Year Ahead 2018

UBS House View

United States
Chief Investment Office Americas, WM

Changing context
Mosaic Canyon Trail, Death Valley, California.
Dear reader,

Welcome to the Year Ahead 2018. Inside, we explore many of the issues expected to impact economic performance and investor sentiment after a year that challenged conventional wisdom.

In 2017, we saw ongoing geopolitical turbulence, heightened political and civil tensions here in the US and abroad, and threats to the global balance of power. At the same time, we experienced strong and steady economic growth across a number of regions and sectors. This divergence resulted in persistent uncertainty about where the global economy was heading and how investors should react.

Against that backdrop, we now turn to the future and some of the key factors that we anticipate will drive markets in the months ahead, including tighter monetary policy, political upheaval, technological disruption, and substantial environmental and social challenges.

As with any landscape defined by constant change, investors must work hard to identify both opportunities and risks as they progress toward their financial goals. So the Year Ahead also offers recommendations to help guide you and your portfolio through 2018 and beyond.

The outlook for 2018 is complex, and successfully navigating the markets will require thoughtful insight and global perspective. The Year Ahead has both, and we thank you for taking the time to read it.

Tom Naratil
President Wealth Management Americas and President Americas
UBS
Contents

8 Around the world
10 The beginning of history
12 Changing context
13 Recovery remains on sound footing
17 Monetary tightening
21 Political flux
26 Technological disruption
30 Sustainability challenges
34 How did we do last year?
36 Top risks
37 Much higher rates
40 Geopolitical shocks
44 China debt crisis
48 Regional hotspots
50 Dealing with change
51 Agility
53 Balance
56 Calm
59 US
60 Politics, policy, and profits
65 Asset Classes
65 Equities
66 Bonds
67 Alternatives
68 Currencies
70 Commodities
71 Economic forecasts
73 Key events
Highlights

Changing context

We expect another year of respectable economic growth, higher corporate profits, and rising equity markets. But investors will need to adapt to the changing monetary, political, technological, social, and environmental context.

Read more from page 12

Top risks

Although we expect the rally in equities to continue, we see the three most prominent threats as: a significant rise in interest rates, a geopolitical conflict, and a China debt crisis.

Read more from page 36

Dealing with change

To protect and grow wealth in a period of accelerated change, investors will need to demonstrate a combination of agility, balance, and calm, in our view.

Read more from page 50
US growth should remain solid in 2018. We forecast a repeat of 2017’s 2.2% rise in GDP, and expect two Fed rate hikes. Within equities, we like the financial sector, which could benefit from higher interest rates, and the technology sector, which is seeing secular growth as well as offering reasonable valuations relative to the market. In addition, we like the energy sector due to attractive valuations.

Emerging markets

Emerging markets are well-positioned for 2018’s changing context. They are better prepared for monetary tightening than in the past, and technology is an increasingly important part of the EM index. Politics is a risk, but should be navigable for well-diversified investors. We see particular value in select EM credits.
Switzerland

We expect Swiss growth to accelerate to 1.8% in 2018 from 0.8%. The SNB is likely to hike rates once, toward the end of the year, and we foresee modest franc depreciation versus the euro. It will be tough to make money in bonds, whose yields are negative, and we see house prices remaining unchanged. In equities, we favor high-quality dividend payers.

Europe

A stronger euro and Brexit uncertainty are likely to weigh on Europe’s economy, whose growth we expect to slow from 2.2% to 1.9%. We are positive on Eurozone equities relative to the UK’s, due to contrasting earnings dynamics. It is likely to be a tough year for euro credit investors. But we are optimistic on the euro, as investors gain confidence in its longevity.

Asia

We see Asian economic growth of 6.1% in 2018, with innovation as a rising force in the medium term. We expect China to maintain its policy direction, balancing reform and growth. We particularly like Chinese equities and Asian high yield bonds, and also favor companies set to benefit from the tightening labor market in Japan.
A decade from now, how will we look back on 2017? As trivial or pivotal? At first glance it was straightforward: good growth and rising markets. But I think we caught a glimpse of something stirring out there in the deep blue.

Twenty-five years ago, Francis Fukuyama’s *The End of History and the Last Man* hypothesized that the conclusion of the Cold War signaled “the end of history”: the victory of free-market capitalism and liberal democracy as the final state of human sociopolitical evolution. Yet 2017’s events raised questions about this hypothesis. To paraphrase Police Chief Martin Brody in the movie Jaws, “You’re gonna need a bigger book.”
Will the apparent peak of central bank stimulus begin a journey to “normalization,” or will the developed world economies prove unable to perform without low rates and quantitative easing?

Does Chinese President Xi Jinping’s speech on globalization at the World Economic Forum and the success of the One Belt One Road initiative show a new model of governance and development in China? Is it leaving increasingly fraught Western democracies behind, in a quagmire of Twitterstorms, growing inequalities, slower economic growth, and separatism?

Will a new reality of human DNA editing, neural implants, and artificial intelligence redefine what it means to be human, and create previously unimagined levels of inequality within and among nations?

And will China’s massive investment in green technology lead the world toward a cleaner future, or will the US withdrawal from the Paris Climate Agreement start a race to the bottom on pollution and emissions regulation?

Finding a new way forward
Leaders and electorates are facing ever-more divergent options. And the consequences of their choices are perhaps less clear than at any point since the end of the Cold War. How will it play out? A golden, though probably unlikely, scenario is that heightened environmental challenges and the existential questions posed by science will bring countries and people closer together in the quest for unified solutions. A less-beautiful scenario, echoing the Cold War struggle, would see a clearly victorious set of choices emerge, with extended hardship for those caught on the “wrong” side.

In a status quo scenario, perhaps likeliest of all, economic, political, and scientific ideologies would continue to diverge, with ongoing disharmony, as governments and peoples deal with their problems in a piecemeal fashion.

Regardless of whether time proves 2017 trivial or pivotal, the world, in all areas of human endeavor, seems to have entered a period of greater ideological divergence about what is the “right” way forward – for the economy, society, government, science, and the environment. Investors will need to adapt to all these changes to protect and grow their wealth in the year ahead.
We are positive on global equity markets as we enter the new year, amid robust economic growth and limited evidence of an impending downturn. But monetary, political, technological, social, and environmental contexts are all changing. Each will require investors to adapt.
Global economic performance in 2017 looks to have been the best since 2011. Growth accelerated in the US, the Eurozone, China, Japan, Russia, and Brazil, pushing GDP worldwide up to 3.8% from 3.1% in 2016, on our estimates. The expansion has been particularly impressive for its synchronicity. Only six other times in the past 30 years has every economy in the G20 grown.

As we look ahead, we forecast little change in the positive economic backdrop. Both the US and Japan are benefiting from strong labor markets and solid corporate profitability. Growth could moderate in Europe, weighed on by a stronger euro and Brexit uncertainty, and in China, where property construction is likely to slow in response to falling prices. But flourishing economies in Brazil, whose recovery from the 2015–16 recession continues, and in India, where the economic reforms of the past 12 months should start taking effect, should provide a positive offset.

Overall, we expect growth of 3.8% in the coming year, a repeat of the healthy current rate of expansion, see Figure 1.1.

Recession looks unlikely in 2018

Periods of high economic growth often sow the seeds of their own demise. But there is little evidence today of an impending recession. Historically, recessions have been caused by one or more of: oil price shocks, too-tight monetary policy, contractions in government spending, and financial/credit crises. None of these look likely to materialize in 2018.

Oil prices are likely to move sideways. OECD inventories are around 10% above historical norms, providing a cushion even if supplies fall next year. Barring a significant rise in tensions in the Middle East, we expect Brent crude oil prices to trade at USD 57/bbl in 12 months’ time.

Central banks are likely to err on the side of caution as they tighten policy. Inflation is stable, and core measures are likely to remain below central bank targets. We expect just two interest rate hikes in the US and Canada, one in Switzerland, Australia, and New Zealand, and the Eurozone, UK, and Japan to see rates on hold in the year ahead. Meanwhile, quantitative easing will be withdrawn only gradually in the US and Eurozone, and will continue in Japan.
In aggregate, governments are likely to keep net spending as a proportion of GDP broadly unchanged. The era of austerity in Europe is over, and tax changes in the US could widen deficits here. We foresee a global fiscal deficit of 2.9% of GDP in 2018, down only slightly from the current 3.0%.

And leverage does not appear to be a particular threat. The developed market private sector debt-to-GDP ratio is 164%, up minimally from a low of 161% in 2014, and down from a 2009 peak of 173% according to the Bank of International Settlements (BIS). While debt is climbing rapidly in China – it currently stands at 258% of GDP according to the BIS – the government is well-positioned to manage its rise. External debt (i.e. that owed to overseas lenders) is just 13% of GDP, making China less prone to crises of global confidence.

So barring an exogenous shock, such as a flare up in Middle Eastern tensions leading to significantly higher oil prices, or a conflict between the US and North Korea, we believe a downturn looks unlikely.

Long in the tooth?
In parts of the world the economic expansion has run for a long time. In the US, for example, continued growth in 2018 would make for the second-longest period of postwar expansion. Only the 1991-2001 run would have lasted longer.

But we don’t expect the boom times to just succumb to old age. The San Francisco Federal Reserve has shown that data since World War II suggests the probability of a recession does not rise significantly with the age of an expansion. Improved inventory management, a higher share of services in the economy, and more active policymaker management of business cycles have all contributed to a steadying of economic cycles.

Learn more. Put this economic cycle in context, and learn more about previous economic cycles, and what brought about their rise and fall.
ubs.com/cio
Positive on equities
Overall, solid growth and limited evidence of an impending slowdown keep us positive on global equity markets as we enter the new year. At a trailing price-to-earnings ratio of 18.0x, global equities are priced broadly in line with their long-term average (18.3x). Prices are not yet at levels that have historically presaged weak performance, though investors should not expect a repeat of the double-digit annualized returns seen in recent years. Historically, global equity valuations between 18x and 23x have been consistent with 6% subsequent 6-month performance, see Figure 1.2. And, much like in 2017, robust earnings growth should help push stock markets higher.

More generally, investors are wise to remember that avoiding taking profits too soon is critical for long-term performance. Since 1927, the average increase in the final 12 months before the end of a bull market has been 22%. Missing these periods would lower investors’ long-term annualized price returns on the S&P 500 from 9.6% to just 7.2%.

Changing context
While our view on markets is positive, this does not mean the coming year will be easy for investors. The investment context is changing. Abnormally low levels of volatility may end on the back of monetary tightening, political flux, technological disruption, and sustainability challenges, which each bring their own set of opportunities and risks.

Monetary tightening: With almost a decade of monetary easing drawing to a close, investors will need to prepare for higher volatility and potentially higher correlations and stock dispersion. We see opportunities in the financial sector and, for investors looking to reduce portfolio volatility, in alternatives.

Political flux: The political calendar will raise risks to local markets, with a particular likelihood of heightened volatility in Brazil, Mexico, Russia, South Africa, Spain, and the UK. That said, US tax reform, and China’s One Belt One Road initiative, could provide investors with politically-driven investment opportunities too.

Technological disruption: New technologies will both delight and disrupt. Investors with high weightings to individual industries under threat of disruption are at risk. But we see

Figure 1.2
Valuations consistent with further upside
Average 6m subsequent total return MSCI AC World, for given price-to-earnings ratio

<table>
<thead>
<tr>
<th>Price earnings</th>
<th>MSCI AC World 6m return</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 13x</td>
<td>9%</td>
</tr>
<tr>
<td>13–18x</td>
<td>4%</td>
</tr>
<tr>
<td>18–23x</td>
<td>6%</td>
</tr>
<tr>
<td>&gt; 23x</td>
<td>-1%</td>
</tr>
</tbody>
</table>

We are here

Note: Average total return of MSCI AC World index over the following 6 months when the valuation is in the indicated valuation bucket at the end of the month. Based on data since 1987.
Source: UBS, Thomson Reuters
Changing context

opportunity in companies enabling and adopting big data technology, those supplying automation and robotics solutions, and those that provide electronics and components for electric cars and autonomous driving.

Sustainability challenges: The world will continue to face myriad challenges ranging from climate change, to resource overuse, and economic inequality. While the near-term effect on markets is uncertain, the sustainable investing industry can enable investors to play an important role in the long-term solution, while still seeking good risk-adjusted returns.

Nobel Perspectives

How long is left in the cycle?
Edmund S. Phelps, Nobel Laureate in Economic Sciences 2006

The boom is still going strong in the US, and the booms developing in some other countries came as a surprise (as booms usually do). They seem to be based on a loss of pessimism, and perhaps a new-found optimism about the future. It looks like the growth rate of GDP in the US is running around 3.0% p.a., and I think growth may continue at that rate for several quarters, but much depends on the tax-cut legislation: I believe the boom in the US is likely to run on through 2018 if a tax cut is passed and signed, and likely to run down if there is no tax cut.

Looking forward, I expect that if the global growth in total factor productivity – a weighted average of labor productivity and capital productivity – is not significantly increased within the next four or five years, investment will return to the weak level relative to GDP that we have seen over the past decades. It seems to me that investors are already well-prepared for such a period of lower long-term returns.

Source: ubs.com/nobel
Central banks will tighten monetary policy in the year ahead. We see no cause for alarm, and higher rates could even usher in opportunities. But investors will need to prepare for higher volatility, cross-asset correlations, and stock dispersion.

Investors are likely to hear a lot about tighter monetary policy in 2018. Central banks have spent almost a decade buying financial assets in an attempt to lower long-term interest rates and boost economic growth and inflation. But with global GDP expanding at its fastest pace in six years, many central bankers believe the economy is now strong enough for them to start withdrawing stimulus.

We expect the US Federal Reserve to reduce the size of its balance sheet by less than 10% over the course of the year, and to increase interest rates twice. The European Central Bank (ECB) is currently buying EUR 60bn of financial assets in an attempt to lower long-term interest rates and boost economic growth and inflation. But with global GDP expanding at its fastest pace in six years, many central bankers believe the economy is now strong enough for them to start withdrawing stimulus.
financial assets each month, but will reduce this to EUR 30bn monthly from January to September, and we see it winding up its asset purchase program by the end of the year. By the end of 2018, in our view, the Bank of Japan (BoJ) will be the only major central bank left providing monetary stimulus to the global economy, and in aggregate central banks will be net suppliers, rather than net demanders, of financial assets for the first time since the start of the financial crisis, see Figure 1.3.

No cause for alarm

Although the move away from monetary easing marks a change, as long as it remains consistent with the global growth outlook, we do not see cause for investor alarm.

The scale of tightening is likely to be limited. The Fed’s “quantitative tightening” process is going to reduce the size of its balance sheet only modestly, and global central bank balance sheets will still grow overall, thanks to stimulus from the ECB and BoJ. Furthermore, given that the Fed estimates that its entire quantitative easing program lowered long-term bond yields by just 100 basis points, the impact on yields directly resulting from this round of quantitative tightening should be limited. We forecast US 10-year yields of 2.5% by the end of 2018.

Central bankers remain responsive to economic data. They are only looking at raising interest rates in response to more robust growth, and their stance could be interpreted as a vote of confidence in the economy. Should global growth or inflation slow again, or should financial markets experience a significant dislocation, we would expect central banks to move to an easier stance.

Inflation is likely to remain contained. Unlike in previous interest rate-hiking cycles, most central banks are not under pressure to slow inflation, which has remained stubbornly below targets. While policy may become less accommodative, there is no need for it to become restrictive.

Finally, there are structural factors beyond quantitative easing that have helped suppress interest rates and bond yields in recent years. They are not changing. The ongoing retirement of the baby boomer generation is lowering prospective growth and reallocating savings toward fixed income. The development of low-capital-intensity industries is dampening demand for investment. And regulation continues to force pension and insurance fund managers to stock up on long-term fixed income assets. A large amount of the US Treasury market, for example, is owned by investors who have no choice but to own them.
Changing dynamics
That said, we do expect tighter monetary policy to change market dynamics.

Market volatility could increase as stimulus declines throughout the year. Investor confidence in central bank intervention has helped keep volatility close to record lows in recent years. Even if we think most central banks will retain an interventionist policy, their tighter stance could lead investors to doubt their willingness to intervene. And governments will need to find new private sector buyers for net new debt issuance.

Bonds and equities could rise and fall together, should investors grow concerned about monetary policy. Historically, turning points in monetary policy have seen a rise in bond-equity correlations, as equities and bonds react to changing central bank policy, rather than growth, see Figure 1.4. This dynamic would increase portfolio volatility for investors diversified across equities and bonds.

And although bonds and equities might move in tandem, correlations between individual stocks could drop, as higher interest rates lead investors to discriminate more strictly between companies. For instance, we could see a shift away from bond-proxy equities, while interest rate-sensitive stocks and sectors, such as financials, could perform better. In such an environment, active managers might come to the fore, if intra-market correlations remain low.

Figure 1.4
Bond-equity correlations can turn positive at monetary turning points
13-week rolling correlation, S&P500, US 5-year Treasury

Source: UBS, Bloomberg
Investment ideas

- **US financials:** Higher interest rates generally boost bank net interest margins. To the extent that a reduction in monetary stimulus indicates a positive macro-economic environment, financials should also benefit from greater client activity, higher loan demand, and good credit quality.

Portfolio implications

- **Diversifying into alternatives:** At turning points in monetary policy, correlations between bonds and equities can rise, increasing portfolio volatility for investors. Diversification into alternatives, including hedge funds, could help reduce volatility.

- **Active management:** Reduced central bank support should make stocks more responsive to idiosyncratic factors. This could aid active managers, who have previously underperformed as central bank policy support helped all stocks move up together.
Politics will again dominate headlines. We expect its global market impact to be limited, but it will both present risks and bring opportunities at a local level.

With Russia and China asserting their presence on the global stage, North Korea developing nuclear weapons, political instability in the Middle East, the UK negotiating its exit from the EU, mid-terms in the US, and elections taking place in Italy, Brazil, Mexico, Russia, and Malaysia, global politics is in a state of flux that will continue to play out through 2018.

**Economics, usually, trumps politics**
The relevance of geopolitics for investors is debatable. Despite the significant media attention, and the plethora of political events and shocks in the past two years, the best strategy for investors would have been to turn off the 24-hour news and stay invested, see Figure 1.5. Equity markets rose and volatility plumbed record lows. Indeed, trying to trade the events could have been costly – the FTSE 100 lost nearly 9% in the immediate aftermath of the UK’s EU referendum, before recovering within days, and closing the year sharply higher.

![Figure 1.5](source: UBS, Bloomberg)

**Markets have proven relatively immune to political risk**
MSCI All-Country World Index, since January 2016
We don’t think this calm represents market complacency. In general, we believe that the impact of domestic politics on global markets is overestimated.

Politics is often subjective. Events regarded as negative by one group can be interpreted as positive by another. Between October 2016 and August 2017, overall US consumer expectations, as measured by the University of Michigan, declined by 33 points among Democrat voters and rose by 47 points among Republicans. This balancing effect can neutralize the impact of politics on consumer and business confidence.

The effect of political events also tends to be local and may not move markets internationally. Britain’s exit from the EU, Catalan separatism, sanctions on Russia, and modifications to the North American Free Trade Agreement (NAFTA) might have meaningful effects on the UK, Spanish, Russian, and Mexican markets, respectively, but their relative impact on global markets is much smaller, and individual political issues can cancel one another out.

And since markets focus on long-term cash flows, policies instituted by a government whose mandate will expire tend to get discounted somewhat.

Test your ability to assess the impact of geopolitical events on markets, using historical case studies ranging from World War II to the Cuban Missile Crisis and Brexit.

ubs.com/cio
Specific potential impacts
While we don’t expect politics to sway global markets in the coming year, it can affect investors in three specific circumstances: First, if events are extreme, such as wars. The 1940 Battle of France caused the Dow Jones to decline by 14% in the week of the invasion. And the oil crises of the 1970s and early 1980s, resulting from the Yom Kippur War (and associated embargo), and the Iran-Iraq War, contributed to global financial market turmoil. In this regard, we will be monitoring geopolitical risk, notably in the Middle East and on the Korea Peninsula, particularly closely.

Second, if the global economy suffers a downturn. With interest rates still at low levels, and the marginal returns from quantitative policy diminished, fiscal policy could have a larger role to play in supporting growth after the next global downturn than in the last, when central banks played an arguably larger role.

Finally, since the impact of politics is greater at a local level than at a global level, even relatively minor local political events can affect investors who are too heavily concentrated in individual regions or sectors.

Local geopolitical risks in 2018 – exposed investors should seek diversification

<table>
<thead>
<tr>
<th>Event</th>
<th>Affected country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil election</td>
<td>Brazil</td>
<td>Victory by a populist candidate in next year’s presidential election could derail the reform progress and lead to further deterioration of the fiscal condition.</td>
</tr>
<tr>
<td>NAFTA negotiations</td>
<td>Mexico</td>
<td>Hiccups in the NAFTA negotiation, a potential Lopez Obrador administration, and inflation stoked by a weak peso could all cause Mexican assets to underperform.</td>
</tr>
<tr>
<td>US Treasury report on Russia</td>
<td>Russia</td>
<td>As the US Treasury prepares a report to be delivered by February, possible new sanctions from the US could raise the risk premium on Russia assets.</td>
</tr>
<tr>
<td>ANC conference</td>
<td>South Africa</td>
<td>Amid the country’s bleak growth and fiscal situation, the new leader elected at the ANC conference in December may bring changes – for better or worse.</td>
</tr>
<tr>
<td>Catalonia separatism</td>
<td>Spain</td>
<td>Ongoing political uncertainty over the political status of Catalonia could boost volatility for Spanish assets.</td>
</tr>
<tr>
<td>Brexit negotiations</td>
<td>UK</td>
<td>Uncertainty about Brexit could result in higher volatility for UK asset prices as negotiations progress.</td>
</tr>
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</table>
Investment ideas

We see the potential for politically-inspired volatility in Brazil, Mexico, Russia, South Africa, Spain, and the UK. Regardless of our base case view on the individual regions, the threat of political uncertainty means that we believe investors heavily exposed to these markets, and particularly those local investors with a large home bias, should seek overseas diversification.

Meanwhile, we see politically driven opportunities in the US and China, related to US tax reform, deregulation, and the One Belt One Road initiative.

- **US tax reform**: A reduction of the US corporate tax rate to 25%, and repatriation of foreign earnings could boost US earnings per share by up to 10%.

- **US deregulation**: Legislation or actions from the Trump administration could lessen the impact of the Affordable Care Act. Meanwhile, changes to environmental and financial regulations could boost the energy infrastructure and financials sectors.

- **One Belt One Road**: China’s investment in One Belt One Road infrastructure projects is gaining momentum. We see spending doubling in the next five years to USD 90–160bn and regard emerging market infrastructure companies as the biggest beneficiaries.

Portfolio implications

- **Regional diversification**: Investors looking to reduce exposure to local political risks should seek regional diversification.

- **Asset class diversification**: Although we expect fixed income to underperform equities in 2018, a mixture of the two asset classes can help insulate portfolios against geopolitical risk.

- **Rebalancing**: The effect of geopolitical events can often be short-lived, and committing to a regular portfolio rebalancing strategy can aid in navigating political uncertainty. Systematic rebalancing could improve pre-tax performance by as much as 80 basis points per year.
President Trump’s 2018 budget blueprint includes plans to increase military spending. But the proposed new investments in military hardware are not likely to make any difference for America’s geopolitical power. Recent frustrations of US foreign policy have not been due to any lack of military capability, but instead have been due to a weakness of diplomatic capabilities for turning battlefield successes into positive political developments.

A nation’s power in international affairs depends as much on its ability to make credible long-term commitments as on its military might. In this regard, President Trump’s shift to an opportunistic America-first policy could actually weaken America’s ability to achieve foreign-policy goals. Withdrawal from major international agreements will make it harder to build confidence in any newly negotiated promises. In this environment, the best hope for effective containment of North Korean militarism may be found in security agreements directly between China and South Korea, even though such agreements could be interpreted as evidence of a decline of American influence in Asia.

Meanwhile, NAFTA is at risk after being blamed by the President for contributing to America’s longstanding trade deficit. But this trade deficit has been driven primarily by strong international demand for US debt, based on global confidence in the stability and reliability of the United States government. America-first policies could erode this confidence and weaken global demand for US debt, resulting in US federal deficits becoming harder to finance under Trump than under Obama or Reagan. The result could be higher US interest rates after tax cuts in 2018.

Source: ubs.com/nobel
Changing context

Technological disruption

We are living in a time of rapid technological development. We see particular opportunities in digital data, automation & robotics, and smart mobility. But investors heavily exposed to individual companies or sectors are at risk of disruption.

Technology is developing rapidly. Quantum computers can process data 100 million times faster than any traditional computer. The first driverless cars are loose on our roads. Earbuds can translate dozens of languages in real time. And tech pioneers are setting their sights on even grander goals. Scientists are developing living solar panels that can be printed on paper, and have made strides in their ability to perform surgery directly on DNA. Elon Musk’s Neuralink, meanwhile, aims to enhance the human brain with implants, envisioning a future of telepathic communication.

Some of these developments will prove to be more hype than substance. As the dotcom bubble showed, alluring visions don’t necessarily tally with attractive investments, even if they are ultimately proven right. Technologies may take too long to develop, companies may be unable to monetize their growth, and investors may miscalculate the sector that value ultimately accrues to.

But technology is having a very real impact too. In the most recent quarter, technology firms accounted for 23% of S&P 500 earnings, up by 5ppts in three years. The tech sector is now the largest in the MSCI Emerging Market and MSCI China indices. The number of patents granted has doubled over the past decade, with 1.2 million approved worldwide in the last year of data. And the US Bureau of Labor Statistics estimates that the economy will need 30% more software developers over the coming decade, the fastest-growing highly paid job.

Investment opportunities

We remain confident on the shorter-term prospects for the US technology sector. We project 2018 earnings growth of 12–13%, and see price-to-earnings ratios of 19.3x as reasonable. They currently trade on a 7.5% premium to the market relative to a 25-year average of 22%. But longer term we see the most compelling technology-related opportunities in three areas.
**Digital data:** The volume of global data is growing exponentially. By 2020 the digital universe will be 44 zettabytes large, equivalent to 318 iPhones per household, a 50-fold increase from 2010 levels, according to industry research firm IDC, see Figure 1.6. Dramatic declines in the cost of gathering, processing, storing, and analyzing data has made it a crucial global commodity dubbed “the new oil.” Yet the vast majority of that data remains unexploited. Companies that invest across the data lifecycle – creation, transmission, storage, processing, consumption, and monetization – are well positioned for above-average growth, in our view.

**Automation & robotics:** The world is undergoing a fourth industrial revolution. A combination of factory and process automation, additive manufacturing technology, and artificial intelligence is transforming the way we manufacture and distribute goods. The number of “Internet of Things” devices is soon set to surpass the number of people on the planet, see Figure 1.7. And the International Federation of Robotics expects 160,000 robots to be installed in China alone by 2019. We anticipate companies exposed to the theme posting c.13% higher earnings per share in 2018, versus...

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**Figure 1.6**

*More than 50x growth in digital data by 2020*

Digital universe in zettabytes

Source: IDC, EMC, UBS

**Figure 1.7**

*More IoT devices than people*

Units in billions

Source: Ericsson, UBS
Digital data, automation & robotics, and smart mobility are thematic ideas that are captured within our Longer Term Investments. This series of thematic investment ideas should benefit from secular trends such as population growth, aging, and urbanization.

8–12% for the global equity market as a whole, with industrial software at the forefront.

Smart mobility: Regulatory action and technological advances have pushed us to the cusp of a boom in smart mobility: electrification of vehicles, autonomous driving, and car-sharing business models. We expect the addressable market to grow tenfold by 2025, with an inflection point in the uptake of electric cars approaching. In the coming year in Europe, we estimate that the total cost of owning a battery-powered electric vehicle will fall below that of a vehicle with an internal combustion engine for the first time. Inflection points should follow in China by 2023 and in the US by 2025. We see particular opportunities in companies that supply electronics and electric components related to electrification and autonomous driving.

Portfolio implications

- Avoiding single-stock and sector concentration: Investors concentrated in companies or industries threatened by disruption are at particular risk in an age of rapid technological change. In 2017, the food retail industry fell by 11% in the week that Amazon announced it would purchase Whole Foods, potentially sparking a price war. Diversification across companies and sectors is key to mitigating this type of risk.

Discover the technology that we believe could have a transformative effect on industries around the world.

Long-term themes

Digital data, automation & robotics, and smart mobility are thematic ideas that are captured within our Longer Term Investments. This series of thematic investment ideas should benefit from secular trends such as population growth, aging, and urbanization.
Is technology becoming a risk to jobs?
Sir Christopher A. Pissarides, Nobel Laureate in Economic Sciences 2010

Ever since the industrial revolution, new technology has been replacing human labor. Steam power, the internal combustion engine, electricity, and the computer destroyed jobs previously done by humans. Each time, new jobs were created that had the potential to make everyone better off.

Again this time new jobs will appear to replace the ones that robots and artificial intelligence destroy because there are still many things that robots cannot do; such as jobs that involve decision making in unpredictable environments. And with robots doing the work, we will be able to work less and enjoy more of the products of the new technology in our leisure time.

But like globalization, new technology can only benefit everyone if we manage the transition well. CEOs will have to see how they can combine robotics with labor, and be prepared to look outside the box for the things that the new technologies can do. Workers need to be more flexible in their skills, and in the jobs that they are prepared to contemplate. And governments need to make sure that human decency and high standards are maintained in the new work environment and not panic into blocking the advance of new technology. The education needs of a country need to be re-thought, and the support mechanisms for workers initially losing out expanded.

Source: ubs.com/nobel
Changing context

Sustainability challenges

The world will continue to grapple with environmental and social challenges in 2018. Whether there is any progress in solving them in the face of global disunity remains to be seen. But investors can play an important role in furthering and funding solutions without sacrificing risk-adjusted returns.

The world economy continues to expand in a manner that cannot be maintained indefinitely. Atmospheric carbon dioxide levels are the highest they’ve been in three million years, contributing to more frequent extreme weather events. Use of natural materials has tripled in the past 40 years, leading to increased environmental degradation and challenges with urban pollution. And close to one billion people still live on less than USD 2 per day, lack access to clean water, and suffer undernourishment, contributing to the growing challenge with global migration policies.

Figure 1.8

UN Sustainable Development Goals

Source: UN
Investors could have an important role to play in the solution. In 2015, the UN created its Sustainable Development Goals (SDGs) resolving to, among other things, end poverty, combat climate change, and fight injustice, see Figure 1.8. The UN acknowledges that social and legal structures have a role to play, but also recognize that fulfilling this ambitious set of 17 goals will require both public and private investment across all forms of capital – physical, human, and environmental.

This demand for private capital within the SDG framework, and the rapid evolution of the sustainable investment industry across a broader range of asset classes, and with greater depth, means that investors now have an opportunity to make a positive impact on some of the world’s most pressing issues, while still seeking good risk-adjusted returns.

**Investment ideas**

**Green bonds:** One of the fastest-growing segments of the fixed income market, green bonds are conventional fixed income instruments in which the proceeds are earmarked specifically for projects with environmental value. One can invest, for example, in bonds that target renewable energy, energy efficiency, sustainable waste management, sustainable land use, biodiversity conservation, clean transportation, and clean water/drinking water. We believe one could expect diversified green bond exposure to generate returns comparable to a mix of traditional government and investment grade corporate bonds.

**Multilateral development bank bonds:** Multilateral development banks (MDBs) like the World Bank Group play a critical role in providing development where it is needed most. In recent years, they have financed: irrigation services for more than two million hectares of land; access to an improved water source for 42 million people; and the reduction of 588 million tons of CO₂-equivalent emissions annually, according to the World Bank. Bonds issued by these banks are typically AAA rated, are backed by multiple sovereign governments, have never defaulted, and can be considered, in our view, comparable to high quality bonds such as US Treasuries.
Equity strategies: By diversifying across sustainable equity strategies, investors can look to earn returns comparable to those available from a standard globally diversified equity portfolio, while making a positive environmental and social impact.

– Thematic: By investing in companies likely to see increased demand as they address the world’s environmental and social challenges, investors can both benefit from, and support, the solutions such companies offer. Our longer-term investment themes include numerous companies involved, for instance, in expanding water infrastructure in, providing renewable energy for, and delivering healthcare equipment to emerging markets.

– ESG Leaders: Leaders in environmental, social, and governance (ESG) standards are those companies that not only avoid major adverse effects on society and the environment, but also seek to influence their wider industry in improving sustainability standards. Many of these firms view ESG factors as opportunities to improve financial returns. Empirical evidence suggests that it is possible to construct portfolios with an above-average sustainability standard while still achieving a risk/return profile that is comparable to “conventional” investments.

– ESG Improvers: Investors can help reward improvements in corporate behavior with respect to social and environmental issues by tilting allocations toward companies that have shown significant signs of improvement in recent months and years, and away from companies whose ESG performance has deteriorated. We believe that investment strategies capitalizing on ESG momentum should be able to deliver performance in line with, or better than, broad-market benchmarks.

– ESG engagement: Fund managers can also employ a shareholder engagement approach to push company management into making ESG improvements. This can have a direct impact. For example, according to data compiled and analyzed by Ceres, of 779 climate-friendly shareholder proposals filed from 2013 to 2017, 36% were adopted without the need for a vote after investors and the companies in question agreed that more needed to be done to make sufficient progress in this area, i.e. by reducing their carbon footprint.
Impact investing: Impact investing is a key means of mobilizing private wealth to address pressing global challenges and achieve the UN SDGs by 2030. Return-seeking private capital is best suited to addressing those SDGs where a market price can be attached to capital and where regulatory change is not as essential. These areas include alleviating hunger by improving food production and distribution, improving access to and quality of healthcare and education, and clean and affordable energy, among others.

Portfolio implications

With the sustainable investment industry now sufficiently broad and deep, a fully diversified portfolio of sustainable investments can be constructed. We believe it can provide similar risk-adjusted returns to those available from a traditional diversified portfolio:

<table>
<thead>
<tr>
<th>Traditional asset class</th>
<th>Equivalent sustainable or impact investment</th>
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</thead>
<tbody>
<tr>
<td>Global equities</td>
<td>ESG Themes</td>
</tr>
<tr>
<td></td>
<td>ESG Leaders</td>
</tr>
<tr>
<td></td>
<td>ESG improvement</td>
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<tr>
<td></td>
<td>ESG engagement</td>
</tr>
<tr>
<td>Government bonds</td>
<td>MDB bonds</td>
</tr>
<tr>
<td>Investment grade credit</td>
<td>Green/climate bonds</td>
</tr>
<tr>
<td></td>
<td>ESG Leaders</td>
</tr>
<tr>
<td>Private markets</td>
<td>Impact private equity</td>
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<td>Impact private debt</td>
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How did we do last year?

One year on from the publication of the Year Ahead 2017, we look back at some calls we made that proved right, and some that did not.

**Right**

“We forecast the euro and the British pound appreciating relative to the US dollar in 2017.”

Against the US dollar, the euro rose to 1.18 and the British pound to 0.89, from 1.06 and 0.86 at the time of writing in late 2016, respectively.

“We are positive on US equities, anticipating 8% earnings growth in 2017.”

US equities have risen 17% since our publication date, with 2017 earnings growth surpassing our estimates, up 10%.

“In spite of political uncertainty, we are positive on emerging market (EM) equities.”

EM stocks climbed 34%, aided by rising commodity prices, a falling dollar, and stronger-than-expected growth across the region.

“We expect oil prices to trade at USD 60/bbl in 12 months.”

Oil prices are currently trading at USD 63/bbl, from USD 49/bbl at the time of writing in late 2016.
Wrong

“We anticipate Eurozone growth of 1.3% in 2017, down from 1.6% in 2016. We expect Eurozone earnings growth of 5–9%.”

Eurozone growth surprised us to the upside, reaching 2.3%, and earnings also surprised us positively, up 10%.

“We expect China to manage its slowdown effectively, with growth of 6.4%.”

China managed its slowdown so effectively that its GDP growth rate actually rose, exceeding our expectations. Growth for 2017 looks set to be 6.8%, up from 6.7% in 2016.

“We expect the Federal Reserve to hike rates once in December and twice in 2017.”

The Fed did indeed hike rates once in December 2016 and has done so twice so far in 2017, but we think a third 2017 hike now looks likely in December.
Top risks

The changing context brings risks that could weigh on global markets in 2018. While there are many known unknowns, and unknown unknowns, that could affect investors next year, we see three risks as the most prominent: sharply higher inflation might force central banks to tighten policy aggressively, hurting growth; geopolitical shocks could emerge from North Korea’s nuclear weapons testing and from political instability in the Middle East; and China could mismanage its rising debt, leading to a greater-than-expected economic slowdown.
Much higher rates

In our base case, we expect central banks to tighten monetary policy only modestly. Inflation should remain muted, and there are few readily quantifiable signs of excess. But significantly higher rates are a possibility.

The risk scenario

Two circumstances could arise that might prompt central banks to act more boldly, in our view. They are: a) an unexpected surge in inflation, or, b) a dramatic change in how members interpret economic data.

An abrupt change in philosophy seems unlikely. Key central bank personnel remain the same in most regions, and the nomination of Jay Powell as new Fed Chair suggests continuity at the Fed. Powell has served at the US central bank since 2012, and has supported the current set of policies.

But a sudden rise in inflation cannot be ruled out. A sharp rise in oil prices owing to a supply outage in the Middle East is one outside risk. But an arguably greater risk comes from the possibility of rising wages and prices in the US. At just 4.1%, US unemployment is close to its lowest level since 1970, see Figure 2.1.

Although wage growth remains subdued for now, it is possible that a tipping point could occur if companies face sufficient difficulty hiring that they are forced to raise wages markedly to attract and retain staff. Similarly, if companies are running at full capacity and are
unable or unwilling to expand production, they might raise prices to try and contain demand.

Although an increase in inflation isn’t necessarily a bad thing in itself, should it become apparent that inflation is increasing too quickly, the Fed could be forced to raise interest rates rapidly to restrain demand. This would increase the risk of recession: every US downturn in the past 45 years has been preceded by a steep rate hike cycle by the Fed.

**Market impact**

Slower growth and heightened uncertainty over the course of inflation and interest rates could prompt investors to demand higher risk premia for equities and credit. In previous US recessions, a downturn in economic growth was preceded, on average, by a 20% correction in the S&P 500. A correction of that magnitude could be expected to be accompanied by lower commodity prices, and reduced long-term bond yields.

**Lessons from history**

Inflation running above target and Fed rate hikes don’t always immediately lead to a market downturn. Core inflation ran slightly above the Fed’s target from 2005–07. During that episode, the yield curve inverted, but equities continued to perform well through the hiking cycle, supported by strong economic growth. But the cumulative impact of higher rates ultimately contributed to a decline in the housing market, creating a catalyst for the unwinding of large economic imbalances, which culminated in the financial crisis.

**Key signposts**

The leading indicators we will be watching closely to determine if the probability of much tighter policy is rising include:

- Average hourly earnings increases exceeding 3.5% (currently 2.4%).
- Core personal consumption expenditure inflation rising above 2.5% (currently 1.3%).
- Five-year/five-year breakeven inflation expectations surpassing 2.5% (currently 1.8%).
- Two-year yields rising above 2.5% (currently 1.7%).
Investment ideas

- **Hedge funds**: They have historically outperformed other asset classes when monetary policy tightens, returning an average annualized 11% versus 8% for the S&P 500 during the 1994–95, 1999–2000, and 2004-06 hiking cycles. They also provide diversification in case of higher equity-bond correlations.

- **Long-duration government bonds** as part of a well-diversified portfolio. Although our base-case outlook on longer-duration government bonds is negative, the downside in absolute terms is likely to be relatively limited, given the structural support they enjoy from aging populations and regulation. Meanwhile, they could be expected to rally in the event that the Fed provokes a recession.

Portfolio consequences

- **Regional diversification**: It is unlikely that every monetary region would simultaneously run into labor shortages or capacity constraints that would necessitate higher interest rates. By diversifying across monetary blocs, investors can continue to benefit from rising markets while insulating themselves against the risk of greater inflation.

- **Currency hedging**: By ensuring the currencies of assets are matched to the currencies of liabilities, investors can minimize their exposure to potentially sharp currency moves that could arise from abrupt monetary policy changes.
Geopolitical shocks

In our base case we do not expect flashpoints on the Korean Peninsula or in the Middle East to disrupt markets. We see little incentive for either North Korea or the US to make a “first strike.” And the recent unease in the Middle East we view as part of long-running tensions between Saudi Arabia and Iran rather than the start of something potentially more serious. But even a small chance of a geopolitical shock bears monitoring.

The risk scenario

– **North Korea**: Although we consider a “first strike” unlikely, North Korea’s nuclear tests raise the risk and consequence of miscalculation. For instance, test missiles could miss their intended neutral targets, sparking retaliation, or North Korea could miscalculate the location or intention of US warplanes, which regularly conduct exercises in the region. The potential threat to Japan and South Korea, the world’s third and eleventh-largest economies, respectively, means any conflict, or fear thereof, could have global consequences.

– **Middle East**: Saudi Arabia is the world’s largest oil exporter, and controls most of the market’s 2.5–3 million barrels a day of spare capacity. Its recent increase in tensions with Iran has raised the risk of a disruption to oil supplies. If proxy wars between Iran and Saudi Arabia upset energy exports, and if this coincided with renewed sanctions on Iranian energy exports, the oil price, we believe, could reach USD 80/bbl and stay there for three to six months.
Market impact

In the case of a military escalation, we would expect risky asset classes to sell off, particularly those in the regions where conflict is occurring (i.e. APAC or MENA). Traditional safe-haven assets such as Treasuries, and so-called safe-haven currencies, such as the USD and CHF, should benefit. This could mean that, counterintuitively, the Japanese yen could also appreciate, as it has at times this past year, in the event of rising tensions on the Korean Peninsula.

Lessons from history

The Cuban Missile Crisis is perhaps the closest parallel to the situation with North Korea, and shows how stocks are likely to remain calm right up to the moment of actual conflict. The Dow Jones fell 2% during the crisis, even with the world then arguably closer to a Third World War than at any point before or since.

During previous episodes of large oil supply shocks such as the Iranian revolution in 1979, and the Iraqi invasion of Kuwait in 1990, global equities fell by about 15%, but recovered within six months.

Key signposts

Given that most of the scenarios posit a relatively sudden escalation, monitoring the risk of a conflict will be challenging. We will be focusing on:

- **North Korea:** We will be watching for evidence of its technological development. The closer the country comes to creating a nuclear-enabled intercontinental ballistic missile, the greater the risk and consequence of accidents or miscalculations. Increased signs of military readiness in the US, North Korea, South Korea, or Japan could also provide cause for concern.

- **Middle East:** Potential red flags would be raised by a proxy war in Lebanon, pitting Saudi Arabia against Iran, in addition to the conflict in Yemen, tensions in Iraq, and the spat between the Saudi-led block and Qatar. This might include the US issuing sanctions against Hezbollah. The worst-case scenario would be a direct confrontation between Saudi Arabia and Iran.
Investment ideas

Investors looking to take a more active approach to protecting their portfolios against geopolitical risk might entertain a number of ideas that could fare well both in our base-case and in our tail-risk scenario:

- **Overweight gold and silver against industrial metals:** In our base case, we believe the upside for base metals is limited and expect low real rates to support precious metals such as gold and silver. Meanwhile, any escalation of geopolitical tensions should be expected to boost the price of gold and silver, still perceived as safe-haven assets by market participants.

- **Overweight Chinese stocks against Taiwanese equities:** Taiwanese equities typically underperform in global risk-off periods, an outcome we would expect to repeat itself in the event of rising North Korea tensions given Taiwan’s highly trade-dependent market. Even in our base case we expect China to outpace Taiwan: while China’s economy is strong and its domestic liquidity healthy, Taiwan’s prospects are muted in the near term, in our view.

- **Overweight energy equities:** Should oil prices move sustainably higher, energy companies could be expected to benefit. And even in our base case, where prices remain flat, we see the average dividend yield of 6% offered by European energy firms as both attractive and safe. After a cost-cutting drive during the period of low oil prices after late 2014, free cash flows have been climbing. US energy firms meanwhile have underperformed as investors awaited assurances that the oil price can hold above USD 50/bbl. As such confidence increases, we expect a period of improved performance.
Portfolio consequences

- **Regional diversification:** Conflict in North Korea would have global implications, but would likely prove particularly severe for investors concentrated in Asia. Meanwhile, the effects of an oil-price spike on markets would differ, favoring exporters but damaging importers. Those looking to reduce exposure to these risks should look to diversify across global markets.

- **Asset class diversification:** Although equity markets would likely fall in the event of outright conflict, high-quality bonds could prove a safe haven and help shield well-diversified portfolios from losses.

- **Staying invested:** Historically, geopolitical tensions, oil-price spikes, and even military conflicts have had only short-lived effects on global equity markets. Generally, staying invested through the noise has proven more effective than attempting to trade events.
China debt crisis

China’s high growth rate, powerful state apparatus, low external debt, and closed capital account make it less susceptible to debt crises, and our base case is for its economy to continue expanding at a robust, albeit slower, pace. But debt is rising rapidly.

China’s total non-financial sector debt rose from 145% of GDP in 2007 to about 257% in 2016, and has increased by about 20 percentage points a year for the past three years. Total bank assets in China hover around 310% of GDP, nearly three times higher than the emerging market average. The Chinese government has recognized that the leverage build-up in the economy is unsustainable, and has emphasized the need to improve the “quality” of economic growth, pivoting from an economic model based on borrowing and investment to one fueled largely by domestic consumption.

The risk scenario

Credit risk is colloquially referred to in China as a “Grey Rhino,” due to its potentially uncontrollable nature. In the words of the outgoing People’s Bank of China Governor Zhou Xiaochuan, “If we’re too optimistic when things go smoothly, tensions build up, which could lead to a sharp correction, what we call a Minsky Moment. That’s what we should particularly defend against.”
We see two potential ways in which markets could grow fearful of a debt crisis in China:

The first, and most likely of the two, in our view, is for one or more smaller-scale credit crunches to emerge at a regional or sector level. Some sectors have significant overcapacity issues, and several large Chinese companies in the insurance, real estate, and aviation sectors are already showing initial signs of credit problems.

If clusters of credit defaults start to form, concerns about contagion into the wider economy could take hold if fears of default in wealth management products arise. Should this happen, the Chinese government, in our view, would likely have sufficient resources to prevent widespread contagion. But global financial market volatility could increase until the situation is contained.

A second potential route is if the government miscalculates and takes steps toward capital account liberalization that backfire and spark a renewed spell of capital outflows from the country. As in 2015, global concerns could arise about China running short of reserves and needing to significantly devalue its currency, potentially hurting companies that supply goods and commodities to the Chinese economy. Again, we believe that the government is likely to be able to contain this risk through targeted regulation, as it has before, but market concerns cannot be ruled out.

Market impact

If China starts to experience a credit event, Asian equities would likely fare worse than equities in the rest of the world. Weakness in the Chinese credit sector could spill over into the rest of Asia and raise temporary concerns about the broader health of the Asian economy, given its tight trade links to China. We would not foresee a credit event in China generating the same type of dire consequences as one in the US or Eurozone, since China has relatively low external debt (at just 13% of GDP) and overseas investors generally have limited exposure.
Top risks

Lessons from history

China debt scares in August 2015 and January 2016 demonstrated the potential global fallout from concerns about the health of China’s financial system, although in both cases Asia ex-Japan equities lagged global markets. In August 2015 Asia ex-Japan equities plunged 14.6% versus 10.4% for global equities peak to trough. In January 2016 the figures were Asia ex-Japan down 12.9% and global equities 10.6%.

Key signposts

To assess the risk of a credit event in China we will be monitoring:

– **Regulations** on shadow financing, off-balance credit, and other non-conventional forms of credit. Plans are in motion to create a ‘super-regulator’, completion would signal a new, tighter regime which, while necessary, could increase the risk of execution error and slow growth.

– **Cost of borrowing**: A rise in the cost of interbank lending would be a sign of liquidity stress and counterparty default risk. Other rates to monitor include repurchase and general collateral rates, spikes in which would indicate higher costs of funding for non-bank financial institutions and would have implications for realized borrowing costs in the wider economy.

– **The National People’s Congress** in March will set the macro targets for the economy, including GDP, fixed asset investment, and money supply growth. Any material downward revisions in these numbers will indicate a stronger desire to rebalance the economy away from investment growth, and could increase the chance of a credit shock in certain industries, which might struggle to refinance.
Investment ideas

– **Long-duration US government bonds** and **US municipal bonds** can help provide downside protection during risk-off scenarios, and tend to appreciate from a “flight to quality” during debt crises.

Portfolio consequences

– **Regional diversification**: Given that a China debt crisis is likely to be felt more keenly in Asia than in other regions, investors looking to reduce their exposure to China risk should ensure their portfolios are well-diversified across regions.

– **Staying invested**: China’s low external debt means, in our view, that most debt scares should ultimately be manageable internally. As such, the longer-term impact would likely be limited. As in 2015 and 2016, volatility could rise temporarily, but markets would likely recover as investors came to realize that the situation could ultimately be managed through targeted regulation. It is important for investors to keep a long-term focus, and use periods of market volatility to rebalance toward their strategic asset allocation.
Regional hotspots

While our “top three” risks for the year are sharply higher US interest rates, a geopolitical shock, and a China debt crisis, they represent just a few of the “known unknowns” investors will need to guard against. Any number of “unknown unknowns” could also emerge. Diversification is the best defense against them, in our view.

North America

– Rising interest rates: Higher inflation could force the Fed to hike rates quickly, potentially damaging economic growth.

– US protectionism: Uncertainty over NAFTA negotiations, and US trade policy more generally, could lead to uncertainty among trade partners and affected companies.

Europe

– Brexit – deal or no deal: The UK will need to reach a “Brexit” deal with the EU by October for it to be ratified in time for the March 2019 deadline.

– Italian elections: An inconclusive vote could result in another technocratic government or repeat elections, prolonging business and household uncertainty.

– Catalonia separatism: Protests in Catalonia over independence for the region have already affected local economic growth; it could continue.
Asia

- **North Korea tensions**: North Korea’s development of nuclear weapons has raised tensions in the region and with the US, increasing the possibility of military confrontation.

- **China debt crisis**: China’s rapid build-up of debt has been well-managed thus far, but high debt carries the risk of occasional flare-ups.

Latin America

- **Mexican general election**: A potential Lopez Obrador administration could cause Mexican assets to underperform.

- **Brazil election**: A populist victory in the presidential election could derail the progress made on reform and worsen the fiscal position.

- **Venezuela instability**: The country is restructuring its debt and is also scheduled to hold general elections, although it is uncertain whether they will take place.

Eastern Europe/MENA

- **Saudi-Iran tensions**: Increased tensions between Saudi Arabia and Iran could cause oil prices to spike if regional supplies are disrupted.

- **US Treasury report on Russia**: Sanctions remain a key topic in Russia; any new ones imposed by the US could hurt Russian assets.

- **South Africa – ANC conference**: The country is already suffering from weak growth and a high deficit, and it is unclear whether a new leader will improve or worsen matters.

Risk Monitoring

To keep yourself up-to-date with key risks through the year check out Risk radar on ubs.com/cio.
Dealing with change

We believe that investors navigating the changing context will need to demonstrate a combination of agility, balance, and calm: the agility to take advantage of the opportunities the changing context presents; the balance to manage the risks of the inevitable monetary, political, technological, environmental, and social changes that occur; and the calm to remain focused and far-sighted in an era of information overload.
Agility

The returns on active investment strategies have generally been disappointing in recent years. But market dynamics are now becoming more conducive to them. We believe 2018 will be a year in which it will pay for investors to be more agile. Monetary tightening, political flux, and technological disruption will all present opportunities.

**The returns to active investors have been disappointing**

The returns from picking out favored stocks and sectors, relative to just passively investing in rising markets, have been limited in recent years. Between 2013 and 2016, more than 93% of fund managers benchmarked against the S&P 500 failed to beat the market. Loose monetary policy around the world has prompted stock prices to move in unison, rising or falling together. From 2013 to 2016, intra-stock correlations on the S&P 500 averaged 28%, versus a long-term average of 17%. In such an environment of undifferentiated stock performance, stock and sector picking is largely ineffective.

**But market dynamics are changing**

Today, however, market dynamics are starting to favor investors looking to take advantage of specific opportunities.

The increased share of money being managed passively is creating more mispricings relative to fundamentals, providing more opportunities for investors and managers looking to create alpha. The share of equity mutual fund and exchange-traded fund (ETF) assets that are passively managed has risen in the US from 22% in 2007 to 46% by 2017, and in Europe from 11% to 35% over the same period. USD 4.3trn of assets are now invested in global ETFs, making the market more than USD 1trn larger than the entire hedge fund industry. And this has contributed to a growing valuation dispersion that investors and managers can look to exploit. The dispersion in valuation between the cheapest and most expensive stocks is wide – at the 80th percentile of its range since 1991.
Reduced monetary stimulus is also causing specific corporate and industry developments to become more prominent drivers of stock prices, further differentiating performance. The pairwise correlation of S&P 500 stocks has fallen to its lowest level in a decade, see Figure 3.1. This shift should assist investors looking to exploit fundamental differences between stocks and sectors. From 2000 to 2016, equity long-short strategies generated average annual alpha of 6.5% or more when correlation was lower than the median. This already appears to be having an effect on the returns of more active strategies. In the first half of 2017, 54% of managers surpassed their benchmarks. And as of mid-October, US equity mutual funds were up 16.7% for the year versus 15.7% for the S&P 500 index, based on data from Bank of America Merrill Lynch.

**Opportunities for investors who embrace agility**

These changing market dynamics give us confidence that the coming year will be one in which it pays to take a more agile investment stance by seizing market opportunities that arise from shifts in monetary policy, political developments, and technological change.

In particular, we believe rising interest rates could benefit the global financial sector. Political developments present opportunities in the US related to tax reform and deregulation, particularly in the financials, energy, and healthcare sectors. Meanwhile, investors can look to take advantage of technological disruption by investing in companies benefiting from longer-term trends in digital data, automation & robotics, and smart mobility. And we still see hedge funds as an important component of portfolios, particularly so in an environment where managers are in a better position to generate alpha.
Balance

Holding a well-balanced portfolio is a perennial investment strategy. But the cross-currents of monetary tightening, political flux, technological disruption, and environmental and social change make keeping your portfolio in balance of particular importance this year.

Diversification across asset classes

As our themes of monetary tightening, political flux, technological disruption, and sustainability challenges play out against a backdrop of an expanding global economy, under- or overexposure to any one asset class could leave investors at risk.

Underexposure to equities might help reduce exposure to political events, but it could leave investors poorly positioned to gain from economic growth and technological developments, jeopardizing the ability of their portfolios to keep pace with inflation.

Underexposure to fixed income might prepare a portfolio well for potentially tighter monetary policy, but would also leave investors vulnerable to sharp drawdowns in the event of extreme political shocks, such as a US-North Korea conflict, in which fixed income would likely help insulate portfolios from marked declines.

Underexposure to alternatives might not appear costly during a time when bonds and equities are diversifying one another, but it would leave portfolios at risk of much higher volatility if monetary tightening causes bonds and equities to move in tandem.

We believe that holding a balanced combination of equities, bonds, and alternatives is the best way to navigate markets.

The historical evidence

In the dotcom crash, the drawdown on US equities was 46% but was just 12% on a diversified portfolio. In 2008–2009 US stocks fell 51% with a diversified portfolio down 29%.
Diversification across regions

Regional diversification will help reduce investor exposure to monetary and political risks. We expect another year of politics dominating the headlines, and see particular political risks in Brazil, Mexico, Russia, Saudi Arabia, South Africa, Spain, and the UK, while “unknown unknown” political events could occur anywhere. Investors seeking to reduce their exposure to political uncertainty can do this relatively easily by spreading investments worldwide. The impact of political events on global markets has generally proven limited or short-lived.

Regional diversification can also help reduce monetary policy risks. The US, UK, Eurozone, Switzerland, and Japan are all at different stages in their economic and monetary policy cycles. As such, inflation or a policy mistake, if one occurs, is likely to be localized in an individual monetary regime. Investors who hold their assets across a range of monetary regimes, while hedging currency risk, lessen their exposure to potential policy errors and rising inflation.

The historical evidence

Investors concentrated in one market have probably suffered a much bumpier ride than global investors. Since global equities plumbed their post-financial crisis trough in 2009, only one G20 stock market has exhibited lower volatility than the global MSCI All Country World index. And while the global index has not suffered a bear market decline of 20% or more since 2009, 15 of the G20 countries have done so during this period.
Diversification across securities and sectors

Technological disruption, political change, and tighter monetary policy all increase idiosyncratic risks to individual securities and sectors. While this situation presents an opportunity to active managers and investors on the lookout for specific opportunities, it also raises the unwanted specter of underperformance for individual investors. Security and sector diversification can mitigate these risks. This past year has illustrated the large effect these trends can have:

- The Dow Jones Food Retail & Wholesale index fell by more than 9% the week Amazon announced it would acquire Whole Foods, signaling potential technological disruption of the food retail industry. It subsequently underperformed the broader index by a further 10% over the following four months, (see Figure 3.2).

- US Real Estate Investment Trusts (REITs) exposed to the retailing sector have underperformed broader US REITs by almost 20% year-to-date, in part due to concerns about the impact of technological disruption on the retail industry.

Any unanticipated announcement in technology, politics, and monetary policy can prompt significant portfolio underperformance for investors caught in the wrong sector or security at the wrong time. Diversification across a range of securities and sectors helps protect and grow wealth over the long term.

The historical evidence

Single securities, even of apparently safe and stable companies, are fundamentally riskier than diversified holdings. Over the past three years, no S&P 500 stock has been less volatile than the index itself (S&P volatility has been 11.6%, whereas individual stock volatility has varied between 12.6% and 80.8%).
Noise and distraction are traps always ready to ensnare investors. Maintaining a long-term focus is critical and can help boost even short-term performance.

Many investors live lives engulfed by noise thanks to our increasingly connected world. Things will be no different in the year ahead. Each of our key trends will be “noisy.” The end of easy money will bring with it numerous central bank meetings and pronouncements to analyze. Technological disruption promises new launches, mergers, and market entries. And political flux will spark reports of negotiations and elections, and plenty of tweets.

More information should enable investors to make better investment decisions, but too much information can also backfire and lead to poor decisions.

Individuals have a natural tendency to seek out information that solidifies their views and beliefs – confirmation bias. By unintentionally ignoring important data, investors base their decisions only on information that supports their existing beliefs. In addition, recency bias causes investors to inflate the importance of the latest report or figures they are privy to, and the herding instinct can result in the blind copying of what others are doing. In other words, investors may overemphasize information they already agree with, the latest media headlines, or what others are doing while disregarding fundamental analysis.

Instant access to market and portfolio data can both change an individual’s risk preferences and lead to confusion between signal and noise. Investors who check their portfolio daily or weekly are, likelier than not, merely treating themselves to a lot of noise. For example, a fund with a very good information ratio (return-to-risk ratio) of 1x has a 86% probability of delivering positive performance over the course of a year. But the probability of positive performance over a given month is just 61%, and its chance of putting up a positive number in a given day is just 52%, (see Figure 3.3). Whether returns are positive or negative in the short-term is largely down to
chance. Meanwhile, the act of checking will make investors confront losses more frequently, which can turn them more risk averse (and hence less able to earn returns over the long-term). This phenomenon is known as myopic loss aversion.

In addition, increased information and access to data can up the temptation to trade frequently. But evidence suggests that frequent trading hurts portfolios. A study by Barber and Odean (2000) found that average households turned over 75% of their equity portfolios annually, and lost ground to a buy-and-

Figure 3.3
There is almost no useful information in daily performance
Probability of a positive return for a 1x information ratio fund over a given time horizon (%)
Dealing with change

hold strategy by 1.5% per year. Our own analysis of mutual fund investors’ buy and sell decisions indicates underperformance of 0.9% annually for core equity fund investors, compared to the performance of the fund itself, between April 2007 and March 2016. Staying calm amid the blizzard of informational noise will be a key trait of successful investing in the coming year, we believe. But while awareness of the need for calm is a good start, actually behaving that way poses a greater challenge. We see three strategies private investors can use:

First, seeking out sources of information that challenge your conclusions and even your entire investing framework can help overcome confirmation and recency bias. In our investment process, we incorporate the UBS Investor Forum to allow external asset managers to challenge our views.

Second, fixing regular but infrequent times to check your portfolio can reduce your exposure to noise, which might otherwise be mistaken for a signal. Provided your investment portfolio is well balanced, there is little to be gained from checking it too regularly.

Third, it’s crucial to remain patient and disciplined. The start of the year is as good a time as any to carefully think through an investment strategy: how to allocate strategically to fulfill goals and ambitions, how much to deviate from the long-term plan to seize unexpected opportunities, how to behave in the case of drawdowns, and how frequently to rebalance. Sticking to your plan once you’ve determined it is a key part of long-term investing success. The wrong strategic allocation, portfolio drift, and, most importantly, not staying invested are among the main causes of wealth destruction over the long term.
Politics, policy, and profits

The US economic expansion has now spanned 101 months, making it the third longest of the post-war era. Meanwhile, the 350% cumulative total return for the S&P 500 generated thus far during this bull market represents the third highest in history. There are many who now openly question just how much longer each can endure.

While there is no shortage of factors that will likely affect the outcome, both the durability of the US expansion and the sustainability of the current bull market still will depend, to a large degree, on the three themes that loom large in this edition of the Year Ahead: politics, policy, and profits.

The emergence of threats in an increasingly fractious geopolitical landscape, coupled with a rancorous and divisive domestic political environment, represents formidable challenges for elected US officials. Meanwhile, a continued pivoting of monetary policy and prospects for more expansive fiscal policy alter the investment implications and reaction function for market participants. And, of course, as we progress into the mature phase of the business cycle, the ability of corporations to maintain profit growth will be critical to sustaining and extending market gains. We therefore need to explore the potential interplay and impact between all three.

Political perils
Seldom has politics played such a prominent role in discussions about the outlook for economic growth and financial market returns. On the geopolitical stage, escalating tension on the Korean peninsula, ongoing Middle East unrest, a surprising crackdown on "corruption" within Saudi Arabia, increasingly contentious trade negotiations, and greater assertiveness on the part of China all pose challenges for US policymakers.

The unconventional manner in which the current administration conducts foreign policy suggests that flare-ups in geopolitical hot spots and/or rising trade tensions could threaten both the economic outlook and market return prospects.

But domestic political dynamics may present an even less welcome development. Recent local election results hint at a backlash against the Trump administration. While care must be taken not to over-interpret these results,
Republican congressional leaders are a bit warier about their ability to maintain their majority in both houses of Congress in the upcoming mid-term elections (see Figure 4.1).

Keep in mind that markets rallied sharply following Trump’s victory last November, amid a shift in expectations of what was now possible in Washington. To the extent that the prospect of a divided government after the mid-terms threatens the pro-growth agenda, markets could well come under some short-term pressure.

But as noted in the “Political flux” section of this report, political events alone are unlikely...
to materially alter the market outlook. The US economy is showing little evidence of the sorts of imbalances and excesses that typically mark the terminal phase of the business cycle.

Just as important, the improvement in the global economy amid a somewhat more synchronized expansion further bolsters the US growth picture. What’s more, the executive branch will likely continue to make progress on its deregulatory push, regardless of the makeup of Congress. Should political events alter economic or market return prospects, they most likely will do so by markedly shifting either monetary or fiscal policy dynamics.

Policy inflections
The Federal Reserve is two years into the process of resetting interest rates, and it has also taken its first tentative steps toward normalizing its balance sheet (see Figure 4.2). All this is occurring amid the most significant turnover of the central bank’s leadership structure since the 1930s. In addition to a new chairman and vice chairman, three governors are likely to be appointed to fill currently vacant seats, and the replacement for outgoing New York Fed President Bill Dudley, who is retiring early, will be named.

These changes, coupled with the regular rotation of regional bank presidents, means that there could be as many as nine fresh faces among the twelve voting members of the Federal Open Market Committee. This leadership shift could well trigger uncertainty about the direction of monetary policy and begin to weigh on markets.

But any ratcheting up of market volatility associated with a leadership transition at the Fed is apt to prove temporary. Jay Powell, tapped by President Donald Trump to replace

![Figure 4.2](source: Federal Reserve Bank of St. Louis, as of 14 November 2017)
Janet Yellen as the next Fed chair, is a seasoned central banker whose policy views are very similar to Yellen’s – although perhaps a bit more lenient on regulatory issues.

What’s more, the Fed has evolved from a “majority of one” into a more deliberative and consensus-seeking body over the years. Since much of the expertise has become institutionalized within the Fed ranks, we look for steady stewardship and policy continuity.

As monetary stimulus wanes, many see a more expansive fiscal policy mix as filling that void. Congress is still putting the finishing touches on a tax reform plan that provides more targeted tax relief to corporations and middle-class taxpayers, while likely also raising overall government debt by about USD 1.5tr. As it stands now, the tax package will only marginally improve growth prospects – perhaps boosting GDP by an additional 0.2% in 2018. Instead, it is the impact that tax cuts might have upon the corporate profit picture that represents the biggest potential benefit to investors.

**Profit picture**

US earnings growth reaccelerated in 2017 amid improved global growth dynamics, a softening dollar, and a rebound in depressed energy sector profits (see Figure 4.3).
Although the tailwinds from the weaker greenback and firmer oil prices may fade, leading indicators suggest that earnings are still on track for solid gains this coming year thanks to healthy consumer demand and a revival of non-energy-related capital spending. Somewhat higher rates and greater lending activity should also create a more favorable environment for bank earnings.

But tax reform could well determine the difference between a solid year for earnings growth and a stellar one. We estimate that tax reform could lift S&P 500 earnings per share (EPS) by about USD 10. The combination of lower corporate income tax rates and the repatriation of nearly USD 1trn of overseas cash would provide a significant earnings boost.

In this scenario, the lower corporate tax rate would drive the bulk of the benefit, but we anticipate that repatriated foreign cash would be reinvested in opportunities with higher returns – mostly likely share buybacks – and fuel a further rise in profits. In total, these measures could raise 2018 S&P 500 EPS from our base case without any tax relief of USD 141 (+8%) to USD 151 (+15%).

**Whole new year**

While two of the three Ps – politics and policy – could threaten the economic expansion and bull market in 2018, the profit picture remains a formidable obstacle to that happening. What’s likelier is that financial markets will experience greater turbulence and perhaps more corrections than their tranquil journey in 2017. Politics and policy may not have acted as market tailwinds this past year, but they wound up being benign sources of risk. But even though the year ahead may prove more “eventful” amid policy shifts and political realignment, we retain our positive view on risk assets overall.
Equities

Entering 2018

– **Overweight global equities**: We overweight global equities as we enter the new year. Vigorous global economic expansion should drive earnings growth of 8–12%, and we expect central banks to tighten monetary policy only gradually.

– **Prefer Eurozone stocks**: Within Europe, we overweight Eurozone stocks versus UK equities. Leading Eurozone economic indicators are at multi-year highs, and the region’s companies are highly geared to an improving global economic cycle.

– **Smart beta and technology in focus**: Two of our preferred themes are US smart beta and transformational technologies.

For the long term

Although stocks can be vulnerable to short-term surprises in economic growth, monetary policy, and geopolitics, equities have proven the most effective way to increase wealth over the long term, with US equities delivering 9.6% annualized returns over the past 90 years. Returns are likely to be lower than they have been in recent years (c. 6–8%), but still superior to other asset classes.

Themes for 2018

– **US smart beta**: Diversified exposure to factors such as momentum, quality, small capitalization, low volatility, and yield can deliver long-term investment outperformance. An equally weighted portfolio of these five factors has, in the US, outperformed MSCI USA by 2.1% a year, backtested to 1998.

– **Transformational technologies**: Companies playing a key role in technological disruption can outperform the wider market, in our view. We favor US technology, a currently preferred sector, as well as making longer-term investments in automation and robotics, digital data, and smart mobility.

Equity preferences

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<td>EM Global EM (in USD)</td>
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Note: Old values as of 19 October 2017
Source: UBS as of 16 November 2017
Bonds

Entering 2018

- **Modestly higher bond yields**: We foresee a moderate increase in short and medium-term bond yields as monetary policy tightens. Longer-term yields are closer to fair value.

- **Limited value in high yield credit**: Low spreads limit US high yield upside, while yields in Europe are at an all-time low of just 3.0%.

- **We see good value in selected emerging markets**: In selected emerging markets, valuations compare favorably to other regions and should be underpinned by accelerating economic growth.

For the long term

Long-term returns are unlikely to match historical norms due to today’s extremely low yields. But muted long-term economic growth, aging populations, and regulatory pressures should provide structural support. We anticipate returns of 0–5% (depending on currency and credit risk) over the long run and believe fixed income should remain an integral part of well-diversified portfolios.

Themes for 2018

- **Select EM credits**: The global environment should still support the emerging market (EM) business and credit cycle, and we see pockets of opportunity within EM credit. An actively managed portfolio of EM sovereign and corporate bonds could yield returns of around 5% in the next 12 months, in our view.

### Fixed income preferences

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<td>Emerging market bonds</td>
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Note: Old values as of 19 October 2017
Source: UBS as of 16 November 2017
Alternatives

Entering 2018

- **Low correlation should enable alpha generation:** Correlations between stocks in the S&P 500 are at a decade-long low, and we believe the end of easy money is likely to keep them there. Low intra-stock correlations have historically spurred alpha generation.

- **Valuation dispersion creates mean-reversion opportunities:** Although the dispersion between stocks is still low, high valuation dispersion means that it could rise if markets begin to focus on relative valuations.

- **Well-positioned for tighter policy:** Hedge funds have historically outperformed other asset classes during periods of tightening monetary policy.

For the long term

We believe investors with a higher illiquidity tolerance could allocate up to 30% to non-traditional markets as a whole. Adding hedge funds can help improve the returns and lessen the volatility of an equity-bond-only portfolio.

We also expect private markets to earn superior returns to public markets over the long term due to illiquidity premia. Diversification across managers and styles is key to stabilizing returns and reducing single-manager risk.

**Highest conviction**

We continue to recommend strategies that follow differentiated investment approach with low directionality and that seek to generate returns uncorrelated to those of traditional markets. Meanwhile we also see value in selected equity event driven strategies.
Currencies

Entering 2018

– **High-beta currencies to outperform safe havens:** The positive global growth environment should generally favor “risk-on” currencies (e.g. the SEK, EUR, and EM) over the “safe havens” (the CHF, JPY, USD).

– **Volatility likely to rise:** Uncertainty over the pace and sequencing of central bank moves toward tighter monetary policy will likely result in higher currency volatility.

For the long term

While investors can benefit from foreign exchange movements in the short term, i.e. three to six months, we find that within the G10 universe the return of carry trades does not compensate them for currency risk. Currency exposure also fails to reward equity or bond investors with additional returns over the long run.

**FX strategy**

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Note: Old values as of 19 October 2017
Source: UBS as of 16 November 2017
Highest convictions

Within our FX strategy, we enter the new year with two open positions:

- **Overweight SEK versus NOK**: The Swedish krona is our top pick over the next 12 months. Sweden’s vigorous economic growth and rising inflation should lead to rate hikes that support the SEK. Meanwhile, we believe Norway’s weak housing market and falling inflation mean rates there will remain on hold, and negatively affect the NOK.

- **Overweight CAD versus USD**: We are positive on the Canadian dollar. We see the Bank of Canada at least matching the US Federal Reserve’s pace of rate hikes, given Canada’s robust growth and rising wages. Current real swap spreads indicate that the CAD should trade stronger, and we also consider it undervalued relative to the US dollar on purchasing power parity.

Currency-by-currency views

- **US dollar**: We foresee the greenback trading moderately weaker next year. Tax reforms provide some near-term potential support, but longer term the twin US current account and fiscal deficits are likely to hurt the currency.

- **Euro**: Solid Eurozone growth, rising trust in the European Central Bank’s ability to manage political risks, a high and rising current account surplus, and only moderate US rate hikes should underpin the euro through the coming year and beyond.

- **Swiss franc**: We expect the franc to weaken moderately against the euro, as stronger global growth reduces the demand for the safe-haven currency.

- **British pound**: The pound will remain flat against the dollar, in our view, while weakening against the euro. The recent UK interest rate hike should bolster sterling in the near term, but a sputtering economy and Brexit uncertainty are longer-term drags.

- **Japanese yen**: The Bank of Japan could end the coming year as the only central bank still engaged in quantitative easing, which suggests a weaker yen. The extent of yen downside will depend on the pace of US rate hikes.
Commodities

Entering 2018

– **A good start**: Vigorous global economic activity across all regions should buoy commodity demand and prices in the first half of the year. Demand growth for oil is above trend, and reduced industrial metals output in China should underpin prices.

– **A weaker finish**: We expect first-half gains to evaporate by year-end. Greater demand for oil is likely to be more than offset by increased output in the Americas and from OPEC in the second half.

For the long term

We do not hold an allocation to commodities in our strategic asset allocation since diversified commodity indexes have failed to sufficiently compensate investors for their volatility over the long run.

Highest conviction

Firm demand growth and ongoing supply challenges should support higher copper and aluminum prices in 2018. Aluminum production closures in China have the potential to tighten the market particularly firmly. Meanwhile, gold and silver prices should be supported by a weaker USD and renewed inflation pressure. Negative real rates in the US favor higher precious metal prices.

Commodity-by-commodity

– **Oil**: We expect oil prices to peak early in the year. While demand growth remains above trend, it will be more than offset by increased output in the Americas and from OPEC in the second half of the year. We forecast Brent at USD 57/bbl in 12 months.

– **Industrial metals**: Reduced output in China and greater industrial demand should lift industrial metal prices. Since supply curbs affect some metals more than others, outcomes will vary.

– **Gold**: Monetary tightening and global growth will challenge gold prices. But geopolitical uncertainty, higher inflation, and a weaker dollar should underpin demand, particularly in 2H18. We forecast the gold price at USD 1,325/oz. in 12 months.

– **Agriculture**: We believe agriculture prices are bottoming out. Inventory-to-consumption ratios have peaked, in our estimate, and we think weather risks have risen alongside the increased likelihood of a La Niña event.
## Economic forecasts

### GDP growth (%)

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Note: Inflation data based on 4Q/4Q % change. GDP data based on annual % change. See appendix for additional information on CIO economic forecasts.

Source: UBS, as of 20 November 2017

### Inflation (%)

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<td>2.1</td>
</tr>
<tr>
<td>Russia</td>
<td>5.4</td>
<td>3.0</td>
<td>4.2</td>
<td>4.0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>–0.4</td>
<td>0.5</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>2.1</td>
<td>1.5</td>
<td>2.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Japan</td>
<td>0.1</td>
<td>0.8</td>
<td>1.5</td>
<td>3.4</td>
</tr>
<tr>
<td>India</td>
<td>3.6</td>
<td>4.4</td>
<td>4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>South Korea</td>
<td>1.3</td>
<td>2.0</td>
<td>2.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Advanced economies</td>
<td>1.4</td>
<td>1.5</td>
<td>1.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Emerging markets</td>
<td>3.9</td>
<td>3.3</td>
<td>3.4</td>
<td>3.2</td>
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<tr>
<td>World</td>
<td>2.8</td>
<td>2.5</td>
<td>2.7</td>
<td>2.8</td>
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</tbody>
</table>

### Rates and bonds

#### Base rates

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>End-2017</th>
<th>End-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USD</strong></td>
<td>1.00–1.25</td>
<td>1.25–1.50</td>
<td>1.75–2.00</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>–0.40</td>
<td>–0.40</td>
<td>–0.40</td>
</tr>
<tr>
<td><strong>CHF</strong></td>
<td>–0.75</td>
<td>–0.75</td>
<td>–0.50</td>
</tr>
<tr>
<td><strong>GBP</strong></td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>JPY</strong></td>
<td>–0.05</td>
<td>–0.05</td>
<td>–0.05</td>
</tr>
</tbody>
</table>

#### 10-year yields (%)

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>6m</th>
<th>12m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USD</strong></td>
<td>2.36</td>
<td>2.50</td>
<td>2.50</td>
</tr>
<tr>
<td><strong>EUR</strong></td>
<td>0.36</td>
<td>0.60</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>CHF</strong></td>
<td>–0.16</td>
<td>0.00</td>
<td>0.10</td>
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<tr>
<td><strong>GBP</strong></td>
<td>1.29</td>
<td>1.50</td>
<td>1.70</td>
</tr>
<tr>
<td><strong>JPY</strong></td>
<td>0.03</td>
<td>0.15</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Source: UBS, as of 21 November 2017

Year Ahead 2018 – UBS House View
**Commodities**

<table>
<thead>
<tr>
<th></th>
<th>Spot</th>
<th>6 month</th>
<th>12 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brent crude oil (USD/bbl)</td>
<td>62.0</td>
<td>57.0</td>
<td>57.0</td>
</tr>
<tr>
<td>WTI crude oil (USD/bbl)</td>
<td>56.2</td>
<td>53.0</td>
<td>53.0</td>
</tr>
<tr>
<td>Gold (USD/oz)</td>
<td>1,288</td>
<td>1,250</td>
<td>1,325</td>
</tr>
<tr>
<td>Silver (USD/oz)</td>
<td>17.0</td>
<td>17.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Copper (USD/mt)</td>
<td>6,777</td>
<td>7,100</td>
<td>7,100</td>
</tr>
</tbody>
</table>

Source: UBS, as of 20 November 2017

**Currencies**

**Developed market**

<table>
<thead>
<tr>
<th></th>
<th>Spot</th>
<th>6 month</th>
<th>12 month</th>
<th>PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EURUSD</td>
<td>1.18</td>
<td>1.22</td>
<td>1.25</td>
<td>1.26</td>
</tr>
<tr>
<td>USDJPY</td>
<td>112</td>
<td>115</td>
<td>115</td>
<td>76</td>
</tr>
<tr>
<td>GBPUSD</td>
<td>1.32</td>
<td>1.36</td>
<td>1.36</td>
<td>1.59</td>
</tr>
<tr>
<td>USDCNF</td>
<td>0.99</td>
<td>0.97</td>
<td>0.95</td>
<td>0.96</td>
</tr>
<tr>
<td>EURCHF</td>
<td>1.17</td>
<td>1.18</td>
<td>1.19</td>
<td>1.21</td>
</tr>
<tr>
<td>EURGBP</td>
<td>0.89</td>
<td>0.90</td>
<td>0.92</td>
<td>0.80</td>
</tr>
<tr>
<td>AUDUSD</td>
<td>0.76</td>
<td>0.79</td>
<td>0.79</td>
<td>0.70</td>
</tr>
<tr>
<td>USDCAD</td>
<td>1.28</td>
<td>1.20</td>
<td>1.20</td>
<td>1.19</td>
</tr>
<tr>
<td>EURSEK</td>
<td>9.97</td>
<td>9.20</td>
<td>9.20</td>
<td>9.06</td>
</tr>
<tr>
<td>EURNOK</td>
<td>9.75</td>
<td>9.60</td>
<td>9.80</td>
<td>9.95</td>
</tr>
</tbody>
</table>

Source: UBS, as of 20 November 2017

**Emerging market**

<table>
<thead>
<tr>
<th></th>
<th>Spot</th>
<th>6 month</th>
<th>12 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDCNY</td>
<td>6.64</td>
<td>6.55</td>
<td>6.50</td>
</tr>
<tr>
<td>USDIDR</td>
<td>13,529</td>
<td>13,500</td>
<td>13,500</td>
</tr>
<tr>
<td>USDINR</td>
<td>65.00</td>
<td>64.00</td>
<td>64.00</td>
</tr>
<tr>
<td>USDKRW</td>
<td>1,100</td>
<td>1,080</td>
<td>1,060</td>
</tr>
<tr>
<td>USDRUB</td>
<td>59.40</td>
<td>58.00</td>
<td>55.00</td>
</tr>
<tr>
<td>USDTRY</td>
<td>3.90</td>
<td>3.60</td>
<td>3.80</td>
</tr>
<tr>
<td>USDBRL</td>
<td>3.26</td>
<td>3.00</td>
<td>2.90</td>
</tr>
<tr>
<td>USDMXN</td>
<td>19.00</td>
<td>18.50</td>
<td>19.00</td>
</tr>
</tbody>
</table>

Source: UBS, as of 20 November 2017
### Key events

#### 2017

<table>
<thead>
<tr>
<th>Nov</th>
<th>December 30, OPEC meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec</td>
<td>December 8, US debt ceiling</td>
</tr>
<tr>
<td></td>
<td>December 13, FOMC meeting</td>
</tr>
<tr>
<td></td>
<td>December 14, ECB meeting</td>
</tr>
<tr>
<td></td>
<td>Dec. 14, US Congress’ deadline for Iran’s Nuclear Deal</td>
</tr>
</tbody>
</table>

#### 2018

<table>
<thead>
<tr>
<th>Jan</th>
<th>Jan. 23–26, 48th World Economic Forum Annual Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>January 23, BoJ meeting</td>
</tr>
<tr>
<td></td>
<td>January 25, ECB meeting</td>
</tr>
<tr>
<td></td>
<td>January 31, FOMC meeting</td>
</tr>
<tr>
<td>Feb</td>
<td>February 8, BoE meeting</td>
</tr>
<tr>
<td>Mar</td>
<td>March 8, ECB meeting</td>
</tr>
<tr>
<td></td>
<td>March 9, BoJ meeting</td>
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<tr>
<td></td>
<td>March 13–15, World Economic Forum on Latin America</td>
</tr>
<tr>
<td></td>
<td>March 21, FOMC meeting</td>
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<tr>
<td></td>
<td>March 22, BoE meeting</td>
</tr>
<tr>
<td></td>
<td>Late March, Italian general election</td>
</tr>
<tr>
<td>Apr</td>
<td>April 26, ECB meeting</td>
</tr>
<tr>
<td></td>
<td>April 27, BoJ meeting</td>
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<tr>
<td>May</td>
<td>May 2, FOMC meeting</td>
</tr>
<tr>
<td></td>
<td>May 10, BoE meeting</td>
</tr>
<tr>
<td>Jul</td>
<td>July 1, Mexican general election</td>
</tr>
<tr>
<td>Sept</td>
<td>September 13, ECB meeting (currently expected to end QE)</td>
</tr>
<tr>
<td>Oct</td>
<td>October, Deadline to agree Brexit negotiations</td>
</tr>
<tr>
<td>Nov</td>
<td>November 6, US mid-term elections</td>
</tr>
</tbody>
</table>

### Risk categories

- Central bank policy
- Chinese credit crunch
- Emerging Markets politics
- European politics
- Geopolitics
- Rising protectionism
- Trumponomics
- United States politics

### Ongoing monitoring

#### Central bank policy
- Statements by key central bank members
- Inflation-related data (e.g. CPI, wage growth, unemployment)

#### Chinese credit crunch
- PMIs and industrial production
- Fixed asset and infrastructure investments
- FX reserves

#### European politics
- Brexit negotiations
- Catalanon independence
- Italian general election
- EU refugee crisis

#### Geopolitics
- US-China relations (e.g. One China policy, South China Sea)
- Geopolitics – other than US-China relations (e.g. Middle East)
- Cyber attacks
- Sanctions (e.g. Russia, Iran)

#### Rising protectionism
- Negotiation on new and existing free trade agreements (e.g. NAFTA)
- New tariffs on goods and services (e.g. 45% tariff on Chinese goods)
- EU-UK negotiation

#### Trumponomics
- Trump policy with respect to:
  1) Tax reform
  2) Regulatory relief
  3) Fiscal spending
  4) Global engagement
Year Ahead 2018 – UBS House View
This report has been prepared by UBS AG, UBS Switzerland AG and UBS Financial Services Inc. (“UBS FS”).

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This report contains statements that constitute “forward-looking statements,” including but not limited to statements relating to the current and expected state of the securities market and capital market assumptions. While these forward-looking statements represent our judgments and future expectations concerning the matters discussed in this document, a number of risks, uncertainties, changes in the market, and other important factors could cause actual developments and results to differ materially from our expectations. These factors include, but are not limited to (1) the extent and nature of future developments in the US market and in other market segments; (2) other market and macro-economic developments, including movements in local and international securities markets, credit spreads, currency exchange rates and interest rates, whether or not arising directly or indirectly from the current market crisis; (3) the impact of these developments on other markets and asset classes. UBS is not under any obligation to (and expressly disclaims any such obligation to) update or alter its forward-looking statements whether as a result of new information, future events, or otherwise.

Explanations about asset classes

Sources of strategic asset allocations and investor risk profiles
Strategic asset allocations represent the longer-term allocation of assets that is deemed suitable for a particular investor.

The strategic asset allocations are provided for illustrative purposes only for hypothetical US investors. In general, strategic asset allocations will differ among investors according to their individual circumstances, risk tolerance, return objectives and time horizon. Therefore, the strategic asset allocations in this publication may not be suitable for all investors or investment goals and should not be used as the sole basis of any investment decision. Minimum net worth requirements may apply to allocations to non-traditional assets. As always, please consult your UBS Financial Advisor to see how these weightings should be applied or modified according to your individual profile and investment goals.

Deviations from strategic asset allocation or benchmark allocation
The recommended tactical deviations from the strategic asset allocation or benchmark allocation reflect the short- to medium-term assessment of market opportunities and risks. Positive/zero/negative tactical deviations correspond to an overweight/neutral/underweight stance for each respective asset class and market segment relative to their strategic allocation.

Asset allocation does not assure profits or prevent against losses from an investment portfolio or accounts in a declining market.
Equities - Stock market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables.

Fixed income - Bond market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables. Corporate bonds are subject to a number of risks, including credit risk, interest rate risk, liquidity risk, and event risk. Though historical default rates are low on investment grade corporate bonds, perceived adverse changes in the credit quality of an issuer may negatively affect the market value of securities. As interest rates rise, the value of a fixed coupon security will likely decline. Bonds are subject to market value fluctuations, given changes in the level of interest rates. For example, if interest rates rise, the value of these securities could decline. If preferred stocks are sold prior to maturity, price and yield may vary. Adverse changes in the credit quality of the issuer may negatively affect the market value of the securities. Most preferred securities may be redeemed at par after five years. If this occurs, holders of the securities may be faced with a reinvestment decision at lower future rates. Preferred stocks are also subject to other risks, including illiquidity and certain special redemption provisions.

Municipal bonds - Although historical default rates are very low, all municipal bonds carry credit risk, with the degree of risk largely following the particular bond’s sector. Additionally, all municipal bonds feature valuation, return, and liquidity risk. Valuation tends to follow internal and external factors, including the level of interest rates, bond ratings, supply factors, and media reporting. These can be difficult or impossible to project accurately. Also, most municipal bonds are callable and/or subject to earlier than expected redemption, which can reduce an investor’s total return. Because of the large number of municipal issuers and credit structures, not all bonds can be easily or quickly sold on the open market.

Preferred securities - Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning preferred stocks. Preferred stocks are subject to market value fluctuations, given changes in the level of interest rates. For example, if interest rates rise, the value of these securities could decline. If preferred stocks are sold prior to maturity, price and yield may vary. Adverse changes in the credit quality of the issuer may negatively affect the market value of the securities. Most preferred securities may be redeemed at par after five years. If this occurs, holders of the securities may be faced with a reinvestment decision at lower future rates. Preferred stocks are also subject to other risks, including illiquidity and certain special redemption provisions.

Emerging Market Investments
Investors should be aware that Emerging Market assets are subject to, among others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and sociopolitical risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. CIO Americas, WM generally recommends only those securities it believes have been registered under Federal US registration rules (Section 12 of the Securities Exchange Act of 1934) and individual State registration rules (commonly known as “Blue Sky” laws). Prospective investors should be aware that to the extent permitted under US law, CIO Americas, WM may from time to time recommend bonds that are not registered under US or State securities laws. These bonds may be issued in jurisdictions where the

Appendix

Scale for tactical deviation charts

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description/Definition</th>
<th>Symbol</th>
<th>Description/Definition</th>
<th>Symbol</th>
<th>Description/Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>moderate overweight vs. benchmark</td>
<td>-</td>
<td>moderate underweight vs. benchmark</td>
<td>n</td>
<td>neutral, i.e., on benchmark</td>
</tr>
<tr>
<td>++</td>
<td>overweight vs. benchmark</td>
<td>--</td>
<td>underweight vs. benchmark</td>
<td>n/a</td>
<td>not applicable</td>
</tr>
<tr>
<td>+++</td>
<td>strong overweight vs. benchmark</td>
<td>-- --</td>
<td>strong underweight vs. benchmark</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: UBS

Statement of risk

Emerging Market Investments
Investors should be aware that Emerging Market assets are subject to, among others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and sociopolitical risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. CIO Americas, WM generally recommends only those securities it believes have been registered under Federal US registration rules (Section 12 of the Securities Exchange Act of 1934) and individual State registration rules (commonly known as “Blue Sky” laws). Prospective investors should be aware that to the extent permitted under US law, CIO Americas, WM may from time to time recommend bonds that are not registered under US or State securities laws. These bonds may be issued in jurisdictions where the
level of required disclosures to be made by issuers is not as frequent or complete as that required by US laws.


Investors interested in holding bonds for a longer period are advised to select the bonds of those sovereigns with the highest credit ratings (in the investment-grade band). Such an approach should decrease the risk that an investor could end up holding bonds on which the sovereign has defaulted. Subinvestment-grade bonds are recommended only for clients with a higher risk tolerance and who seek to hold higher-yielding bonds for shorter periods only.

Nontraditional Assets

Nontraditional asset classes are alternative investments that include hedge funds, private equity, real estate, and managed futures (collectively, alternative investments). Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments; there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund, and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- **Hedge Fund Risk:** There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, “junk bonds,” derivatives, distressed securities, non-US securities and illiquid investments.
- **Managed Futures:** There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- **Real Estate:** There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- **Private Equity:** There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- **Foreign Exchange/Currency Risk:** Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in US dollars, changes in the exchange rate between the US dollar and the issuer’s “home” currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a US investor.

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