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Fed Thoughts: Operating at a Loss

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The Federal Reserve (Fed) is operating at a loss that fundamentally shapes its policy choice. No, this is not about shrinking Fed profits from its underwater balance-sheet position that makes news on occasion. This is common to any bank with a maturity mismatch related to holding significant amounts of long-term securities but incurring interest expense tied to short-term rates. For the Fed, this expense comes from paying interest on reserves. Unique from other central banks, the Fed inverted the yield curve and forced the loss upon itself, but it is under no market pressure about the capital posted on its balance sheet. True, the loss is a bad look, and it may matter by shrinking the Treasury’s fiscal space and making Fed officials reluctant to act in ways incurring additional loss (such as selling some of its mortgage-backed securities). In fact, the real economic value of the Fed comes from its ability to create reserves at will and without expense to itself.

The more meaningful loss and the subject of this note is obscure to most observers of the Fed but central to the actions of Fed leaders who assess their performance in terms of the distance of economic outcomes from goals. When employment is not at its maximum level and prices are not stable, the Fed operates at a macroeconomic loss, as is the case now and for some time to come, in our view.

In the modern era, Fed officials universally view themselves as applying the science of monetary policy. Indeed, the first chair easily imagined in a white lab coat, Ben Bernanke, just won a Nobel prize for his contributions to economic science. Central to this approach is evaluating policy in terms of how far economic outcomes diverge from goals. In the Fed’s case, the goals are maximum employment and stable prices. The logic is simple, but the notion is made more impressive by the name attached to the summary of economic performance relative to goals—the loss function. The passive use is to combine the distance of the economy from the Fed’s two goals into a single measure of loss both in the historical record and in economic projections. The active use is to pair the loss function with a model of the economy to determine the optimal path of the policy instrument.

As for the Fed’s dual objectives, while due obeisance is made in public that economic slack is unobserved and cannot be captured by a single number, progress on maximum employment is usually measured as a stark comparison of real GDP relative to an assessment of its potential or the unemployment rate relative to an assessment of its natural rate. Price stability, at least for now, has been defined in the Fed’s annual mission statement as inflation of two percent in the long run, setting that as the benchmark to assess the loss associated with the actual performance of inflation. Note, however, that for all the solemnity associated with that two-percent goal by Fed officials, this working definition was agreed upon because the conversation about enumerating the goal of price stability heated up when inflation was around that level. The issue is always open to be re-litigated.

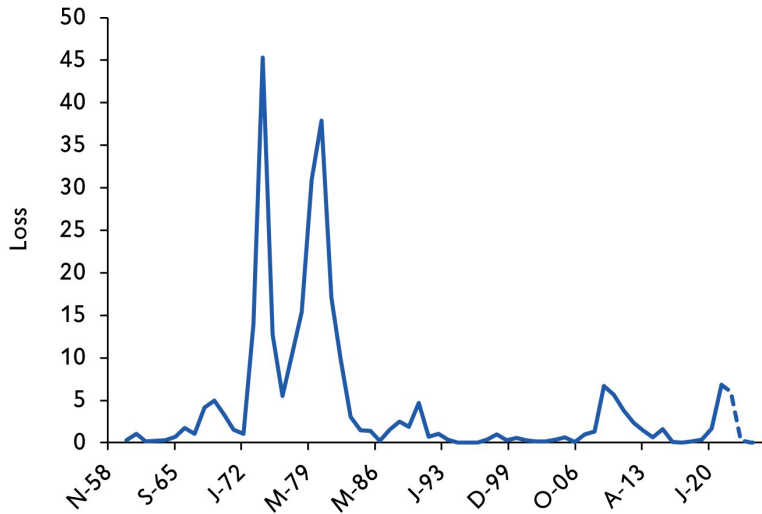
The key feature of the loss function is not the exact measurement of distance from goals but the shape of the penalty for being away from goal. All variants assume that the loss increases by an increasing amount in the distance from the goal. The workhorse specification is a quadratic form, as in

$$\text{Loss} = (\pi - 2)^2 + a (u - u^*)^2$$

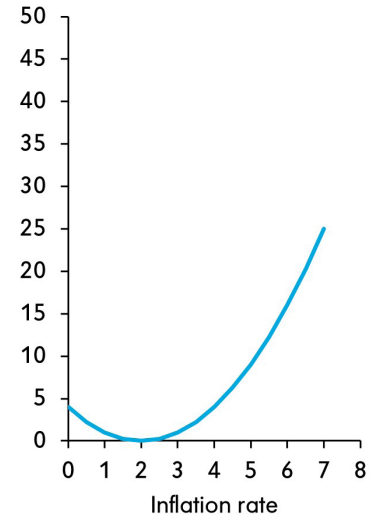
Where π is the inflation rate and u and u^* are the unemployment rate and its natural rate, respectively. The fixed coefficient, a , is the penalty to unemployment gaps relative to inflation gaps, usually set at one or below. This quadratic form is used with a slight variation, for instance, in the Fed Board staff’s large-scale econometric model to derive optimal monetary policy paths.¹

Federal Reserve Policy Loss

$$L = (\pi - \pi^*)^2 + \frac{1}{2}(u - u^*)^2$$



Loss Sensitivity



Source: Bureau of Economic Analysis (π , inflation), Bureau of Labor Statistics (u , unemployment rate), and Congressional Budget Office (u^* , natural rate of unemployment). Dotted segment uses Summary of Economic Projections, Federal Reserve. Firm analysis.

Whatever the exact form, the message is similar to the chart above that plots the macro loss from the Fed policy outcome misses annually since 1960 using the quadratic specification and assuming that the coefficient a equals $\frac{1}{2}$.

The loss associated with current Fed policy is the third worst in the sample, only behind 1974 and 1981. The reason is evident in the right panel: A quadratic penalty is applied to inflation differing from goal, implying that the loss is high now given that inflation is well above 2 percent.

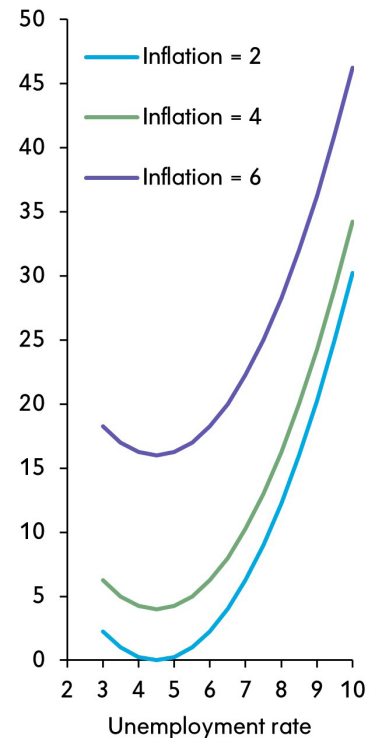
While there is some benefit in knowing where the Fed has been and is now, the real gain from understanding the loss function is what it reveals about the Fed’s policy-setting process. Two points are of particular interest.

First, inflation is the preeminent concern of Fed officials now because, as in the right panel, we are in the steep portion of the loss function. Any progress from here trims the loss considerably, and slippage is very costly. This is why Chair Powell is so forceful in his message and his colleagues unanimous in support, for now.

Second, the maximum employment part of the formula does not enter materially now given that the unemployment rate is close to (a little below) its natural rate. The unemployment rate does rise in the median forecast of participants of the Federal Open Market Committee (FOMC) process, but only by 0.6 percentage points. Moreover, the change is from slightly below

Federal Reserve Policy Loss

Loss Sensitivity



Source: Firm analysis.

to slightly above their assessment of its natural rate, so the gap term does not throw much weight around. However, that gap enters with a squared term, too, so the loss would escalate materially if the unemployment rate rises by more, as at right, and relatively so as a proportion of the total loss if inflation falls at the same time.

We believe the next act of the Fed policy-setting drama will play out in 2023 and thereafter, when we expect inflation will be lower and the unemployment rate will be higher. Policymakers' sense of the imminent threat of loss will shift from exclusive concern of inflation to a closer balance between the dual objectives. This will likely make it harder for Chair Powell to keep his committee tightly focused on inflation and unanimous in support.

When read with the loss function in mind, news over the intermeeting period seems to confirm that the FOMC will raise the policy rate another $\frac{3}{4}$ percentage points at its upcoming meeting on November 1 to 2, which is where market pricing is currently. In particular, the minutes of the prior meeting showed more concern about inflation becoming entrenched than economic activity weakening, holding that "...the cost of taking too little action to bring inflation down likely outweighed the cost of taking too much action."² That sounds a lot like a group worried about being on the steep portion of the loss function.

The minutes introduced a new adverb to the Fed lexicon, "purposefully." They have a plan to raise rates and appreciate the consequences. Look to many FOMC participants to recite that word from the hymnal. Consumer price data played out one of their fears—inflation is becoming more embedded. Headline inflation ticked lower, but core inflation (abstracting from food and energy prices) rose to 6.6 percent on a twelve-month basis, up three-tenths month on month, as price momentum was more evident in the stickier components of the consumption basket. Sticky prices live up to their name, in that once they do start rising, they continue to do so.

We expect hikes of 75 basis points in November and at least 50 basis points in December. The arithmetic works by delivering the cumulative increase for 2022 in the latest Summary of Economic Projections (SEP), frontloading, firming, and establishing that the pace of tightening is slowing entering next year. As the minutes noted, the FOMC must slow down sometime soon. This way, they can parcel out two-or-three-more quarter point hikes in succession next year. However, they update the SEP in December, so they could move up their year-end assessment of the funds rate consistent with a 75 basis-point firming. If that is the plan, we believe Chair Powell will spend some time in his press conference in early November leaning into a coming forecast revision.

There was an interesting marker put down in the minutes that signals the next act in the policy debate, consistent with our description of the loss function. To repeat, when inflation is so far above goal, the policy choice is obvious and unanimous because the loss is enormous. In 2023, when inflation falls toward their goal (although not as close as in their current forecast in our view) and the unemployment rate rises (probably by more than they admit now), there will likely be more dissent within the FOMC, reflective of the two components of loss. The smart dovish move now (as in Vice Chair Brainard's recent speech) is to strenuously support the easy-to-understand firming now but flag the future risk when the decision will get harder. Vice Chair Brainard noted in her speech, as she must have had at the meeting, that downside risks would emerge related to, as the minutes reported, "...the tightening of the monetary stance abroad and the weakening global economic outlook..."³ That tension is why we think the FOMC will stop short of firming enough to return inflation to goal within the next two years. The math will make them do it.



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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 worked in several roles at the Federal Reserve over 24 years, 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 Brayton, Laubach, Reifschneider. Optimal-Control Monetary Policy in the FRB/US Model. November 14, 2014. Access at: <https://www.federalreserve.gov/econresdata/notes/feds-notes/2014/optimal-control-monetary-policy-in-frbus-20141121.html>.

² Minutes of the Federal Open Market. September 20-21, 2022. Found at: [Committeehttps://www.federalreserve.gov/monetarypolicy/fomcminutes20220921.htm](https://www.federalreserve.gov/monetarypolicy/fomcminutes20220921.htm)

³ Brainard. Restoring Price Stability in an Uncertain Economic. October 10, 2022. Found at: [Environmenthttps://www.federalreserve.gov/newsevents/speech/brainard20221010a.htm](https://www.federalreserve.gov/newsevents/speech/brainard20221010a.htm)

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