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Trade-offs in Fulfilling the Fed's Dual Mandate

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This article discusses the trade-offs and impacts of inflationary environments given the dual mandate of the Federal Reserve. High inflation creates pricing distortions and leads to a tax on liquidity. Furthermore, it has direct redistributive impacts of inflation on wages, portfolios and contracts that are preset in dollar terms. The analysis concludes that while inflationary trade-offs are complex, keeping expectations anchored is a paramount objective for the Fed, since unanchored expectations make all the other trade-offs harder to navigate.

The Federal Reserve has a dual mandate of achieving low and stable inflation and maximal employment. While there does not appear to be a long-run trade-off between those objectives, they may come into conflict at shorter horizons. For example, an inflationary increase in the price of foreign goods may cause the Fed to choose between either accepting temporarily higher inflation or increasing interest rates, thus cooling down the economy and increasing unemployment.

Several considerations arise if one submits this choice to a cost-benefit analysis. On the one hand, higher unemployment implies loss of income for those who lose their jobs and potentially lower wages for those who keep them. On the other hand, higher inflation distorts the price system, corrodes nominal income and the value of nominal assets, and may become ingrained in expectations.

Assessing those trade-offs is further complicated by the fact that they affect people differently. This article will discuss these trade-offs and their potential impacts in greater detail, showing some of the complications in coming up with a strategy to battle inflationary environments.

Pricing Distortions

Traditionally, relative price distortions were identified as a main cost of high inflation. The economy works best when prices reflect differences in the costs of producing different goods of similar quality. This provides consumers and firms with incentives to demand more goods and inputs that can be produced more easily, allowing the economy to produce more with less. Inflation impairs the ability of firms to set prices correctly, distorting those incentives.

Such pricing distortions may emerge because firms do not change their prices continuously, instead keeping them in place for discrete periods of time. For example, a coffee shop may have increased its

prices last year, but it doesn't reprint its menu every day with new prices. As inflation progresses, that coffee becomes cheaper relative to other rising prices in the economy, until the shop introduces a new menu. Thus, such prices are considered "sticky."

Sticky prices imply that, as inflation increases, some firms will end up with prices below what would make the most sense for them. Then, when given the opportunity, these firms will increase their prices beyond what they might otherwise choose to account for future inflation. Thus, some prices will be too high (such as recently adjusted prices), and others will be too low (such as prices that haven't changed in a while). Consumers then shift toward firms that have taken longer to adjust their prices, rather than the ones that produce most efficiently. This affects the ability of the economy to produce efficiently.

A Tax on Liquidity

Another cost of inflation is increases in the cost of holding currency and other nominally denominated liquid assets. As inflation rises, those money balances become smaller in real terms.

When it becomes costly for firms and households to hold money balances, they change their behavior, perhaps by holding smaller currency balances. In turn, these smaller balances may cause:

- Households to tilt their consumption away from goods that require cash payments
- Firms to avoid using certain types of inputs
- Production to be allocated away from goods that can be produced most efficiently and toward those most easily purchased on credit

To illustrate the cost of eroding the real value of money balances, consider that the total value of U.S. currency in circulation is about $2 trillion, or close to 10 percent of GDP. An inflation increase from 2 percent to 8 percent corresponds to an added cost of close to 0.5 percent of GDP.

A strict focus on currency may, however, be too narrow: Checking accounts do not typically pay interest, and interest rates on savings accounts have increased by less than 30 basis points in the past year despite rising inflation and fed funds rates. Thus, these accounts do not have practical mechanisms to combat the erosion of their values, which could mean significantly increasing the costs of inflation on liquidity.

Redistributive Impacts from Inflation

Another consideration is that inflation has direct redistributive impacts to the extent that prices, wages and contracts are preset in dollar terms. Those impacts sum to zero by definition, implying that different economic agents face being either harmed or favored.

First, to the extent that wages are slow to adjust, rapid price inflation depresses real wages. This implies a redistribution from people who earn their income primarily from wages toward those entitled to the dividends of firms selling at newly increased prices.

This redistributive impact is disparate across workers. In particular, workers who consume goods with prices more sensitive to inflation will see their real income corroded more quickly. For example, the 2022 article "Do Black Households Face Higher and More Volatile Inflation?" notes that Black households, on

average, devote more of their income toward goods with flexible prices such as food categories and energy, leaving these households more exposed to inflation fluctuations.

A second source of redistributive impact from inflation fluctuation stems from differences in household portfolios. An inflation surprise is most damaging to households with a large part of their assets in fixed-interest, long-term bonds. Those tend to be older households, who retain much of their retirement savings in such generally safe assets.

At the same time, they will tend to benefit households with large, long-run fixed-interest debts, such as mortgages. Those tend to be young households with relatively good prospects for lifetime income, as noted in the 2016 paper "Inflation and the Redistribution of Nominal Wealth." Younger households are also more likely to hold a significant part of their assets in equity and housing, the values of which are less likely to be directly affected by inflation in that same way.

While potentially significant, these redistributive impacts are most likely to arrive in response to inflation surprises. If inflation is predictably high, annual wage adjustments and interest rates on fixed-income assets will likely reflect such higher inflation.

Inflation surprises, however, can mean upside or downside effects. The upshot is that — even if the one-off redistributive impact of inflation surprises has clear winners and losers — repeated surprises in both directions have a negative impact on all households by making their overall income and wealth less predictable.

Disparate Impact on Employment

The negative consequences of inflation uncertainty are balanced against the benefit of stabilizing employment and income. Those benefits may be very different across households, depending on their exposure to unemployment fluctuations.

When discussing this trade-off, it is important to emphasize that, since the stagflation of 1970s, the consensus position among macroeconomists is that loose monetary policy can easily lead to high inflation without persistent gains in lowering unemployment rates. Therefore, a guiding principle of post-1980s monetary policy has been that it should not be used to try to achieve permanently higher employment.

At the same time, monetary policymakers can choose how much to prioritize employment in responding to certain shocks. For example, the Fed will typically not attempt to offset temporary increases in food or energy prices, because doing so would tend to raise the unemployment rate. Therefore, while there does not seem to be a trade-off between inflation and unemployment, there is a *stability* trade-off between those two variables.

This stability trade-off is different for different households. One particularly stark example — highlighted by the 2022 working paper "Monetary Policy With Racial Inequality (PDF)" as well as my 2022 working paper "Minority Unemployment, Inflation and Monetary Policy (PDF)," which I co-authored with Claudia Macaluso and Munseob Lee — is along racial dimensions. In the U.S., Black households face unemployment rates that are roughly twice that of White households. Furthermore, it holds not only over long periods of time but also across booms and recessions. Thus, for example, in a recession where the unemployment rate for White households climbs from 5 percent to 10 percent, the unemployment rate

experienced by Black households rises from 10 percent to 20 percent. Therefore, while about 5 percent of White workers will lose their jobs and income, about 10 percent of Black workers will suffer the same fate.

It follows that higher inflation volatility may be a price to pay for more stable income and employment for all, but even more of a price borne by particularly disadvantaged groups with higher unemployment rates in general. However, the scope for such a strategy may be severely limited if occasionally high inflation leads agents to have doubts about the commitment of monetary policy to long-run price stability.

Unanchored Expectations

The trade-off between the stabilization of inflation and unemployment is not static but may depend on how agents form expectations. The reason is that inflation depends not only on the economic "slack" associated with unemployment rates or shocks to demand or supply for particular goods and services but also on future expected inflation. This follows from the fact that most firms adjust their prices infrequently. If firms expect inflation to be high in the future, they might adjust prices higher in anticipation.

In a 2007 speech, former Fed chair Ben Bernanke defined anchoring of inflation expectations through the way in which long-run inflation expectations react to incoming data: "*If the public experiences a spell of inflation higher than their long-run expectation, but their long-run expectation of inflation changes little as a result, then inflation expectations are well anchored. If, on the other hand, the public reacts to a short period of higher-than-expected inflation by marking up their long-run expectation considerably, then expectations are poorly anchored.*"

This definition is a good fit for how the joint dynamics of inflation and unemployment changed between the 1970s and the 2000s. In the 1970s, fluctuations in unemployment were associated with changes in inflation, a relationship known as the accelerationist Phillips curve. One interpretation is that firms regarded any change in inflation as permanent and reacted accordingly when setting prices. Thus, when Paul Volcker increased interest rates in the early 1980s and unemployment surged, the momentarily low inflation rates caused by higher unemployment led firms to revise their future inflation expectations down, bringing about a persistent decline in inflation.

Conversely, the Fed had very little scope in those years for stabilizing unemployment in the face of inflationary shocks without fatally compromising its low-inflation objectives. For example, the impacts of the 1970s energy crisis on inflation were very persistent even though they were accompanied by recessions.

In contrast, inflation expectations were well anchored in the 2000s. This was highly beneficial, as it allowed the Fed to keep both inflation and unemployment stable in the face of wide swings in commodity prices that rivalled the ones observed in the 1970s.

Because it affects the Fed's ability to stabilize unemployment, unanchoring of inflation expectations is a concern that tends to trump all others. For a few decades preceding the pandemic, inflation expectations appeared to be very solidly anchored, allowing the monetary authority to focus on other concerns. As inflation surged post-pandemic, this has come back to the foreground.

Conclusion

There are several good reasons why low and stable inflation is desirable. High inflation tends to distort prices and incentives to hold cash and buy certain goods and services. Furthermore, unstable inflation generates uncertainty in income and wealth holdings.

On the other hand, policymakers are justified in accepting some inflation instability if this avoids such an excessive volatility in unemployment over the business cycle.

One complicating aspect is that the costs and benefits may be very different across households. Households that normally face high unemployment and hold little in nominal balances may be willing to accept inflation in a way that households with stable employment and large nominal positions may not. Similarly, households that more heavily focus their expenditures on goods that respond significantly to inflation (such as gas or food) may be more concerned about inflationary fluctuations.

The post-pandemic surge in inflation has generated renewed worries about unanchoring of expectations. As the discussion above makes clear, such concerns are justified, as unanchoring severely limits the Fed's ability to attain its objectives of stable prices and maximum employment. Such limits would be particularly harmful to households with high unemployment rates and a large fraction of their baskets dedicated to inflation-sensitive goods.

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