15 October 2018

FI research

Next stop is 3.50% for 10Y US treasury yields

We have in September and October seen a move higher in US Treasury yields, even when we take the latest move lower in risk appetite and yields into account. Importantly, we have passed the technically important 3% level.

In this note, we take a closer look at the recent move and the outlook for US yields. We decompose long yields into 1) a term-premium and nominal interest rate expectations and 2) into break-even inflation and real rates.

We argue that the risk is till skewed to the upside for long US yields, and we now expect 10Y US treasury yields to reach 3.50% over the next three to six months compared to our earlier 3.25% target. We continue to forecast a flatter curve 2s10s, but not an inversion of the US yield-curve on a 12-month horizon.

We expect the next leg higher in US yields to be less abrupt than the move over the past six weeks from around 2.80% to above 3.20%. Importantly, we should not expect a straight line, as risk appetite continuously has to adapt to the higher yield levels. Hence, we should expect especially US interest rate volatility to start edging higher.

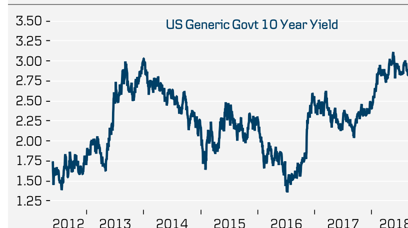
A further move higher in 10Y US yields is, in our view, supported by several factors.

1. **The macro-economic backdrop** is still constructive going into 2019
2. **The Fed is on auto-pilot** until June 2019, when the 3% level is set to be reached. After 3% is reached, we believe it is more 'stop and go' for the Fed, as further hikes depend on how the economy is doing and how markets are reacting to monetary tightening. At least, we expect the Fed to hike once more in H2 19 (i.e. a total of four times from now until year-end 2019).
3. **We expect a further move higher in the US term-premium** as supply and demand factors increasingly become bond negative. We expect supply of bonds will, on the one hand, continue to rise in 2019 due to fiscal expansion and a growing refinancing need. On the other hand, we expect demand from foreign investors will be put under further pressure as the FX hedging costs will continue to rise. We also see room for **a general lift in US interest rate volatility**. Inflation risks have become more pronounced and long-yields are no longer capped at 3%, which seemed to be the market view until recently. The latter adds to interest rate uncertainty in the US.
4. **Real rates have started to move higher** over the past couple of months in financial markets. Given the economic healing, revisions to real rates estimates and focus on the Fed going 'above neutral' real rates could be pushed further up in 2019.

Key points

- We now expect 10Y US treasury yields to reach 3.50% over the next three to six months
- A further move higher in 10Y US yields is in our view supported by several factors.
- 1. The macro-economic backdrop is still constructive
- 2. Fed is on auto-pilot until June 2019 when the 3% level will be reached.
- 3. The US term-premium is expected to move higher as supply/demand for US bonds is diverging and as inflation and interest uncertainty are growing
- 4. US real-rates are expected to move higher

Next target is 3.5% for 10Y US Treasury yields



Source: Macrobond Financial, Bloomberg

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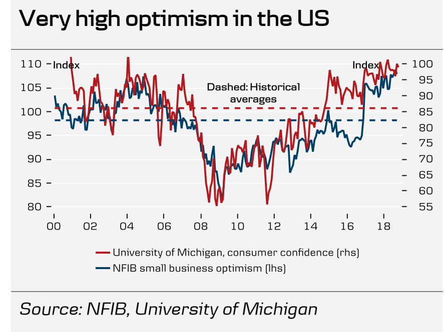
The macro-economic outlook remains constructive

Very high optimism in the US



Source: NFIB, University of Michigan

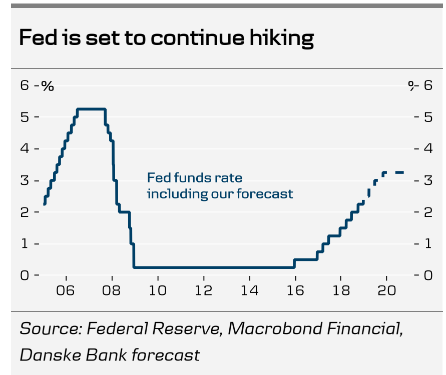
Optimism among businesses and consumers remains extremely high, supporting our view that the expansion is going to continue. US fiscal policy remains accommodative next year with the one-year fiscal impact more or less as large as for this year. This should lead to further tightening of the US labour market and may imply upward risks to inflation. Headline inflation is exceeding core inflation due to the higher energy prices, implying real wage growth is actually quite weak at the moment.

While high consumer confidence and increasing employment offset this, it probably implies that private consumption is not going to increase at the same pace as previously. But investments may get a boost from the higher oil prices, which lead to higher oil investments and hence demand for US manufacturing goods. To some extent, the opposite situation of what happened in late-2014 to 2016. Overall, we expect growth to remain high next year, but probably slightly lower than we see now. We think GDP growth around 2.5% is more realistic compared to the nearly 3% for this year, but this is still significantly above potential GDP growth, which is probably around 1.75-2.00%.

We are more concerned about 2020, as we then have a cocktail which might cause a slowdown or even a recession, although our base case remains that growth will remain around trend growth (difficult to predict the timing of downturns). In 2020, fiscal policy stops being expansionary (although deficits remain large), The Fed has continued hiking (see next section) and financial conditions may have tightened. If we are mistaken, the US supply of bonds may be even larger than what we currently think due to automatic stabilisers.

Fed outlook: on autopilot until June 2019

Fed is set to continue hiking



Source: Federal Reserve, Macrobond Financial, Danske Bank forecast

The Fed had one clear message at its September meeting: The gradual Fed hikes are going to continue and the destination is a neutral rate, see *FOMC review: Gradual Fed hikes are set to continue*, 26 September. We expect hikes in December, March and June are quite likely, which would take the Fed funds rate to 3.00%. 3% is a very interesting level, as it is the Fed's long-run estimate of where monetary policy is neither expansionary nor contractionary. With solid growth, high optimism, a strong labour market, PCE core inflation at target and expansionary fiscal policy, the bar is high for the Fed to stop hiking.

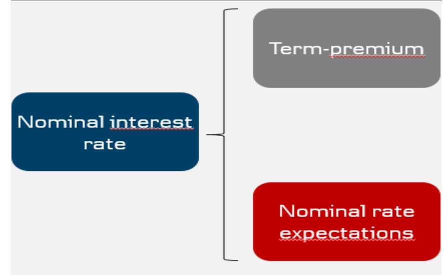
After 3% is reached, we believe it is more 'stop and go' for the Fed, as further hikes depend on how the economy is doing and how markets are reacting to monetary tightening. At both the June and September meeting, the Fed removed many of its forward guidance sentences from the statement, which Fed Chair Powell explained was because the FOMC wants more flexibility going forward now the hiking cycle has come a long way. The Fed's own belief is that it is able to hike further and we tend to agree. At least, we expect the Fed is likely to hike once more in H2 19 (i.e. a total of four times from now until year-end 2019).

Term premium has bottomed out

One way to decompose long-dated treasury yields is to divide them into a term-premium and expectations of the future path of short-term Treasury yields (nominal rate expectations). Hence, the 10Y term premium reflects the extra premium and investor demands for buying a 10Y bond instead of e.g. 10 1Y bonds over the next 10 years. Here we use the *Adrian Crump and Moench 10Y treasury premium* published by Federal Reserve Bank of New York.

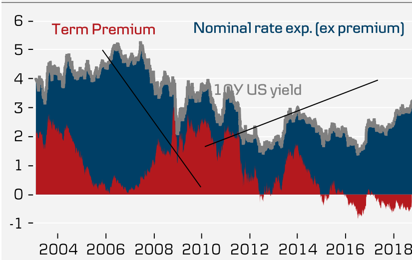
The term premium has been significantly compressed since the 1980s and has been more or less permanently negative since 2016. Interestingly, when 10Y US treasury yields started to rise in 2017, the term premium hardly moved. It was solely a move in interest rate expectations. But the sell-off in September and October has been different. The roughly 40bp move higher in 10Y US treasury yields came with a 30bp move higher in the term premium.

How to decompose nominal interest rates #1



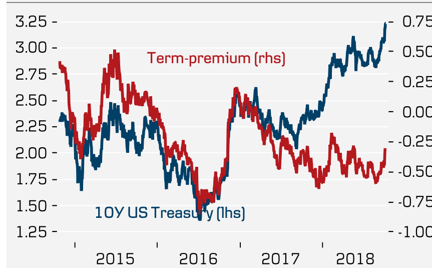
Source: Danske Bank

The term premium turned negative in 2016...



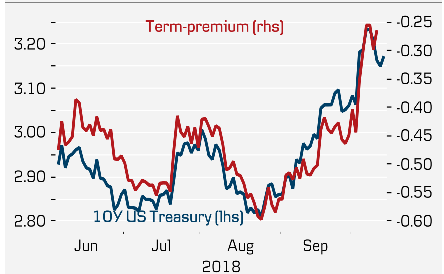
Source: Macrobond Financial, Bloomberg

... and stayed there as rising rate expectations pushed yields higher...



Source: Macrobond Financial, Bloomberg

....but it seems that the term-premium is now moving higher, pushing nominal 10 yields higher



Source: Macrobond Financial, Bloomberg

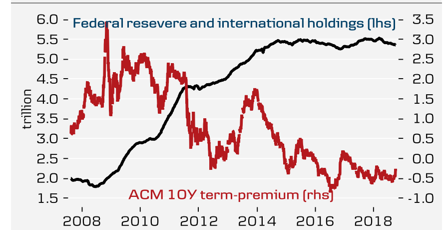
Demand and supply picture is changing

The QE purchases by the Fed and other central banks have been an important factor behind the lower term-premium over the past 10 years. The graph to the right shows how the Fed QE and foreign buying, especially in 2010-2015, coincided with a lower term-premium. The foreign buying was mainly a consequence of the low yield levels also in Europe and Japan that pushed investors towards the US. China was a very important factor for official money purchases of US treasuries, especially in 2010-2013. The flow picture has changed over the past couple of years. China and Japan are no longer net buyers of US treasuries and the Fed has started to wind down the SOMA portfolio. The lower Chinese buying reflects the lower Chinese current account and lack of FX intervention.

In the case of Japan and Europe/the eurozone, the move in the USD FX forwards is probably a decisive factor. Despite the move higher in US yields, the return for JPY- and EUR-based investors has been eroded in US treasuries if the currency risk, which is normal, is hedged away. The flattening of the US curve has made the rolling FX hedge prohibitively expensive.

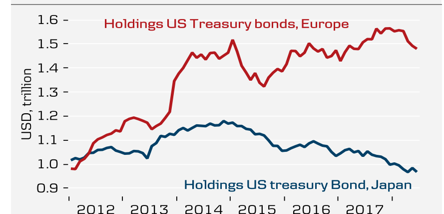
The flattening of the US curve has also removed any roll from the US curve, whereas the roll in e.g. the 10Y point is actually rising in EGBs and to a smaller degree in JGBs. In one of the charts below, we have compared the effective yield in JPY and EUR for 10Y JGB, Bunds and US treasuries, when taking the FX hedging into account. We use a 3-month rolling FX hedge. Currently, the 'after hedge' yield in US 10Y treasuries is below the effective yield for 10Y JGB and 10Y Bunds, respectively. If we added roll on the curves,

Fed buying and foreign buying has pushed the term-premium lower



Source: Macrobond Financial, Bloomberg

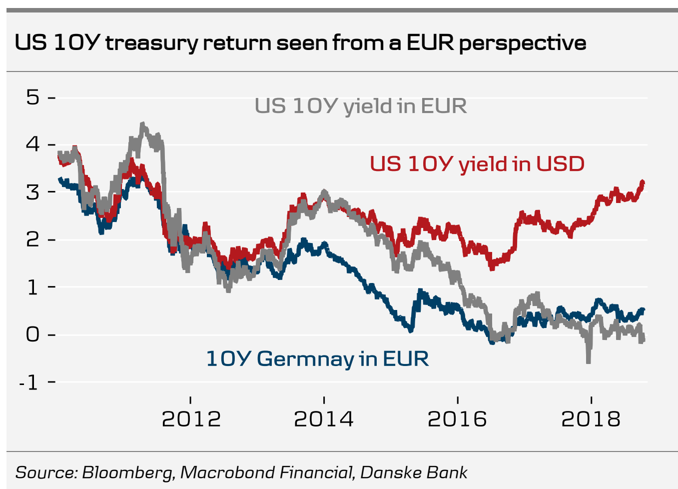
European investors have also started to leave treasuries



Source: Macrobond Financial, Bloomberg

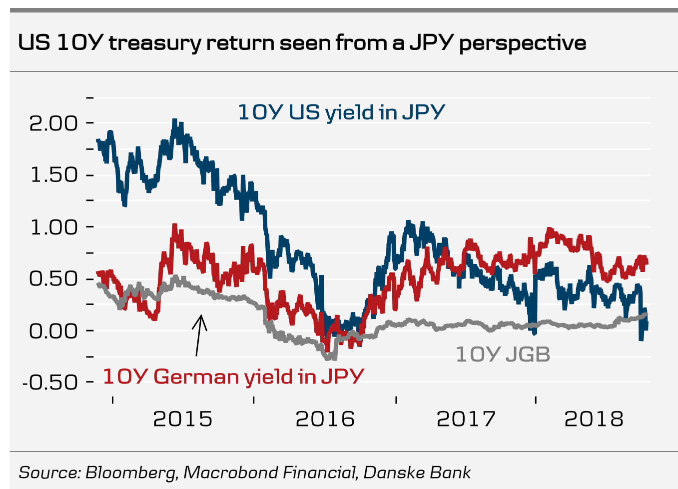
the picture would be even more in disfavour of US treasuries seen from a JPY and EUR perspective.

US 10Y treasury return seen from a EUR perspective



Source: Bloomberg, Macrobond Financial, Danske Bank

US 10Y treasury return seen from a JPY perspective

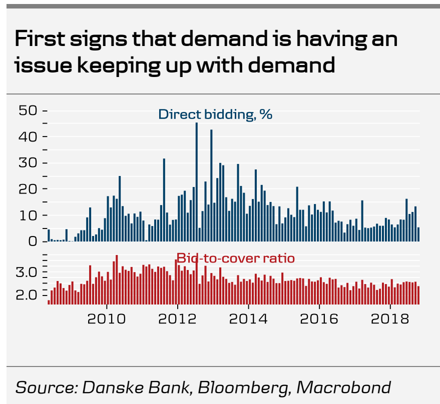


Source: Bloomberg, Macrobond Financial, Danske Bank

Supply: growing deficits need to be financed and the SOMA portfolio shrinks

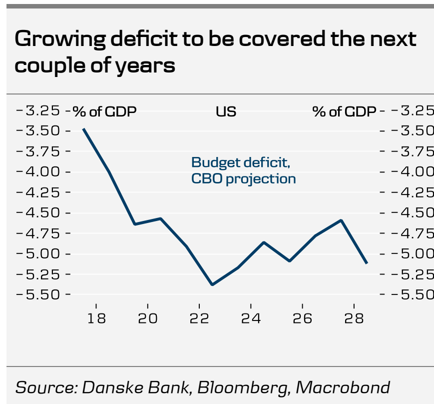
On the supply side, the growing deficit and the subsequent higher funding need in the US is key. The CBO assumes that the deficit will be 4% in 2018 and 4.6% and 4.6% in 2019 and 2020, respectively, and nothing in the political landscape suggests Trumponomics will be rolled back. The SOMA portfolio should also continue to be wound down in the coming years. On top of that, the Treasury refinancing need for 2019 is record high. The third graph below to the right shows the refinancing need for the coming year calculated in Q4 the year before.

First signs that demand is having an issue keeping up with demand



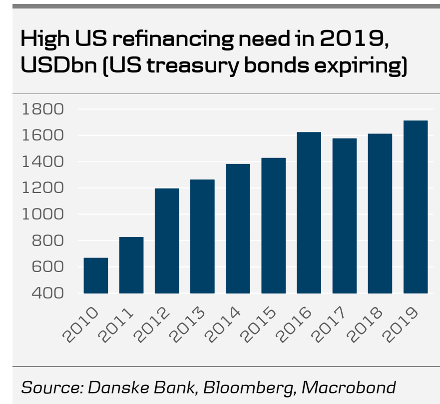
Source: Danske Bank, Bloomberg, Macrobond

Growing deficit to be covered the next couple of years



Source: Danske Bank, Bloomberg, Macrobond

High US refinancing need in 2019, USDbn (US treasury bonds expiring)



Source: Danske Bank, Bloomberg, Macrobond

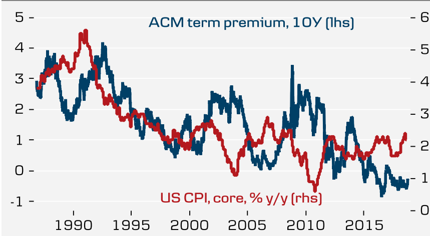
The question is whether the market is able to absorb the higher supply. If we look at the 10Y auctions over the past 10Y years, the bid-to-cover ratio has in general been lower than the past two years compared to the period 2011-2016. The 'direct bidding' that is seen as an indicator of 'real money demand' shows the same picture. But admittedly no clear picture emerges in 2018. That said, the last 10Y auction last week saw both low bid-to-cover and low direct bidding. For details, see the graph to the left on the previous page.

Higher uncertainty means higher term premium

The term premium is also a reflection of uncertainty. The higher uncertainty, the higher the term-premium and vice versa. The forward guidance introduced by the Fed and zero-bound for rates initially pushed uncertainty lower after the financial crisis, as the Fed rejected to cut rates below zero. The same did the well-behaved inflation and the market perception that the macro-economic outlook has become more stable and predictable.

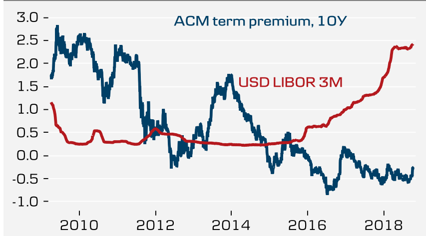
Inflation has now started to move higher and short-rates have effectively moved away from the zero-bound. And risks to growth also seem to be more balanced now. Hence, more two-sided risks for both nominal yield expectations and inflation expectations have been introduced. However, the term-premium has stayed stable. This is also reflected in the close correlation between the risk-premium and interest rate volatility. The latter has continued to stay low. If this is about to change, the term-premium will tend to be pushed higher. The graphs below show the term-premium relative to CPI, 3M USD Libor and swaption volatility.

The lower and stable inflation has pushed the term-premium lower



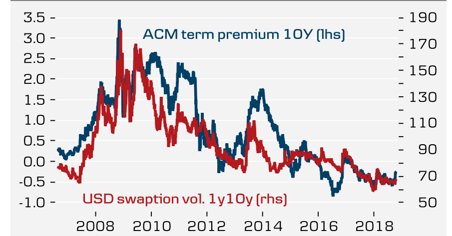
Source: Danske Bank, Macrobond, Bloomberg

The same picture from short-dated yields being close to zero for years



Source: Danske Bank, Macrobond, Bloomberg

Close correlation between the term-premium and interest rate volatility



Source: Danske Bank, Macrobond, Bloomberg

Conclusion: risk of positive 'term premium' in 2019

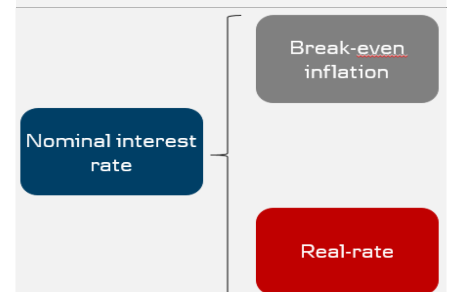
We expect the money market spread between USD and EUR and JPY to widen further in 2019. Hence, we have a hard time seeing foreign investors returning to the US market without a further repricing of the US yield curve. This comes in a situation where the funding need will rise significantly. Hence, when we weigh these factors together, we find it likely that the negative term premium will disappear in 2019. It means, everything else equal, further upside for longer-dated US treasury yields.

Real rates could start to move higher

Inflation expectations ... oil is a joker

Instead of decomposing long yields into nominal interest rate expectations and a term premium, we can instead decompose the nominal interest rate into a break-even inflation and a real-rate.

How to decompose nominal interest rates #2



Source: Danske Bank

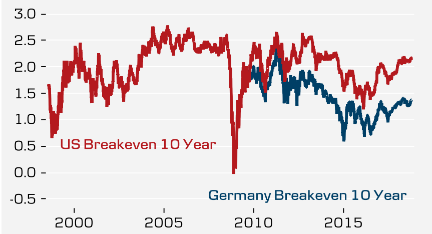
Break-even inflation rates are a reflection of partly current inflation and partly inflation expectations. Importantly, long-end inflation expectations are more or less where they should be given the inflation target. And while the Fed has said it can tolerate inflation moving above the 2% target temporarily, it would tighten quicker if inflation starts to accelerate too much (which, however, nothing suggests is the case).

Hence, we doubt this factor will have a material impact on nominal interest rates for the time being. Though it should be noted that there is a close correlation between oil prices and break-even inflation rates despite it being a bit puzzling from a theoretical point of view. Given the recent spike in oil prices, there is a growing risk that inflation expectations will pick up.

While wage growth remains below pre-crisis levels (which is also due to fundamental factors like lower productivity growth, lower inflation expectations and a changing labour force composition), there are signs it is picking up pace. In Q3 18, the quarterly annualised growth rate in average hourly earnings was 3.4%, the highest since the crisis. Another strong sign is that wage growth is increasing in the private service sector, where productivity growth is normally slower. Fed has had difficulties reaching its 2% inflation

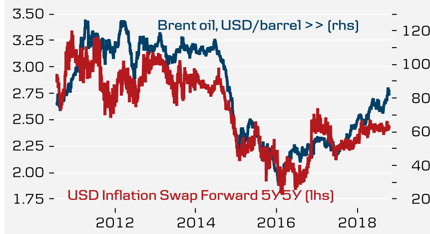
mandate, but PCE core inflation is exactly 2% now and we believe it may overshoot the target slightly.

Break-even inflation rates already above 2% in the US



Source: Danske Bank. Macrobond Financial

Some upside risk to break-even inflation/inflation expectations from oil prices



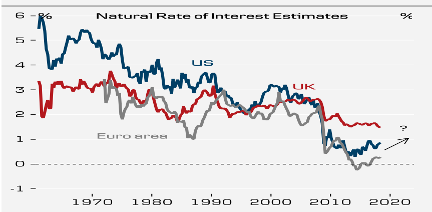
Source: Danske Bank. Macrobond Financial

Real rates estimates are moving

The other component, the 'real-rate', is quite interesting. The market has been accustomed to low and falling real rates. Academic estimates like the Laubach-Williams from the Federal Reserve Bank of New York have been on a downward trend for a long time. The same goes for the Fed's long term dots.

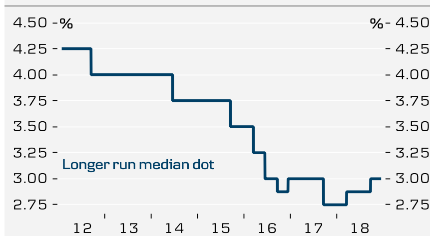
However, we might have seen the first indications that the real rate in the economy might in fact be moving higher. The Fed revised the longer-term median dot marginally up to 3% at the September meeting and the Laubach-Williams estimates have also, over the past two years, started to edge higher. That said, real rates in the market have now started to move higher. 30Y US real rates derived from the swap inflation swap market are now roughly 1%. The economy is strong (and nothing suggests the expansion is about to end in the next one-two years, as optimism remains extremely high) and perhaps the US GDP trend growth is also higher now than it has been

Laubach-Williams real rate estimations are being revised higher



Source: NY Fed, Macrobond Financial

Fed longer-term dots seems to have bottomed out

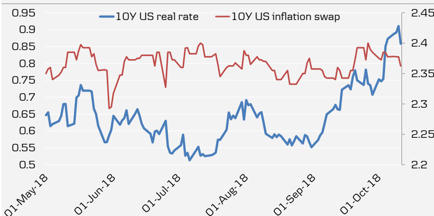


Source: FOMC, Danske Bank

It is noteworthy that the sell-off in September and October has been characterized by a move higher in real rates. The graph below to the left shows how the 10Y US inflation swap has been more or less stable since the beginning of May and how the 10Y real rate has risen more than 40bp since it bottomed out at the beginning of September. Hence, the recent sell-off has been a repricing of real-rates not inflation expectations. In the graphs below, we use US inflation swaps and nominal swaps to calculate the real rates. This makes sense given that the Fed, in our view, has a balanced approach to monetary policy and the economy is strong (solid growth, high optimism, strong labour market).

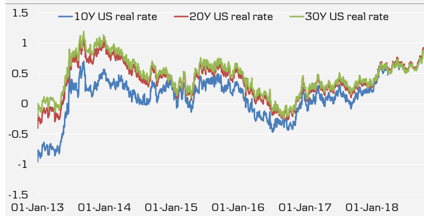
All in all, we see a risk of a further repricing of real rates over the next three to six months.

The recent sell-off has been characterised by a higher real-rate, %



Source: Danske Bank

US real rates are now close to 1% for the first time since 2014



Source: Danske Bank

Conclusion – new target is 3.5% for 10Y US Treasury yields

All in all, we argue that the risk is skewed to the upside for long US yields even after the recent FI sell-off.

We now expect 10Y US treasury yields to reach 3.50% over the next three to six months compared to our earlier 3.25% target. We continue to forecast a flatter curve 2s10s, but not an inversion of the US yield-curve on a 12-month horizon.

We expect the next leg higher in US yields to be less abrupt than the move over the past six weeks from around 2.80% to above 3.20%. Importantly, we should not expect a straight line, as risk appetite continuously has to adapt to a higher yield level. Hence, we should expect especially US interest rate volatility to start edging slowly higher.

We will later this week publish our monthly Yield Outlook with more details.

Disclosure

This research report has been prepared by Danske Bank A/S ('Danske Bank'). The authors of this research report are Arne Lohmann Rasmussen, Chief Analyst, and Mikael Olai Milhøj, Senior Analyst.

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