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Editors:

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Introduction

Risk assets performed well in 2017 as the combination of strong economic growth and low inflation helped drive financial markets. Additional supporting factors were a rally in oil prices and a softer US dollar, which particularly helped the emerging markets to enjoy a year of outperformance. Enthusiasm for technology also continued to play its part with some of this spilling over into the extraordinary rise of bitcoin.

It was all a far cry from the caution that greeted the start of 2017, when investors were fretting about populist politics. President Trump was about to take office in the US. At the same time, Europe faced a series of national elections, which threatened to reflect the rise in scepticism toward the EU seen in the Brexit vote. In the event, none of the worst case political scenarios played out, markets were able to focus on the synchronised recovery in global growth (see Review of 2017).

That does not mean that politics does not matter. Markets would have performed differently had President Trump started a trade war with China, or Marine Le Pen had become president of France, for example. Indeed, we think political risk could return in 2018. The general election in Italy and ongoing Brexit issues in the UK will be in focus, but the risk is more in the US than Europe in our view. The mid-term elections threaten to return Washington to grid lock unless the president's approval rating and hence the standing of the Republican party materially improves.

The "return of political risk" is one of our themes for 2018. Another is "goldilocks gives way to reflation" where we see the low inflation-strong growth environment being replaced by a more conventional reflation environment. Growth continues but central banks are likely to be more active. Monetary policy is also set to be a focus in our third theme: "the long farewell to quantitative easing". The Federal Reserve (Fed) has already started to reduce its balance sheet, while the European Central Bank (ECB) is expected to have finished its asset purchase programme by the end of September this year. Although the Bank of Japan (BoJ) will continue to intervene, overall global liquidity growth is set to slow significantly over the next two years (see Strategy note).

For investors the key question will be to what extent these themes undermine markets through increased risk premia as potentially higher bond yields have a knock-on effect to equity valuations. The behaviour of inflation will be critical; central banks have focused on a slow normalisation of policy, but there is a risk that inflation will force their hands to be more aggressive. The US will be in focus in this respect, but do not rule out a pick up in euro area wage inflation where the Phillips curve seems to be intact (see Research note).

Our asset allocation remains biased toward equities and emerging markets and we are generally short duration in our bond portfolios. We are still focused on the growth improvements which have led the rally in 2017. However, we would expect to fade this through 2018 as our themes play out.

Keith Wade

Chief Economist and Strategist, 8th January 2017

Asset allocation views: Multi-Asset Group

Global overview

Economic overview

We are upgrading our global growth forecast for 2018 to 3.3%, which marks a modest acceleration from 2017. Improving global trade and looser fiscal policy in the US account for much of this and, if our forecast is correct, 2018 will be the strongest year for global growth since 2011. The strength in activity in 2018 is eventually likely to lead to a pick-up in inflation. We forecast inflation at 2.3% in 2018, an outcome reinforced by higher oil and commodity prices.

Meanwhile, the global growth upgrade for 2018 is reflected across advanced and emerging economies. The US upgrade is driven by looser fiscal policy given the approval of tax cuts by Congress. For the eurozone, growth has also been revised up following the robust outturn in the surveys. Over in the emerging markets, upward revisions to developed market forecasts also prompt upgrades for 2018 on better trade growth expectations.

In terms of our scenarios, we see a significant swing away from deflation towards more reflationary outcomes. The recent strength of activity has raised the prospect of a “global trade boom” beyond that seen in the central case. Alongside this scenario is “fiscal reflation” where we see a greater fiscal boost than in the base case.

Central bank policy

For the US, we expect the Fed to hike rates three times in 2018, taking the interest rate to 2.25%. We also assume that the ECB ends quantitative easing (QE) in September 2018. In Japan, we believe that yield curve control (YCC) continues. Over in the emerging markets, we think that the disinflation seen in 2017 has largely run its course. Consequently, we see limited room for additional easing in 2018, though we revise rates lower in Brazil and Russia to reflect action and comments from their central banks since last quarter.

Implications for markets

Looking at our asset class views, we remain positive on equities. The synchronised strengthening in global growth is translating into better earnings. This coupled with expectations that global liquidity conditions are to remain accommodative, despite policy tightening by the key central banks, suggests a positive backdrop for equities.

Within equities, we expect pro-cyclical markets like Japan and emerging markets to offer marginally higher upside potential than the global index. Stronger global growth and trade should benefit the emerging world. This market also offers a valuation discount versus their developed peers. Furthermore, a relatively benign dollar environment provides an opportunity for the region to outperform.

Over in Japan, we have stayed positive as Japanese equities are exhibiting strong earnings growth. This has been underscored by the competitive margins of domestic corporates and solid growth momentum behind the economy. By contrast, we have downgraded European equities to deliver a similar return to the global market. We expect the pace of European earnings growth to moderate due to the increased headwinds from the stronger euro, particularly with the ECB tapering QE further this year.

On the US and Pacific ex Japan, we expect these markets to perform in-line with global equities. Despite elevated valuations, US equities remain competitive due to strong earnings momentum and the fiscal stimulus package is likely to provide a substantial boost to corporate earnings. However, the normalisation of monetary policy by the Fed is likely to put a squeeze on corporate margins and profitability.

Meanwhile, we have downgraded UK equities to neutral territory against a backdrop where the domestic economy is faced with a challenging growth and inflation trade-off. The latter has led to higher input costs for UK corporates, which has put pressure on profit margins. Uncertainty over the Brexit negotiations has also led to swings in the currency. Without a strong tailwind from currency weakness, the market is lacking the catalyst to drive outperformance.

With regard to the duration view, we remain negative on government bonds. Bond valuations are still unattractive at current levels and our cyclical indicators continue to point towards a macro environment where government bonds could perform poorly. We also believe that the asset class remains vulnerable to shifts in expectations as markets are discounting little of policy tightening by the key central banks in the developed world.

Among the bond markets, we are negative on US Treasuries and German Bunds but neutral on UK gilts and Japanese government bonds (JGBs). We are also neutral on emerging market debt (EMD) bonds denominated in USD. Instead, we prefer EMD local currency bonds where there remains sufficient carry in the EMD curve to be positive on this market.

Turning to credit markets, we have become more constructive on high yield (HY) but remain negative on investment grade (IG) bonds. For high yield, solid earnings growth supports interest coverage and provides some buffer for the low rates of default to persist. In addition, the combination of loose liquidity conditions and the positive growth environment could continue to support this sector. In comparison, investment grade bonds are more interest rate sensitive and have a lower carry cushion compared to high yield.

On the broad commodity complex, we remain positive given the stronger cyclical environment and ongoing supply-side discipline amongst certain commodity segments. On energy, we have stayed positive as we expect the carry from a backwardated curve to deliver positive returns. In contrast, we have downgraded gold to negative as it is looking expensive compared to real rates. In addition, gold positioning is looking increasingly extended relative to price performance. Meanwhile, we remain neutral on industrial metals. After a strong performance in 2017, provided Chinese growth remains well supported, we would expect positive but more muted returns from industrial metals this year. On agriculture, we have retained a neutral stance. Prices continue to reflect high levels of global stocks and better than expected weather conditions in 2017 have further added to the glut in the market.

Table 1: Asset allocation grid – summary

Equity	+	Bonds	-		Alternatives	+	Cash	0	
Region		Region		Sector		Sector			
US	+	US Treasury	-	Government	-	UK property	-	EU property	+
Europe ex UK	+ (++)	UK gilts	0	Index-Linked	+	Commodities	+		
UK	0 (+)	Eurozone Bunds	-	Investment grade corporate	-	Gold	- (0)		
Pacific ex Japan	+	Emerging market debt (USD)	0 (-)	High yield	+(0)				
Japan	++	Emerging market debt (local currency)	+(0)						
Emerging Markets	++								

Key: +/- market expected to outperform/underperform (maximum ++ to minimum - -) 0 indicates a neutral position.

Note: The above asset allocation is for illustrative purposes only. Actual client portfolios will vary according to mandate, benchmark, risk profile and the availability and riskiness of individual asset classes in different regions. For alternatives, due to the illiquid nature of the asset class, there will be limitations in implementing these views in client portfolios. Last quarter's GMP positioning in brackets. The scores for equities this quarter have been adjusted upwards to reflect the revised scoring framework which uses returns relative to cash, making scoring consistent across different markets. These do not reflect upgrades in our outlook. The views for government bonds and commodities are based on return relative to cash in local currency. The views on corporate bonds and high yield are based on credit spreads (i.e. duration-hedged). Source: Schroders, January 2018.

Regional equity views

Key points

+ Equities	
+ US	<p>Despite elevated valuations, US equities remain competitive due to strong earnings momentum. Meanwhile, the approval of the fiscal stimulus package such as corporate tax cuts is likely to provide a substantial boost to corporate earnings.</p> <p>On the other hand, the normalisation of monetary policy by the Fed is likely to put a squeeze on corporate margins and profitability. Overall, we expect US equities to deliver a similar return to global equities.</p>
0 (+) UK	<p>We have downgraded UK equities to neutral territory against a backdrop where the domestic economy is faced with a challenging growth and inflation trade-off. The latter has led to higher input costs for UK corporates, which has put pressure on profit margins. At the same time, analysts have been revising down their earnings estimates on this market.</p> <p>Importantly, uncertainty over the Brexit negotiations has led to swings in the currency. Without a strong tailwind from currency weakness, the market is lacking the catalyst to drive outperformance particularly given that UK multinationals dominate the FTSE 100 index.</p>
+ (++) Europe ex UK	<p>Over the quarter, we have downgraded European equities to perform in-line with the global market. From a valuation perspective, the region still offers better value compared to other markets. Furthermore, the strength in the domestic economy has led us to upgrade the region's growth prospects.</p> <p>However, we expect the pace of European earnings growth to moderate due to the increased headwinds from the stronger euro, particularly with the ECB tapering QE further this year.</p>
++ Japan	<p>Not only are Japanese equities exhibiting strong earnings growth, this market has one of the strongest earnings revisions ratios globally. This has been underscored by the competitive margins of domestic corporates and solid growth momentum behind the economy.</p> <p>Japanese equities provide exposure to attractive valuations compared to history and other markets. This region also stands to benefit from an environment where the yen weakens, as a result of the BoJ retaining very accommodative monetary policy.</p>
+ Pacific ex Japan (Australia, New Zealand, Hong Kong and Singapore)	<p>We expect Pacific ex Japan equities, specifically the Australian and Hong Kong markets, to perform in-line with global equities. Australian equity valuations appear reasonable but earnings momentum has eased along with the softer outturn in the economic data. For Hong Kong equities, the strong price momentum behind the market has been overshadowed by less compelling valuations. In comparison, we expect Singapore equities to outperform the global index given attractive valuations and stronger earnings.</p>
++ Emerging Markets	<p>Emerging equities continue to offer a valuation discount versus their developed peers. Moreover, emerging markets provide exposure to cyclical growth against a backdrop of stronger global activity and trade.</p> <p>Furthermore, a relatively benign dollar environment provides an opportunity for the region to outperform.</p>

Note: The scores for equities this quarter have been adjusted upwards to reflect the revised scoring framework which uses returns relative to cash, making scoring consistent across different markets. These do not reflect upgrades in our outlook.

Key: +/- market expected to outperform/underperform (maximum ++ minimum -) 0 indicates a neutral position.

Fixed income views

Key points

Bonds		
-	Government	<p>We remain negative on government bonds. Bond valuations are still unattractive at current levels with real yields for the key developed markets either close to zero or negative. Our cyclical indicators continue to point towards a macro environment where government bonds could perform poorly. We are also of the view that this asset class remains vulnerable to shifts in expectations as markets are discounting little of policy tightening by the key central banks in the developed world.</p> <p>On US Treasuries, we have retained an underweight position. Treasuries continue to look rich on valuation grounds through a combination of negative term premium, under-priced inflation expectations and low market pricing of rate hikes by the Fed over 2018.</p> <p>Similarly, we are negative on German Bunds as the strong domestic growth picture continues to put pressure on the ECB to reduce policy accommodation. Moreover, we expect the ECB to end QE by the end of September.</p> <p>Meanwhile, we have stayed neutral on UK gilts. The outturn in the economic data has been a mixed bag, while there remains uncertainty over Brexit negotiations. Hence, we prefer to remain on the side-lines with regards to UK gilts. On JGBs, we have kept our neutral positioning as the BoJ is expected to keep rates on hold and yields at the long-end well-anchored.</p>
-	Investment Grade (IG) Corporate	<p>We remain negative on US IG bonds given unconvincing valuations and deteriorating fundamentals, which are exposed to greater sensitivity to higher rate expectations.</p> <p>European IG spreads are highly correlated with the US such that we are also negative on this segment. Moreover, we continue to hold a cautious view due to unattractive valuations and the prospect of further reduction of asset purchases by the ECB this year.</p>
+ (0)	High yield (HY)	<p>Valuations have continued to be eroded with the tightening in US high yield spreads. However, solid earnings growth supports interest coverage and provides some buffer for the low rates of default to persist. In addition, the combination of loose liquidity conditions and the positive growth environment could continue to support this sector. Hence, we have become positive on US HY.</p> <p>In a similar vein, we have upgraded European HY to a neutral score. While fundamental metrics appear more supportive in Europe in the US, spread compression has been overly dependent on ECB accommodative policy.</p>
0 (-)	EMD USD-denominated	<p>We have turned more constructive on emerging market debt bonds denominated in USD. While the cyclical tailwinds of lower inflation and further central bank easing are fading within the region, emerging market fundamentals have been improving with the synchronised recovery in global growth and trade. Overall, we prefer EMD local currency bonds where there remains sufficient carry in the EMD curve to be positive on this market.</p>
+ (0)	EMD local currency-denominated	
+	Index-linked	<p>In the US, underlying inflation trends should remain supported by the recovery in growth and the prospect of higher wages. Meanwhile, low inflation expectations have meant that there is better valuation support for breakeven inflation rates.</p>

Note: The views for government bonds are based on return relative to cash in local currency. The views for corporate bonds and high yield are based on credit spreads (i.e. duration-hedged). Key: +/- market expected to outperform/underperform (maximum ++ minimum --) 0 indicates a neutral position.

Alternatives views

Key points

+ Alternatives	
+ Commodities	<p>On the broad commodity complex, we remain positive given the stronger cyclical environment and on-going supply-side discipline among certain commodity segments. On the energy sector, we have stayed positive. The extension of the OPEC deal to maintain its current production cuts, until the end of 2018, has removed a major risk from the market. We expect spot prices to remain broadly range bound. With energy curves in backwardation, we expect positive total returns due to the positive carry.</p> <p>On agriculture, we have retained a neutral stance. Prices continue to reflect high levels of global stocks and better than expected weather conditions in 2017 have further added to the glut in the market. At some point, we believe that supply will begin to respond to these low prices, although not enough to offset the high negative carry.</p> <p>We remain neutral on industrial metals. Industrial metals have been the stand-out performer in 2017 as robust Chinese growth and greater supply discipline have led to large returns. Provided Chinese growth remains well supported we would expect positive, but more muted returns from industrial metals this year. Meanwhile, strong supply discipline has meant that the sector is broadly balanced to a small deficit going forward.</p> <p>On gold, we have turned negative. While we expect real rates to remain range bound, we are concerned that there is a disconnect between the pricing of gold and real rates. On this basis, unless real rates fall, gold is looking expensive. In addition, the positioning of gold ETF (Exchange-Traded Fund) is looking increasingly extended relative to price performance.</p>
- UK Property	<p>Although total UK investment transactions were around £60 billion in 2017, in-line with the average in recent years, demand is uneven in two respects. Firstly, while there is good investor demand for office and industrial assets, there is limited interest in most retail assets. Secondly, the London office investment market has recently been driven by private investors from overseas, who accounted for over half of deals by value last year. While there are no immediate signs that their appetite is waning, the government's proposal to impose capital gains tax on foreign-owned commercial real estate from April 2019 (foreign pension funds and REITs will still be exempt) could unsettle the London retail and office investment markets.</p> <p>After a good performance in 2017, we expect all property total returns this year to be in the low single digits. However, it is important to note that the average will be depressed by retail and City offices which together account for almost half of the market value.</p>
+ European Property	<p>In the investment market, the favourable outlook for rental growth and the still sizeable gap between real estate and 10-year government bond yields means that there remains a large amount of capital trying to invest in continental Europe. Eurozone REITs have raised fresh capital and even German open-ended funds are enjoying a revival. In addition, Brexit means that some investors have switched their attention to continental Europe. Despite the large amount of capital waiting to be deployed, prime yields appear close to their floor, assuming that investors will start to factor in higher bond yields over the medium term. Similarly, although secondary real estate yields are likely to fall a little further over the next 6 to 12 months, the cautious attitude of banks towards lending is likely to act as a brake.</p> <p>We forecast total returns of 5 to 7% per annum on average for investment grade European real estate over next few years, assuming the Eurozone economy continues to grow. The mainstay will be an income return while capital values will be driven primarily by a steady increase in rents.</p>

Note: Property views based on comments from the Schroders Real Estate Research team. The views for commodities are based on return relative to cash in local currency. The views for corporate bonds and high yield are based on credit spreads (i.e. duration-hedged).
Key: +/- market expected to outperform/underperform (maximum ++ minimum -) 0 indicates a neutral position.

Economic views

Central view

From goldilocks to deflation

We are upgrading our global growth forecast for 2018 to 3.3% from a previous estimate of 3.0%. This marks a modest acceleration from 2017, which is also upgraded to 3.2% from 3%, and if correct would make 2018 the strongest year for global growth since 2011 when the world economy bounced back from the global financial crisis.

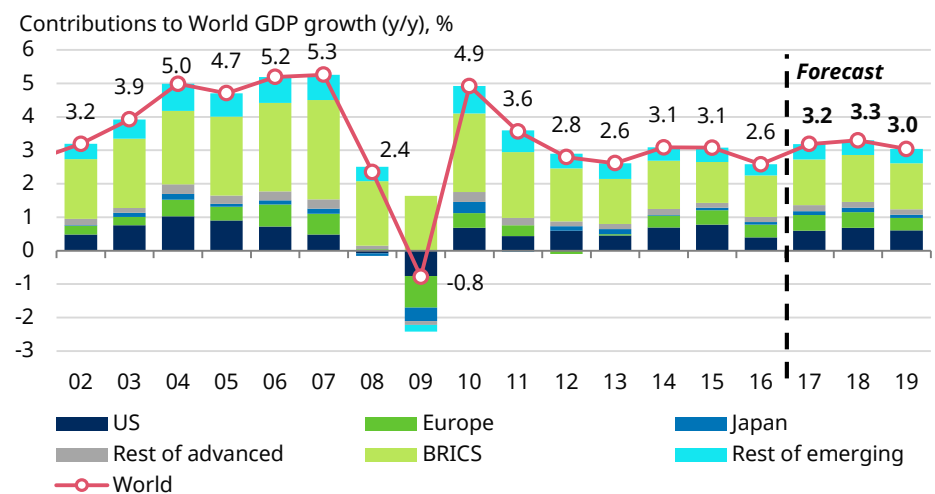
The global growth upgrade for 2018 is reflected across advanced and emerging economies. In the former, we have increased our US forecast for 2018 from 2% to 2.5% and our Eurozone projections from 2% to 2.3%. The US upgrade is driven by looser fiscal policy given the approval of tax cuts by Congress. Japan is forecast at 1.8% (previously 1.5%) and in the emerging world we raise our growth forecast to 4.9% (previously 4.8%). The latter incorporates a slightly stronger figure for China in 2018 at 6.4%.

Meanwhile, we forecast inflation at 2.3% in 2018 (revised up from 2.2%), an outcome reinforced by higher oil and commodity prices and reflected in the pick-up in producer price inflation around the world in recent months. This assumes a gradual pick-up in US core inflation back to 2% in 2018 after the surprising declines seen in the earlier part of 2017. We attribute this experience to the weakness of activity in 2016 which led to a phase of more competitive pricing by firms. The lags from growth to inflation are long and the revival of economic activity in 2017 supports a faster pace of inflation in 2018.

In terms of monetary policy, the outlook supports a further tightening of monetary policy by the Fed and with fiscal policy providing an extra boost to growth we now expect three rate hikes this year. The Fed funds rate is forecast to end 2018 at 2.25%. We would then expect one more rate rise in 2019 taking the policy rate to 2.5%.

Elsewhere, we have a tighter projection for the ECB in that we assume QE will end in September 2018. Growth and inflation are expected to be robust enough for the central bank to call time on QE earlier than most would currently expect. In Japan, we assume that yield curve control continues.

Chart 1: Global growth and forecast for 2017, 2018 and 2019



Source: Thomson Datastream, Schroders Economics Group. 27 November 2017.

Macro risks: Fading political risk

Full details of the scenarios can be found on page 13.

Scenario analysis

We have updated our scenario analysis to reflect the macro tail risks in the world economy. The recent strength of activity has raised the prospect of a **“global trade boom”** beyond that seen in the central case. This would be largely driven by an increase in the trade multiplier helping to drive exports with spillovers into higher employment and capex. The result is stronger growth and inflation as the upswing pushes commodity prices higher. Core inflation is also likely to pick up as wages rise further as a result of tighter labour markets compared to the base.

Alongside this scenario is **“fiscal reflation”** where we see a greater fiscal boost than in the base. This would incorporate deeper tax cuts and increased infrastructure spending. The boost to GDP is close to 1.5% in 2018 compared to 0.5% in the base. Like the trade boom scenario, this also results in higher inflation. However, in this scenario the gains are more concentrated in the US than shared globally.

Stronger economic activity is also a feature of our **“productivity revival”** scenario. In this case though the extra growth is met by increased output per worker such that capacity is not strained and inflation does not accelerate. There have been encouraging signs of late that productivity is improving in the US and the scenario assumes this continues over the forecast period.

In terms of downside risks for activity, we continue to include a **“secular stagnation”** scenario, whereby the current cyclical upswing peters out and the world economy falls back into a weak deflationary trend. While looking less likely at present, there are still significant structural headwinds such as the high level of debt and adverse demographics for global growth to contend with. More immediately, the world economy could turn in a deflationary direction as a result of a sharp tightening in financial conditions. Our **“bond yields surge”** scenario captures this through a sharp rise in long yields as a result of an adverse market reaction to the unwinding of QE by the Fed and ECB.

On the stagflationary side we continue to include our **“inflation accelerates”** scenario, which captures the risk of a more upward sloping Phillips curve such that wages rise more rapidly as unemployment declines, thus pushing up prices. Although higher wages provide an initial boost to consumer spending, as inflation rises central banks are likely to tighten monetary policy more aggressively, creating a period of economic weakness. The result is a spell of stagflation before inflation comes under control.

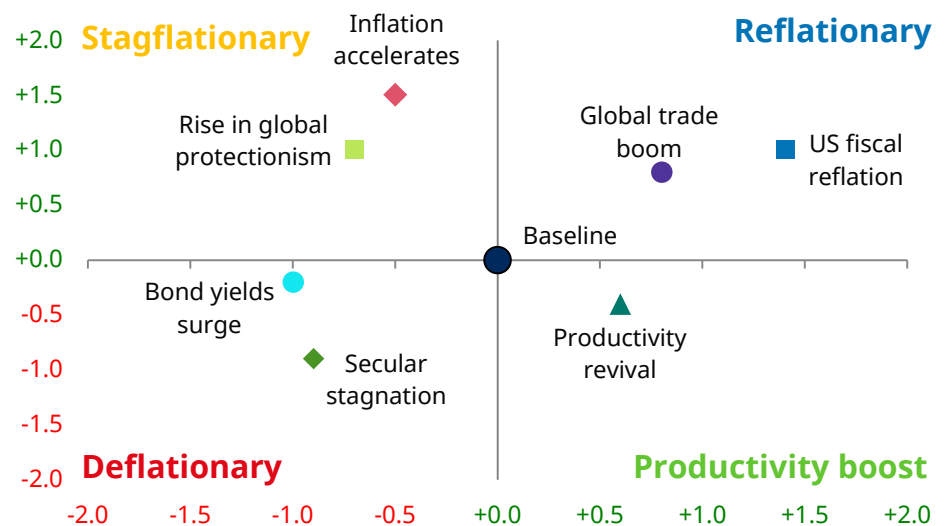
Finally we have broadened our “North Korea triggers trade war” variant to a more general **“protectionism rises”** scenario, which includes a breakdown of the North American free trade agreement (NAFTA). The increase in tariffs results in weaker activity and higher inflation as trade contracts and import prices rise.

The two scenarios which have been dropped are **“OPEC deal breaks down”** and **“China credit crisis”**. Greater production discipline by OPEC has supported oil prices recently and this looks set to continue in the near future.

Removing the “China credit crisis” is more controversial. Debt levels remain high and continue to rise in China, creating an ongoing risk of a future crisis. However the authorities have shored up the current account by restricting capital outflows, making the immediate risk of a “Minsky” moment considerably less. Crisis is still possible, but has been pushed out beyond the forecast horizon.

Chart 2: Scenario analysis – global growth and inflation impact

Cumulative 2017–2019 inflation vs. baseline forecast

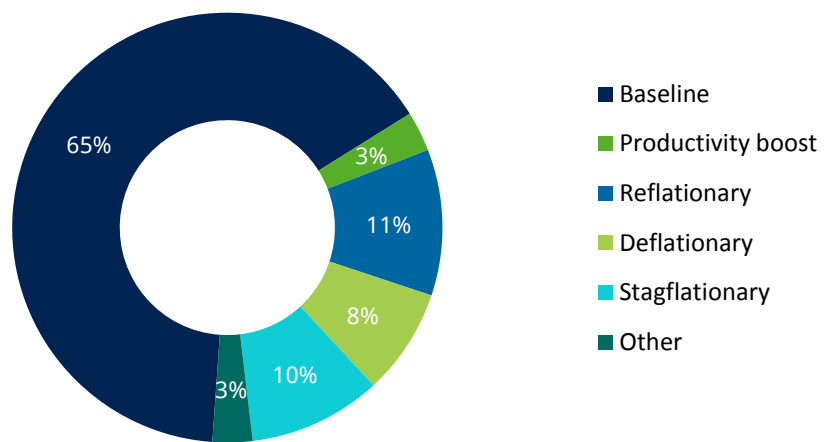


Cumulative 2017–2019 growth vs. baseline forecast

Source: Schroders Economics Group, 27 November 2017.

Chart 2 summarises the impact each scenario has on global growth and inflation relative to the baseline. In terms of scenario probabilities, we see a significant swing away from deflation towards more reflationary outcomes (chart 3). The increased likelihood of fiscal reflation and a global trade boom along with the removal of the China credit crisis scenario account for the shift.

Chart 3: Scenario probabilities



Source: Schroders Economics Group, 27 November 2017.

Table 2: Scenario summary

Scenario	Summary	Macro impact
1. Secular stagnation	Weak demand weighs on global growth as households and corporates are reluctant to spend. Animal spirits remain subdued and capex and innovation depressed. Households prefer to delever rather than borrow. Adjustment is slow with over capacity persisting around the world, particularly in China, with the result that commodity prices and inflation are also depressed.	Deflationary: Weaker growth and inflation versus the baseline. The world economy experiences a slow grind lower in activity. As the effect from secular stagnation is more of a chronic than acute condition it takes policy makers time to identify the trend. However, as economic activity fails to accelerate, more stimulus is added. The US reverses its interest rate hikes, while the ECB and BoJ prolong their QE programmes.
2. US fiscal reflation	President Trump is true to his word and succeeds in pushing a massive stimulus package through Congress (1.5% GDP versus 0.5% in the baseline). Global growth accelerates to 3.9% by 2019 with the US growing at 4%. Demand spills over and boosts growth in the rest of the world while an increase in animal spirits further boosts activity through stronger capex. However, higher commodity prices (oil heading toward \$76/b) and tighter labour markets push global inflation up to nearly 2.5% in 2018. US Fed funds reaches 4% by the end of 2019, 150 basis points higher than in the baseline.	Reflationary: Central banks respond to the increase in inflationary pressure with the fastest response coming from the US, which is more advanced in the cycle compared with the eurozone where there is considerable slack. Although there is little slack in Japan, higher wage and price inflation is welcomed as the economy exceeds its 2% inflation target in 2018. This is likely to lead the BoJ to signal a tapering of QQE. Fed action and inflation concerns result in tighter monetary policy in EM compared to the baseline. The ECB halts QE sooner, and raises the main interest rate to 1.5%.
3. Rise in global protectionism	NAFTA talks breakdown, and the US loses patience with Chinese protectionism policy. The US applies 40% tariffs on all Chinese goods in 2018 Q1. China retaliates, but starts to divert and dump its now uncompetitive goods in Europe. By the middle of 2018, Europe applies selective anti-dumping tariffs of 20%, which China reciprocates.	Stagflationary: It takes time for US and Chinese consumers to substitute away from the traded goods facing tariffs. Existing supply chains also take time to break-down, which means both profitability is hit, and prices rise at the same time. In Europe, dumping initially causes lower inflation, but the new tariffs cause inflation to quickly rise. Monetary policy is tightened faster to halt second round effects, causing the USD to rise against most currencies. However, the RMB falls 10%, while JPY also appreciates as growth is hit. World trade growth starts to contract and productivity weakens.
4. Bond yields surge	Bond markets react badly as the Fed starts to reduce its balance sheet, with yields rising significantly in response to the arrival of a major seller of duration. US 10-year yields spike to 4.5% with a knock-on effect to global bond markets. Yields then settle back to 4%, but have the effect of tightening monetary conditions as mortgage rates and the cost of credit increase and equity markets weaken.	Deflationary: The tightening of monetary conditions results in a sharp slowdown in consumer and corporate borrowing. Demand is also hit by an adverse wealth effect as equity markets fall, thus further slowing consumption. Weaker demand results in lower commodity prices and inflation.
5. Global trade boom	After years where global trade lagged behind global GDP, renewed global confidence and a desire to rebuild inventories leads to a global trade boom, which re-enforces momentum in activity. Stronger domestic demand in big importing countries like the US drive this scenario, helping to disproportionately lift growth in economies running trade surpluses.	Reflationary: The additional activity due to global trade boosts productivity and income, but with spare capacity in short supply, the extra demand generates inflation too. Global growth rises to 3.6% in both 2018 and 2019, with global inflation rising to 2.9% by 2019. Global monetary policy is tightened by more than in the baseline, but not by enough to slow growth.
6. Productivity revival	Facing rising demand but limited spare capacity and a dwindling supply of skilled workers, companies begin to increase investment in productivity boosting machinery/technology. This helps reduce unit labour costs, boosting profitability. As capital helps fill the gap in the shortage of labour, demand for labour is lower in this scenario than the baseline, assuming similar levels of aggregate demand. Increased productivity leads to higher output growth, with competition reducing price inflation.	Productivity boost: Higher growth but lower inflation frustrates central banks that have already started to tighten policy. As productivity rises, policy makers conclude that output gaps may be larger than previously thought, and move to cut interest rates to help stimulate inflation, which remains below target for many.
7. Inflation accelerates	After a considerable period where wages have been unresponsive to tightening labour markets, pay begins to accelerate in response to skill shortages. Wages accelerate around the world and economists revise their estimates of spare capacity considerably lower. Some economies such as Japan welcome the move as they seek to raise inflation expectations, others find they are facing stagflation as they effectively run out of capacity forcing the central bank to tighten policy.	Stagflationary: US inflation rises to 3% by the end of 2018 on both headline and core measures. The Fed responds by tightening more aggressively, taking its target rate to 3.5% by end 2019. Interest rates also rise more rapidly in the eurozone and UK whilst Japan returns rates into positive territory. Currency changes provide some cushion to the emerging markets which see a modest boost to growth alongside higher inflation in this scenario. Overall, global growth is slightly weaker and inflation considerably higher.

Source: Schroders Economics Group, 27 November 2017.

2017 review: The dog that did not bark

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Economist

As a new year dawns, we like to take a step back and review the performance of markets and the lessons we can learn for the coming year. 2017 was full of political noise, but ultimately, investors held their nerves and continued to push risk assets higher. 2016 had ended with a relief rally in equities which delivered a respectable year in the end, but this was thanks to the electoral victory of Donald Trump, and the anticipation that he would deliver significant market-friendly fiscal stimulus. Of course, Trump's approach to politics brought concerns too. While these concerns have not gone away, investors appear to have focused on the potential gains for corporate profits.

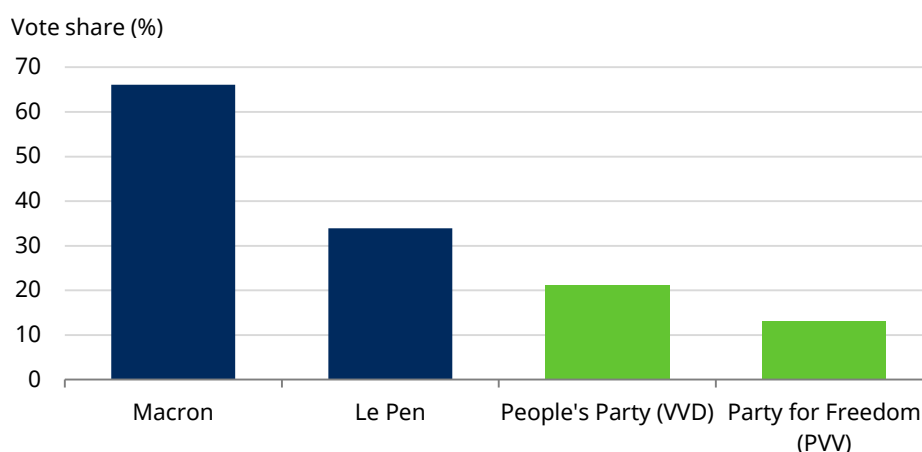
Spring heralds a new political landscape

For investors, many started the year fixated on the news flow from Washington, or more precisely, the @realDonaldTrump Twitter account. Markets soon became numb to the bombastic tweets and instead focused on the legislative agenda, and prospects of tax reforms.

It was not long before the US administration had to turn its attention to international issues. North Korea was escalating its direct threat in the South Pacific, and rhetoric towards the US. Concern was growing over what appeared to be North Korea's rapid progress in developing nuclear weapons, and its testing of ballistic missiles in the sea of Japan. Suddenly, geo-political risk was back, causing volatility in Asian markets, especially for South Korea.

The wave of populism seems to have crested with Trump and Brexit

Chart 4: Populism paused in Europe



Source: French Interior Ministry, Kiesraad, Schrodgers Economics Group. 2 January 2018.

In Europe, 2017 could have been the year populists took control of the monetary union, with general elections in many major member states. The first hurdle was the general election in the Netherlands, where the far right Party for Freedom was unexpectedly defeated by moderates. It was not until the results were known from the first round of the French presidential election before investors could relax. Emmanuel Macron finished first in the multi-party contest, before going on to convincingly defeating far-right candidate Marine Le Pen to become president. Suddenly, investors piled back into European assets, such was the concern about a Le Pen victory.

The failure of populism to deliver reversed the strong dollar

Towards the end of spring, the rally in equities paused as Trump's efforts to replace the Affordable Care Act (ACA) were voted down. This raised questions over his ability to push through his fiscal package. The repeal of the ACA was also supposed to help pay for Trump's tax cuts. This helped catalyse a weaker

dollar trend for the year, along with a flattening of the yield curve and lowering inflation expectations.

Meanwhile, emerging markets did their best to maintain their normally dominant spot in the political risk rankings. In South Africa, President Zuma fired his respected finance minister Pravin Gordhan as part of a larger reshuffle that purged many of his critics. The finance minister had been in a power struggle with President Zuma thanks to his ministry's efforts to root out corruption and cronyism in state owned companies. Unfortunately for Zuma, firing Gordhan did not send this problem away. Corruption also resurfaced in Brazil, with allegations against President Temer prompting fears of impeachment and an end to efforts to reform the stricken economy. In a more market pleasing move, South Korea's presidential election delivered Moon Jae-in to power, replacing the impeached Park Geun-hye.

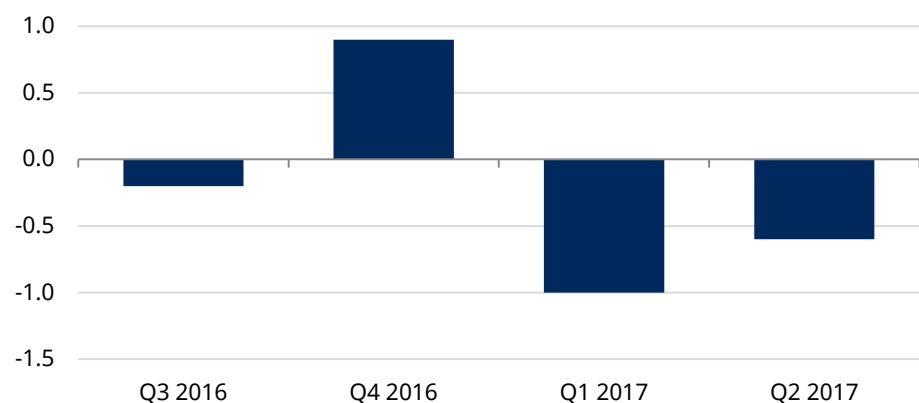
Summer highlights false economies

Riding high in the polls having just triggered Article 50 and starting the process of the UK's formal withdrawal from the European Union in March, Prime Minister Theresa May called a snap election in order to strengthen her political base, but also extend her term in office. Her party's poor campaign and a backlash against her vision of a relatively hard Brexit cost her party its majority in the House of Commons. May managed to form a coalition with the Democratic Unionist Party (Northern Ireland) in exchange for several billion pounds of extra funding for the party's priorities.

Meanwhile, the damage was self inflicted in India, where policy upheaval continued following the 2016 demonetisation. The introduction of the new Goods and Services Tax proved highly disruptive, damaging economic growth which came in below 6% for a second consecutive quarter. The policy should ultimately prove beneficial, but it has been executed less efficiently than might have been hoped.

Chart 5: Policy proved painful for India in 2017

Indian GDP vs. expectations (ppts)



Source: Bloomberg, Schroders Economics Group. 2 January 2018.

Autumn sees nudging change

Hotly anticipated as a potential catalyst for reform, the 19th National Congress of the Communist Party of China was ultimately an economic non-event. The many imbalances threatening economic and financial stability, aggressively tackling excessive leverage, the distorting role of state owned enterprises and the problem of excess capacity were all largely ignored. Politically speaking, President Xi Jinping is now seemingly cemented as one of the most powerful Chinese leaders in modern history, and further consolidation of power is

The summer saw a series of political missteps, with time to tell how costly they will be

Political intrigue but no reform in China

expected in his second five year term. Unfortunately for the economy, part of this consolidation seems to be an ongoing central role for state-owned enterprises.

Back in Europe, Germany's general election ended in stalemate as expected, with Angela Merkel's CDU/CSU coalition continuing to dominate. Many expected Merkel to form a coalition with the Green party and the liberal Free Democrats (FDP), to complete the first ever "Jamaica coalition", so-named due to party colours. Coalition talks broke down later in the year, forcing Merkel to look for support from the left wing Social Democrats, her party's junior coalition partner in the previous term. Talks are ongoing, but we should learn whether or not a new election will be held by the end of January.

Winter caps a strong year for markets

By this point in 2017, markets were up substantially with remarkably low volatility, and very few corrections to the rally. Economic growth has been revised up most of the year, with fresh evidence that 2017 was going to be one of the best years for growth since 2013. While investors had successfully navigated most of the expected big political events of the year, there was still time for a few black swans (both good and bad).

In October, chaos in Catalonia erupted when an illegal poll on independence was met by heavy handed policing. Claiming victory despite a very poor turnout, the leader of the Catalan parliament, Carlos Puigdemont, proceeded to declare the independence of the region. This was swiftly rejected by Madrid, which suspended the power of the Catalan parliament, and announced fresh elections for later in the year. Investors in Catalan regional debt took fright, but the situation soon calmed down, though not without nearly 3,000 Catalan companies moving their headquarters out of the region.

Meanwhile, the UK and EU agreed on a joint progress report on citizens' rights, Northern Ireland, and the divorce bill. This allowed the EU Council to recommend opening the second phase of negotiations, which will include the framework for a future trade relationship. The progress report suggested a softer stance on Brexit from the UK, which helped the pound to recover some of its losses through the year.

Back in the US, concerns were growing amongst Republican party members ahead of next year's mid-term election following the unexpected victory of the Democrats in a special Senate contest in Alabama in December. This followed another Republican defeat in November, where Democrats held on to Virginia in a closely fought swing state. With the fear that these contests were signs of things to come next year, House and Senate Republicans buckled down and agreed the long-awaited tax reform bill. Markets rallied on the news, with big permanent cuts for corporations as the centrepiece of the package. US companies will see their headline income tax rate plunge from 35% to 21%, bringing the US broadly into line with the average rate in the developed world. In addition, there will be a temporary tax discount on the repatriation of overseas earnings, along with more moderate and temporary tax reductions for individuals.

As the year drew to an end, the hyperbolic rise in the value of Bitcoins drew the attention of the public and investors. The Chicago Board Options Exchange (CBOE) and the Chicago Mercantile Exchange (CME) both launched Bitcoin futures as demand from traditional investors has risen. One of the attractions of Bitcoins is the decentralised structure of the system. It is not run or managed by a central bank, and therefore cannot be devalued like fiat currencies. Its popularity is clearly linked to the actions of central banks, and in some countries, due to the threat of wealth being appropriated by

The Bitcoin surge became harder to ignore

governments. Whether it finally becomes a mainstream asset or not is still up for debate, but we doubt it will be disappearing any time soon.

Central banks shift gears

Developed market monetary policy continued to be tightened over 2017, largely as the previous year had ended. However, in addition to the Fed hikes, other central banks joined in, notably the Bank of Canada and the Bank of England. The European Central Bank kept quantitative easing going, but did taper its purchases during the year, and announced a further tapering and extension for 2018. The Bank of Japan did not change its policies on QE or yield curve control, though it was able to reduce its monthly purchases, and speculation is growing that it may raise its yield curve control target next year.

In emerging markets, most central banks enjoyed disinflation last year, providing scope for cuts, particularly in Brazil and Russia. This has allowed a total of 175 bps of easing in Russia and 625 bps of cuts in Brazil in 2017. In the rest of EM it has been less spectacular, but we have also seen modest easing in a number of other economies, and for the most part there is little pressure to hike at the moment. There are of course a couple of exceptions. Currency woes in Mexico and Turkey have pushed inflation higher in both countries, necessitating hikes by both countries' central banks.

Finally, Chinese monetary policy has been somewhat tight for most of 2017, though conducted more through macroprudential channels than changes to policy rates, which have been stable. Following the Fed's December hike, the People's Bank of China did hike some rates by 5 bps, but this seems unlikely to have much effect. The PBoC also preannounced a targeted cut to the required reserve ratio, to take effect in January 2018. Though this is an easing measure, it largely serves as an offset to regulatory changes due to come in at the same time, which would otherwise tighten liquidity conditions.

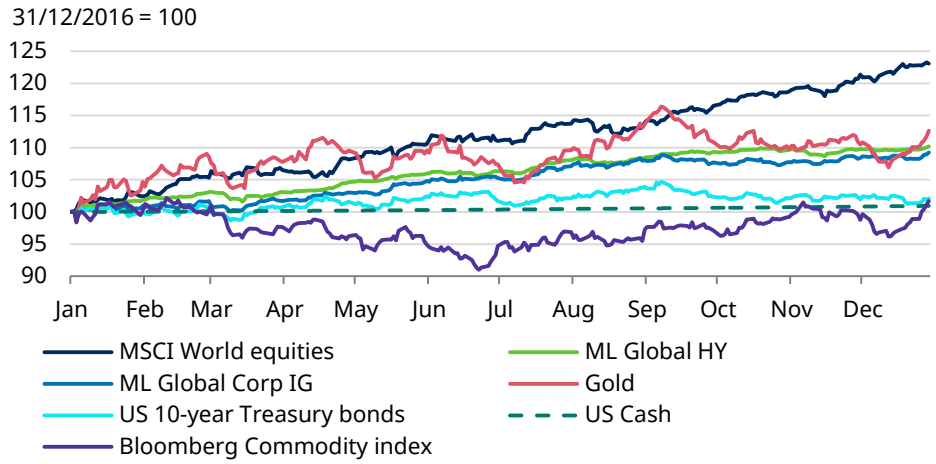
Cross-asset performance comparison

Looking across the major asset classes, equities (MSCI World) were the best performing asset class (+23.1%) by some way, with a largely smooth year of gains at the global aggregate throughout the year. The risk on environment helped credit perform well, with global high yield ending the year in third place (+10.2%), and global investment grade credit in fourth (+9.2%). Rising interest rates clearly impacted credit, but the low yield high liquidity environment continued to be supportive.

Meanwhile, gold had a very good start to the year, with its performance up over 15% by the end of the summer. However, rising real interest rates hurt its performance in the final quarter, ending the year with 12.6% gains, still enough for second place overall.

Divergent monetary policy in EM and DM as low inflation finally came to EM

Chart 6: 2017 Cross-asset performance (USD)



Source: Thomson Datastream, Schroders Economics Group. 2 January 2018.

Highest returns were found in equities, with commodities the weakest performer

With US Treasury yields starting the year at very low levels, further gains were difficult to achieve. Nevertheless, from the second quarter on, total returns remained in positive territory, with a year-end return of 2.1%.

When comparing the performance of US equities and Treasury bonds against their history, the S&P500 provided a strong, above average return (data since 1873, see chart 7), while Treasuries had a below average year (data since 1900, chart 8).

Chart 7: Equity returns distribution

Chart 8: Bond returns distribution



Note: Equity total returns using S&P500 from 1873, and bond total returns taken from US 10-year treasuries from 1900. Source: Thomson Datastream, Global Financial Data, Schroders Economics Group, 2 January 2018.

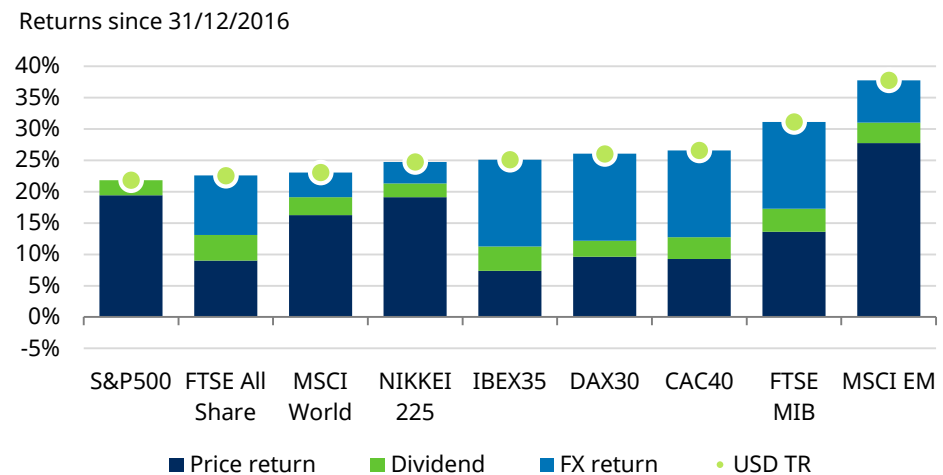
Comparing equity market performance

2017 was a great year for equity investors, with all of the major indices providing positive returns when cast in both local currency and US dollar terms. The star performer was the MSCI Emerging Markets index, which provided the highest returns using both metrics (+31% in local currency and +37% in USD). The S&P 500 was the second best performer in its own currency (+21.8%), but fell behind most other indices when taking into account the depreciation of the US dollar.

Indeed, European courses performed well, with the Italian FTSE MIB (+31.1%) playing catch-up after deep losses in 2016. The German DAX 30 (+26%) and the French CAC 40 (+26.6%) also posted strong gains. The worst performing

market was the UK FTSE All Share index, though with 22.6% returns for US dollar investors, it is not bad by historical standards.

Chart 9: Equity markets performance (total returns in USD)



Source: Thomson Datastream, Bloomberg, Schroders Economics Group. 2 January 2018.

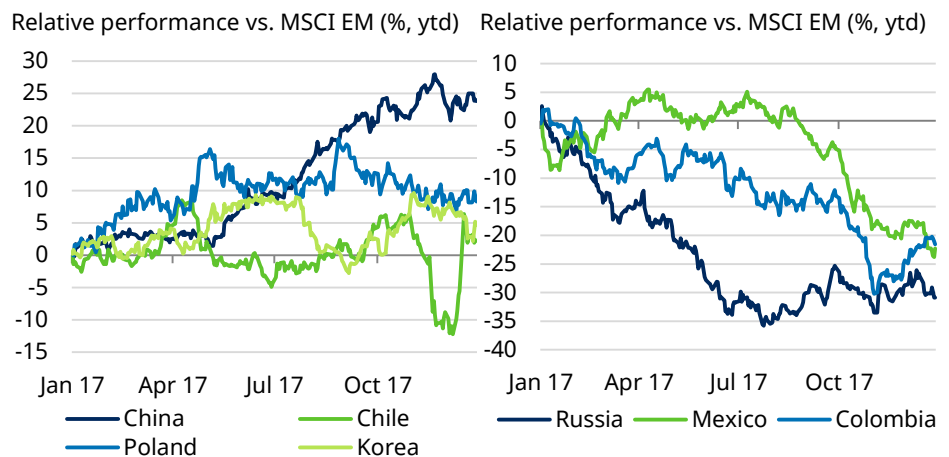
Strong EM performance masks significant disparities across countries

While it was clearly a great year for emerging markets overall, there is some considerable divergence within the EM universe. At one end, MSCI China had an incredible year, outperforming MSCI by over 20%, while at the other. Russia has been one of the most disappointing with a 30% underperformance.

It is hard to look past politics as an explanation for the divergence in performance, given a strong global growth backdrop. While Russian equities underperformed in the first half of 2017 as oil prices failed to stabilise, fading hopes that US sanctions would be lifted after Trump's election probably also contributed to the underperformance. While climbing oil prices have been a stabilising factor, the US investigation into Russian interference in the 2016 election seems to have weighed on sentiment for the market.

For Mexico, NAFTA talks have been a significant headwind for asset prices. The negotiations ran into trouble in September last year over the US desire to boost rules of origin requirements, which would be particularly harmful for Mexican manufacturers. Meanwhile, the Chile's stock market went on a wild ride over the year. The winning of the second round of elections by the market and business friendly right-wing candidate Sebastian Pinera sent Chilean markets to record highs.

Chart 10: EM equity market relative performance (total returns in USD)



Source: Thomson Datastream, Schroders Economics Group. 2 January 2018. Individual indices are the MSCI country benchmarks.

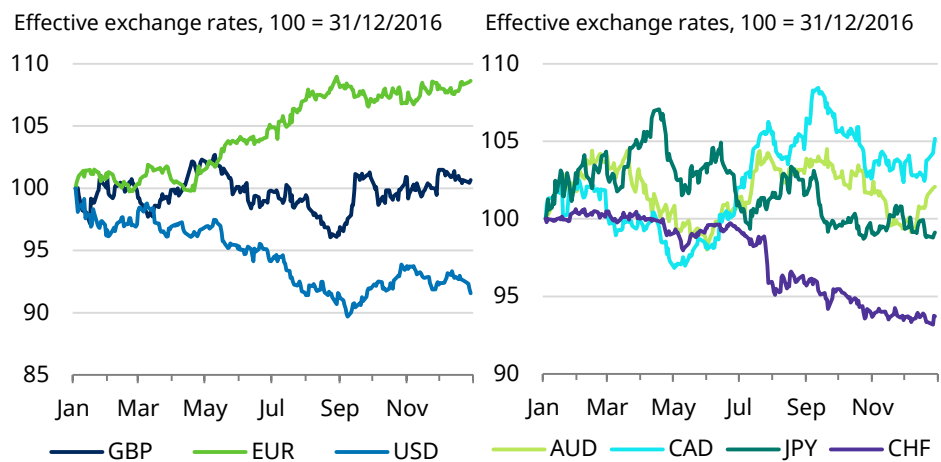
Finally, the outperformance of the Chinese market is remarkable given the tighter credit conditions and gradually slower growth seen in the second half of 2017. Strong global trade will have been supportive, as it was much better than anticipated throughout the year.

Comparing currency market performance

It took a while for currency trends to become established in 2017, but from around May, it was clear that the US dollar was on a weaker path when measured using effective exchange rates (-8.4% for the year), while the euro was going in the opposite direction (+8.6%). Meanwhile, sterling gyrated throughout the year. It ended the year slightly up (+0.7%), thanks to progress to phase II of the Brexit negotiations, and hints at a softer Brexit stance from the UK government. Compared to the sharp depreciation in 2016, a period of stability is welcomed by domestic investors.

Elsewhere, Japan saw the yen appreciate through the first half of the year, but ended largely flat by the end (-0.9%). The other safe haven currency, the Swiss franc ended the year lower (-6.3%). Meanwhile, the resource based currencies, the Canadian and Australian dollars, both tracked each other higher in the second and third quarters, helped on by an improvement in commodity prices. However, there was a pull back at the end of the year.

Charts 11 and 12: Currency performance in developed markets



Source: Thomson Datastream, Schroders Economics Group. 2 January 2018.

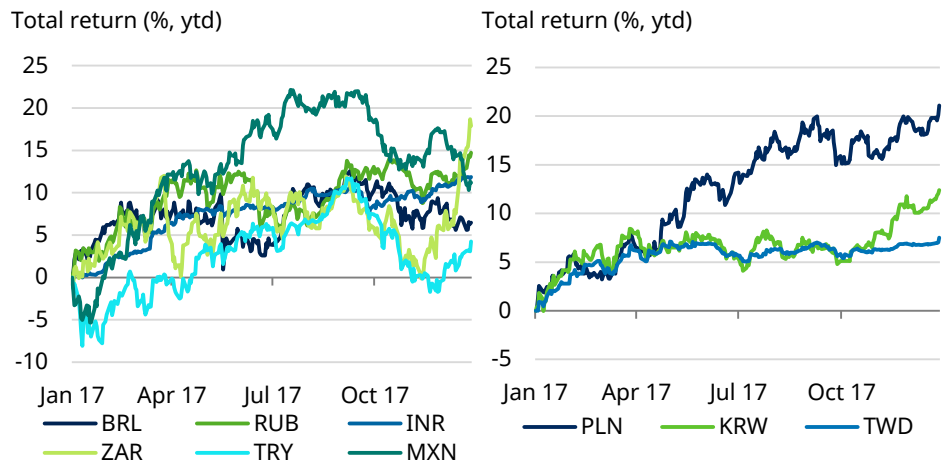
A weak dollar environment is typically helpful for EM assets, including currencies, and for much of the year this is what we saw. EM currencies delivered positive total returns. A carry strategy would have yielded a particularly strong return, with high yielders like the Russian rouble, Mexican peso, and Indian rupee performing well in total return terms.

However, some EM currencies struggled to perform. The Turkish lira, for example, had a rocky start to the year, while the Taiwanese dollar and Korean won offered very modest returns for much of 2017. The final quarter of the year saw something of a change in fortunes, with gains eroded for many of the high carry currencies, due to a deterioration in domestic politics and a slight strengthening of the dollar as US policy expectations built. As a result, the lira and the rand gave up nearly all of their gains for the year. While the rand has since massively outperformed on the victory of Cyril Ramaphosa in the ANC leadership elections, the end result has been limited reward to year long holders of high carry currencies relative to the safer, low carry currencies like the won and the zloty.

Dollar weakness and euro strength were key DM themes

Dollar weakness helped EM but could not save them from themselves

Chart 13: EM currency returns



Source: Bloomberg, Schroders Economics Group. 2 January 2018.

Comparing debt market performance

Debt markets bore the brunt of political risk

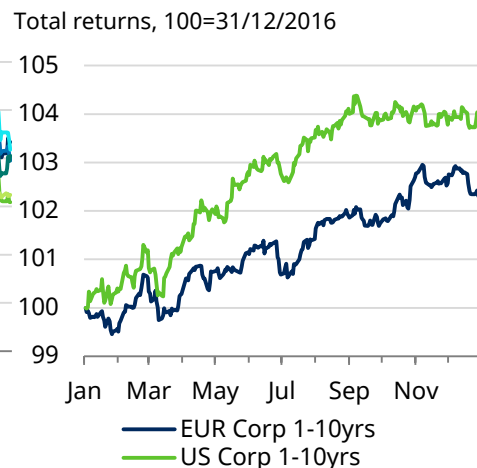
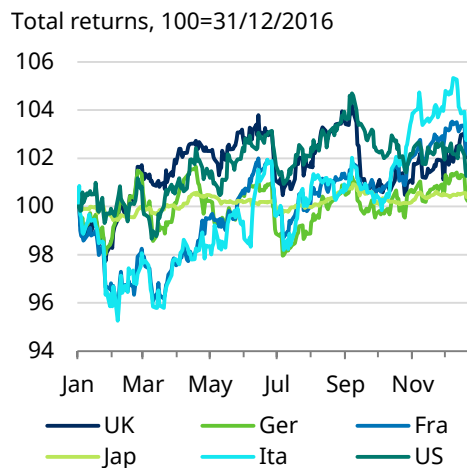
Many argue that political risk did not have much impact on markets in 2017. Government bond investors would disagree. European political risk at the start of the year caused yields to rise in France and Italy ahead of the French presidential election. The risk of a Le Pen victory posed a threat to the survival of the monetary union, and therefore the Italian government’s solvency given the help it is receiving from ECB QE. As the French electoral risk subsided, those two markets rebounded strongly, and ended the year as the two best performing. Italian BTP bonds returned 2.4% while French OATS returned 1.9% (all calculated in local currency terms). According to ECB capital flows data, the UK enjoyed significant flows from Europe, as investors sought to beat the low yields on offer in core markets. This helped keep a cap on gilt yields, and provided a return of 2.7%.

The worst performing government bond of the major markets was those in Japan. With almost no yield on offer and a tightly managed yield curve, investors eked out just 0.5% of gains.

When comparing European and US corporate credit markets, we found that the US market outperformed in 2017, largely making up for the underperformance in 2016. However, if the currency effect is taken into account, then European credit would have significantly outperformed.

Chart 14: Government debt returns

Chart 15: Corporate credit returns



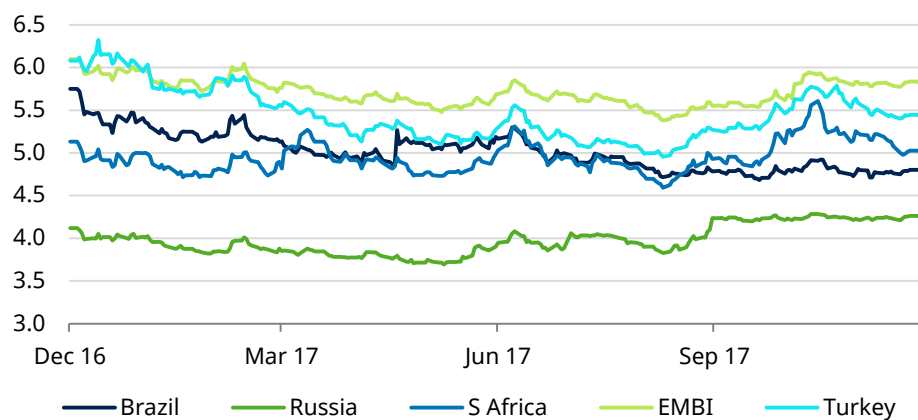
Source: Schroders Economics Group. 2 January 2018.

A good year for EM debt, one or two markets aside...

It was a quiet year for emerging market hard currency debt. Yields drifted lower over 2017 for the broad EMBI index, with a reversal in the final quarter. However, this was a function of particular markets rather than a broad based sell-off. Both Turkey and South Africa saw a significant rise in yields as concerns grew over political risk in both countries.

Chart 16: EM debt yields climbed at year end on political risk

Blended yield to maturity (%)



Source: Thomson Datastream, Schroders Economics Group. 2 January 2018.

Lessons from 2017

Having reviewed events and performance of markets over the past year, we have found a few lessons worth considering for 2018:

- **The recovery phase of the cycle can be very powerful.** Though not the best phase of the cycle for returns, confirmation that the world is moving in a reflationary direction helps reduce the risk of secular stagnation
- **Political risk still matters.** Events in Europe could have spoiled the party in 2017, and while markets ended the year with strong performances from risk assets, most investors were cautiously invested throughout
- **Political risk can also be positive for markets.** Change in countries or governments that are failing are always welcomed. South Africa, where this process is still tentative at best, is a good example
- **You cannot run a country via Twitter.** Investors would do well to focus on fundamentals rather than noise

Global strategy: Themes for 2018

Keith Wade
Chief Economist
and Strategist

Global growth indicators continue to strengthen

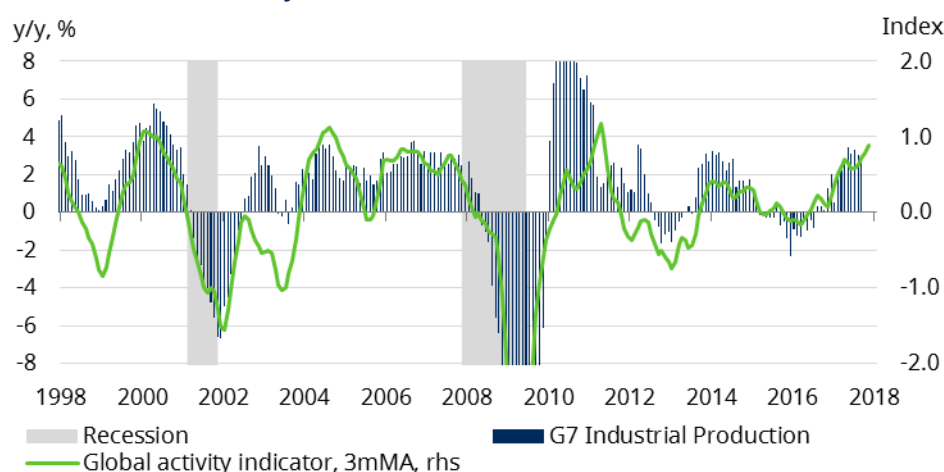
US consumer and economy ending 2017 on a high

Here are the three macro themes which we believe will influence markets in 2018.

Theme 1. Goldilocks gives way to reflation

As 2018 begins, the activity picture remains strong. Business is confident and leading indicators signal robust growth ahead (chart 17).

Chart 17: Global activity indicator remains robust



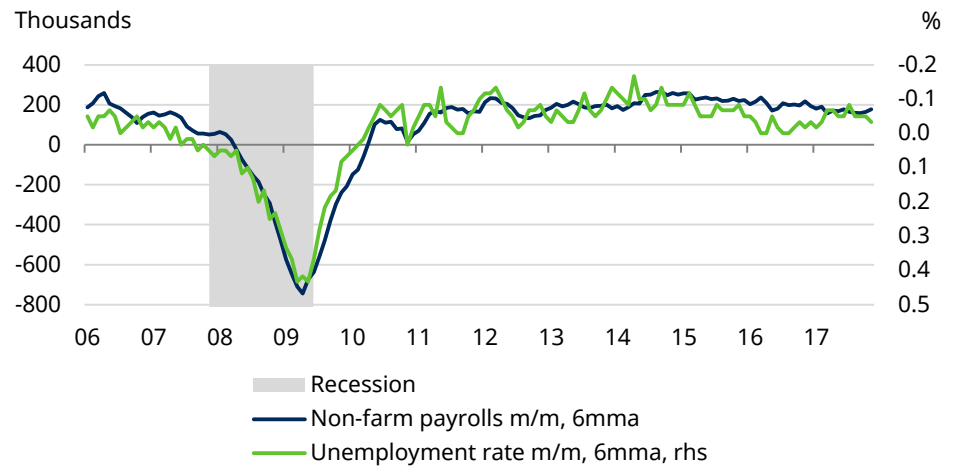
Source: Thomson Datastream, Schroders Economics Group, 20 December 2017.

We upgraded our global growth forecasts in November, but activity since then has proved to be even stronger than expected. Retail sales in the US have been very firm following a buoyant Black Friday and Cyber Monday, no doubt helped by sales of the new iPhone X. The Atlanta Federal Reserve estimate that US GDP is on track for 2.7% growth in the final quarter of 2017.

Business confidence in Germany is close to all time highs according to the Ifo institute survey and Japanese surveys are strong. The picture is less robust in the emerging markets where China's growth is moderate rather than booming, but overall the synchronised global recovery lives on. One of the key elements of the upswing is the revival in capital investment which is expected to continue judging from orders data in the US, Germany and Japan. The recently passed Tax Cuts and Jobs Act in the US will also boost capital spending through the increased depreciation allowance.

Alongside stronger capex we are likely to see firms continuing to add jobs. Since 2015, the US economy has enjoyed a period where the unemployment rate has not dropped as rapidly as might be expected from the growth in non-farm payrolls. Instead participation rates increased as people came back into the labour force. This supply side response has helped keep wages in check. More recently the unemployment rate has been falling more in line with payrolls and we do expect some modest upward pressure on wages as the labour market tightens in 2018 (see chart 18 on the next page).

Chart 18: US payrolls and unemployment

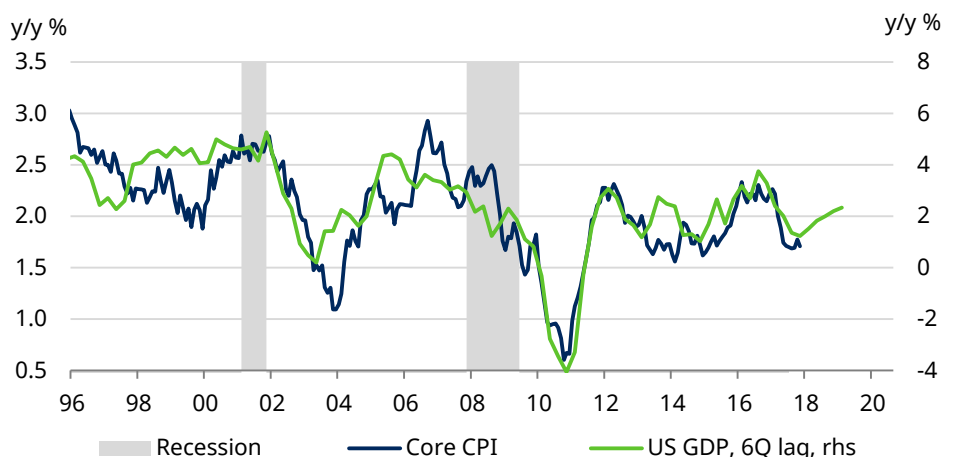


Source: Thomson Datastream, Schrodgers Economics Group, 20 December 2017.

Cyclical forces to push up core inflation in the US

More generally we see consumer price inflation rising in 2018. Pipeline pressures are rising and we expect firms to respond to the recovery in growth by raising prices more aggressively in 2018. We have highlighted the long lag between GDP growth and inflation many times over the past year as one of the best explanations for the weakness of core inflation in 2017. Going forward it is a key element in our reflation forecast (chart 19).

Chart 19: Recovery points to higher inflation in 2018



Source: Thomson Reuters Datastream, Schrodgers Economics Group, 20 December 2017.

Higher bar: growth expectations have been raised for 2018

So the growth picture is good and perhaps President Trump's ambitious forecasts for the US will be right. However, markets will face two challenges. First, growth expectations are higher than a year ago. At that time the consensus for global GDP growth in the year ahead was 2.8%. Today the equivalent figure is 3.2% (chart 20). Clearly the hurdle for markets to be positively surprised is higher.

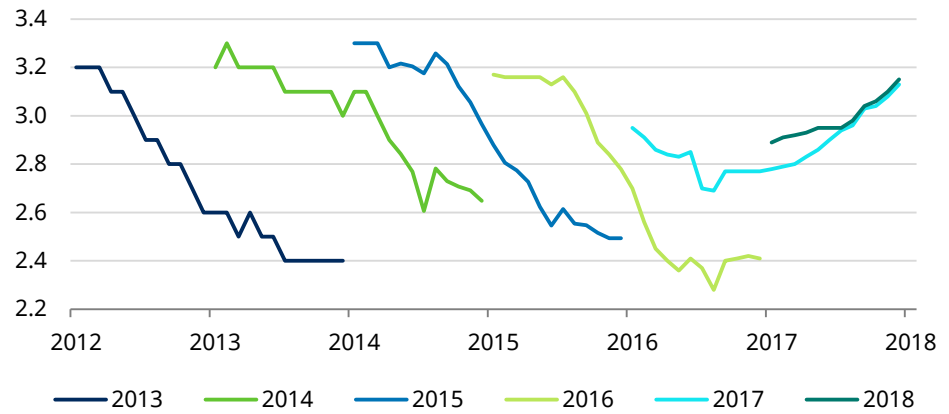
Inflation may challenge market multiples

Second, unlike in 2017, stronger growth is more likely to be accompanied by higher inflation and higher interest rates. As growth and inflation rise, the environment will become more reflationary and central banks will be keen to withdraw stimulus.

Interest rate increases are not necessarily bad for risk assets if they are accompanied by stronger growth, as in 2017. Further rate rises in the US will continue the process of normalising real rates and markets may well take them in their stride.

Chart 20: Global growth expectations for 2018 have risen

Global consensus GDP, y/y



Source: Thomson Reuters Datastream, Schrodgers Economics Group, 21 December 2017.

However, to the extent that rate rises are accompanied by greater concerns over inflation, investors will start to discount the end of the expansion. Consequently, a more inflationary environment will probably mean some compression on market multiples. Equity returns will be more dependent on a recovery in corporate earnings as a result. Such an environment would prompt a rotation toward more cyclical sectors and regions and a search for pockets of value.

Theme 2. The long farewell: the end of QE

Higher inflation expectations will also affect bond yields, a move which could well be exacerbated by the end of the great quantitative easing experiment.

Policy rates in the Eurozone are not expected to change in 2018, but here the focus will be on the European Central Bank's asset purchase programme which is set to halve from €60 billion to €30 billion per month from January. We expect it will end altogether in September. Relative to the asset markets affected, the ECB's programme has been more significant than that of the US Federal Reserve as can be seen by the prevalence of negative five-year bond yields in core countries such as Germany and the Netherlands.

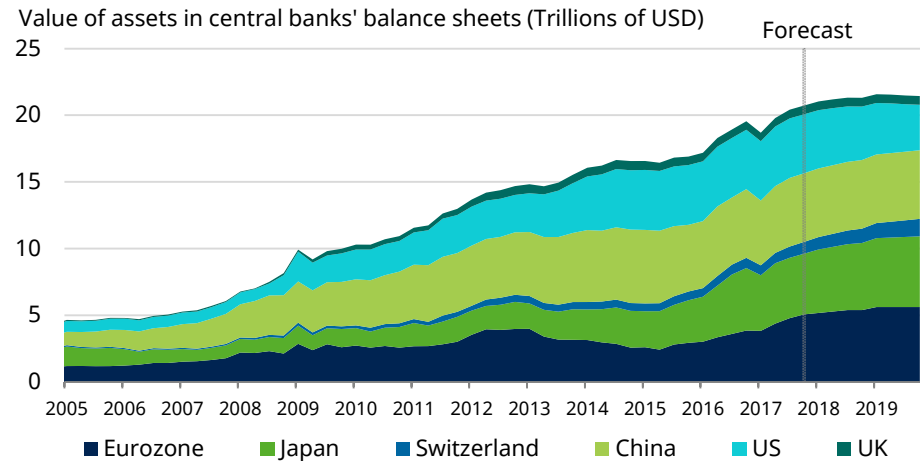
Meanwhile, the Fed has already started to reduce its balance sheet by allowing \$10 billion of assets to expire per month in the fourth quarter. This will gradually step up until reaching \$50 billion per month in the fourth quarter of next year.

These moves by the Fed and ECB mean that on our forecast the Bank of Japan will be the only central bank actively engaged in QE by the end of 2018. Intervention by the People's Bank of China and Swiss National Bank in foreign exchange markets may continue, but the net result is that the overall level of liquidity is set to slow in 2018 and should begin to contract in 2019.

Investors appear to be split on the implications of this move. Some see little impact while others are more worried. The market is inclined toward the former whereas we are in the latter camp. Our view is that it will become a significant theme with implications for bond yields as a major non-price sensitive purchaser withdraws from the market. Whilst some see the BoJ as riding to the rescue with continued liquidity provision we would note that capital flows from Japan have eased off to the US since the hedging costs rose as the Fed raised short rates. Although we have added up QE around the world to create a dollar measure of "global liquidity", strictly speaking QE is not fungible. This would only be true if there was one homogeneous pool of global capital but in practice QE in one country can only spillover to others if investors are prepared to take the exchange rate risk.

Global liquidity is set to peak in 2018 and then contract in 2019

Chart 21: Global liquidity set to peak



Source: Thomson Reuters Datastream, Schroders Economics Group, 20 December 2017.

We would not expect bond yields to return to pre-QE levels given the changes in the world economy since the policy began. The slowdown in productivity and greater regulation of the banking system mean equilibrium real rates will be lower. Furthermore, central banks will also still have some control over the yield curve via short term policy rates and forward guidance. Private investors will have to weigh these factors to determine fair value in a post QE environment.

Overall, the likely outcome of saying farewell to QE is likely to be some modest upward pressure on bond yields. In our view, the biggest losers will be those who benefitted the most, so we would watch areas such as the indebted periphery of the euro area for signs of stress.

Theme 3. The return of political risk

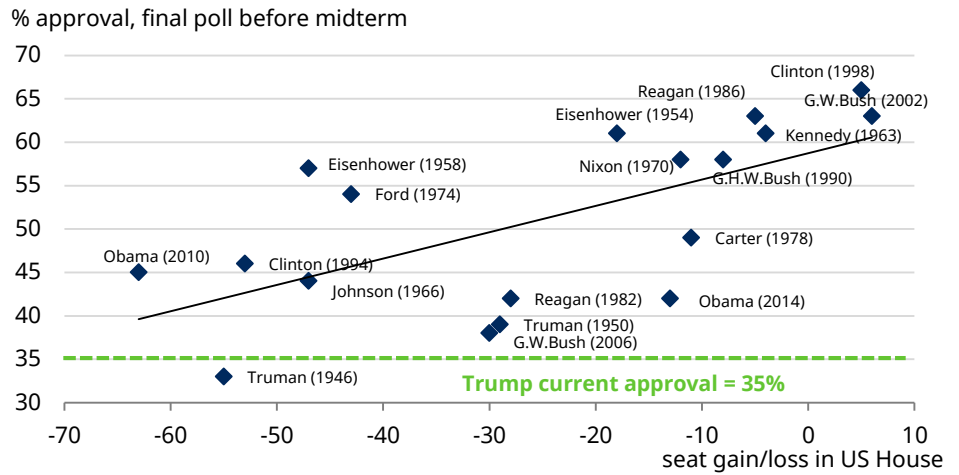
We started 2017 worrying about populism and politics. Markets performed strongly and some now argue that politics does not matter and that the risks are blown out of proportion by a news hungry media. However, in our view a key to market performance in 2017 was that those risks failed to materialise.

President Trump did not start a trade war with China on his first day in office and voters in Europe did not follow the path of the UK and reject the European Union. Instead, the new US president discovered the checks and balances of Congress and, indeed, from within his own party. Brexit rumbled on in the UK, but the Dutch and French elections delivered pro-EU centrist leaders. Those looking to break-up the EU failed to gain a mandate.

There is no guarantee that such benign outcomes will be repeated. The collapse of the centre vote in politics was illustrated once more with the election result in Germany which saw Angela Merkel's CDU party perform poorly and struggle to put together a coalition government. Markets will focus on the Italian general election in March where the EU-sceptic Five Star Movement is leading in the opinion polls although are not expected to gain enough votes to govern without a coalition.

In this respect the bigger political challenge though will come in the US where the mid-term elections will be held in November. There is a relationship between the popularity of the president and the performance of his party in these elections which will see 33 Senate and all 435 House seats contested. The Democrats need to win 24 seats to take control of the House which is plausible. The president's party nearly always loses seats in the mid-terms and on President Trump's current ratings the Republicans could take a beating in November (see chart 22 on the next page). There is time for Trump's approval to rise, but if the Republicans lose control of the House we would be back to gridlock in Washington.

Chart 22: The president's popularity and party performance in the mid-terms



Source: Gallup, Schroder Economics Group, 20 December 2017.

Given investors' enthusiasm for Trump's reforms this would not bode well for markets. We would see this as one to watch: the passage of the tax bill should lift the president's approval rating and the subsequent performance of the Republicans as we move through 2018. Nonetheless, investors will need to be closely tuned to opinion polls and signs of whether a "Democrat wave" is building.

In the emerging world, politics has been an important driver in 2017 with reform of the North American Free Trade Agreement (NAFTA), corruption in South Africa and reform in Brazil all gaining the focus of investors. Next year will see important elections in several states particularly Mexico and Brazil.

Research note: How far can the global cycle run? Another look at the Phillips curve

Keith Wade
Chief Economist
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Piya Sachdeva
Economist

Lack of wage growth has played an important role in the rally in the equity markets

The trade off between unemployment has clearly weakened such that the Phillips curve has flattened

This phenomenon has been particularly puzzling in the US

In the [November Viewpoint](#), we highlighted the behaviour of the labour market in the US and the lack of a response of wage growth from lower unemployment. The trade-off between unemployment and wage inflation has clearly weakened such that the famous Phillips curve has flattened. From an investment perspective, the lack of acceleration in wages has played an important role in the rally in equity markets, particularly as valuations remain stretched. A pick-up in inflation indicates when the economy has hit full capacity and therefore subdued inflation has signalled that the cycle could become more extended. In turn, there is less pressure on the central bank to tighten monetary policy and slow growth. As we go into 2018, whether inflation remains under control is a critical question for investors.

A key component of core inflation is wage growth. In particular, an acceleration in wage growth is a sign that the economy has hit full employment as labour shortages mean that workers have more bargaining power to bid up wages and firms offer higher wages to attract workers. We revisit the Phillips curve for key developed markets – the US, Japan and the eurozone, to give us insight into whether wage inflation will pick up this year and the implications for the global cycle.

US: The flattening of the Phillips curve

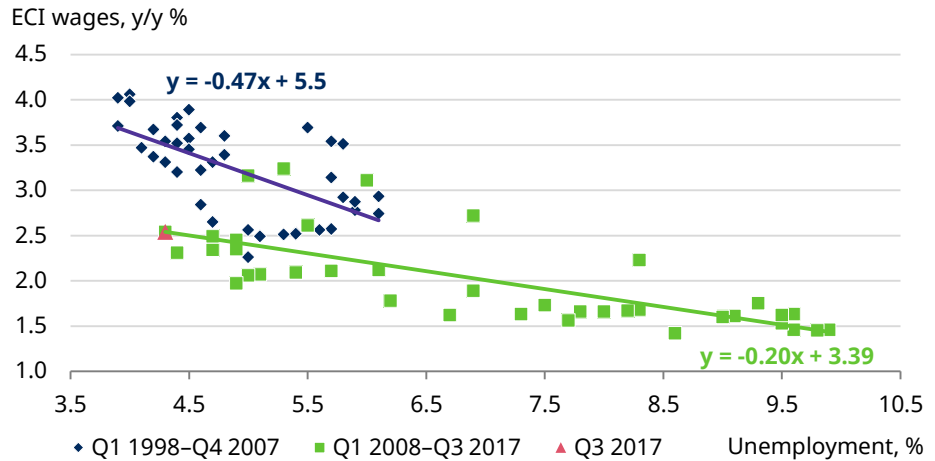
The high degree of correlation between the US cycle and other developed markets, such as the eurozone and Japan means that the US cycle is crucial in the context of the global cycle. Moreover, the lack of wage growth in the US has been particularly puzzling as the unemployment rate fell through 4.6% in 2017, the Fed's estimate of full employment or the non-accelerating inflation rate of unemployment (NAIRU)¹.

Chart 23 shows the relationship of unemployment and nominal wage growth in the US. Here, nominal wages are measured by the Employment Cost Index (ECI) for wages and salaries. We split the Phillips curves into two sample periods, pre-crisis (Q1 1998–Q4 2007) and post-crisis (Q1 2008–Q3 2017). The post-crisis Phillips curve is visually flatter, which can also be seen from the lower absolute number of the coefficient on x, the unemployment rate. Indeed, the coefficients of the slope of the curves are statistically different. This implies that, post-crisis, we need a significantly greater fall in the unemployment rate (all else equal) to get the same boost to wage growth than pre-crisis.

The red triangle shows the latest data point (in Q3 2017). Interestingly, the current level of unemployment at 4.3% is consistent with the current level of wage growth at 2.5% y/y according to the post-crisis “flat” Phillips curve. The coefficient on unemployment is significant (at the 5% level) and suggests that a 1pp fall in unemployment is consistent with a 0.2pp increase in year-on-year nominal wage growth.

¹Source: Federal Reserve's FAQs.

Chart 23: The post-crisis flattening of the Phillips curve

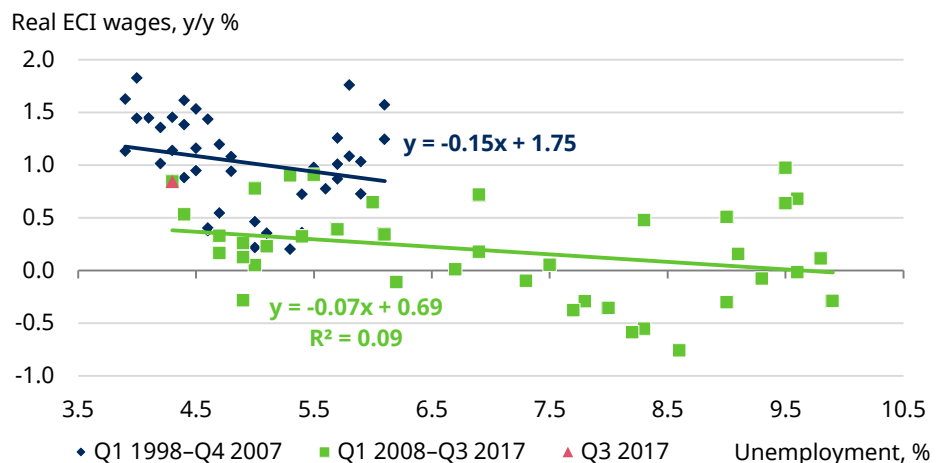


Source: Thomson Reuters Datastream, Schrodgers Economics Group, 20 December 2017.

Post-crisis, we need a significantly greater fall in the unemployment rate to get the same boost to wage growth

In financial markets, it is *real* yields rather than nominal yields that are important for bond and equity investors. In terms of the economic cycle, it is *real* GDP growth that we are ultimately interested in. Therefore, we explore the same phenomenon using real wages. Chart 24 shows the relationship of unemployment and real wage growth in the US using core CPI as the deflator. In the data sample, underlying inflation was broadly stable, fluctuating around 2%, resulting in a similar shifting of the “real” Phillips curve, although the two curves are no longer statistically different. The post-crisis Phillips curve is even “flatter” than the nominal one, but nonetheless significant at the 5% level. We can infer that a 1pp fall in unemployment is consistent with a 0.07pp increase in year-on-year real wage growth.

Chart 24: The even “flatter” US Phillips curve using real wages



Source: Thomson Reuters Datastream, Schrodgers Economics Group, 20 December 2017.

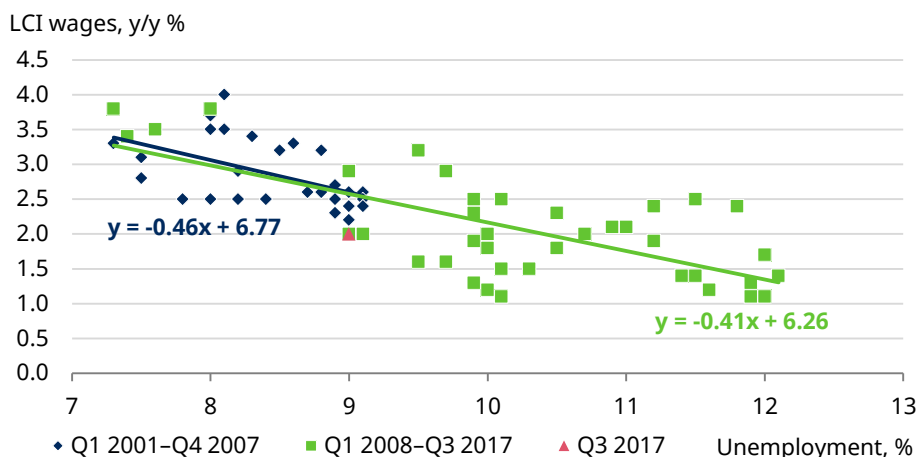
Eurozone inflation dynamics are significant given the focus on the ECB in 2018

Eurozone: A remarkably stable Phillips curve

Inflation (or lack of) has also been a concern in the eurozone, which has had strong implications for both monetary policy in the region and the currency in recent years. This was highlighted in June 2017 by the strong move in the euro when ECB President Mario Draghi announced that the “threat of deflation is gone and reflationary forces are at play”. The eurozone economy is at an earlier stage in its cycle than the US, demonstrated by a higher unemployment rate of 9% (compared to 4.3% in the US). Nonetheless, inflation dynamics in the economy this year are also of significance for markets, given the focus on the ECB’s asset purchase programme, which is set to halve from €60 billion to €30 billion per month from January 2018 and potentially end in September 2018.

The eurozone Phillips curve has been remarkably stable

Chart 25: Euro area Phillips curve stable over the crisis



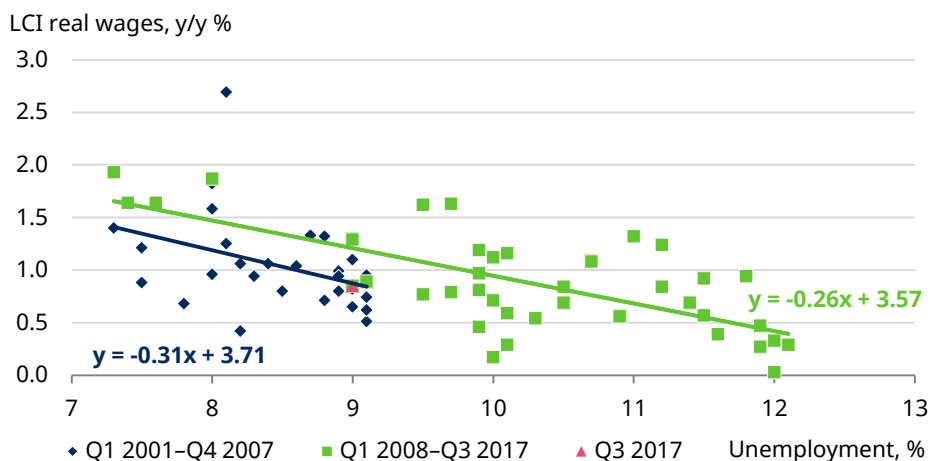
Source: Thomson Reuters Datastream, Schrodgers Economics Group, 20 December 2017.

...for both nominal and real wages

Chart 25 shows the relationship of unemployment and nominal wage growth in the eurozone. Here, nominal wages are measured by the Labour Cost Index (LCI). Due to data limitations, the time period for the pre-crisis Phillips curve is slightly shorter than in the US study (Q1 2001- Q4 2007). In contrast to the US, the eurozone Phillips curve has been remarkably stable over the time period. This implies that changes in wage growth in the eurozone post-crisis can be explained by changes in unemployment. The coefficient on unemployment is statistically significant at the 5% level and suggests that a 1pp fall in unemployment is consistent with a 0.4pp increase in year-on-year nominal wage growth.

Similarly, chart 26 shows the same analysis using real wage growth, where the Phillips curve is, again, statistically stable over the crisis period and the coefficient on unemployment is statistically significant at the 5% level. We find that a 1pp fall in unemployment is consistent with a 0.26pp increase in year-on-year real wage growth.

Chart 26: Relationship between unemployment and real wages in Euro area



Source: Thomson Reuters Datastream, Schrodgers Economics Group, 20 December 2017.

Japan continues to suffer from a lack of wage growth, which has been attributed to structural factors

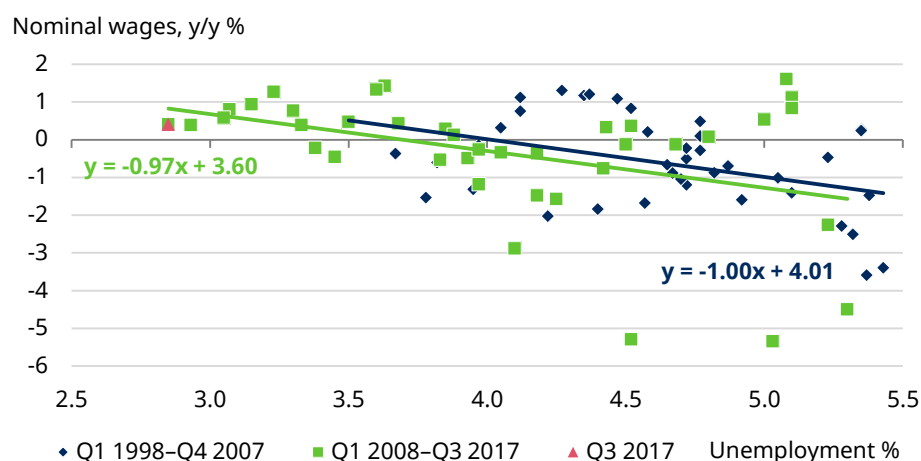
The level of unemployment does not determine real wages in Japan

A major component of wages in Japan is insensitive to labour market slack

Japan: Phillips curve relationship not supported by the data

Despite the extremely tight labour market, the Japanese economy continues to suffer from a lack of wage growth, which has been attributed to many structural factors. These include backward looking (or “adaptive” inflation expectations) and a “job-for-life” culture combined with a wage structure that penalises full-time workers for moving jobs. Chart 27 shows the Phillips curve for Japan, which has been stable through the sample. Due to volatility in the wage growth, particularly in 2009, we smooth the data using a two-quarter moving average.

Chart 27: Relationship between unemployment and nominal wages in Japan



Source: Thomson Reuters Datastream, Schroders Economics Group, 20 December 2017.

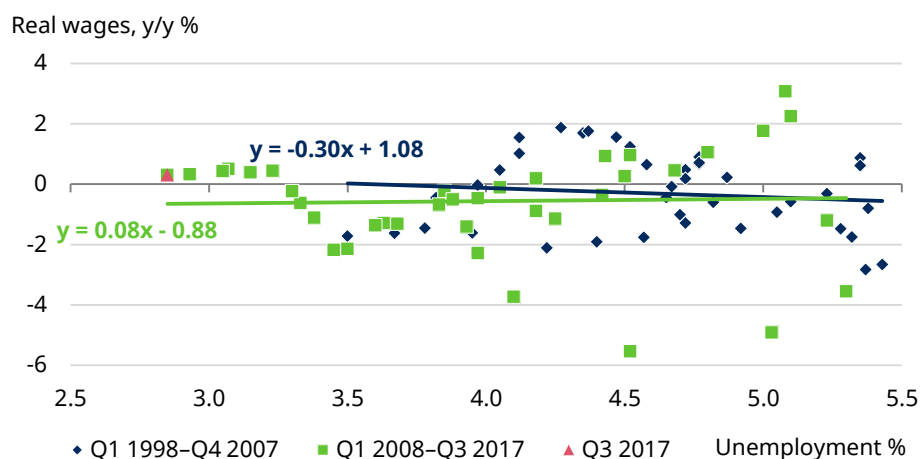
The post-crisis Phillips curve suggests that a 1pp fall in unemployment is consistent with a 0.97pp increase in year-on-year nominal wage growth. This (absolute) coefficient is surprisingly high when compared to the US (0.2) and eurozone (0.41), (see chart 23 and 25 green “post crisis” equations). In part, this is due to specific extreme data points in 2009, when wages contracted more than 3.5% y/y and indeed, removing these from the regression results in the coefficient falling to 0.3 and removes the statistical significance of unemployment when explaining wages.

Once again, taking into account inflation dynamics (as shown in chart 28 on the next page), a 1pp fall in unemployment is consistent with a 0.08pp fall in year-on-year nominal wage growth. This suggests that the negative relationship between unemployment and real wages predicted by economic theory is not supported by the data. In fact, the level of unemployment does not determine real wages at all in Japan as the 0.08 coefficient on unemployment, unlike the US or eurozone, is not statistically lower from zero at the 5% level. In other words, the Phillips curve does not hold.

This finding is also consistent with regression analysis from the BoJ, which finds that scheduled wages of full-time workers, which makes up roughly 70% of income, is insensitive to labour market slack and instead driven by longer-term inflation expectations, past inflation and labour past productivity².

²Bank of Japan [Outlook for Economic Activity and Prices](#), July 2017

Chart 28: No relationship between real wages and unemployment in Japan



Source: Thomson Reuters Datastream, Schroders Economics Group, 20 December 2017.

Outlook for real wage growth: Eurozone to surprise on the upside

After revisiting the Phillips curve for the US, Eurozone and Japan, we find that a 1pp fall in the unemployment rate is consistent with a 0.07pp increase, 0.26pp increase and 0.08pp *decrease* in real wage growth. This is shown on table 3. The positive coefficient on unemployment and lack of statistical significance suggests that the Phillips curve has completely broken down and therefore we do not look at implications for Japan. However, we find that the Phillips curve for the post-crisis period is steeper in the eurozone than the US. For the same fall in the unemployment rate across these economies, the eurozone should experience a larger increase in real wage growth.

Table 3: Estimated slopes of post-crisis Phillips curves using real wages

	US	Eurozone	Japan
Coefficient on unemployment	-0.07**	-0.26***	0.08
R-squared	0.09	0.49	0.00

* significant at 10% level, ** significant at 5% level, *** significant at 1% level using a lower-tailed test. Source: Schroders Economics Group, 20 December 2017.

For the same fall in the unemployment rate, it is the eurozone that should experience a larger increase in wage growth

In terms of the outlook for real wages in 2018, we must first have an outlook for unemployment. It is plausible that the rate at which unemployment falls should be higher in the Eurozone than in the US as there more spare capacity in the labour market (unemployment is higher). This can be seen over the past year (between Q3 2017 and Q3 2016) as the unemployment rate has fallen by the most in the Eurozone (0.9pp), then the US (0.6pp) and then Japan (0.2pp).

Extrapolating this trend in unemployment to 2018 would suggest an increase in real wage growth of 0.04pp and 0.23pp for the US and Eurozone respectively. This would take real wage growth to 0.9% y/y and 1.1% y/y in the US and eurozone, respectively. This is perhaps a surprising result given the amount of labour market slack in the eurozone compared to the US. In turn, this implies a dovish Fed and fairly weak dollar, all else equal, and provides more evidence for the ECB to end QE, consistent with a stronger euro.

Is there a better measure of labour market slack that can explain wage growth in the US?

We look at an alternative measure of labour market slack, the ratio of employment-to-population...

...Unlike the simple unemployment rate, this measure is more stable and has not shifted pre and post-crisis

Revisiting the US: What can better explain real wage growth?

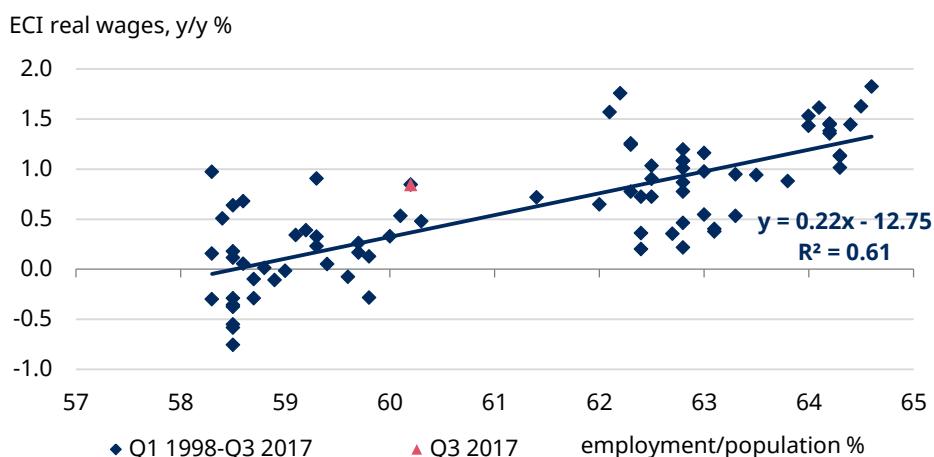
Table 3 shows that the explanatory power of the US post-crisis Phillips curve is low. This is, measured by the R^2 (the proportion of the variation in real wage growth explained by the variation in unemployment), which stands at 0.09. Moreover, we have found evidence to suggest that there is instability in the US Phillips curve, particularly with regards to nominal wage growth. In the [Viewpoint](#), we argued that factors such as the increased number of part-time and temporary workers have meant that the low unemployment rate is not showing the full picture in the labour market which is not as tight as the headline unemployment rate would suggest.

One could also argue that the Phillips curve is non-linear so the estimated coefficient is too low at lower levels of unemployment. Indeed chart 24 shows that the level of current real wages growth is actually considerably higher than the estimate from the Phillips curve (0.84% y/y vs 0.39% y/y).

To explore this further, we look at an alternative measure of labour market slack, the ratio of employment-to-population and its relationship with real wage growth. This is a broader measure of unemployment as it captures those who are willing to work, but not fully participating in the labour market. Having declined rapidly after the financial crisis this measure has recently picked up as more people are drawn back into the labour market.

Chart 29 shows the relationship between the ratio of employment-to-population and real wages for the entire sample. Firstly, unlike the simple unemployment rate, this measure is more stable and has not shifted pre and post-crisis (for both real and nominal wages). Secondly, the explanatory power of the model, measured by R^2 , is much higher when using the employment-to-population ratio as the explanatory variable rather than unemployment (0.61 vs 0.32). The fit is also better post-crisis (R^2 is 0.28 vs 0.09). This confirms the employment-to-population ratio is a better model for explaining real wage growth than unemployment. The linearity of the relationship also seems to hold.

Chart 29: Relationship between real wages and employment/population holds steady



Source: Thomson Reuters Datastream, Schroders Economics Group, 20 December 2017.

There is scope for the ratio of employment-to-population to rise further alongside a modest acceleration in wage growth. Chart 29 shows that if the ratio returned to its pre-crisis level (~64) the real employment cost index would be rising at around 1.25% y/y. Yet this would imply an increase in the employment-to-population ratio of ~4pp, which is very large compared to the

The global cycle can continue without the need for a significant tightening of monetary policy to rein in inflation

average increase of 0.4pp in the last three years. Moreover, real wages are currently higher than implied by this Phillips curve. If the ratio instead rose a more modest 0.4pp in 2018, this would be consistent with only an additional 0.1pp to y/y real wage growth. This would take real wage growth to 0.9% y/y, implying nominal wage growth of around 3%. Using post-crisis data only, the coefficient is 0.2 and therefore would not change this conclusion.

Conclusion: The global cycle can continue

We conclude by coming back to the cycle. The concern for investors has been that with the traditional unemployment rate so low we will soon see a sharp acceleration in wages forcing the Fed to react aggressively. Our analysis finds that this is unlikely in a world of flat Phillips curves supporting the view that the global cycle can continue without the need for a significant tightening of monetary policy to rein in inflation.

However, the Eurozone appears to be an exception to this general conclusion as we find evidence that the more traditional Phillips curve relationship still holds. Consequently the continued strength of the eurozone recovery implies a pick-up in real wages as unemployment falls further. Although welcome after a long period of austerity such a development is likely to stir the more hawkish members of the ECB who will call for an end to ultra-loose monetary policy. All things being equal this would boost the euro and put pressure on profit margins for companies operating in the region.

Finally as the breaking down of the Japanese Phillips curve highlights the importance of structural reform within Abenomics, and in particular, policies that aim to increase wage growth.

Market returns

	Total returns	Currency	December	Q4	2017
Equity	US S&P 500	USD	1.1	6.6	21.8
	UK FTSE 100	GBP	5.0	5.0	11.9
	EURO STOXX 50	EUR	-1.7	-2.2	10.0
	German DAX	EUR	-0.8	0.7	12.5
	Spain IBEX	EUR	-1.2	-2.3	11.3
	Italy FTSE MIB	EUR	-2.3	-3.5	17.3
	Japan TOPIX	JPY	1.6	8.7	22.2
	Australia S&P/ ASX 200	AUD	1.8	7.6	11.8
	HK HANG SENG	HKD	2.6	8.8	41.3
EM equity	MSCI EM	LOCAL	2.6	5.7	31.0
	MSCI China	CNY	2.0	7.7	55.3
	MSCI Russia	RUB	1.7	4.5	1.2
	MSCI India	INR	3.8	9.3	30.5
	MSCI Brazil	BRL	6.3	2.9	26.9
Governments (10-year)	US Treasuries	USD	0.2	-0.2	2.1
	UK Gilts	GBP	1.3	1.9	2.7
	German Bunds	EUR	-0.5	0.5	0.2
	Japan JGBs	JPY	0.0	0.3	0.5
	Australia bonds	AUD	-1.2	2.0	4.0
	Canada bonds	CAD	-1.4	0.8	-1.0
Commodity	GSCI Commodity	USD	4.4	9.9	5.8
	GSCI Precious metals	USD	2.8	1.9	12.0
	GSCI Industrial metals	USD	8.0	9.2	29.1
	GSCI Agriculture	USD	-0.8	-2.0	-11.9
	GSCI Energy	USD	5.9	14.8	6.4
	Oil (Brent)	USD	4.4	15.7	17.5
	Gold	USD	1.9	1.5	12.6
Credit	Bank of America/ Merrill Lynch US high yield master	USD	0.3	0.4	7.5
	Bank of America/ Merrill Lynch US corporate master	USD	0.8	1.1	6.5
EMD	JP Morgan Global EMBI	USD	0.6	0.5	9.3
	JP Morgan EMBI+	USD	0.6	-0.3	8.3
	JP Morgan ELMI+	LOCAL	0.3	1.0	4.0
Currencies	EUR/ USD		0.7	1.1	12.2
	EUR/JPY		1.0	1.7	9.7
	JPY/ USD		-0.3	-0.6	2.2
	GBP/USD		-0.2	0.6	8.4
	AUD/USD		3.2	-0.2	8.9
	CAD/USD		2.6	-0.8	6.6

Source: Thomson Datastream, Bloomberg, 29 December 2017.

Note: Blue to red shading represents highest to lowest performance in each time period.

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