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Monetary policy lags

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HIGHLIGHTED IN THIS PUBLICATION:

MONETARY POLICY LAGS

"Members agreed that, in determining the pace of future increases in the target range, they would take into account the cumulative tightening of monetary policy, the lags with which monetary policy affected economic activity and inflation, and economic and financial developments."

As the above quote illustrates, the importance of monetary policy "lags" was well noted in the Minutes of the Federal Open Market Committee meeting on 1-2 November 2022, appearing no less than nine times.[1] In this issue of *Infocus*, EFG chief economist Stefan Gerlach explains what they are, why they arise and why the Fed pays attention to them.

The fact that monetary policy impacts the economy with a long delay is hugely important for central banks but often disregarded by commentators. To see why such lags matter, suppose you are driving a car that only responds after some time to input from the steering wheel. If so, you must turn the steering wheel before you want to change direction. Moreover, because the car does not respond immediately, great care has to be exercised since it is difficult to judge how much to turn the steering wheel. The longer and the more uncertain these lags are, the more difficult it will be to drive the car.

This is also true for monetary policy. The existence of lags requires central banks to look ahead in setting monetary policy: reacting solely in response to actual changes in economic conditions means that central banks will unavoidably fall "behind the curve." Accurate inflation forecasts are therefore essential for good monetary policy, but such forecasts are often wrong and difficult to make.

Since the lags are long and many economic disturbances have merely temporary effects, often the best policymakers can do is to do nothing since economic shocks may dissipate on their own before policy becomes effective. But misinterpreting the persistence of economic shocks can have calamitous consequences. Indeed, the combination of large and unforecastable food and energy price shocks that were incorrectly judged to be temporary was one reason why central banks failed to forestall the surge in inflation that we are now experiencing.

Sources of time lags

There are several types of lags that arise when conducting monetary policy.

The first type relates to lags in recognition – it takes some for the central bank to recognise that a change in policy is warranted. These lags are often very short if a major event occurs that has obvious implications for monetary policy. For instance, immediately after the collapse of Lehman Brothers in 2008 central banks across the world cut interest rates by very large amounts. Similarly, the start of the Covid pandemic triggered instant responses by monetary policymakers.

But other changes in the economy that warrant policy action can be more difficult to spot. For instance, housing bubbles often start with strong economic growth that warrant higher property prices. Over time, however, prices may gradually become misaligned with fundamentals. In this situation it can be difficult for the central bank to determine whether and when higher interest rates are called for.

The second factor concerns implementation lags – it takes some time to determine how monetary policy should respond to changes in the state of the economy. This is often straightforward if monetary policy solely involves changing interest rates. However, the introduction of unconventional monetary policy, in particular Quantitative Easing and Quantitative Tightening that involve expansions and contractions of central bank balance sheets, has made this a much more complicated task. While central banks may have a good idea of how the economy will react to a change in interest rates, they find it much harder to calibrate by how much they should adjust the balance sheet when changing the stance of policy.

The third factor is policy lags – it takes some time before changes in the central bank's policy instruments affect the broader economy. Monetary policy works in two stages. The first of these is the link between the change in policy instrument and market-determined interest rates, exchange rates and equity prices.

While this link is typically very quick, it is difficult for the central bank to know how – and how quickly – financial market pricing will react to changes in monetary policy since that often depends on how market sentiment and expectations of future monetary policy change.

The second is the link between changes in financial market prices and the economy-wide demand for goods and services

[1] See https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm.

and, through it, inflation and growth. That step is uncertain because it depends on how households and firms interpret the changes in financial conditions and on the size and nature of their assets and liabilities.

Monetary policy and aggregate demand

The main effect of monetary policy occurs through the interest sensitive part of spending. The structure of financing is particularly important. Several factors play a role:

- How much have firms and households borrowed? When debt stocks are large, central banks can have a powerful effect depressing spending on goods and services.

- Are the interest rates floating or fixed? If fixed, for how long are they fixed? If borrowing is at interest rates that are fixed for long periods of time, then monetary policy will only impact new borrowers. If the interest rate is floating or if interest rates are fixed for short periods of time, then tighter monetary policy will also influence past borrowers and be commensurately more powerful.

- Do firms borrow from banks or in capital markets? If banks borrow in capital markets by issuing debt securities, then the interest rate is fixed during the lifetime of the security.

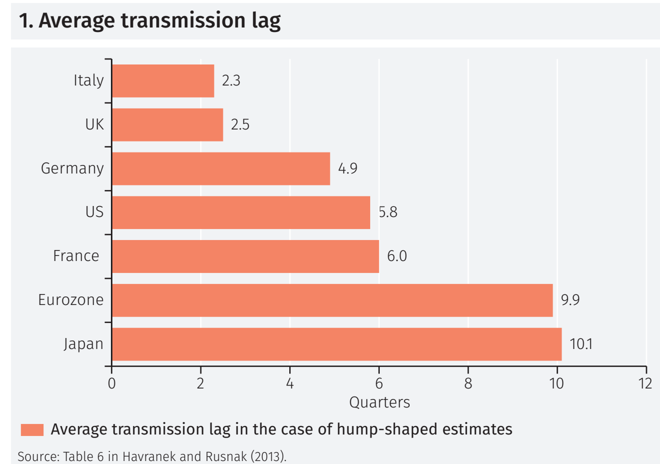
Of course, many other factors matter in addition to the nature of financing. For instance, in highly open economies monetary policy can have very rapid effects on inflation by inducing exchange rate changes. In economies where housing ownership is low and most pensions are of the defined benefit variety, the effectiveness of monetary policy may be blunted by a weak wealth effect.

Peak effect on inflation

With most central banks focusing on ensuring low and stable inflation, the impact of interest rates on inflation is particularly important. While estimates vary sharply between studies and economies, a recent article looking at 198 estimates from 67 economies concluded that the average lag before the peak effect on prices was 4.6 quarters.[2] However, the policy lag seems longer in economies with more advanced financial sectors. The authors hypothesize this may be due to financial institutions in such economies having greater flexibility to hedge against monetary policy surprises, thus slowing the transmission of policy impulses.

Figure 1 shows estimates for select advanced economies. These vary between a little more than two quarters for Italy and the UK to ten quarters for the eurozone and Japan. Given the uncertainty attached to any individual estimates, more weight should arguably be attached to the average of 5.9 quarters.[3]

1. Average transmission lag



Source: Table 6 in Havranek and Rusnak (2013).

These estimates mean that in setting monetary policy, central banks must form a forecast of what inflation will be one to two years ahead. In preparation for its meeting this week, the Federal Reserve must forecast how inflation will evolve during 2024 if it leaves policy unchanged. Such forecasts are hazardous in the best of times and will of course always be outdated if a large and unpredictable shock occurs sometime during the forecast period.

Conclusions

The fact that monetary policy impacts the economy only with long lags complicates the management of monetary policy. Good monetary policy requires the central bank to forecast inflation a year or two ahead, an almost impossible task if major shocks occur during the forecasting period.

Since the Fed – and many other central banks and commentators – underestimated the rise in inflation in the recent past, it seems likely it will err on the side caution and will aim to maintain a relatively tight monetary stance until inflation shows clear sign of abating. Indeed, if the Fed overtightens, it can ease policy quickly and re-establish its inflation-fighting credentials, whereas if it fails to tighten enough and inflation continues to surprise on the upside it will be much harder to re-establish credibility in the future.

While it is almost certain the Fed will raise the fed funds rate on 14 December, it is likely to slow further increases and let the lagged effects of past interest rate increases work through the economy.

[2] Tomas Havranek and Marek Rusnak, 'Transmission lags of monetary policy: A meta-analysis'. *International Journal of Central Banking*, December 2015, 39-75.
[3] Interestingly, ECB chief economist Philip Lane shows estimates suggesting that the peak effect of monetary policy on inflation in the eurozone is felt after 5 quarters. See his speech on "The transmission of monetary policy", 11 October 2022.

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