Global financial markets

The business cycle: An investment framework

Chief Investment Office Americas, Wealth Management **|** **19 December 2018** 4:02 pm GMT
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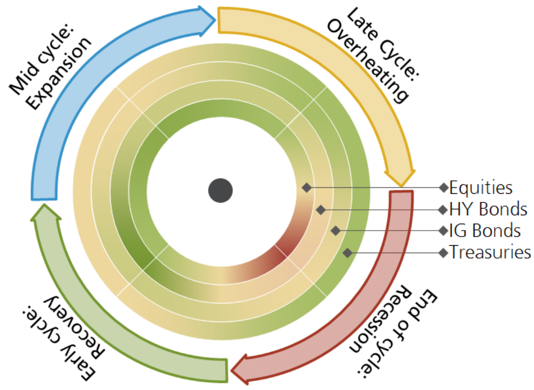
- This report presents an "investment cycle" framework that can help investors tilt their portfolio allocations based on global business cycle conditions.
- The business cycle can be split into four distinct stages: early cycle (recovery), mid-cycle (expansion), late cycle (overheating), and end of the cycle (recession). Historically, major asset classes have tended to perform differently across the different stages of the business cycle.
- While the investment cycle framework does have its rightful place in an investor's toolkit, it also has a number of apparent limitations. CIO believes that any business cycle consideration needs to be complemented with a detailed analysis of individual markets before an informed investment decision is made.



Source: UBS, as of December 2018

In this report, we present an "investment cycle" framework that can help investors conceptualize how to tilt their investment portfolios throughout the business cycle. For example, in the mid-cycle phase, when both economic growth and interest rates are rising, stocks tend to outperform high grade bonds. Later in the cycle, equities can continue to perform well, but higher volatility and peaking interest rates make high grade bonds an attractive portfolio hedge.

Of course, real life is never as clear cut and orderly as economic theory would picture. Every cycle has different drivers. Different regions might be at different points in their own business cycle. Financial markets will tend to anticipate events differently, affecting relative valuations. And economic data can be "noisy." For these reasons, the assets mostly likely to outperform at any point in the cycle may differ from what we might expect looking only at the stylized economic model.

Related reports

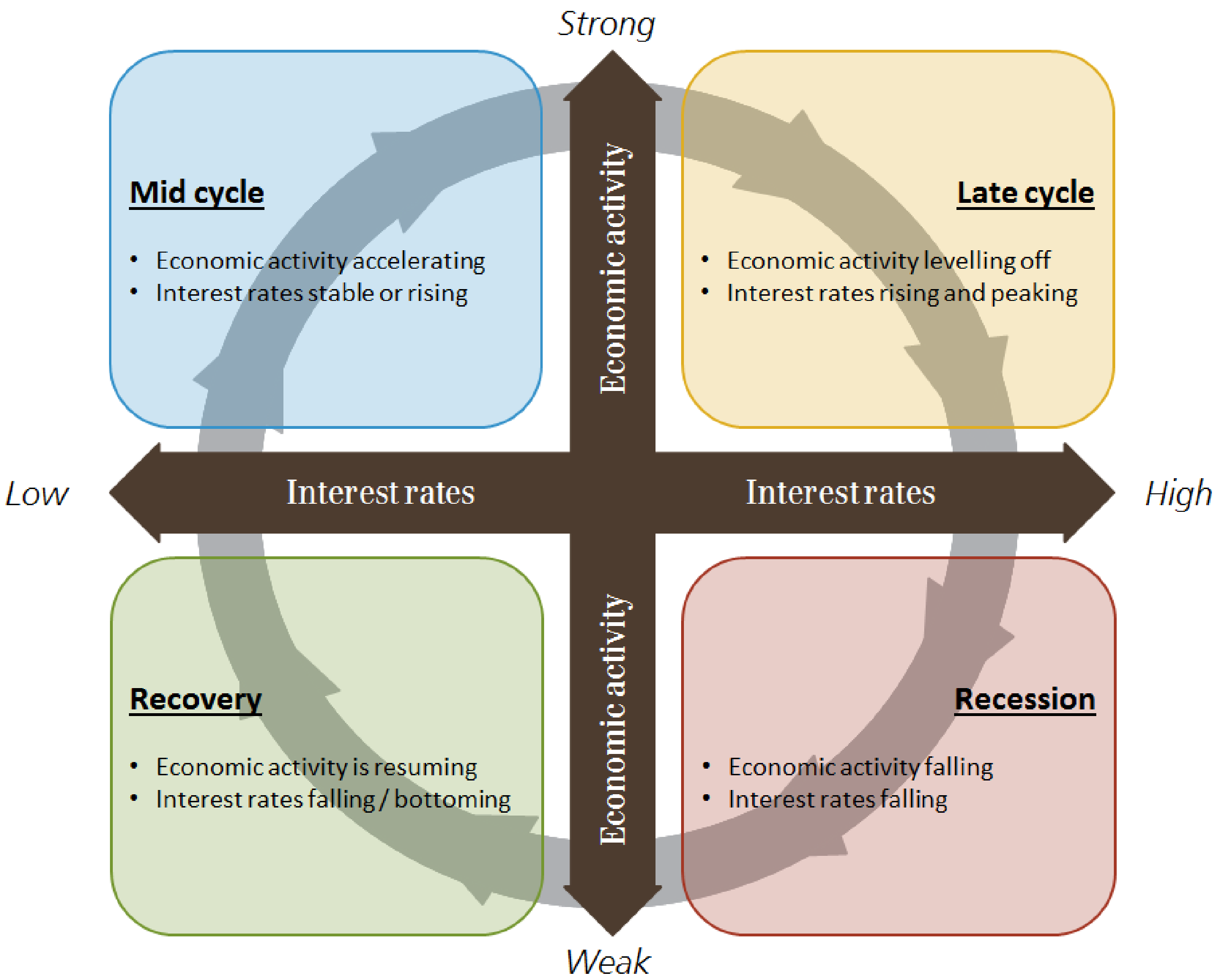
- *The business cycle: Where are we?*, 19 December 2018.
- *UBS House View Monthly Letter*, 13 December 2018.
- *Global risk radar: A tale of two (risk) tails*, 12 November 2018.

The investment cycle

Business cycles can be described as a byproduct of changes in economic activity and interest rates. Economic activity determines the speed of a country's economic expansion, as measured by a range of metrics such as GDP, consumption, employment, and inflation. Interest rates determine how easy it is for households and companies to finance their activities, and are set by central banks to try and anchor economic growth toward a long-term trend.

By looking at levels of economic activity and interest rates through time, we can observe four stages of the business cycle: early cycle (recovery), mid-cycle (expansion), late cycle (overheating), and end of the cycle (recession).

Fig. 1: Framework for defining stages of the business cycle using economic activity and interest rates



Source: UBS, as of December 2018

Early cycle (Recovery)
During early cycle, the economy is just coming out of a recent downturn. Activity is beginning to reaccelerate, but unemployment is still high and a lot of production capacity remains unused. Central banks are easing monetary policy, which incentivizes households and businesses to borrow and spend.

An early cycle is beneficial for financial markets overall. Falling interest rates lead to capital gains in Treasuries and high grade bonds, while riskier investments such as equities and high yield credit benefit from falling costs of capital and improving growth expectations. Furthermore, investor panic from the recent market downturn is only starting to subside, which generally makes risky asset classes a cheap opportunity for early-bird investors.

Mid-cycle (Expansion)
As economic activity regains its footing, central banks start to normalize monetary policy. However, interest rates are coming off of a low base and are still far from becoming a burden for economic growth. Unemployment is falling but still high, which leaves room for further economic acceleration.

As interest rates start to rise, Treasuries and high grade bonds become a less attractive investment. However, riskier bonds and equities still benefit from healthy and accelerating economic growth. Moreover, volatility likely bottoms during this stage of the cycle, leading to better risk-adjusted returns.

Late cycle (Overheating)
Economic growth has likely reached its cyclical peak at this point, and is starting to moderate. Unemployment is low and new workers become difficult to find, so wages and prices start to rise. Companies continue to borrow and pockets of excessive credit creation start to form. Higher interest rates start to impact on the economy, and any economic imbalances start to become a burden. But central banks continue to tighten policy, in order to prevent further imbalances from developing.

Higher interest rates and uncertainty about future growth make risky assets more volatile. Tighter monetary conditions leave a smaller margin of error in economic policy. Excessive credit creation starts to weigh on credit spreads, making some of the riskier bonds less attractive. Equities continue to perform well as long as earnings growth remains strong, but risk-adjusted returns are more modest than in mid-cycle. As interest rates approach their cyclical peak, safe bonds start to become an attractive portfolio hedge.

End of the cycle (Recession)
A combination of high interest rates, internal imbalances, and exogenous forces drives the economy into a temporary downturn. Economic activity slows and unemployment rises. Credit defaults become more widespread, while risky assets drop in value. Central banks start to lower interest rates or engage in extraordinary monetary stimulus, in order to soften the slowdown.

Slowing economic growth and deteriorating risk sentiment tend to weigh heavily on risky assets. In this environment, equities can experience drawdowns in excess of 20%–30% over a period of six to 18 months, or more in case of severe imbalances such as asset bubbles. On average, market downturns tend to start around six months ahead of the slowdown in the real economy. Safe assets such as Treasuries and high grade bonds tend to appreciate in this environment.

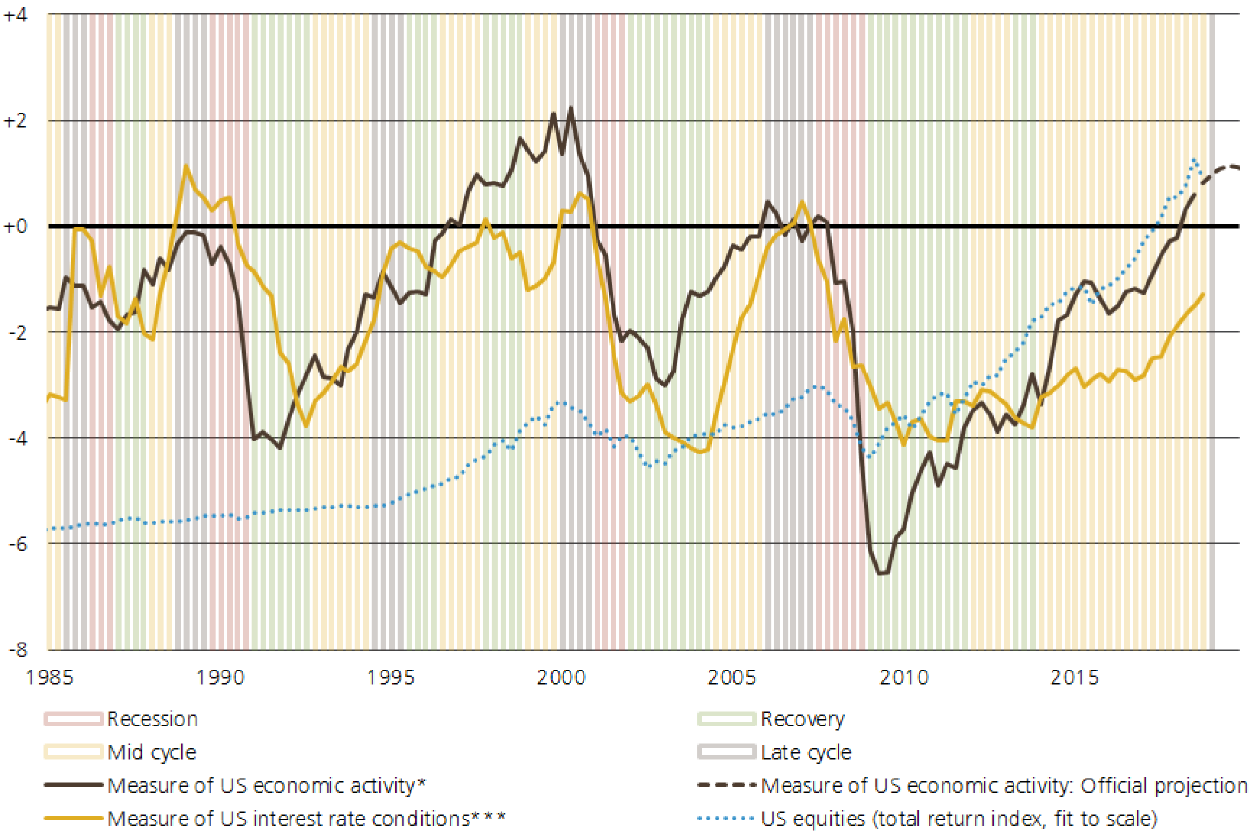
Global business cycles over the past 30 years

Monitoring the global business cycle is a complex task. Different countries and regions do not traverse the business cycle in perfect sync. Furthermore, different economic indicators may simultaneously provide conflicting signals about the business cycle or give false readings due to statistical noise. However, historical data still provides some insight.

The biggest determinant of the global business cycle continues to be the United States. As the world's largest economy, largest importer, and issuer of the world's most popular reserve currency, the US plays an important role in setting expectations for both global growth and financial conditions. US recessions tend to be followed by recessions in other regions, while US economic booms tend to lift global growth expectations. As such, the history of US business cycles provides a good starting point for analyzing business cycles on a broader scale.

Fig. 2: Historical study of US business cycles

Measures of economic activity and interest rates, normalized against long-term trends, %



Source: Bloomberg, Congressional Budget Office, OECD, UBS, as of December 2018. * US real output gap, as measured by the US Congressional Budget Office. ** Official projection of the US real output gap by the US Congressional Budget Office. *** US Treasury 3-month yield, normalized by subtracting an estimate of US potential nominal growth; US potential nominal GDP growth is approximated using an arithmetic average of the US Treasury 30-year yield and a 12-month-ahead projection of US potential nominal output as estimated by the OECD.

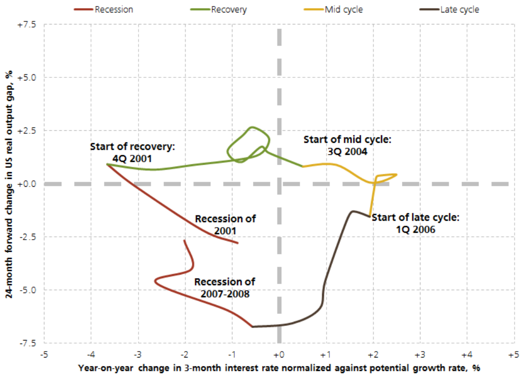
The US has experienced three full business cycles from recovery to recession since 1987: one ending in late 1990, one in late 2001, and one in late 2008. None of these business cycles were as clear-cut in reality as theory would suggest. For example, the 1991–2001 cycle saw an Asian Financial Crisis in 1996, which arguably constituted an end to the Asian business cycle at the time. The ensuing Russian default and collapse of Long-Term Capital Management in 1998 caused the US to move back from mid-cycle to recovery in late 1990s, before the cycle eventually peaked in 2001.

Ten years later, the Global Financial Crisis at the end of the 2002–2008 business cycle led to a chain reaction of sovereign debt crises in the Eurozone in 2009–2012. The Eurozone financial crisis prolonged the US recovery period in the late 2000s, but also delayed the reset of the European business cycle and forced the European Central bank to fall behind the Federal Reserve on its monetary policy path.

The current business cycle has also seen a number of one-off events. A violent drop in oil prices in 2014–2015 caused a sharp widening in US high yield spreads and a mini earnings recession in 2016, which temporarily threw the US economy back from mid-cycle into recovery mode. Moreover, unconventional central bank policy such as quantitative easing throughout this business cycle has led to very strong performance across a variety of asset classes up until late 2017, even though growth in the real economy has been much weaker and less orderly so far compared to the period of 2002–2008 (see Fig. 3 and Fig. 4).

Fig. 3: 2002-2008 US business cycle

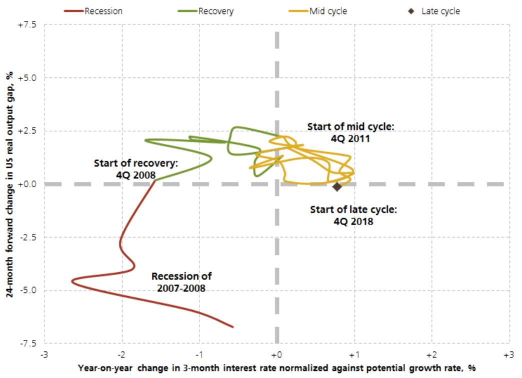
Estimated progression of cycle stages



Source: Bloomberg, Congressional Budget Office, OECD, UBS, as of December 2018

Fig. 4: Current US business cycle

Estimated progression of cycle stages



Source: Bloomberg, Congressional Budget Office, OECD, UBS, as of December 2018

How have markets performed at different cycle stages?

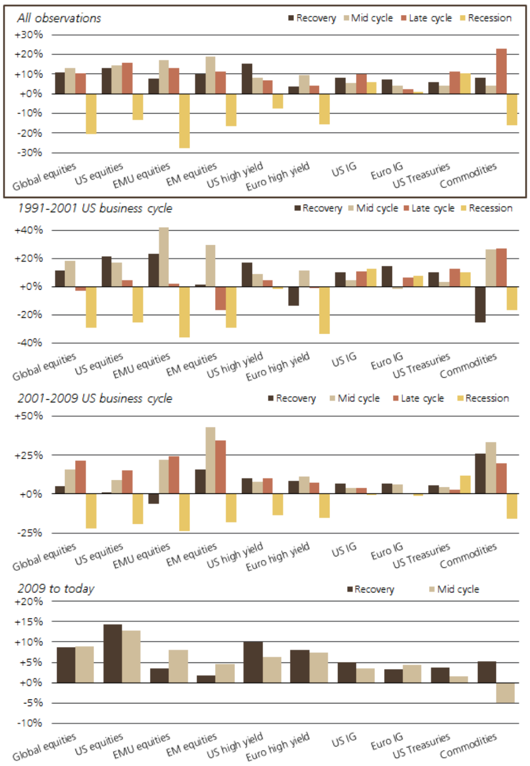
On average, the performance of asset classes across different stages of the business cycle has been consistent with what the business cycle framework would suggest. Equities tended to do well in all stages of the cycle except recessions, with performance in late cycle being the most diverse. This is especially evident in emerging market (EM) equities whose late cycle performance varied from nearly 50% annualized returns during the early 1990s, to *negative* 17% annualized returns in the mid-1990s when the late cycle in the US coincided with the onset of the Asian Financial Crisis.

US high yield credit tended to do best during recoveries, with performance deteriorating gradually toward recessions. US investment grade bonds and Treasuries showed some of their worst performance during mid-cycle, but returns remained positive overall (note, however, that yields on safe bonds have been in secular decline over time and are now close to their historical lows). Treasuries proved an especially good portfolio hedge from late cycle to recession.

Historical returns on European credit do not show a clear-cut pattern like those on US credit. However, historical price data on these assets does not cover the earlier business cycle stages. Moreover, the Eurozone business cycle has arguably been out of sync with the US business cycle since 2009.

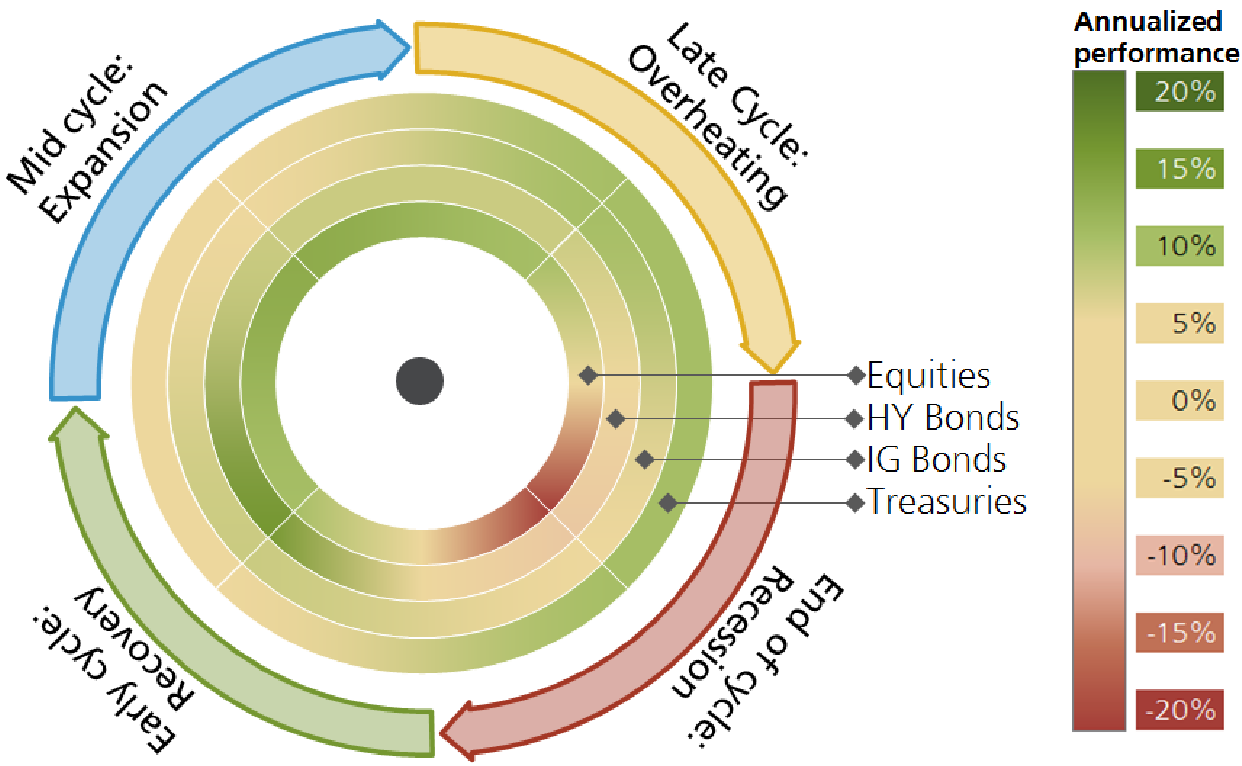
Fig. 5: Historical asset returns by cycle stage

Annualized total returns, in %



Source: Bloomberg, UBS, as of December 2018.

Fig. 6: Summary of asset returns by business cycle stage



Note: Note: Approximate total returns on asset classes by business cycle stage, annualized, based on historical observations over the past 30 years and CIO expert assessment.

Source: Bloomberg, Congressional Budget Office, OECD, UBS, as of December 2018

Conclusion

The investment cycle framework can provide investors with additional insight when allocating capital between major asset classes such as equities, high yield credit, and safer alternatives like Treasuries. However, business cycle investing also has its limitations. Cycle tracking is prone to statistical error, cycle stages may differ across regions, and one-off events will inevitably make each business cycle unique in its own way.

CIO monitors the global business cycle as part of its investment process, while also acknowledging economic, political, technological, and other developments which make the global economic landscape more nuanced and complex. While the investment cycle framework does have its rightful place in an investor's toolkit, in our view it needs to be complemented with a detailed analysis of individual markets and economies before an informed investment decision can be made.

For an analysis of where we are in the current business cycle and our latest investment positioning, please see the latest publication in our *Global financial markets* series, "The business cycle: Where are we?", as well as the latest *UBS House View*.

Appendix

Research publications from Chief Investment Office Global Wealth Management, formerly known as CIO Americas, Wealth Management, are published by UBS Global Wealth Management, a Business Division of UBS AG or an affiliate thereof (collectively, UBS). In certain countries UBS AG is referred to as UBS SA. This publication is for your information only and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. We recommend that you obtain financial and/or tax advice as to the implications (including tax) of investing in the manner described or in any of the products mentioned herein. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any prices indicated are current only as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is considered risky. Past performance of an investment is no guarantee for its future performance. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in FX rates may have an adverse effect on the price, value or income of an investment. This report is for distribution only under such circumstances as may be permitted by applicable law.

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Version as per April 2018.