UBS

# Investment strategy insights

## How Much Longer? Introducing the Bull Market Monitor | 25 May 2018


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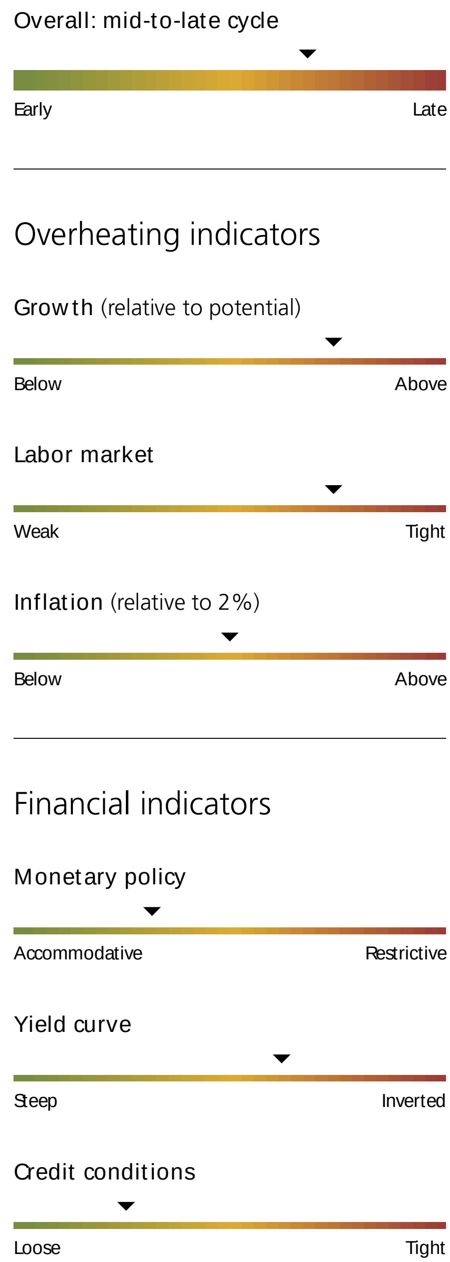
- Equity bull markets rarely end without a recession occurring, so monitoring the key attributes of the business cycle can help us manage and calibrate risk in investment portfolios.
- Two conditions usually hold before recessions begin: the economy is overheating and exhibits some sort of excess, and interest rates are rising and credit conditions are getting tight.
- We track a series of cyclical indicators on our **Bull Market Monitor** (Fig. 1) to gauge if the economy is "hot" and if financial conditions are "tight."
- At the moment, data suggest that we are in the mid-to-late cycle stage, and that the US expansion is likely to continue for a while. We characterize it as warm, but not hot – with financial conditions still supportive of growth.
- Economic and profit growth is being boosted by rebounding consumer spending, accelerating capex, and the impact of fiscal stimulus from tax reform and government spending. The labor market is increasingly tight, but has generate far less wage pressure than previous late-cycle environments. Inflation has been normalizing, but it remains contained and below central bank targets around most of the world. Meanwhile, credit conditions remain supportive of growth and we see few signs of the excesses and imbalances that typically threaten the end of an economic expansion.


**Fig. 1: The Bull Market Monitor**




Source: UBS, as of 24 May 2018

Where are we in the economic cycle? And when will the next recession start? Good questions, since in the past 70 years sustained US equity bear markets have been rare without an accompanying recession. Alas, it's not easy to identify cyclical trends and turning points in real time, especially this cycle. Yet it's essential to have a good read on how the cycle is likely to evolve in order to make prudent asset allocation decisions.

To do that, we've created a Bull Market Monitor to gauge how long the current US expansion can last and the path it could take before it ends. Economic expansions, as well as equity bull markets, don't just die of old age. There are necessary economic preconditions for a recession to occur, and catalysts to trigger it. Typically, the economy is overheating and exhibits some sort of excess, while rising interest rates and tighter financial conditions are key catalysts.

Thus, our assessment of the cyclical outlook depends on two conditions. First, the extent to which the economy is overheating, and therefore vulnerable to slowing and possibly a recession.

Second, whether the cost and availability of money and credit is still loose or if it has become restrictive, by policy choice or not. Both conditions require comparing growth, unemployment, and interest rates to their "neutral" state values—their levels when the economy is in its long-run steady-state equilibrium—in order to assess if the economy is "hot" and if monetary policy is "restrictive".

Evaluating economic cycles is always challenging and this one is no exception. It's the third longest US expansion on record, but the weakest since WWII. There are puzzling aspects such as modest wage growth despite very low unemployment and weak productivity growth. And a large fiscal stimulus when the economy is already operating near full capacity is unprecedented. It raises the risk of overheating, yet it could elongate the cycle if it spurs capital investment and faster productivity growth.

The good news is that the cyclical indicators we track for our Bull Market Monitor suggest that the US expansion is likely to continue for a while. We expect GDP growth to average over 3% through year-end, based on rebounding consumer spending, accelerating capex, and the full effect of tax reform and government spending hitting the economy. Meanwhile, even if the Fed hikes rates another six times over the next six quarter as we expect, this would still bring monetary policy barely into restrictive territory. But the risks of overheating and tight monetary policy in 2019 are rising. After an unusual, tepid, and potentially record long expansion, we currently think it will eventually end because of a garden-variety recession stemming from high inflation and interest rates.

## From Cycle Indicators to a Bull Market Monitor

Before recessions begin, economies usually overheat due to excessive investment and imbalances in large swaths of the economy – such as the TMT sector in the late 1990s and the housing market in the 2000s. Often, this investment binge is fueled by substantial debt accumulation, amplifying the inevitable pain. Though the causes of recessions vary across cycles, certain conditions are usually present: rising inflation, the Fed raising rates, and the yield curve flattening to the point of inverting.

Thus, in order to track the US economic cycle to determine how it might evolve and when a recession could occur we focus on a handful of cyclical indicators, with two purposes. The first is to assess whether the economy is overheating by examining growth, the labor market, and inflation. The second is to gauge whether the cost and availability of money and credit is becoming expensive and hard to access, and therefore a constraint on growth. Monetary policy, the yield curve, and credit conditions collectively provide our assessment of these financial conditions. Exogenous shocks, especially in politics and geopolitics, matter for the cycle, but they're risks rather than inherent features and we evaluate them through their effect on the indicators.

The economy overheating is determined more by the relative levels of GDP growth and unemployment than their absolute levels. Specifically, it's their respective levels relative to the economy's potential growth rate ($g^*$) and the non-inflation accelerating rate of unemployment (NAIRU, $U^*$). The economy can't grow too far above potential or be too far below NAIRU for too long without overheating and generating inflation above the Federal Reserve's 2% target. Thus, we evaluate growth and the labor market relative to their neutral state values and inflation relative to 2% to decide whether and by how much the economy is overheating.

Financial conditions matter because they can support rapid growth at one end of their spectrum and cause a recession at the other end if they're too tight. For monetary policy this is summarized by whether it's accommodative or restrictive. That partly depends on whether the real Fed Funds rate is below or above $r^*$, the neutral rate of interest, which ultimately depends on whether the Fed wants to cool an overheating economy, ideally back to neutral. Credit conditions are among the best leading indicators for a recession since credit is the lifeblood of investment and consumption. Lending standards and access to credit getting tougher don't bode well for growth. An inverted yield curve is hailed for its ability to predict recessions, but it's primarily an early warning signal, not an actual cause.

Each indicator is part of our Bull Market Monitor (Fig. 1), and is evaluated on the extent to which they contribute to overheating in the economy or impair growth through tighter financial conditions. For the overheating category, an indicator ranking farther to the right along the scale means it's running "hot", while for the financial conditions indicators such a ranking means it's restrictive for growth. The overall ranking is our assessment of where the economy is in the cycle, based on its degree of overheating and policy tightness. The following sections discuss each indicator in more depth, assessing its current status and outlook, and addressing specific issues that deserve close monitoring because they'll likely influence the indicators evolution.

## Growth: Accelerating above potential risks overheating

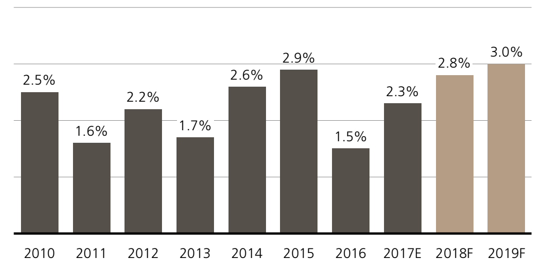
The outlook for US growth is positive, to the point of raising the risk of overheating. The economy is poised to re-accelerate with GDP growth averaging over 3% for the rest of the year after a mild 2.3% in Q1 (Fig. 2). Consumer spending is picking up and will be supported by faster wage income growth. Tax cuts should boost household disposable income by around 0.5% this year, while the spending bill passed in March will provide an additional USD 150 billion in stimulus this year and next. Overall, the probability of recession in the next 12 months is very low.

This risks being too much of a good thing since growth has been running above potential, which is about 1.5%. By many measures, the US economy is operating at or near full capacity. The output gap – the differences between actual output and an economy's productive capability – has largely closed (Fig. 3). Consequently, growth in the 2.5-3% range can't persist without generating higher inflation, barring an increase in potential growth.

This would require higher productivity growth, which could extend the cycle by reducing overheating risks since higher productivity can raise output without raising costs. It's certainly possible for productivity growth to improve, especially if corporate tax reform and deregulation incentivizes investment. But it will have to reverse a secular trend in which productivity growth has averaged less than 1% a year for the past five years, far below the long-run average (Fig. 4). Why it's been so low is a bit puzzling. Weak capital investment over the past decade has played a role, so a capex boom could help reverse this trend. But it could also take many years to move the needle on productivity.

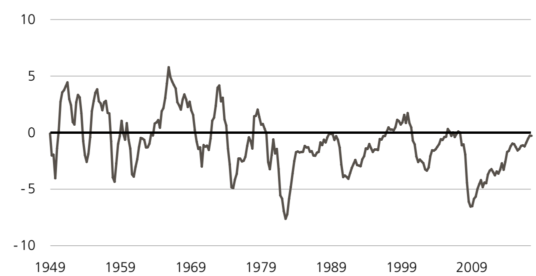
Medium term headwinds could moderate growth before overheating becomes a serious issue. Growth will slow once the fiscal impulse wears off, and it could be steep due to a fiscal contraction in 2020 that was part of the budget deal passed in March, unless new legislation is passed. Other possible growth headwinds include a continued rise in oil prices and trade tensions that escalate into a trade war. We view both as relatively low risks and should have only a modest effect on growth if they do materialize.

**Fig. 2: US growth is re-accelerating**
US real GDP and UBS forecasts, in %



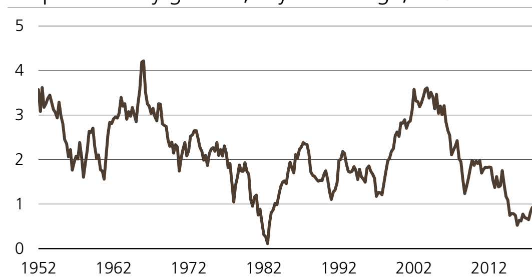

Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 3: The "output gap" has closed**
US nominal output gap as a percent of GDP




Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 4: Productivity growth has slowed**
US productivity growth, 5-year change, in %




Source: UBS, Bloomberg, as of 24 May 2018

## Labor market: Tight, but yet not overheating

The US labor market has clearly become tight, but it's not yet exhibiting signs of overheating. By almost any measure job growth and employment are very strong: the unemployment rate is 3.9%, job openings are at a record high of 6.7 million, and monthly job growth has averaged 200k thus far in 2018. The anomaly is wage and income growth. Average hourly earnings growth has averaged 2.7% this year. In prior cycles earnings growth was around 4% at similar levels of the unemployment rate (Fig. 5).

The risk of labor market overheating depends partly on supply constraints. The US economy needs to produce only 75-100k new jobs a month to satisfy the net number of people entering the workforce. To keep growing at 200k per month people who left the labor force for various reasons will have to be pulled back. The labor force participation rate has stabilized the past few years after declining significantly post-financial crisis (Fig. 6). The secular decline is attributable to an aging population, so the stabilization indicates that people have come back to the labor market. But it's unlikely that the participation rate will increase much more. If workers haven't already rejoined in a very strong job market, it's doubtful that they will now. Hence, labor supply constraints could bind very soon.

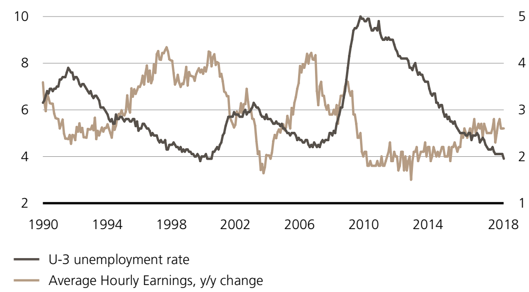
If that's true, wages should start growing more rapidly than 2.7%. But it may be a while before they breach a sustainable rate, thereby moving into overheating territory. The Fed considers a sustainable pace to be around 3-3.25%—the sum of the 2% inflation target and trend labor productivity growth of 1-1.25%. If wage growth doesn't start to rise, it would call into question whether NAIRU – the non-inflation accelerating rate of unemployment – is actually 4.5-4.6% as the Fed currently projects, or is much lower. That scenario would mean labor market overheating is a ways off, and it would likely require faster productivity growth and labor-displacing technologies that keep a lid on wage inflation.

## Inflation: Close to the target and risking an overshoot

After consistently falling short of expectations in the first half of 2017, inflation has been accelerating since. The latest reading of the Fed's preferred inflation measure, core PCE, is 1.9%, just below the 2% target. This understates its recent momentum; the 3-month annualized rate is 2.5%, up from less than 1% last summer (Fig. 7). With the economy growing above potential, the output gap closed, and a tight labor market, inflation should continue its upward trend. There are also upside risks from trade barriers and higher oil prices. But for now inflation is essentially at the target and not evidence of overheating.

**Fig. 5: Despite a tight labor market, wage growth has been slow**

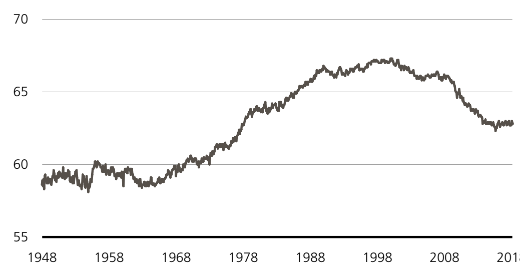
US average hourly earnings (rhs) and U-3 unemployment rate (lhs), in %




Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 6: After years of declining, the labor force participation rate has stabilized**

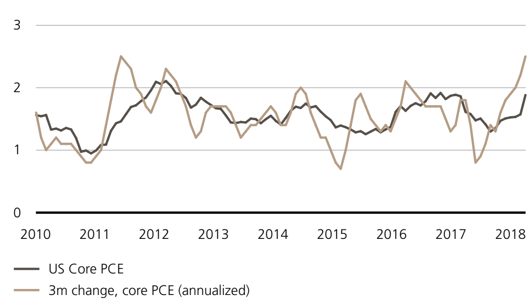
US labor force participation rate, in %




Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 7: After disappointing in 2017, inflation is tracking back to the Fed's target**

US Core PCE y/y and 3-month change




Source: UBS, Bloomberg, as of 24 May 2018

Looking ahead, the issue is whether inflation overshoots the 2% target, by how much, and how quickly. UBS forecasts core PCE inflation to reach 2.1% by the end of 2018 and then back to 2% by the end of 2019. In other words, a very modest and brief overshoot. But forecasting inflation is notoriously difficult and any forecast needs a wide confidence interval. Nonetheless, the likelihood of a significant overshoot does depend on at least a few factors.

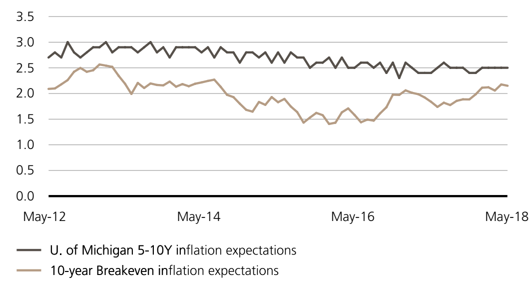
First, whether there is any slope to the Phillips curve—the inverse relationship between the unemployment rate and inflation. Most studies using data from the past 35 years find a negligible relationship. But specific CPI components have behaved according to the Phillips curve in this expansion, such as services inflation and pro-cyclical core goods. Although that hasn't been enough to really move the inflation needle. There's also some evidenced that the Phillips curve is nonlinear, with an inflection point at extremely low levels of unemployment, which we may be close to reaching.

Second is the potential magnitude of disinflationary forces. Globalization, Amazon, and technological disruption have all been cited as reasons why inflation has struggled to surpass 2%. While they all appear to be weighing down on inflation, the effects may be modest and not much different than similar earlier forces. For example, the Walmart big-box disinflationary effect on retail sales is similar to Amazon's current effect.

Third is whether inflation expectations remain well anchored. Both market-implied and survey-based inflation expectations remain comfortably in the 2-2.5% range (Fig. 8). A material rise in expectations could trigger a positive feedback loop between actual and expected inflation. However, inflation will likely need to be well above 2% for a while before notably altering expectations.

**Fig. 8: Inflation expectations remain anchored for now**

Inflation expectations and breakeven inflation rates, in %




Source: Bloomberg, UBS, as of 23 May 2018

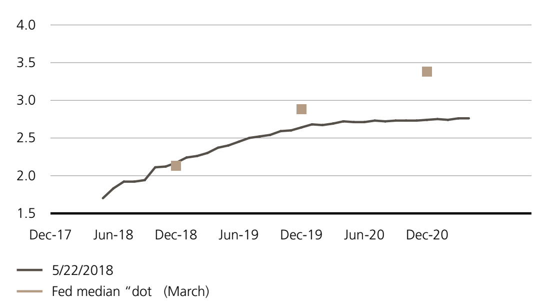
## Monetary policy: Still accommodative, trending restrictive

Even though the Federal Reserve has raised rates six times this hiking cycle and is reducing its balance sheet, monetary policy is still accommodative. That conclusion is based on the Fed's own projection for the long-run neutral Fed Funds rate. But the Fed's aim is to get monetary policy back to neutral and then tighten sufficiently to slow growth to a sustainable pace, while not tipping the economy into recession. For now it's clearly on that path.

Based on the FOMC's dot plot for the Fed Funds rate, the Fed expects to get to a neutral policy stance before the end of 2019. It will if it hikes twice more in 2018 and three times in 2019, in-line with the median dot. That would leave the Fed Funds rate at 2.75% - 3% versus a 2.75% long-run neutral Fed Funds rate, also based on the dots. But the Fed doesn't anticipate stopping there, instead ending the hiking cycle with a terminal Fed Funds rate of 3.4%. Thus, the Fed expects to overshoot the neutral rate, and for policy to become restrictive. The market remains skeptical that the Fed will reach its

**Fig. 9: The market is pricing in far fewer rate hikes than the Fed foresees through the end of 2020**

Fed funds futures, with the Fed's median "dot" for year-end 2018, 2019, and 2020, in %




Source: Bloomberg, UBS, as of 24 May 2018 targets, as it's currently pricing in 100bps less in hikes by the end of 2020 (Fig. 9).

Comparing the current real Fed Funds rate to the neutral rate of interest *r** also shows that monetary policy is currently accommodative, but perhaps not for long. The Fed estimates that *r** – the long-run equilibrium real Fed Funds rate – is close to zero after trending lower for years. The real Fed Funds rate is currently lower, but after six more rate hikes it should be in restrictive territory. That's a risk for growth because every time since 1980 that the real Fed Funds rate clearly surpassed *r** from below, a recession occurred within a few years (Fig. 10). So it's not an immediate recession risk, and *r** could rise back to 1%, providing a longer runway before monetary policy is restrictive.

The Fed has been very transparent and deliberate on its rate hiking intentions, and it will likely take a significant change in the growth and inflation outlook for it to alter its path. Fed officials have already said that they will tolerate a modest inflation overshoot of 2%, consistent with its view that this is a "symmetric" target. But if core PCE gets close to 2.5%, then the Fed may decide to accelerate the pace of rate hikes to more than once per quarter.

## Yield curve: Flattening, but not yet inverting

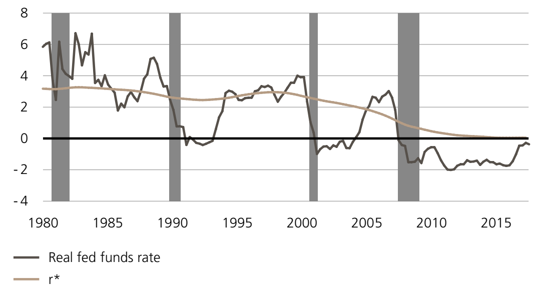
The rise in interest rates this year has become a pressing concern for investors, especially after the yield on the 10-year Treasury bond surpassed 3% for the first time since 2014. Higher rates can obviously weigh on growth and equities, though the impact thus far has been more psychological than economically significant because the growth outlook is robust.

The flattening yield curve is the other focal point since an inverted curve has been a very good predictor of prior recessions (Fig. 11). With the difference between the 10- and 2-year Treasury yields now down to 46bps and the trend clearly lower – we forecast it will be only 10bps in 12 months – there's good reason to pay attention to this flattening signal. And it is primarily a signal about future growth and monetary policy, since an inverted curve by itself is not necessarily restrictive for the economy.

While investors should certainly pay attention to the curve flattening, there are good reasons why they shouldn't be too concerned, at least not yet. First, an inverted curve might be good at predicting the onset of a recession, but it does so with a long lag – 2.5 to 3 years from the first inversion to the recession onset in the past two cycles. Second, curve flattening in this cycle appears to be due primary to the term premium – the compensation for baring interest rate risk – falling below zero. This means the curve is not pricing in future interest rate cuts, which is far less concerning for growth prospects and also very different from prior inversions. Third, equities never peak before outright yield curve inversion. In fact, in the last six cycles the S&P 500 rallied 29% on average to its peak after the inversion. Finally, the Fed is aware of the negative signal of an inverted curve and will be more reluctant to hike rates if that threatens to happen this time.

**Fig. 10: There is still room for rate hikes before "too tight"**

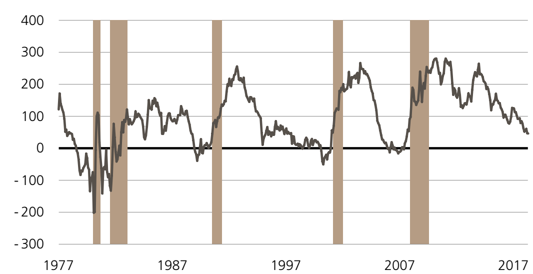
Real Fed Funds rate, *r** (estimate of the natural rate of interest), in %




Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 11: An inverted yield curve has been a good recession predictor**

Yield spread between 2- and 10-year Treasury bonds, in bps




Source: UBS, Bloomberg, as of 24 May 2018

## Credit conditions: Nice and easy

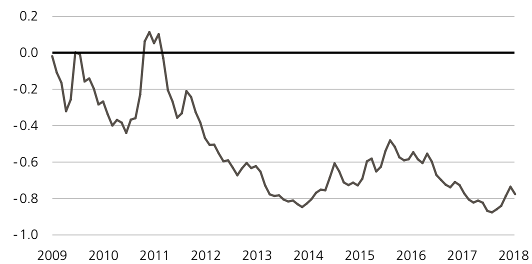
Credit is fuel for investment and the economy, and is perhaps an even more important driver of the business cycle than interest rates. Thus, it's a good sign that multiple metrics for credit conditions are all favorable. For instance, general measures of financial conditions have tightened a bit this year due to the higher rates and now a modest rise in the US dollar, but they're still very loose relative to the past decade (Fig. 12).

Other positive signs are the growth in credit and the easing of bank lending standards (Fig. 13). The Fed's Senior Loan Officer Survey in particular is one of the best early-warning indicators of a growth slowdown. Interest rates are the price of capital, but the ease of borrowing impacts the access to capital and that's what really affects growth. Finally, credit markets are healthy and open. Corporate bond spreads are not far above their cycle lows and the credit funding markets are open (Fig. 14).

Credit markets are not without risks, which could flip credit conditions fairly quickly. Companies that have relied on floating rate debt may start to feel squeezed as the Fed continues to hike rate, although it will probably take at least another 100bps before it really matters. Trading in corporate credit is much less liquid now that banks have significantly shrunk their balance sheets. Consequently, access to credit could close more quickly than in the past when market stress hits. Lastly, much of the private sector has spent the past decade deleveraging. But while leverage metrics look fine on average, segments of the household and corporate sectors that have added debt are vulnerable to higher rates and tighter credit.

**Fig. 12: Financial conditions are still loose**

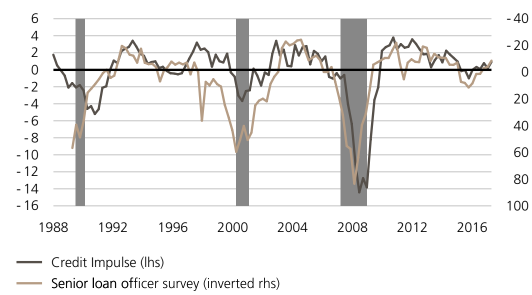
Chicago Fed National Financial Conditions Index




Source: UBS, Bloomberg, as of 24 May 2018

**Fig. 13: Lending conditions are getting easier**

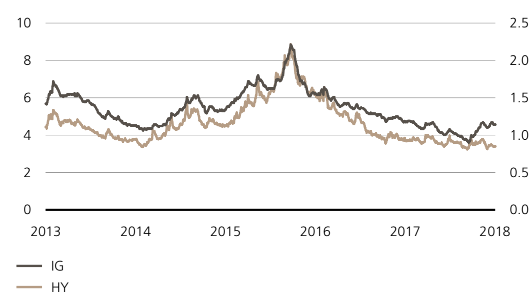
Credit impulse (lhs) and Senior loan officer survey (inverted, rhs), in %




Source: Bloomberg, Haver Analytics, UBS, as of 18 May 2018

**Fig. 14: IG and HY spread are not far above cycle lows**

Corporate bond option-adjusted yield spreads, high yield (lhs) and investment grade (rhs), in %




Source: St. Louis Federal Reserve Bank, UBS, as of 24 May 2018

## Overall: Mid-to-late cycle

After evaluating these indicators, our conclusion is that the US economy is warm but not hot and aggregate financial conditions remain broadly accommodative. Consequently, it's hard to see the expansion ending any time soon. Yet the US economy appears to be on a path to overheating and more restrictive policy, which will become even more apparent in 2019, although how soon the economy will slide into a recession is harder to say. Thus, in our Bull Market Monitor we characterize the US economy as currently being in the mid-to-late cycle stage.

To arrive at this conclusion, we evaluated the current status of the individual indicators relative to a neutral level, which is defined as their sustainable level over time. We did this to determine whether the indicator suggests that the economy is at risk of overheating or if financial conditions are at risk of restricting growth. Fig. 15 shows the current assessment for each indicator, which were determined as follows:

**Growth:** The US economy is accelerating and we expect GDP growth to exceed 3% for the rest of the year. While not a high absolute growth rate for an overheating economy by historical standards, relative to a potential growth rate that has also fallen to 1.5%, it is the new standard by which to classify the economy as at risk of overheating, especially when the output gap has closed.

**Labor market:** By all measures of employment, the US labor market definitely looks like it is overheating, except for the most important measure of actual overheating – wage growth – which is below the sustainable level. The combination of the two suggests that the labor market, like growth, is warm but not hot.

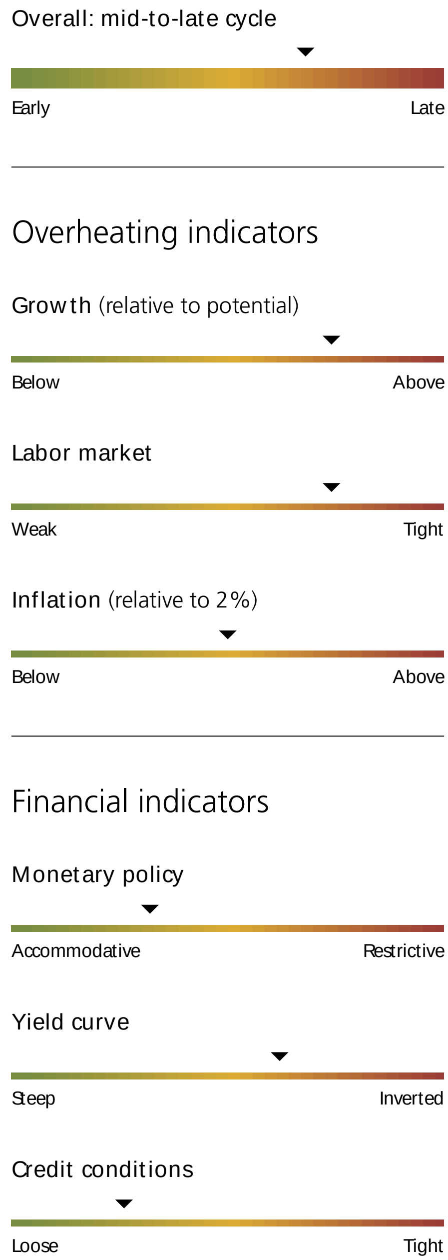
**Inflation:** Core PCE inflation is just below 2% and we expect it to closely hug the target for the next year and a half. In other words, inflation is currently right at the neutral level, neither too hot nor too cold.

**Monetary policy:** The Fed is hiking rates – six times so far and we expect another six before the end of 2019. But since it started from the zero lower bound, policy rates are still below the neutral level and thus in the accommodative range. Exactly how far below is hard to gauge because the neutral rate $r^*$ is difficult to estimate confidently.

**Yield curve:** Over the past 35 years the difference between 10- and 2-year Treasury yields has ranged from -50bps to almost 300bps, with the average being about 100bps. But the curve was at the average very infrequently; it was either much higher or lower, and moved relatively quickly from one extreme to the other. Consequently, a neutral level for the yield curve is not well defined. Given these historical patterns and our expectation of a 10bps curve in one year, we deem the curve to be above neutral as it forecasts future tightening.

**Credit conditions:** Most credit indicators suggest conditions are loose and therefore below neutral, though like the yield curve there

**Fig. 15: The Bull Market Monitor**




Source: UBS, as of 24 May 2018

isn't a well-defined neutral state. With the changes in credit market structure over the past decade, the credit conditions indicator is the most likely to be volatile and subject to large moves in short periods of time.

This has been a long, unusual, and often perplexing economic cycle and that's unlikely to change. We think our Bull Market Monitor will provide a valuable and consistent framework to evaluate the cycle as it evolves, and thus guide us as we make asset allocation decisions – both as the bull market continues and, hopefully, well before it ends.

# Appendix

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