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It's written in the r*

Gold and the equilibrium US interest rate

- In our July market outlook – Expectations Trump Reality – we discussed how a potential medium-term increase in the US equilibrium interest rate would be a bearish development for the gold price.
- Since then, the Federal Reserve Bank of New York has started publishing estimates of the US equilibrium interest rate, using the "HLW model" developed by Holston, Laubach and Williams (2017).
- In this note we review why the equilibrium US interest rate is an important determinant of gold prices, how current short-term real interest rates compare to estimates of the equilibrium interest rate and, finally, what the market is currently pricing for the future path of US interest rates.

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It's written in the r*

In our July market outlook – Expectations Trump Reality[1] – we discussed how a potential medium-term increase in the US equilibrium interest rate (also referred to as r* or the natural rate of interest) would be a bearish development for the gold price.

Since then, the Federal Reserve Bank of New York (NY Fed) has started publishing estimates of r* for the US[2], using the "HLW model" developed by Holston, Laubach and Williams (2017) [3].

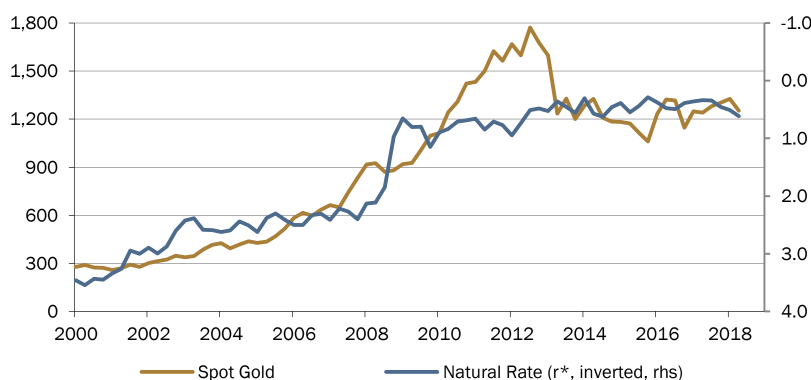
In this note we review why the equilibrium US interest rate has a significant impact on gold prices, how current short-term real interest rates compare to estimates of the equilibrium interest rate and, finally, what the market is currently pricing for the future path of US interest rates.

Gold and the equilibrium US interest rate

In simple terms, r* is the short-term real interest rate when an economy is at full strength, with stable inflation. As Holston, Laubach and Williams acknowledge, estimates of r* are "highly imprecise", due to the myriad potential drivers of equilibrium rates. Nevertheless, they are valuable as a benchmark for considering whether current monetary policy is either contractionary (real rates above r*) or expansionary (real rates below r*).

Moreover, from a currency – and hence gold – market perspective, not only are differences between current short-term real rates and r* a key input to expectations for the future path of policy rates but, over the medium-term, expected changes in r* itself become increasingly important. And, for this reason, we see value in tracking indicators which could indicate a potential change in the future level of r*.

Higher gold prices have gone hand-in-hand with the decline of r*



Source: NY Fed, LBMA, Bloomberg, ICBC Standard

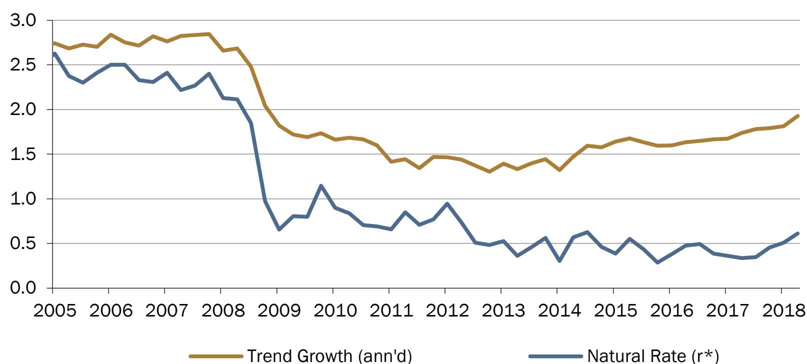
[1] https://www.icbcstandardbank.com/CorporateSite/ResearchStrategy/Reports

[2] https://www.newyorkfed.org/research/policy/rstar/overview

[3] https://www.frbsf.org/economic-research/files/wp2016-11.pdf

Indeed, while recognising the difficulty of estimating r*, it is clear that "movements in [a country's] trend growth rate are an important determinant of changes in the natural rate [of interest]" [3]. And, during the post financial crisis period in which, by historical standards, interest rates have been low and gold prices high, Holston, Laubach and Williams find that the downward trend in r* can in large part by explained by lower trend growth rates.

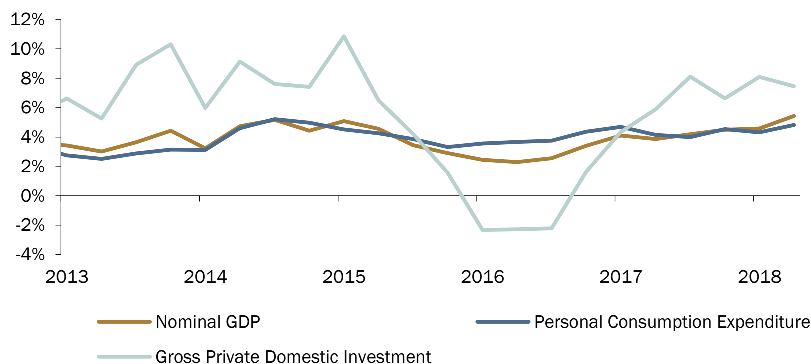
The decline of r* is largely explained by lower trend growth



Source: NY Fed, ICBC Standard

Given the fact that trend growth is essentially determined by changes in the labour force and changes in output per worker, we track corporate investment as an indicator of potential changes in the future level of output per worker. And, as noted in our July outlook, while this US business cycle has predominantly been consumption driven, corporate investment has reaccelerated over the past eighteen months.

US investment has recovered in the past eighteen months

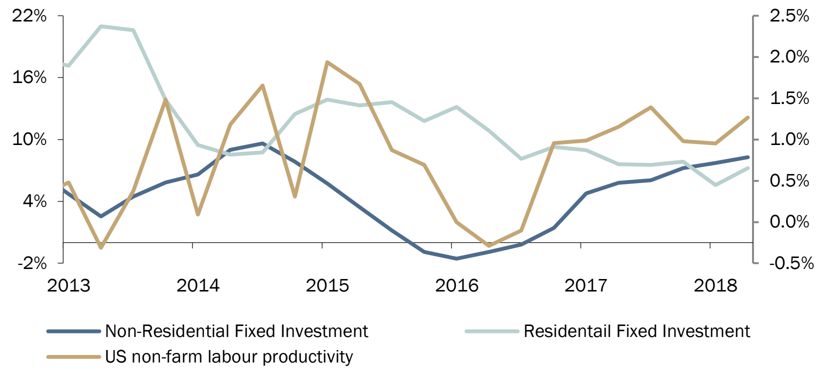


Source: US BEA, Bloomberg, ICBC Standard

Furthermore, far from being a residential construction red herring, this upturn has been driven by corporate investment in structures, equipment and intellectual property. It is too early to judge whether this shift will be sustained – the oil sector's recovery has been a particular tail wind – and whether or not it will deliver a material increase in output per worker but growth in labour productivity has improved during the period.

From the perspective of gold market investors, given its importance in determining r* and the significant influence that US real rates have on gold prices, we therefore think this needs to be watched closely.

Driven by non-residential fixed investment

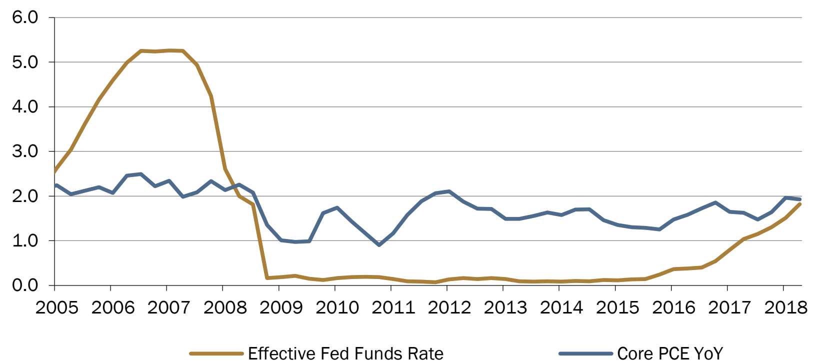


Source: US BEA, Bloomberg, ICBC Standard

The current state of play

Stepping back from potential shifts in the future level of r* to look at current market conditions, it is worth noting that an effective Q2 Fed Funds rate of 1.8% was, given core PCE inflation of 1.9%, still negative in real terms.

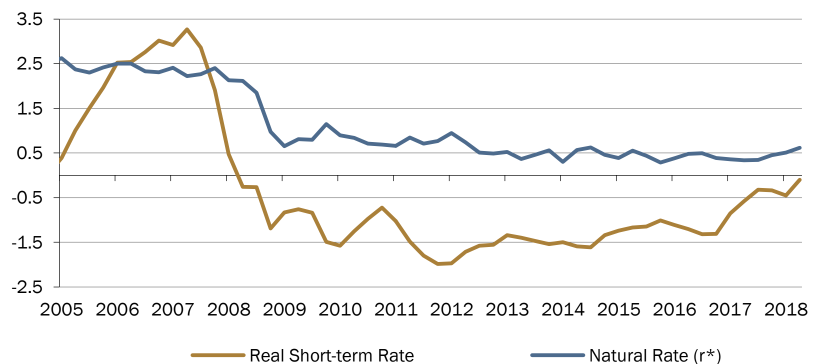
Real short-term US interest rates still negative through Q2



Source: NY Fed, US BEA, ICBC Standard

As a result, despite recent rate hikes, actual short-term real rates have remained in expansionary territory, tracking below the HLW model estimate of r*.

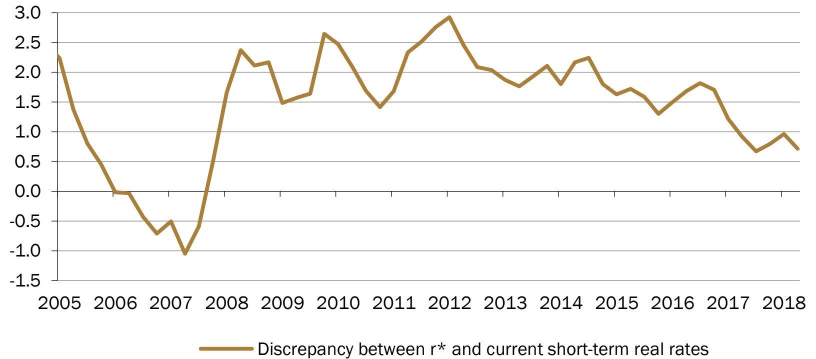
And tracking below r*, keeping monetary policy in expansionary territory



Source: NY Fed, US BEA, Bloomberg, ICBC Standard

But this gap has been narrowing, finishing H1 at c.75bps or, holding inflation constant, three 25bp FOMC rate hikes.

Short-term interest rates are now three rate hikes short of r*



Source: NY Fed, US BEA, Bloomberg, ICBC Standard

Incidentally, the Fed Funds Futures market is currently implying three further hikes during this policy cycle. Specifically, a September 26th hike is priced with c.95% probability, a follow-on December hike with c.65% probability and then a final hike is envisaged over the course of 2019.

The future path of interest rates

Given markets' forward looking nature, these expectations should already be reflected in the gold price. For interest rates to therefore surprise the gold market in a bearish fashion, they would arguably need to rise either because the FOMC chose to shift monetary policy into contractionary territory or because r* were deemed to have increased. Additional hikes based upon higher inflation – and so raising only nominal rather than real rates – would not necessarily be a negative development for precious metals.

But the dot plot points to another six rate hikes

Source: Bloomberg, Federal Reserve

In contrast to the Fed Funds Futures market, the FOMC dot plot's median dot implies six further hikes, with rates peaking at 3.25 – 3.5% in 2020. From a gold market perspective, it is consequently important to consider whether this higher rate cycle peak reflects:

- FOMC expectations of higher inflation and, hence, higher nominal but not real rates.
- FOMC expectations that they will need to move monetary policy into contractionary territory.

- FOMC expectations that r* is moving higher.

Looking at the FOMC projections that accompany the dot plot, the central tendency for core PCE sees inflation rising to just 2.1-2.3% in 2020, so the implicit projection is for a real rates increase towards 1.0-1.5%. Moreover, the committee's long-term projection for a Federal Funds rate of 2.8-3.0% compares to long run inflation expectations of 2%. Or an implicit r* of 0.8-1.0%, against the Q2 HLW model estimate of 0.6%.

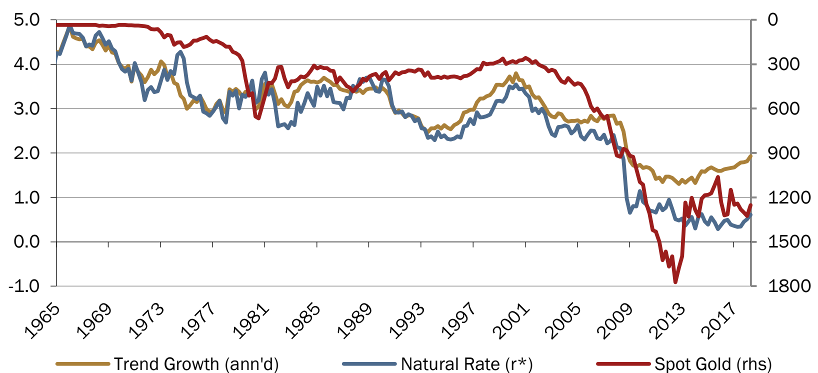
So the FOMC is effectively forecasting a slight increase in r* and, above that, a period of contractionary monetary policy. Addressing the latter of these, a period of contractionary monetary policy would be dependent on the FOMC determining that this was needed to cool the economy. This may be the case, if unemployment continues to decline and growth remains above trend, but it is not a given. As we also discussed in our July outlook, the extent to which US consumers will be able to absorb higher real rates remains very questionable and, in our view, it is reasonable for the market to treat the FOMC's dot plot with a degree of scepticism.

As regards the gold market, it is also not clear cut that such a rates scenario would be bearish for prices. In isolation, higher real rates are naturally negative for a zero yield asset, such as gold, but they may also accompany a period of weaker performance for other asset classes, like equities, which could see defensive assets, such as gold, outperform.

By contrast, the potential for an increase in r* to justify higher real rates is the one case which seems unambiguously bearish for gold. In this case, higher real rates would be justified by a higher trend growth rate and, therefore, a still positive backdrop for most risk assets. At present, market pricing does not imply any expectation of an increase in the equilibrium interest rate and, as noted above, the FOMC's own projections do not forecast a materially higher long-term level of r*.

Against the backdrop of a multi-decade decline in trend growth and r*, this is understandable. It goes beyond the scope of this piece to discuss whether or not r* can close some of the gap that has opened up with trend growth or whether a recovery in trend growth will lift r* higher. But what stands out from a market perspective is that no real expectation for a higher r* is currently priced and that it would be a significantly bearish development for gold prices. Of course, r* may fail to recover and there are many other drivers of the gold price but, for long-term gold investors, developments in the long-run equilibrium US interest rate need to be given considerable care and attention.

Within a multi-decade decline, there have been multi-year periods of r* rises



Source: NY Fed, LBMA, Bloomberg, ICBC Standard

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