stability when prices are not stable. We believe policy must lean toward the restrictive, and the Fed is more likely to let investors fend for themselves. This was the record of Chair Volcker for his entire term in office, Chair Greenspan for the first portion of his tenure, and now Powell.

That is, the location that matters for Jay Powell is that inflation expectations are not assuredly within the zone of price stability. By our reading of the historical record, those expectations move slowly, which is why we are not surprised by the consistent polling results of the public's unease with the economy. Confidence is won by demonstration, and it will come only well after inflation has settled at the Fed's numerical goal of 2%. During that interim, Fed policy should lean restrictive, as it usually does outside the zone of price stability.

As a result, the Fed has swiped left. We think that the Fed's policy setting is focused on realigning the nominal federal funds rate lower to the prevailing lower level of inflation, ratcheting lower the degree of firmness slowly over time but remaining firm. The hope is to stay in a sweet spot in which policy is restrictive enough to keep inflation on a downward path but not so restrictive as to risk a downdraft in economic activity.

This is a plan that would be overtaken by events if activity weakened suddenly. In our outlook, however, activity continues to expand at a pace not far from its potential, and inflation sluggishly edges lower. If so, we think the Fed can delay the first policy ease until December. Part of this call relates to their current rate guidance and risk framing. If they want to be as confident as possible about disinflation and believe only a one-quarter point move is appropriate, why wouldn't they wait until the last meeting of the year? Another perspective is that markets have an outsized probability currently priced in that economic weakness will prompt a dramatic policy pivot. If so, the earlier the Fed acts, then the more that markets will over-react, an outcome that officials should seek to avoid. An added advantage of one-and-done at the end of 2024 is the Fed keeps out of the headlines for most of the remainder of this year.

Glossary

- **Price Stability:** Prices remain low or stable over the longer run as measured by inflation.
- **Nominal Interest Rate:** The rate that banks and financial institutions quote or state.
- **Real Interest Rate:** The nominal or current market interest rate minus the rate of inflation.
- **High Real Short Rate:** Short rate refers to interest rates with a short term. The real short rate is the policy rate (Fed funds rate) with inflation subtracted out.

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Vincent is the firm's Chief Economist and Macro Strategist. In this role, he is responsible for developing views on the global economy and making relative value recommendations across global bond markets, currencies and sectors.

Previously, Vincent served as the Chief US Economist and a managing director at Morgan Stanley. For the prior four years, he was a resident scholar at the American Enterprise Institute (AEI). Vincent also spent 24 years at the Federal Reserve, holding several roles including Director of the Division of Monetary Affairs and Secretary and Economist of the Federal Open Market Committee (FOMC). His responsibilities at the Federal Reserve included directing research and analysis of monetary policy strategies and the conduct of policy through open market operations, discount window lending and reserve requirements. Prior to these roles, he was the principal liaison with the domestic desk at the Federal Reserve Bank of New York and was responsible for preparing a document outlining policy alternatives for each FOMC meeting. He was Deputy Director in the Division of International Finance and Associate Economist of the FOMC and spent five years at the Federal Reserve Bank of New York in both the domestic and international research departments.

His academic publications primarily concern the conduct of policy and issues related to the monetary transmission mechanism as well as an analysis of alternative auction techniques and Treasury debt management. After an undergraduate training at Fordham University, he received graduate degrees in economics at Columbia University.

Endnotes

1. This quote, and the others that follow, can be found in the transcript of the May press conference at: https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20240501.pdf.

2. See the reference to the definition in Edwin M. Truman's "Paul A. Volcker's 'Keeping at It: Messages for the Country and World'", Peterson Institute for International Economics, February 8, 2019.

3. Expected inflation, or π^*, follows actual inflation, or π, according to $\pi^*_t = a\,\pi_t + (1-a)\,\pi_{t-1}$. The coefficient, a, can be thought of as the inverse of the half-life of information built into the expectations proxy. A low value implies a long half-life and a slowly moving proxy. A high value implies a short half-life and a variable proxy.

4. An implied PCE price index is available in the National Income and Product Accounts starting in 1947. Monthly data begin in 1959.

5. By using different intercepts and slopes for the two regimes, we're effectively running two separate regressions and pooling the results in the summary statistics.

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