Research Institute - Insight

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Stars and Stripes: What short-term US r* tells us about the stance and evolution of monetary policy

Our estimates show that US short-term r* moved significantly higher following the pandemic. Monetary policy seems to have become restrictive around the middle of 2022, consistent with a recession later this year. With long-run r* likely to remain low and short-term r* likely to fall, we think rates will fall more than markets expect.

Key Takeaways

- Assessing the "true" stance of monetary policy requires an estimate of the equilibrium rate of interest, otherwise known as r*. This is because the impact of any given level or change in policy rates can only really be understood by reference to r*.
- We distinguish between short-term and long-term r*, and show how short-term US r* seems to have moved much higher following the pandemic.
- This movement higher seems to have surprised the Fed, and helps explain the large inflation overshoot in the US. Real policy rates fell substantially below short-term r*, exerting excessive stimulus to the economy.
- Policy appears to have only become "truly" restrictive around the middle of last year, when the real policy rate finally exceeded short-term r*. We think the current stance of policy and the timing that policy became "truly" tight are broadly consistent with our forecast for a US recession later this year.
- Meanwhile, the factors that pin down long-term r*, are unlikely to have moved significantly since the pandemic. As such, the underlying drivers are likely to be exerting downward pressure on policy rates over time.
- Short-term r* is also likely to fall as the recession we forecast unfolds, which we think will eventually see nominal policy rates decline substantially.

Why r* matters

The real equilibrium interest rate (r*) – also sometimes called the natural or neutral rate – is an unobservable concept, influenced by a wide range of factors operating over differing time horizons.

The evolution of r* is crucial to understanding the impact of monetary policy on the economy. This is because r* can in part be seen as defining the level of interest rates where policy switches from stimulative to restrictive. Indeed the "true" stance of policy can only be gauged by comparing the real policy interest rate with r*.

So, while we often talk loosely about how policy makers have tightened policy by 25bps when they increase the policy rate by 25bps, this is only really true if we assume r* has not moved. If r* has also increased over the period when policy rates have been pushed higher, then it is uncertain how much policy has "truly" tightened.

In fact, it is plausible that the "true" stance of policy has actually eased even as policy rates have moved higher if r* has increased by more than policy rates.

As such, the likely path of policy rates through both the ongoing monetary tightening cycle and eventual easing cycle will be heavily determined by how r* behaves.

If r* is higher, then rates may need to increase even further to exert the tightness to bring inflation back to target. And when rates are cut, a higher r* would mean policy becomes stimulative at a higher level, and so may mitigate the need for policy rates to be cut as far.

However, because r* is unobservable it is very difficult to track this "true" policy stance in real time.

We therefore discuss how we have estimated r*, with particular reference to its behaviour post-pandemic, and what this means for our forecasts for the economy and monetary policy.

What determines r*?

Over the long term, r* it is pinned down by potential output and productivity. Stronger growth raises the rate of return on investments – spurring demand for funds to invest – while expectations of stronger future income growth can support household consumption by reducing the need to save. But it is also driven by other factors that determine the interplay of savings and investment balances.

As such, key drivers include: demographics, which influence both savings and potential growth; technology and the relative price of capital; income and wealth inequality; government policy, where fiscal policy is an important component of national savings and income redistribution; and the global demand for safe assets.

Sliding government bond yields since the 1980s across both emerging and developed markets speak to a key global dimension to r*, with many of these forces operating not just over long time frames, but also across borders.

The pandemic shock drove short-term r* higher

But in its simplest definition r* can also be considered as the real interest rate consistent with stable inflationary pressure, meaning r* is both a long-run and a short-run concept.

Even if it is pinned down by slower moving structural factors over longer horizons, the economic cycle and temporary shocks influence the short-term r*, which is crucial for central bank policy setting.

The emergence of persistent inflationary pressure is consistent with an upswing in short-term r*. And the pandemic shock and 'war time' footing adopted by policy makers (at least in retrospect) provide an economic rationale that fits into this framework.

Restrictions designed to protect the populace from Covid damaged supply, while actions to support incomes contributed to supply-demand imbalances after the most acute phase of the crisis subsided. US government dissaving averted a larger economic crisis by countering private sector precaution early on. But fiscal transfers reinforced household balance sheets, at the same time that opportunities to consume services were curtailed, adding pressure to supply chains and contributing to labour shortages.

How do we measure r* and what do we find?

While one can motivate a higher short-term r*, the magnitude of the shift higher is crucial for judging the implications for the economy, policy setting and financial markets. So, how can we quantify it?

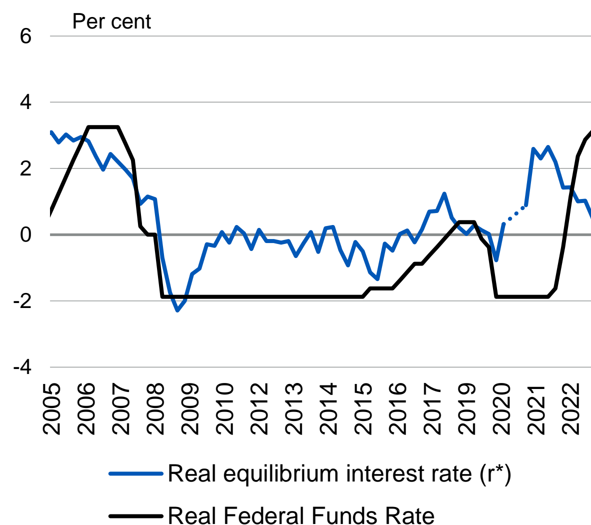
We adapt the work of Holsten, Laubach & Williams (2016) (HLW) to compute a short-term estimate of r* for the US. The modelling itself is complex and is made more difficult due to the magnitude of the pandemic shock. But the intuition is that r* is determined by potential growth and the other factors influencing savings-investment balances, and can be identified by the absence of growing inflationary or deflationary pressures.

Therefore, when economic slack turns out to be greater/lower than expected, it implies that the estimate of r* at a given point in time should be lowered/raised slightly. This process continues iteratively through the data until an estimate of r* is constructed for every point in time. For some more detail please see Appendix 1 here.

We do not take a firm view on how r* evolved in the initial stages of the pandemic as the extreme moves in the input variables make computation of r* exceptionally problematic. It is plausible that it dropped precipitously and then largely recovered within the space of two quarters, reflecting the collapse in GDP and a fairly 'V'-shaped – albeit still capacity constrained – bounce back.

Instead we focus on 2021 onwards, finding that US r* rose sharply and then remained at a high level through 2021, before moderating somewhat over 2022, reflecting both a weaker pace of growth and also somewhat less acute inflationary pressures (see the blue line in Figure 1).

Figure 1: The Federal Reserve was caught off guard by the sharp turn in r*, but policy is now restrictive



Source: abrdn, Haver (May 2023)

Uncertainty caused by the difficulty of real-time economic analysis – specifically parsing transitory from persistent inflationary pressure – is a key reason why the Federal Reserve (Fed) retained its accommodative stance through 2021.

But 'risk management' strategy and the Fed's Flexible Average Inflation Targeting (FAIT) – born out of low r* and sub-par inflation following on from the global financial crisis – also played a role.

It is now difficult to escape the conclusion that the Fed was behind the curve, contributing to the rise in short-term r*.

The 'good' news is that our estimates imply that monetary policy has moved into restrictive territory vis-à-vis r* (with the 1.75pp gap between the real policy rate and r* giving some buffer in case r* is in fact higher than our best guess).

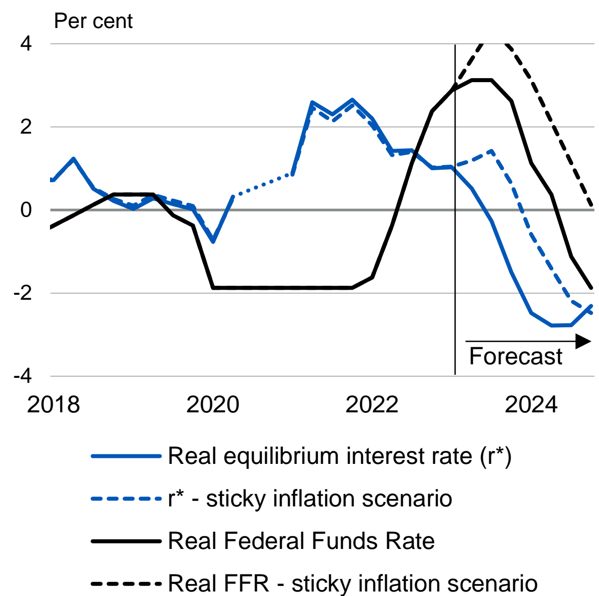
Since the real policy rate only exceeded r* in the middle of 2022, this may also help explain the recent resilience of the US economy and could be another reason to think that the full impact of tightening is still working its way through. It also implies little need for the Fed to tighten substantially further, absent a reacceleration of inflation.

Slow moving structural forces and the Fed's tightening to date both imply that r* will fall as recession unfolds

It is difficult to motivate an abrupt move upwards in long-term r*. Demographic forces are very slow moving, while it is also hard to argue that pressures from inequality or technology have suddenly changed. That said, we are in the process of investigating the long-run drivers of r* across both developed and emerging markets to see if there is any evidence that would point to upward movement in this variable.

Pressures from the pandemic abating and a tighter policy stance across both monetary and fiscal policy are reasons to expect a moderation in short-term r*. Indeed, our central case US forecast does imply a fall in r* (Figure 2).

Figure 2: 'Sticky inflation' could keep r* and policy higher for longer, but both should still turn down



Source: abrdn, Haver (May 2023)

The 'sticky inflation' scenario could keep short-term r* around its current level and motivate the Fed to hike rates further (dashed lines, Figure 2). But even in this scenario, policy remains tight and ultimately delivers the recession which pushes inflation back to target.

A degree of humility is of course required; unobservable variables are very difficult to judge, as are the long and variable lags from monetary policy tightening. This work is however consistent with our judgement that markets are underappreciating the cutting cycle that a recession will bring.

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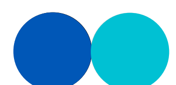

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