Schroders

Global market perspective

Economic and asset allocation views

Q4 2017

For professional investors or advisers only

October 2017

Contents

Editors:

Keith Wade and Tina Fong

Introduction

It was a quarter for emerging markets and commodities, as a combination of robust economic recovery and low inflation drove the outperformance in these assets. The trend was helped by a weak US dollar with investors responding to signs of strength in activity outside the US, particularly in the Eurozone. Overall, risk assets performed well, although sovereign bonds had done well until the last month of the quarter when a more hawkish tilt from the US Federal Reserve (Fed) caused yields to rise.

Our asset allocation remains biased toward equities and emerging markets and we are generally short duration in our bond portfolios. This is largely based on a continuation of the "goldilocks" macro environment where growth is healthy, but not too strong to trigger inflation. Interest rates are likely to rise further in the US but we believe that the Fed will proceed cautiously and not reach the levels projected in its famous dot-plot of rate forecasts.

On a more cautious note, we do see the liquidity environment shifting significantly in 2018 as the Fed reduces its balance sheet and the European Central Bank (ECB) starts to taper its quantitative easing programme. Although the Bank of Japan will continue with an ultra-loose monetary stance, we question whether this can be seen as a replacement for Fed or ECB asset purchases (see strategy section, "From QE to QT"). Looking longer term, we include our most recent forecasts for 7-year returns, which act as a timely reminder of the dangers of cash as anything more than a tactical asset.

Keith Wade

Chief Economist and Strategist, 6th October 2017

Asset allocation views: Multi-Asset Group

Global overview

Economic overview

The recovery in global activity remains intact while inflation appears to have peaked following the stabilisation in energy costs. We continue to forecast global growth at 3.0% this year after 2.6% in 2016, but have trimmed our inflation forecast to 2.3% from 2.4%. The combination of steady growth and low inflation means we remain in a goldilocks environment where activity is neither too hot nor too cold to cause a significant acceleration in inflation.

On the growth side, the US forecast is unchanged for 2017 while an upgrade to the Eurozone is accompanied by a stronger forecast for China and the wider emerging markets. In this respect, Europe is picking up the baton from a cooling US. On inflation, we have reduced our forecasts across the board to reflect a lower oil price profile and subdued core readings. Looking into 2018, global growth is expected to remain stable at 3% with modest downgrades to the US, offset by upgrades to the Eurozone and emerging markets.

In terms of our scenarios, the risks around our central forecasts are more deflationary with "Secular Stagnation," "China credit crisis" and "Bond yields surge." The latter being the highest risk scenario as the balance sheet reduction process leads to a significant tightening of financial conditions in the US, with contagion to markets in the rest of the world. The impact is deflationary as credit and growth slow whilst inflation eases lower.

Central bank policy

For the US, we expect the US Federal Reserve to keep rates on hold until the middle of 2018, when it then raises the Fed funds rate to 2% by the end of the year. The Fed's pause allows it to begin balance sheet reduction in October 2017, which is stepped up as it progresses. In comparison, interest rates are expected to be kept on hold in the Eurozone and Japan. Moreover, the European Central Bank is assumed to begin to taper quantitative easing (QE) in 2018. Over in the emerging market region, there is further policy accommodation expected in Brazil, India and Russia this year. Having moved significantly, the US dollar is expected to only depreciate slightly further in 2017, but is assumed to stabilise and appreciate again in 2018 as the US resumes its rate hiking cycle.

Implications for markets

Looking at our asset class views, we have upgraded equities to a positive from neutral over the quarter. The synchronised recovery in global growth is translating into better earnings. This coupled with expectations that global liquidity conditions are to remain loose suggests a positive backdrop for equities.

Within equities, we remain positive on the emerging markets as solid global growth and trade should benefit the emerging world particularly the Asian manufacturers. This market also offers a valuation discount versus their developed peers. Furthermore, a relatively benign dollar environment provides an opportunity for EM to outperform.

Meanwhile, we have remained positive on Europe ex UK as corporate earnings should be well-supported by the improvement in the macro data despite a stronger euro. Over in Japan, we have stayed positive as Japanese equities are exhibiting strong earnings growth and analysts are revising up their forward earnings expectations on this market. This has been underscored by the competitive margins of domestic corporates and solid growth momentum behind the economy.

On the UK and Pacific ex Japan, we have retained our neutral stance. Over in the UK, without a tailwind from currency weakness, the market is lacking the momentum in earnings to drive outperformance particularly given that UK multinationals dominate the FTSE 100 index. However, valuations are reasonable compared to other markets.

On the US, we have upgraded the market to a neutral. The high-quality nature of the market makes it attractive to hold, but valuations have become richer compared to the rest of the world. Moreover, the normalisation of monetary policy by the Fed will put a squeeze on corporate profit margins and earnings growth. However, there could be upside surprises on the fiscal front, as investors have low expectations on the ability of the Trump administration to push through these policies.

With regard to duration, we have downgraded the government bond market to a negative position. 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.

Amongst the bond markets, we are negative on US Treasuries and German Bunds but neutral on UK Gilts and Japanese government bonds (JGBs). We have downgraded emerging market sovereign debt (EMD) in USD to a negative position. Valuations are uncompelling with spreads vulnerable to higher global bond yields. Similarly, we have reduced EMD local currency bonds to a neutral stance as investors have become overly optimistic on the prospects of lower inflation in the region and further central bank easing.

Turning to credit markets, we have stayed neutral on high yield and negative on investment grade (IG) bonds. While valuations for both sectors are no longer compelling, investment grade spreads are more sensitive to shifts in interest rate expectations with a lower carry cushion compared to high yield (HY). For European credit, we hold a cautious view due to unattractive valuations and the prospect of less buying by the ECB with the tapering of QE next year.

On the broad commodity complex, we have become more constructive given that both our cyclical and momentum indicators are positive. Amongst the sectors, we have turned positive on energy as the drawdown in inventories should move the oil curve further into backwardation making the carry attractive. In comparison, we have downgraded agriculture to a neutral stance. Consumption growth has been strong but prices continue to reflect high levels of global stocks. We believe that supply will begin to respond to low prices, although not enough to offset the high negative carry. Meanwhile, we remain neutral on industrial metals. Demand has continued to be stronger than expected. However, monetary conditions in China are tighter compared to last year, which makes it difficult to forecast a major acceleration in Chinese demand. For precious metals, we have retained our neutral position as gold and real rates could remain range bound with the recovery in both inflation and rates expectations.

Table 1: Asset allocation grid – summary

Equity	**+**	**Bonds**	**-**			**Alternatives**	**+ (0)**	**Cash**	**0 (+)**
Region		Region		Sector		Sector			
US	0 (-)	US Treasury	- (0)	Government	- (0)	UK property EU property	- +		
Europe ex UK	+	UK Gilts	0	Index-Linked	+	Commodities	+ (0)		
UK	0	Eurozone Bunds	-	Investment Grade Corporate	-	Gold	0		
Pacific ex Japan	0	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. 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. Source: Schroders, October 2017.

Regional equity views

Key points

+	Equities	
0 (-)	US	We have upgraded US equities to a neutral stance. The high-quality nature of the market makes it attractive to hold, but valuations have become richer compared to the rest of the world. However, the normalisation of monetary policy by the Fed will put a squeeze on corporate profit margins and earnings growth. Meanwhile, there is still the prospect of US fiscal expansion, such as corporate tax cuts, which is likely to provide a substantial boost to corporate earnings. Moreover, there could be upside surprises on the fiscal front, as investors have low expectations on the ability of the Trump administration to push through these policies.
0	UK	Without a tailwind from currency weakness, the market is lacking the momentum in earnings to drive outperformance particularly given that UK multinationals dominate the FTSE 100 index. Moreover, rhetoric from the BoE has sounded more hawkish of late. However, valuations are reasonable compared to other markets and analysts have revised up their earnings estimates on UK equities given the better than expected outturn in the macro data. Nonetheless, we continue to expect a slowdown in the UK driven by weaker business investment and higher inflation hitting consumer spending.
+	Europe ex UK	Despite the strengthening in the euro, corporate earnings should be well-supported by the improvement in the macro data which has also led us to upgrade the Eurozone growth forecast this year. From a valuation perspective, the region still offers better value compared to other markets. Meanwhile, monetary policy remains accommodative with the ECB unlikely to hike interest rates until 2019 with tightening in policy contingent on inflation expectations.
+	Japan	Not only are Japanese equities exhibiting strong earnings growth, analysts are revising up their forward earnings expectations on this market. This has been underscored by the competitive margins of domestic corporates and solid growth momentum behind the economy. 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 ultra-accommodative monetary policy.
0	Pacific ex Japan (Australia, New Zealand, Hong Kong and Singapore)	We are neutral on Australia, Hong Kong and Singapore. We expect the uncertainty around Australian domestic policy along with the softer data to act as a drag on Australian equities, which dominate the Pacific ex Japan universe. Elsewhere, the strong momentum behind Hong Kong equities has been overshadowed by less compelling valuations. In comparison, attractive valuations offered by the Singapore market is balanced against a low equity risk premium compared to historical trends.
+	Emerging Markets	Emerging equities continue to offer a valuation discount versus their developed peers. While momentum behind the emerging market growth premium remains in favour of the developed market, solid global growth and trade should benefit the emerging world particularly the Asian manufacturers. Furthermore, a relatively benign dollar environment provides an opportunity for EM to outperform.

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

Fixed income views

Key points

-	Bonds	
- (0)	Government	Over the quarter, we have downgraded government bonds to a negative position. 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. On US Treasuries, we have moved to 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 into 2018. Similarly, we are negative on German Bunds given the strong domestic growth picture continues to put pressure on the ECB to reduce policy accommodation. Moreover, we expect the ECB to start tapering QE in 2018. Meanwhile, we have stayed neutral on UK Gilts. There are signs of a slowdown in the economy with households likely to get hit by higher levels of inflation. However, the BoE have sounded more hawkish of late citing the recovery in wages. 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.
-	Investment Grade (IG) Corporate	We remain negative on US IG bonds given uncompelling valuations and deteriorating fundamentals, which are exposed to greater sensitivity to higher rate expectations. Leverage also continues to rise and interest coverage has been falling. 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 less buying by the ECB with the tapering of QE next year.
0	High yield (HY)	Valuations have continued to be eroded with the tightening in US high yield spreads. At the same time, fundamentals such as an elevated leverage ratio and strong M&A activity are pointing towards a credit market in late cycle. However, there remains a strong global bid for carry given the steady growth and low inflationary backdrop. Overall, we are neutral, as high yield offers less rates sensitivity with a higher carry cushion. On European HY, we have become negative as the recent tightening in spreads has meant valuations are screening expensive on our measure compared to history and the US.
- (0) 0 (+)	EMD USD-denominated EMD local currency-denominated	We have turned negative on emerging market debt bonds denominated in USD. Valuations are uncompelling with spreads vulnerable to higher global bond yields. Instead, we prefer harvesting the carry in EMD local currency bonds given more attractive valuations and improved resilience of gross external financing positions for most of the economies in the EMD universe. Nonetheless, we have downgraded EMD local currency bonds to a neutral stance. Investors have become overly optimistic on the prospects of lower inflation in the region and further central bank easing.
+	Index-linked	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.

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

Alternatives views

Key points

+ (0)	**Alternatives**	
+ (0)	Commodities	On the broad commodity complex, we have become more constructive given that both our cyclical and momentum indicators are positive. We have also turned positive on the energy sector over the quarter. While the market is likely to be range bound in price terms, the drawdown in inventories should move the oil curve further into backwardation making the carry attractive. The major risk is that OPEC mismanages its exit strategy, although it is in their interest to maximise revenues given the precarious fiscal state of many members. This should lead to a gradual reversal of OPEC cuts and a rising cap on overall production rather than an expiry of current cuts. On agriculture, we have downgraded to a neutral stance. Consumption growth has been strong but prices continue to reflect high levels of global stocks particularly in grain and oilseeds. So far this year, better than expected weather and a high cost of carry have pushed prices to new lows. We believe that supply will begin to respond to these low prices, although not enough to offset the high negative carry. We remain neutral on industrial metals. Demand has continued to be stronger than expected. However, monetary conditions in China are tighter compared to last year, which makes it difficult to forecast a major acceleration in Chinese demand. Meanwhile, supply discipline remains strong, although this is not resulting in large sustained deficits but merely broadly balanced to a small deficit in this sector. On precious metals, we have retained our neutral position as gold and real rates could remain range bound with the recovery in both inflation and rates expectations.
-	UK Property	In the investment market, the all property initial yield has been flat at 5.1% since July 2016.[1] This stability reflects strong demand from Chinese and German investors for offices in London, attracted by the fall in UK prices in foreign currency terms and good demand from a range of investors for regional offices and industrials. Conversely, yields on secondary retail assets have risen. However, the inertia of the all property initial yield also reflects two bigger market forces. First, the low level of bond yields means that real estate looks attractive and 10-year gilt yields would probably have to rise higher before investors started to lose appetite. Second, the more cautious approach of banks to property lending since the financial crisis means that there are currently few forced sellers in the market.
+	European Property	In the investment market, the favourable outlook for rental growth and the significant gap between real estate and 10-year government bond yields means that there is still 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. We forecast total returns of 5 to 7% per annum on average for investment grade European real estate between end-2016 and end-2020, assuming the Eurozone economy continues to grow. The mainstay will be an income return of 4.5%, while capital values will be driven primarily by a steady increase in rents.

Note: Property views based on comments from the Schroders Real Estate Research team.
Key: +/- market expected to outperform/underperform (maximum ++ minimum - -) 0 indicates a neutral position.

[1] Source CBRE

Economic views

Central view

Goldilocks lives on

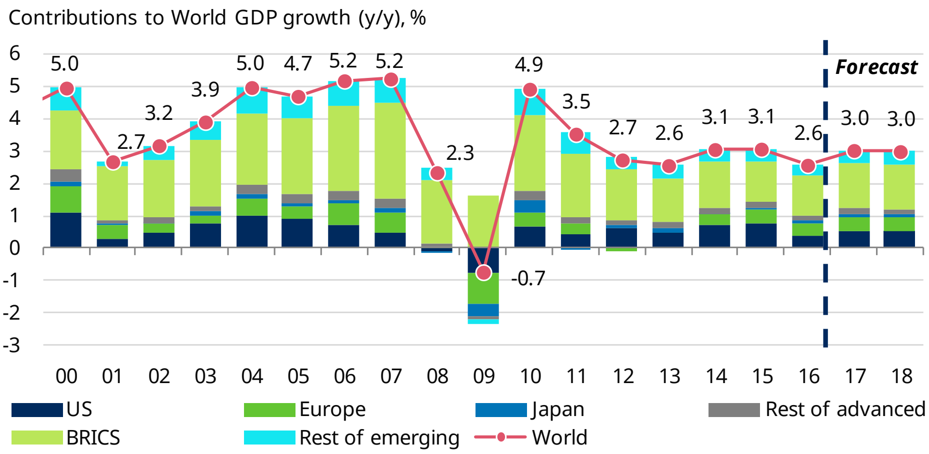
The recovery in global activity remains intact while inflation appears to have peaked following the stabilisation in energy costs. We continue to forecast global growth at 3.0% this year after 2.6% in 2016, but have trimmed our inflation forecast to 2.3% from 2.4%. The combination of steady growth and low inflation means we remain in a goldilocks environment where activity is neither too hot nor too cold to cause a significant acceleration in inflation.

On the growth side, the US forecast is unchanged for 2017 while an upgrade to the Eurozone is accompanied by a stronger forecast for China and the wider emerging markets. In this respect, Europe is picking up the baton from a cooling US. On inflation, we have reduced our forecasts across the board to reflect a lower oil price profile and subdued core readings. Looking into 2018, global growth is expected to remain stable at 3% with modest downgrades to the US, offset by upgrades to the Eurozone and emerging markets.

In terms of monetary policy, we recognise that markets now expect a rate rise in December, but see a see a significant risk that the US Federal Reserve keeps rates on hold until the middle of 2018 given the low level of inflation. We still see rates rising to 2% by the end of the year as inflation reaccelerates. The Fed's pause allows it to begin balance sheet reduction in October 2017, which is stepped up as it progresses. We expect the Fed will take a cautious approach to trimming its balance sheet for fear of inadvertently tightening financial conditions.

Elsewhere, interest rates should remain on hold reflecting the earlier stage of the cycle in Europe and Asia. We expect the European Central Bank will continue QE over the forecast period, but will begin to taper in 2018. The Bank of Japan is expected to keep rates on hold, but maintain Qualitative and Quantitative Easing (QQE) as it struggles to reach its target of above 2% inflation. Having moved significantly, the US dollar is expected to only depreciate slightly further in 2017, but is assumed to stabilise and appreciate again in 2018 as the US resumes its rate hiking cycle.

Chart 1: Global growth and forecast for 2017 and 2018



Source: Thomson Datastream, Schroders Economics Group. 10 August 2017.

Macro risks: Fading political risk

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

Scenario analysis

Political risk returns this quarter as we attempt to incorporate the threat from North Korea into our framework. Although the worst could still happen and a nuclear war breaks out with the US, a more likely outcome is that the tensions created between China and the US on this issue spill over into a full trade war. Clearly, China does not wish to see US troops on its border even if it means propping up a rogue state.

The "**North Korea triggers trade war**" scenario stems from US frustration at the lack of action by China to rein in its neighbour such that President Trump puts a 40% tariff on Chinese imports in Q4 this year. China responds with an equivalent tariff resulting in a major dislocation to one of the busiest trade routes in the world economy. Growth is weaker and inflation higher as a result.

Attempts by China to offload excess production then drags Europe into the fray in Q2 next year with a tariff on Chinese goods, which China then responds to with tariffs of its own. China is also expected to devalue the renminbi to offset some of the effect on competitiveness.

The net result is stagflation with the world economy slowing to 2.4% in 2018 (compared with 3% in the baseline). Inflation rises to 2.8% in 2018, 0.6% higher than in the base. The rise in inflation is exacerbated by a near term increase in oil prices as a fear of shortages encourages hoarding and an increase in stock levels by users. This unwinds later in the scenario as global growth weakens.

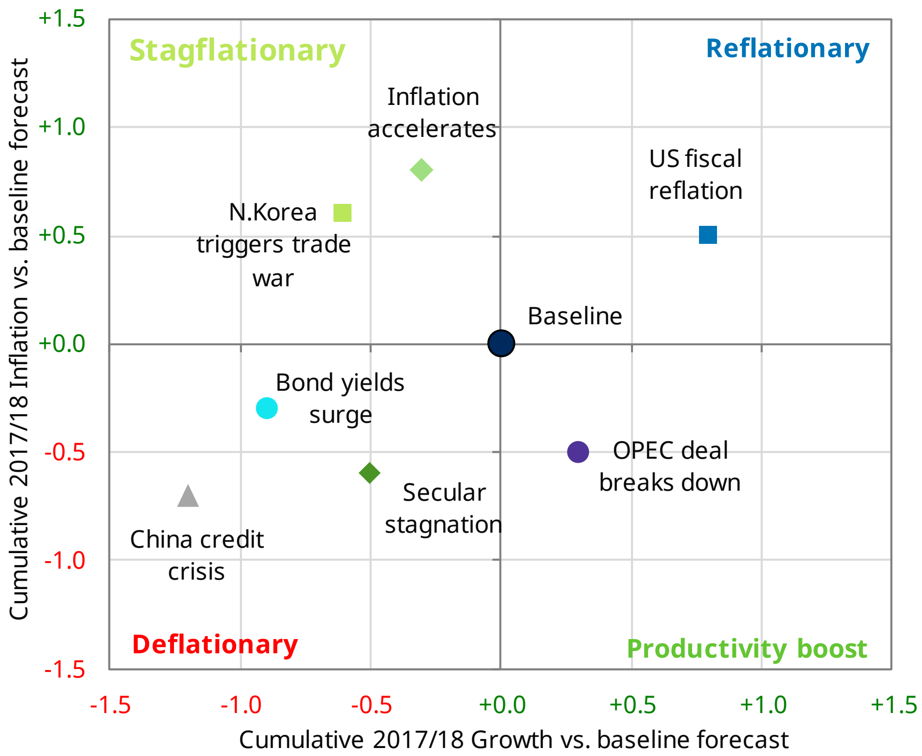
On the currency front, safe haven demand is expected to lead to an appreciation in the US dollar against all but the JPY. Policy wise the picture is more mixed: the Fed is expected to have a slightly lower rate profile in this scenario as higher unemployment weighs on policy tightening despite the rise in inflation. The ECB and Bank of England have slightly higher rate profiles as they focus on inflation and the depreciation of their currencies.

The North Korea scenario joins "**inflation accelerates**" in the stagflationary quadrant of our grid (chart 2 on the next page). The latter captures an environment where the Phillips curve proves to be steeper than we have assumed in the baseline, resulting in higher wages and inflation. For the Eurozone and Japan such a development would initially be welcome as they seek to dispel deflation. However, both the ECB and Bank of Japan could be expected to begin raising interest rates. Meanwhile the Fed would be engaged in more aggressive rate hikes with the policy rate rising to 3.5% by the end of 2018. Growth slows as policy tightens and economies hit capacity constraints, the net result is a period of stagflation.

Our other scenarios are unchanged. President Trump's "phenomenal" tax plans are captured by "**US fiscal reflation**", where a massive stimulus package worth 3% of GDP is passed by Congress. The probability on this outcome has clearly declined as the president struggles to persuade Congress (or even his own party) of the merits of a massive cut in taxes and increase in public expenditure. Along with others we have been scaling back our expectations in this area, but with the market seemingly pricing little in for a tax package the scope for surprise on the fiscal side has increased.

On the deflationary side we still have "**Secular stagnation**", "**China credit crisis**" and "**Bond yields surge**" which all result in weaker growth and inflation than in the baseline. The probability on the latter has increased since our last update in May as the balance sheet reduction process has been brought forward. This scenario expounds a significant tightening of financial conditions in the US, with contagion to markets in the rest of the world. The impact is deflationary as credit and growth slow whilst inflation eases lower.

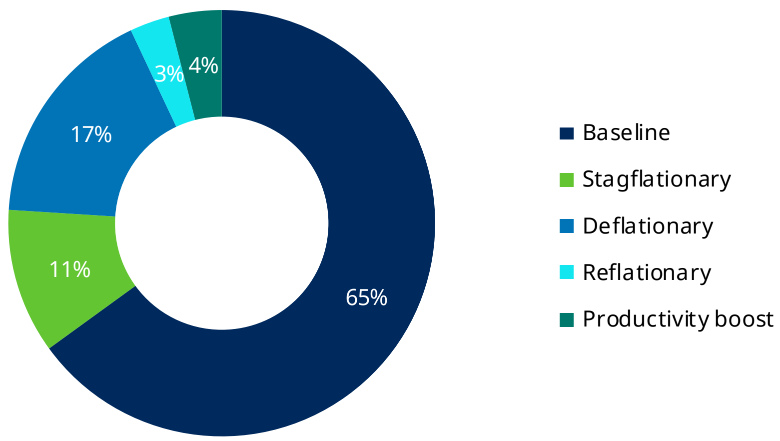
Chart 2: Scenario analysis – global growth and inflation impact



Source: Schroders Economics Group, 10 August 2017.

Chart 2 summarises the impact each scenario has on global growth and inflation relative to the baseline. The introduction of the trade war scenario (which replaces "Old normal" where we saw a return to pre-crisis rates of productivity growth) increases the probability on stagflationary outcomes. However, the greatest risk probability is still with deflationary outcomes compared to the baseline (chart 3).

Chart 3: Scenario probabilities



Source: Schroders Economics Group, 10 August 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 de-lever 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 (3% GDP versus 0.5% in the baseline). Global growth accelerates to 3.7% in 2018 with the US growing at 3.4%. Demand spills over and boosts growth in the rest of the world whilst an increase in animal spirits further boosts activity through stronger capex. However, higher commodity prices (oil heading toward $70 per barrel) and tighter labour markets push global inflation up to nearly 3% in 2018. US Fed funds reaches 3.25% by the end of 2018, 125 basis points higher than in the baseline.	**Reflationary:** Stronger growth and higher inflation compared to the baseline. 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. As well as raising rates to 3.25% by end-2018, the Fed starts to actively unwind QE by reducing its balance sheet. Although there is little slack in Japan, higher wage and price inflation is welcomed as the economy approaches its 2% inflation target. This is likely to lead the BoJ to signal a tapering of QQE, with modest increases in interest rates. Fed action and inflation concerns result in tighter monetary policy in EM compared to the baseline. The ECB also starts to unwind QE and raises rates.
3. North Korea triggers trade war	As tensions in the Korean Peninsular escalate, president Trump loses patience with China and decides to apply 40% tariffs on all Chinese goods in 2017 Q4. 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. OPEC deal breaks down	After some success in boosting world oil prices by cutting supply, some smaller OPEC members start to cheat and expand production once again. Outraged by this, and by the growing hostilities from the US, Israel and Saudi Arabia, Iran decides to break from the OPEC agreement, followed by Russia. Soon after, Saudi also decides to expand production, causing the price of Brent Crude oil to plummet to $30 per barrel, where it remains.	**Productivity boost:** The fall in oil prices boosts the disposable income of households and most businesses across the world, although energy producing countries suffer greatly. In the US, as investment in energy has fallen sharply in recent years, the impact on the energy sector is smaller than the 2015/16 episode. However, households receive a similar benefit with the usual lags. Overall, stronger GDP growth, but lower inflation.
6. China credit crisis	Recent monetary and macro-prudential tightening goes too far and sparks defaults in the interbank market. This leads to a seizing up of the financial system as banks refuse to lend to one another, and chokes off the supply of credit to the real economy. By the time the authorities intervene, real demand has already fallen and so loan demand is much weaker. Reviving the system takes longer than anticipated and the crisis drags on 2018 growth.	**Deflationary:** With credit frozen, Chinese real estate suffers on both the demand and supply side. Accounting for one third of final demand in China, this has a significant impact on Chinese GDP growth. Globally, this transmits first through commodity prices and financial contagion, hurting EM, and soon after through real demand as Chinese consumers cut back. Global growth and inflation both fall.
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 2018. 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, 10 August 2017.

Global strategy: From QE to QT: the outlook for global liquidity?

Keith Wade
Chief Economist
and Strategist

The Fed heads towards QT

The long road from financial crisis to recovery passed another milestone in September when the US Federal Reserve announced that it would start to reduce its $4.5 trillion balance sheet from October. The asset purchase programme, or Quantitative Easing, is finally being unwound with the US central bank set to allow maturing bonds to run off its balance sheet rather than continuing to roll them over.

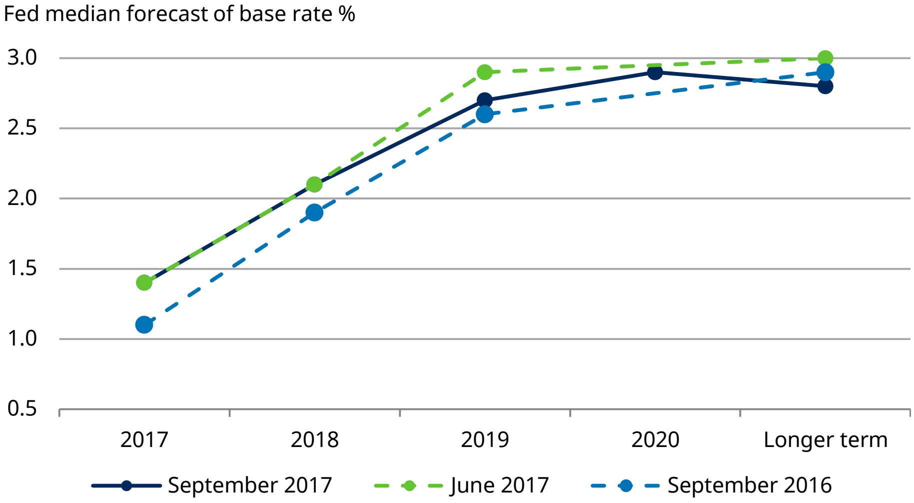
The process will start slowly with an initial $10 billion of Treasuries and mortgage backed securities (MBS) being allowed to run off per month. However this will step up by $10 bn every three months until it reaches a cap of $50 bn per month. At this point the actual pace of balance sheet reduction will depend on the flow of maturing bonds, but it will mark a meaningful change in liquidity. The move toward quantitative tightening (QT) has begun.

It is widely accepted that QE has played a role in boosting asset markets. By depressing government bond yields, central banks have driven investors out along the risk curve pushing up credit, equities and property along with a host of more esoteric assets such as wine, classic cars, etc. The question now is whether turning the process around and withdrawing liquidity will send asset prices into reverse.

In a world of efficient markets the shift from QE to QT would have minimal effect as it would be fully anticipated by markets and so already priced in. Mindful of this, the Fed has been fully transparent in their intentions by detailing the balance sheet reduction process back in June. No one should have been surprised by the announcement on 20 September. Although there was some re-pricing at the short end of the curve, US Treasury and MBS yields barely moved in response.

Of course alongside the announcement on QT, bond markets also had to digest the Fed's comments on activity, revised forecasts for the economy and the famous dot-plot where Federal Open Market Committee (FOMC) members give their best guess of the future path of interest rates. Although there was some excitement over the fact that a majority of members are still looking to raise rates in December, the near term outlook did not alter significantly compared with June (chart 4 on next page).

Chart 4: Dot plot June versus September Fed terminal rate evolution



Source: Federal Reserve, 20 September 2017.

Fed lowered its forecast for interest rates in the long run

For long term rates, perhaps the most important part of the dot plot moved in a dovish direction with a reduction in the forecast for the terminal rate to 2.75%. The latter has declined considerably in recent years from 4.25% in 2012 and might be seen as an official view of the "new normal", an important anchor for yields at the long end of the curve. As private investors decide whether to refinance the bonds which the Fed is no longer rolling over, these projections of equilibrium rates are critical.

More generally, studies suggest that QE in the US has depressed bond yields although estimates vary. The US Treasury Borrowing Advisory Committee reported that adjusting for the path of short rates to capture the extra yield investors require for holding longer term debt suggests that balance sheet normalisation would add 40 bps (basis points) to the 10-year term premium. However, recent research from the Fed suggests a somewhat higher figure of 100 bps.[2]

This would imply some modest upward pressure on US yields: whilst the Fed may have distorted the curve, the outlook is still supportive of a low interest rate environment given the decline in equilibrium rates and the likelihood that inflation remains benign. Private investors such as banks, insurance companies and pension funds will continue to price bonds with reference to these factors as they replace Fed demand.

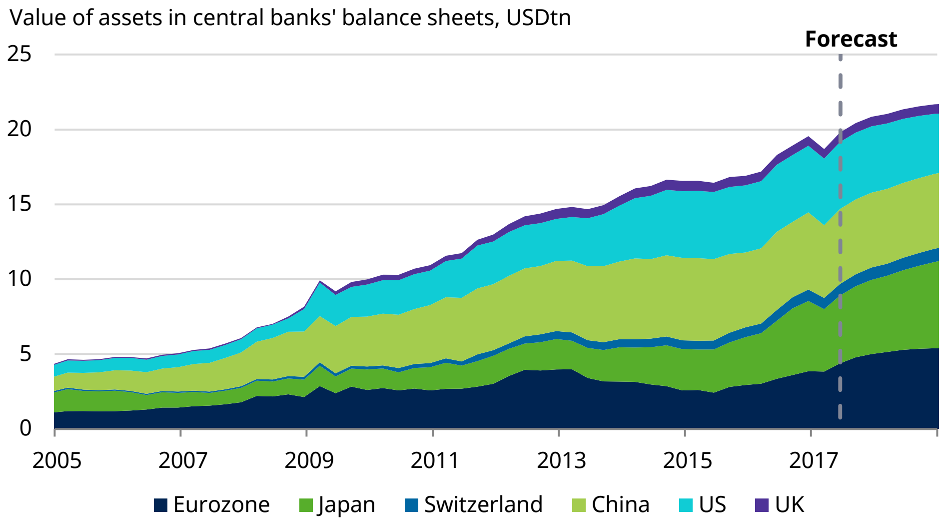
Will global liquidity continue to expand?

Global liquidity boosted by $1.5 trillion led by BoJ and ECB

Whilst the Fed has reached an historic milestone, central banks elsewhere are lagging behind with the Bank of Japan, European Central Bank and Riksbank still fully engaged in QE. We estimate that central banks have injected $1.5 trillion of liquidity through asset purchases over the past year led by the BoJ and ECB (chart 5 on next page).

[2]See US Treasury Borrowing Advisory Committee, 2 August 2017 here and Projected Evolution of the SOMA Portfolio and the 10-year Treasury Term Premium Effect, Federal Reserve, 22 September here.

Chart 5: Central bank liquidity



Source: Thomson Datastream, Schroders Economics Group, 25 September 2017.

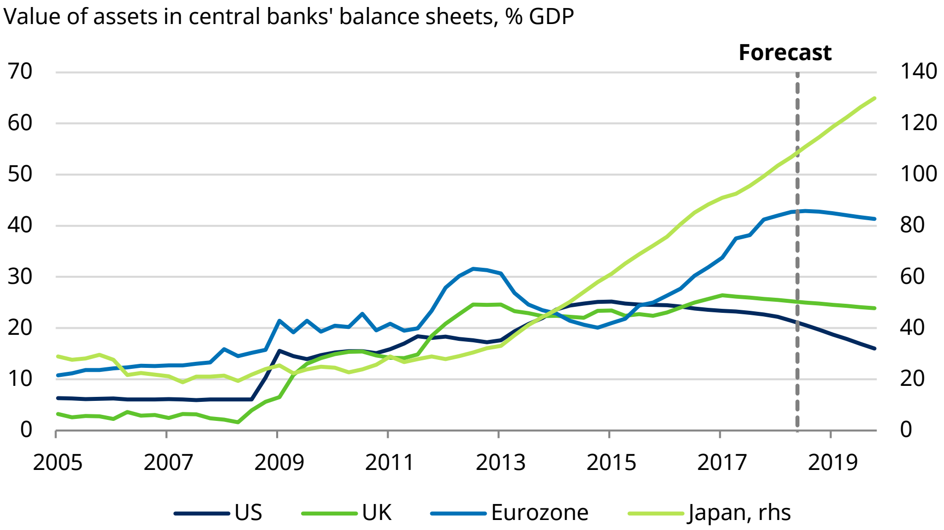
Chart 5 shows our projections for central bank balance sheets going forward and indicates that global liquidity will continue to rise. This is a positive for financial markets. However we believe that investors should start to become more wary on the benefit this will provide to risk assets, for two reasons.

BoJ to continue with QE, but the ECB is preparing to taper

First, the pace of liquidity growth will decelerate such that by the end of next year it will be rising at half its current rate and will almost grind to a halt in 2019. Although the BoJ is expected to continue with asset purchases over this period as it tries to hit its inflation target, increasing QT from the Fed and tapering of QE by the ECB causes a slowing in global liquidity.

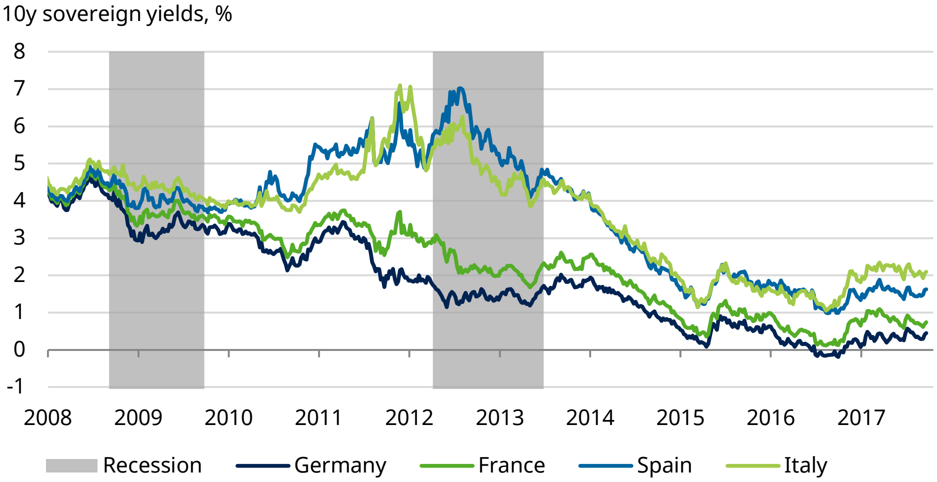
In many respects the ECB move may prove to be the more important development in 2018. The ECB's programme has been larger as a share of GDP and domestic markets than that of the Fed's (chart 6). As a result we have seen a considerable squeeze on Eurozone sovereign bond markets where the ECB has bought a large proportion of available bonds. German bund yields, for example, have been driven down to eye watering levels. Rates have fallen across the single currency area such that bond markets in France, Italy and Spain have seen record lows (chart 7 on next page).

Chart 6: QE compared



Forecast begins Q3 2017. Source: Thomson Datastream, Schroders Economics Group, 26 September 2017.

Chart 7: Eurozone yields at lows during ECB QE

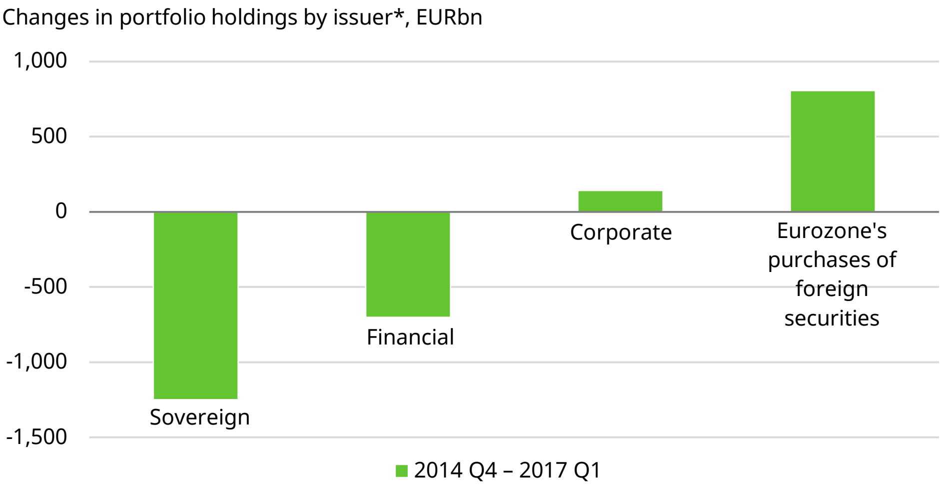


Source: Thomson Datastream, Schroders Economics Group, 25 September 2017.

ECB QE has had a significant impact on capital flows

Analysis of capital flows by Oxford Economics shows the significant impact this has had with private investors selling their holdings of sovereign bonds and shifting some €800 billion overseas (chart 8). In this way the ECB's action had an international impact. For example, one of the major beneficiaries has been the UK government which received £35.2 billion of funding in the year to July through Eurozone purchases of gilts.

Chart 8: ECB QE has had a significant impact on capital flows



*private holdings by Eurozone investors.
Source: Oxford Economics, Haver Analytics, Schroders Economics Group, 25 September 2017.

QE has played a wider role than in the Eurozone than elsewhere

The ECB is expected to step down its asset purchases from €60 billion per month to €40 billion and then €20 billion, before ending QE in December next year. As the ECB tapers QE we might expect a rise in yields across the Eurozone, thus bringing investors back to their domestic bond markets and resulting in a reversal of previous flows.

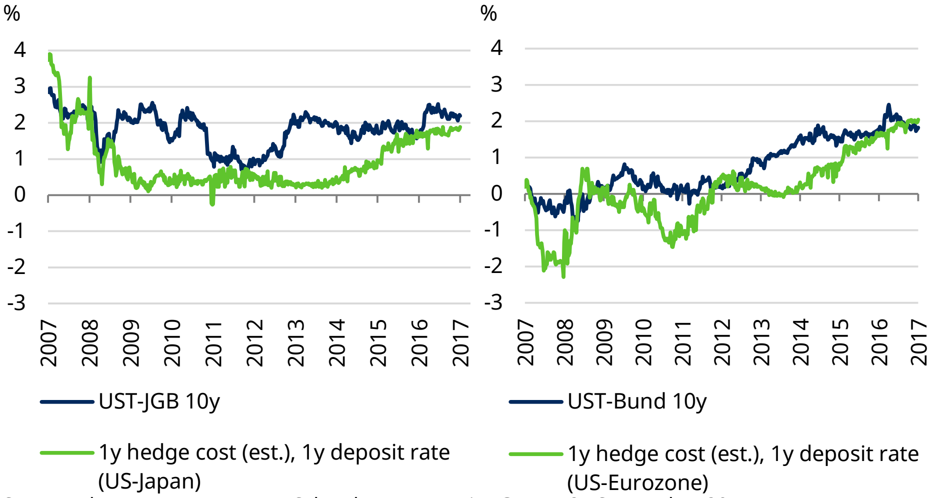
Higher yields in core economies will bring some relief to bond investors particularly domestic insurance and pension funds. The risk though is that the more sensitive peripheral markets could sell off considerably more than in the core. This is an outcome which would be problematic for the Euro as markets re-focus on the structural flaws within the region. The ECB does have tools to counter such an event although in the absence of QE any support would become conditional on reform, making progress more difficult and crisis more likely. In this respect ECB QE differs from that in the US and elsewhere as it also indirectly serves the purpose of quashing political risk premia in the periphery.

The incentive for capital to flow from QE to QT countries is limited by hedging costs

The second issue is whether we can compare QE across countries? In chart 5 above we have converted each central banks QE into US dollars to calculate global liquidity. However, this assumes that investors view bonds across countries as perfect substitutes. In practice they are not as, along with regulatory restrictions, investors also have to take account of potential currency moves when investing overseas.

One way of overcoming this is to hedge currency exposure and we have used the differential between short rates (1-year) as an indicator of hedging costs to compare with the yield pick-up between bond markets (chart 9). When we account for hedging the incentive to move capital out of Japan and the Eurozone has clearly declined and now absorbs most of the yield gain from holding US bonds. This reflects the increases in US short rates as rates in the Eurozone and Japan have been stable.

Chart 9: Hedging costs reduce US yield pick up



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

So although capital can flow freely between countries and we might think of liquidity in different regions as part of a global pool, in practice it can remain contained domestically by factors such as currency. This would seem to be the case at present. Put another way, at present US Treasury yields would have to rise significantly for Japanese and Eurozone investors to shift into Treasuries given the hedging costs.

Global liquidity set to wither

The shift from QE to QT is a welcome development as it signals another step toward normality after the global financial crisis. The Fed has been transparent in its signalling and whilst bond yields in the US may experience some upward pressure they should remain underpinned by the good behaviour of inflation and declining estimates of long run equilibrium interest rates. Looking at the wider picture, even with QT, global liquidity should continue to rise over the next 12 to 18 months largely supported by the BoJ.

However, whilst all this is reassuring for markets and risk assets we would inject a note of caution. First, the pace of liquidity expansion will slow as the Fed implements QT and then as the ECB tapers QE. Moreover, ECB tapering may bring bigger swings in capital flows and yield shifts given the impact of its QE on portfolios. As core yields rise in the Eurozone there could be problems for peripheral economies which no longer have the central bank backstopping their sovereign bond markets.

Furthermore, we question whether we can talk of global liquidity when international investors have to take account of currency and hedging costs in assessing returns. The current configuration of interest rates may keep capital at home rather than flowing freely from areas of QE to those with QT. The bottom line is that not all QE is equal and although global liquidity will not dry up, it will start to wither as we head into 2018.

Seven-year asset class forecast returns

2017 update

Introduction

Our seven-year returns forecast largely builds on the same methodology that has been applied in previous years (see appendix) and has been updated in line with current market conditions and changes to the forecasts provided by the Global Economics team. This document compares our current return forecasts to those last published in July 2016. One key change this year has been a change to our methodology for forecasting credit returns, to incorporate the effects of quantitative easing. A full description can be found in the appendix.

Summary

Returns face further compression after another strong year

Table 1 below shows our forecast returns for the 2017–24 period. Cash and bond returns are largely expected to be negative in real terms, unsurprising perhaps given the continued low rate environment. Investors seeking positive real returns would be advised to look at riskier assets: credit, equities and alternatives. However, even here it seems positive returns are not assured. European credit and equities, for example, are both expected to yield negative real returns over the forecast horizon.

Table 3: Seven-year asset class forecasts (2017–2024), % per annum

		Nominal	Inflation	Real
Cash				
US	USD	1.7	2.1	-0.4
UK	GBP	1.3	2.4	-1.0
Euro	EUR	1.2	1.6	-0.4
Japan	JPY	0.1	1.0	-0.9
Bonds				
US	USD	2.4	2.1	0.3
UK	GBP	0.5	2.4	-1.8
Euro	EUR	-0.2	1.6	-1.8
Equity				
US (S&P 500)	USD	3.7	2.1	1.6
UK (FTSE All Share)	GBP	5.4	2.4	3.0
Europe ex UK*	USD	1.5	1.6	-0.1
Japan*	JPY	5.9	1.0	4.9
Pacific ex Japan*	USD	8.2	2.3	5.8
Emerging Markets*	USD	7.9	3.6	4.2
MSCI World	USD	4.2	2.0	2.1
Credit				
US HY	USD	4.6	2.1	2.4
US IG	USD	3.5	2.1	1.4
UK IG	GBP	1.7	2.4	-0.7

Alternatives				
Emerging Market Dollar Debt (EMD USD)	USD	5.8	2.1	3.6
Commodities	USD	3.3	2.1	1.2
Private equity	GBP	7.7	2.1	5.4
Hedge funds	USD	4.2	2.1	2.0

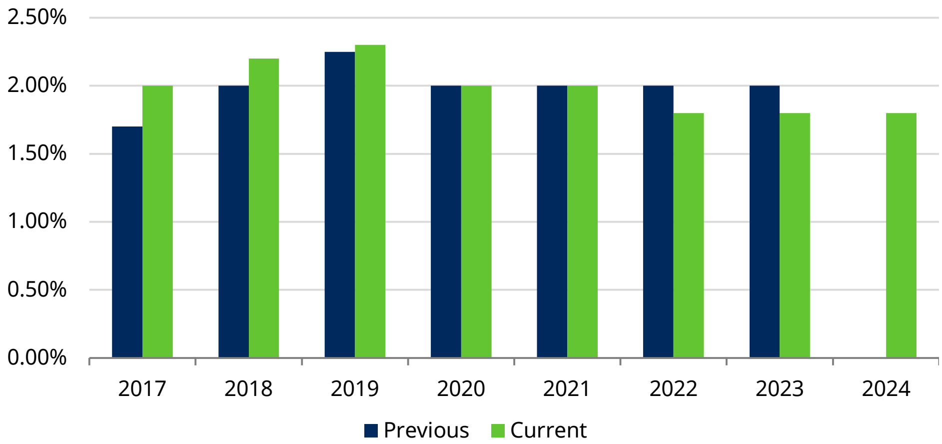
Note: *Thomson Datastream's indices. Source: Schroders Economics Group, Schroders Property Group, July 2017.

Macroeconomic outlook

Short term US growth outlook improves

Our overall growth forecast for the next seven years shows a recovery in the world economy, although one that is sub-par by past standards. We have upgraded our short-term growth forecasts for the US (chart 10) after repeated downgrades in past editions, though longer term growth is revised down as we expect demographics and productivity disappointments to weigh on trend growth.

Chart 10: US growth forecast (2017–2024 vs. 2016–2023)

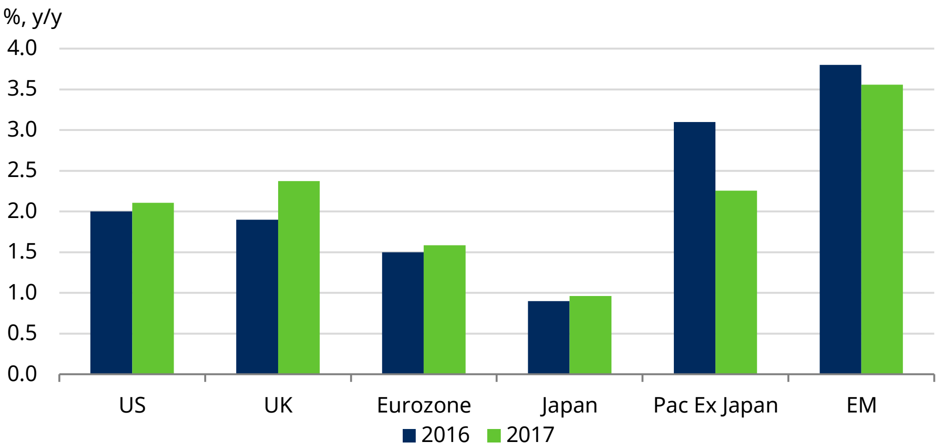


Source: Schroders Economics Group, July 2017.

Inflation revisions are more mixed. We expect marginally higher inflation over the seven years in developed markets (DM), in part simply because the very low inflation of 2016 is behind us. The biggest upward revision, in the UK, can also be attributed partially to the impact of currency weakness linked to the Brexit vote in June 2016. Meanwhile, inflation expectations in Pacific Ex Japan and emerging markets (EM) are revised down thanks to lower oil prices and structural changes in key high inflation EM markets like Brazil, India and Russia.

DM inflation rises as we exit deflation, oil and reform helps EM lower

Chart 11: Inflation forecast (2017–2024 vs. 2016–2023)



Source: Schroders Economics Group, July 2017.

Cash

Our forecasts for cash and bonds are based on the projected path of rates and yields over the next seven years. All cash markets remain in negative real return territory as policy rates remain subdued. The worst returns come in the UK thanks to higher inflation and a central bank response constrained by the weaker growth outlook.

Cash returns uniformly negative, still

Table 4: Cash return forecasts

	2017–2024 (% per annum)			Change from 2016 (percentage points)		
	Nominal	Inflation	Real	Nominal	Inflation	Real
Cash						
US	1.7	2.1	-0.4	0.2	0.1	0.0
UK	1.3	2.4	-1.0	0.2	0.5	-0.2
Euro	1.2	1.6	-0.4	-0.1	0.1	-0.2
Japan	0.1	1.0	-0.9	0.1	0.1	0.1

Source: Schroders Economics Group, July 2017.

Government bonds

We forecast significant increases in returns across the board for government bonds as a result of recent moves towards normalisation. The recovery in yields since 2016 in Europe and the US helps drive higher returns by improving capital returns. For the UK and Europe, we also expect lower terminal bond yields than in 2016, which again increases returns via the capital gains channel. All the same, real returns remain negative in the UK and Eurozone, with only the US offering weakly positive real returns.

US bonds back in positive real return territory

Table 5: Bond return forecasts

	2017–2024 (% per annum)			Change from 2016 (percentage points)		
	Nominal	Inflation	Real	Nominal	Inflation	Real
Bonds						
US	2.4	2.1	0.3	0.8	0.1	0.7
UK	0.5	2.4	-1.8	1.7	0.5	1.2
Euro	-0.2	1.6	-1.8	2.2	0.1	2.1

Source: Schroders Economics Group, July 2017.

Equities

Unlike cash or bonds, most equity markets are forecast to deliver a positive real return, particularly Pacific ex Japan, EM, and Japan (Table 6). Europe is an exception in delivering negative returns over the forecast horizon, thanks to above trend price to earnings ratios which are expected to revert to a lower trend level over time, and a weak forecast for earnings growth.

Stretched valuations provide strong headwind for equity returns

Table 6: Equity return forecasts

	2017–2024 (% per annum)			Change from 2016 (percentage points)		
	Nominal	Inflation	Real	Nominal	Inflation	Real
Equity						
US (S&P 500)	3.7	2.1	1.6	-2.3	0.1	-2.3
UK (FTSE All Share)	5.4	2.4	3.0	5.6	0.5	5.1
Europe ex UK*	1.5	1.6	-0.1	-2.4	0.1	-2.5
Japan*	5.9	1.0	4.9	-3.0	0.1	-3.0
Pacific ex Japan*	8.2	2.3	5.8	-3.7	-0.8	-2.7
Emerging markets*	7.9	3.6	4.2	-3.3	-0.2	-3.0
MSCI World	4.2	2.0	2.1	-1.9	0.0	-1.9

Note: *Thomson Datastream's indices. Source: Schroders Economics Group, July 2017.

We model equity returns by assuming that real earnings-per-share (EPS) growth returns to its long-run trend level by the end of the seven-year period. Meanwhile the valuation metric (PE) returns to a long-run fair value based on a trimmed mean of historic data. Trend growth rates, and terminal PE ratios, are shown in table 7.

Last year, in response to challenges posed by abnormal UK equity valuations following the Brexit vote, we changed our method used for determining the trend value of real EPS growth. For the year ahead, we used consensus expectations, adjusted for any historical bias. Beyond the first year, we used a Christiano Fitzgerald filter to extract the trend EPS growth rate. This year we revert to our original methodology, dropping the use of consensus forecasts for earnings (which typically proved to be well wide of the mark) as we judged it to complicate the methodology without ultimately adding much predictive power.

We have adopted an alternative approach to tackle the challenge posed by UK valuations, however, linking earnings expectations to the oil price. This is explained in more detail below.

These changes in methodology mean that a comparison of equity forecasts shows some significant changes compared to last year, but these should not be overinterpreted.

Table 7: Equity assumptions

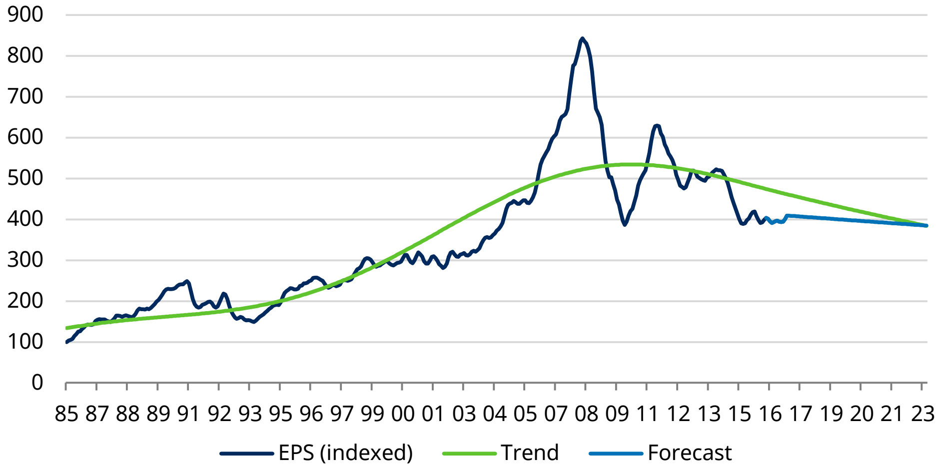
Regions	Trend EPS growth per annum	PE (t)	PE (t+7)
US	1.7%	22.6	18.7
UK	2.4%	28.6	16.7
Europe	-2.6%	17.2	15.3
Japan	3.5%	16.0	15.6
Pacific ex Japan	0.1%	14.8	15.7
EM	2.4%	13.8	13.5
World	-3.5%	19.1	19.0

Source: Schroders Economics Group, July 2017.

Negative real returns in Europe – the only market where we expect this outcome – are the result of a downturn in trend earnings (chart 12 on next page) which leads to negative earnings growth, as well as stretched valuations. We recognise that this forecast is contentious, but currently have no fundamental reason to override the statistical filter applied to EPS. We recognise risks to this forecast in the form of the potential for significant reform in Europe following the election of President Macron in France, but it is difficult to model hope.

Trend in European earnings weighs on returns

Chart 12: Europe ex UK earnings relative to trend

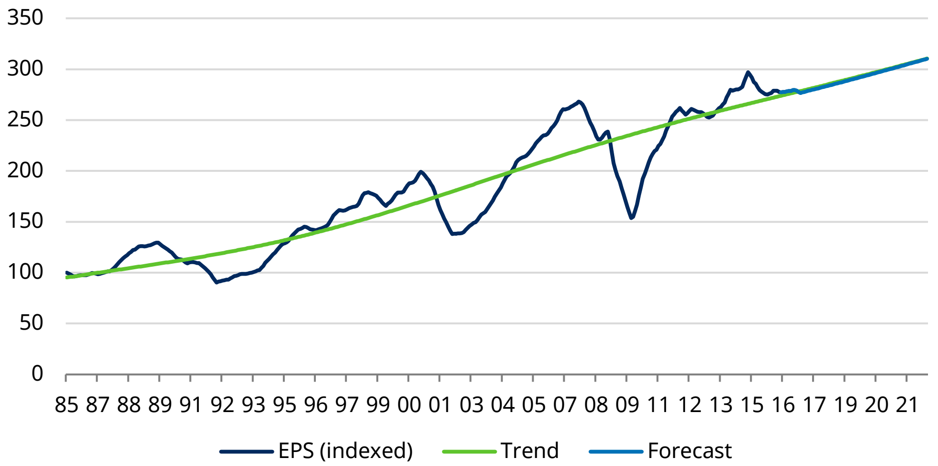


Source: Schroders Economics Group, July 2017.

US equities have grown more expensive over the last 12 months, with a PE of around 22 compared to a terminal value of 18.7, which exerts some drag on returns. However, there is some scope for a small amount of earnings growth with earnings currently on trend (chart 13), such that the equity market is forecast to yield an annualised return of 3.7% in nominal terms.

US and Japanese earnings show strong positive trend

Chart 13: US earnings relative to trend

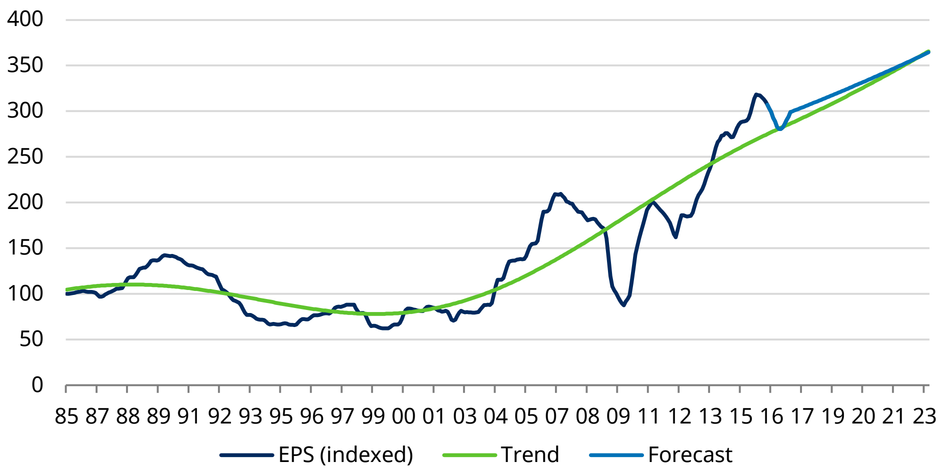


Source: Schroders Economics Group, July 2017.

Last year we changed the terminal PE used in Japan. Historically, we took a trimmed mean of the historic data, excluding the bubbles. There seems to have been a clear break in the PE ratio's behaviour, with a decline through the early 2000s and a fairly steady, much lower, level since the global financial crisis. We hypothesised that the crisis and the Japanese policy response in the form of "Abenomics" has fundamentally changed the behaviour of PE ratios. The terminal PE ratio chosen is therefore based on an average of the historical data since October 2010 – the time when the BoJ began discussing its more aggressive policy stance. This has resulted in a lower terminal PE of 15.6 compared to a little over 19 before, which reduces the capital gain contribution.

On the earnings side, QE and/or Abenomics seem also to have changed the behaviour of earnings, with a much more positive trend beginning in the mid-2000s. While EPS is currently above trend, the strong trend growth projected means further EPS improvement is also expected (chart 14). This helps Japanese equities to deliver a strong annualised performance of 5.9%.

Chart 14: Japanese earnings relative to trend



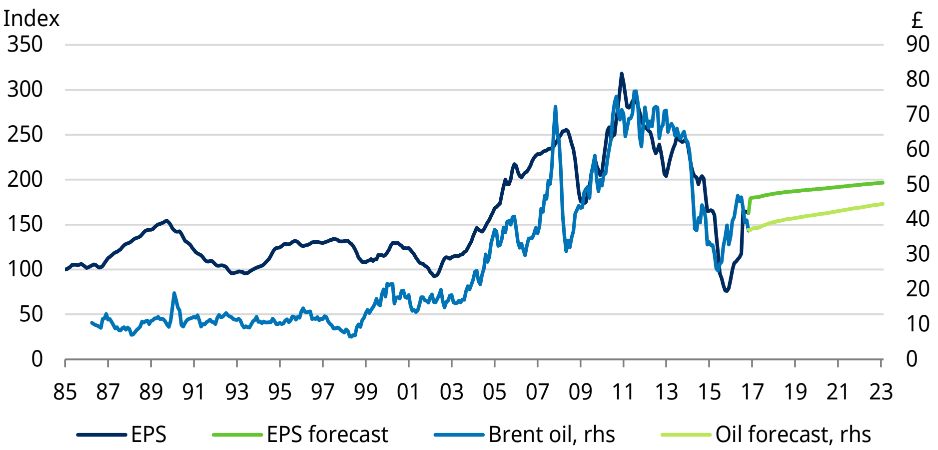
Source: Schroders Economics Group, July 2017.

Our problem with UK equities persists; the collapse in earnings in recent years has the effect of driving up the PE ratio (chart). Assuming a reversion to a trend PE level over time, the spike in the PE implies large capital losses. The flipside of low earnings should be a strong income gain helping to counter those capital losses. However, the earnings decline has been strong enough to bring the trend growth rate down. In contrast to Europe ex UK equities, we believe there are fundamental reasons to override the EPS trend provided by our statistical filter in this case.

UK equities present a forecasting challenge

Specifically, we note that the UK FTSE All Share has a high degree of commodity exposure. Oil is a particularly significant commodity and Brent crude prices (expressed in sterling) correlate strongly with UK EPS (chart 15). A simple statistical filter approach here implies that oil prices continue trending down to $20 per barrel (around £15) over seven years, which we see as unrealistic. Instead, using the relationship between oil and earnings, and forecasting oil over the seven year horizon based on the forward curve, we arrive at an alternative path for trend EPS which implies modest EPS growth for UK equities, and consequently a positive real return.

Chart 15: UK earnings and oil



Source: Schroders Economics Group, July 2017.

Credit

Credit return forecasts are calculated as a spread over a relevant government bond, so the changes in our bond forecasts this year are reflected by their credit counterparts. Negative real returns in European and UK government bonds drag credit returns down into negative territory too. Only in the US are positive real returns on offer.

We incorporate QE into our credit model

It should be noted that we have altered our methodology for credit returns this year. Historically we have used the relationship between US GDP growth and high yield spreads to forecast credit spreads. However, since the crisis this relationship has broken down. We found that taking account of both GDP growth and the growth in the Federal Reserve balance sheet (due to QE), restored a degree of statistical significance to the relationship.

Table 8: Credit market return forecasts

	2017–2024 (% per annum)			Change from 2016 (percentage points)		
	Nominal	Inflation	Real	Nominal	Inflation	Real
Credit						
US HY	4.6	2.1	2.4	0.1	0.1	-0.1
US IG	3.5	2.1	1.4	0.3	0.1	0.2
UK IG	1.7	2.4	-0.7	-1.9	0.1	-2.1
EU IG	09	1.6	-0.7	-1.9	0.1	-2.0

Source: Schroders Economics Group, July 2017.

Alternatives

Despite higher forecast US bond yields, emerging market dollar debt (EMD USD-denominated) returns have fallen since last July, thanks to a tightening of spreads. The forecast return on commodities has edged higher due to higher US cash returns. Our methodology assumes that hedge funds and private equity generate equity-like returns, which we proxy with the MSCI World return (with an additional risk premium for private equity). So with global equity returns lower, private equity and hedge fund nominal returns also fall.

Table 9: Alternative asset class return forecasts

	2017–2024 (% per annum)			Change from 2016 (percentage points)		
	Nominal	Inflation	Real	Nominal	Inflation	Real
Credit						
EMD USD	5.8	2.1	3.6	0.1	0.1	-0.1
Commodities	3.3	2.1	1.2	0.3	0.1	0.2
Private Equity	7.7	2.1	5.4	-1.9	0.1	-2.1
Hedge Funds	4.2	2.1	2.0	-1.9	0.1	-2.0

Source: Schroders Economics Group, July 2017.

Conclusions

Alternatives and credit begin to rival equity returns

The best return on offer is found in Pacific ex Japan equities, followed by Japan and then Emerging Markets. As in previous years, the highest returns are to be found chiefly amongst equities, but the gap between returns from equities and from other investments has been greatly compressed. Notably, EM dollar debt is competitive with many equity markets; a return of 3% is comparable to the UK and higher than the US or broader MSCI World expected real returns.

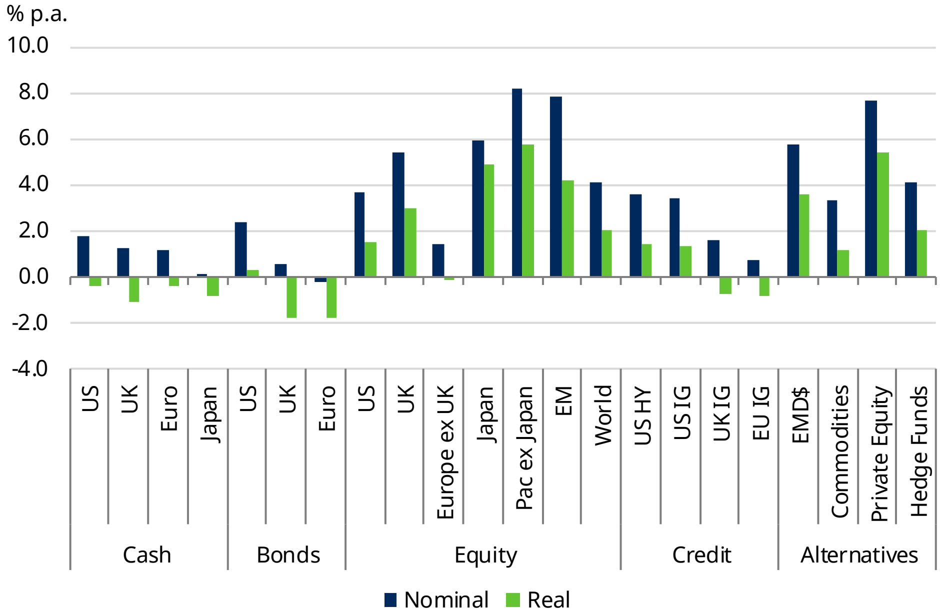
US high yield credit also offers higher returns than US equities. Investors will need to consider relative volatility, of course, which tends to be higher for equities, particularly the higher yielding EM market.

At the other end of the scale, cash and bonds (with the exception of US Treasuries) are still expected to lose you money in real terms over seven years, but losses are reduced compared to last year, and should policy normalisation continue we could soon be at a point of real returns from these lower yielding assets.

Appendix 1 – Forecast overview

Elevated valuations on the back of QE imply capital losses over time

Chart 16: Forecast returns



Source: Schroders Economics Group, July 2017.

Table 10: Change from last update

	Nominal	Inflation	Real
		% per annum	
Cash			
US	0.2	0.1	0.0
UK	0.2	0.5	-0.2
Euro	-0.1	0.1	-0.2
Japan	0.1	0.1	0.1
Bonds			
US	0.8	0.1	0.7
UK	1.7	0.5	1.2
Euro	2.2	0.1	2.1
Equity			
US (S&P 500)	-2.3	0.1	-2.3
UK (FTSE All Share)	5.6	0.5	5.1
Europe ex UK*	-2.4	0.1	-2.5
Japan*	-3.0	0.1	-3.0
Pacific ex Japan*	-3.7	-0.8	-2.7
Emerging Markets*	-3.3	-0.2	-3.0
MSCI World	-1.9	0.0	-1.9
Credit			
US HY	0.2	0.1	0.0
US IG	0.0	0.1	-0.1
UK IG	0.7	0.5	0.2
EU IG	1.8	0.1	1.7
Alternatives			
EMD USD	0.1	0.1	-0.1
Commodities	0.3	0.1	0.2
Private equity	-1.9	0.1	-2.1
Hedge funds	-1.9	0.1	-2.0

Note: *Thomson Datastream's indices. Source: Schroders Economics Group, July 2017.

Appendix 2 – Forecast methodology

Cash: Annualised cash return anticipated over the next seven years based on an explicit interest rate profile.

Government Bonds: Annualised return anticipated over the next seven years based on explicit year-end government bond yields.

Credit Bonds

High yield: We have altered our methodology for credit returns this year. Historically we have used the relationship between US GDP growth and high yield spreads to forecast credit spreads. However, since the crisis this relationship has broken down. We found that taking account of both GDP growth (year on year) and the quarterly growth in the Federal Reserve balance sheet as a share of GDP (i.e. QE), restored a degree of statistical significance to the relationship, with QE generating tighter spreads. We use this relationship to forecast the evolution of spreads over seven years, based on explicit GDP and QE forecasts.

Investment grade: Spreads track high yield spreads closely. We use this relationship to forecast investment grade spreads.

Emerging market debt (EMD) USD-denominated

EMD also has a close relationship with high yield spreads. However this relationship has gone through three distinct phases:

1997–2000 where there were problems in the EMD market as several countries went through a restructure or default

2000–2007 where both high yield and EMD markets functioned normally

2007–present where high yield spreads went from being very tight to an historic wide, whereas EMD spreads remained reasonably well supported

We believe that with the increasing quality of EMD debt (countries are gradually being upgraded to investment grade) we will see the relationship between EMD spreads and high yield spreads settle between phases two and three outlined above.

Commodities

We break our commodity forecast into four components. Commodity Returns = US inflation + Index rebalancing – Roll yield + US cash.

We assume that:

In aggregate commodity prices broadly track US inflation

Commodity prices mean revert over time, as capacity will be increased where there is a production shortage. Rebalancing the index therefore generates excess return by booking temporary price gains

The roll yield will be negative due to synthetic storage costs

Investors receive the return on the collateral which backs the synthetic commodity investment

Equities: Returns consist of two components income and capital returns.

Income component: Determined by the initial dividend yield and growth in dividends. The dividend growth rate is determined by a combination of future earnings growth and the equilibrium payout ratio.

We use a Christiano-Fitzgerald filter, with a 5–20 year cycle component, to obtain trend EPS levels and growth rates. Earnings are assumed to revert to trend over the forecast period.

The earnings growth rate is then adjusted to give the dividend growth rate. Similarly, we assume that the payout ratio will revert to trend over this time period.

Capital growth: Computing capital returns require two assumptions: the rate of earnings growth and the terminal PE.

The terminal PE ratio is assumed to equal the 30-year trimmed mean, with the exception of Japan as discussed. In Japan’s case, we take the mean since October 2010, chosen because it marks the point at which the BoJ began publicly discussing aggressive expansion of its government bond buying programme, in line with the new policy regime of Abenomics. PE ratios have remained stubbornly low since, and it was hard to justify PE reversion to a level not seen since before the financial crisis.

The method for calculating the earnings growth rate is described above.

Research note: Navigating the small cap premia over the cycle

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Introduction

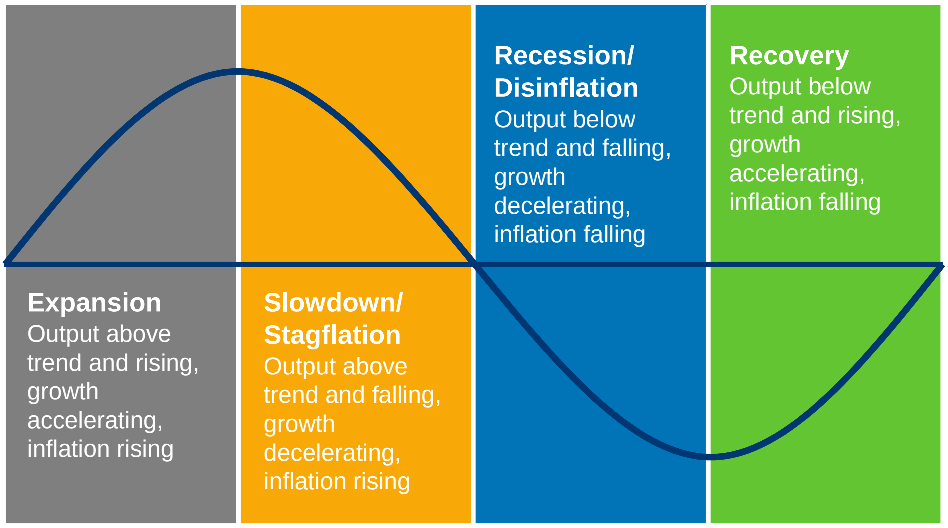
The "small cap premia" or the "size premia" is a well-known investing style where investors are expected to earn higher returns from the ownership of small cap stocks compared to their larger peers. Since the 1980s, there has been a proliferation of studies examining the existence of this premia. This note takes a different perspective by assessing whether there are any distinguishing features of the small cap premia over the cycle. In particular, we examine the investment implications of small versus large caps depending on the stage of the US business cycle.

Setting the scene

US business cycle has been in the expansion phase

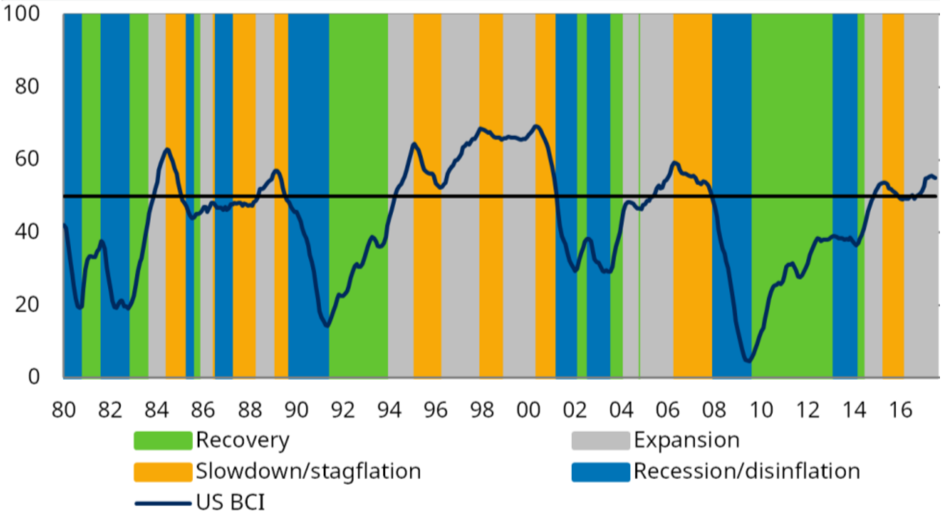
In defining the economic cycle, we specify four distinct phases depending on whether growth is above or below its long run trend and if inflation is rising or falling (chart 17). To determine these phases, we rely on our in-house US business cycle indicator (BCI). The BCI is based on a combination of macro, consumer and credit measures where the data is standardised and percentile ranked. A set of rules are then applied to determine the stage of the cycle (chart 18). For instance, the US business cycle has been in expansion phase since the start of 2016 as the BCI has been rising and above the 50th percentile.

Chart 17: Stylised economic cycle



Source: Schroders.

Chart 18: US BCI



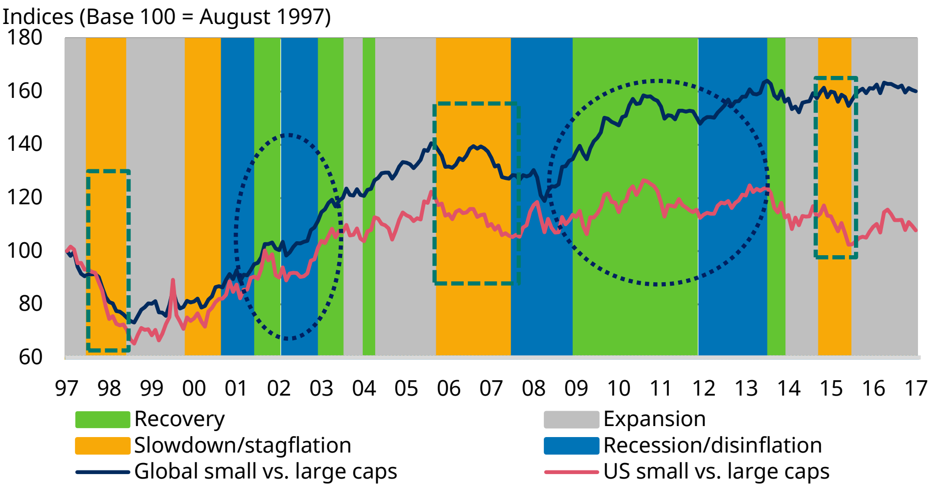
Source: Schroders, September 2017.

Mapping performance over the cycle

Small cap premia outperforms during the recession and recovery periods…

Over the last 20 years, small caps have managed to outperform their larger counterparts (chart 19). Performance was particularly strong for the MSCI AC World small cap benchmark. On closer inspection, in terms of the relative performance of small caps in the different phases of the cycle, there is a tendency for underperformance during the slowdown phase (dotted squares) whilst the small cap premia fairs better over the recession and recovery periods (dotted circles).

Chart 19: US and global small cap premia and the phase of the cycle

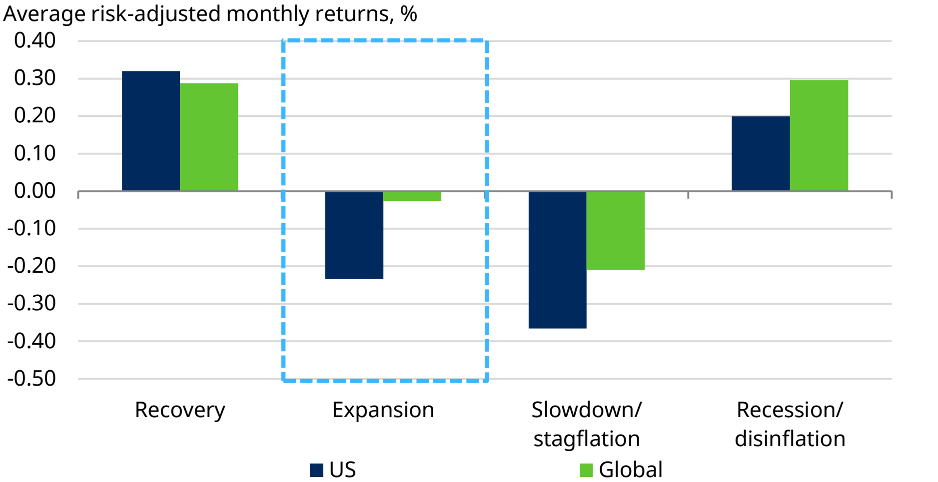


Note: US small versus. large caps is Russell 2000 versus S&P 500. Global small versus large is MSCI AC world small versus large. All total return indices in USD. Source: Thomson Datastream, Schroders, September 2017.

…while the slowdown phase is the worst environment for the small cap premia

Chart 20 maps the performance of small versus large caps for the US and global markets in the different phases of the cycle. The highlighted square indicates the latest phase according to the BCI and the performance is the average monthly risk-adjusted returns. For US and global small caps, the best phase of the cycle is during recession and recovery periods. The expansion periods are more challenging with the slowdown phase the worst environment for the small cap premia.

Chart 20: Average risk-adjusted performance of small cap premia by cycle phase



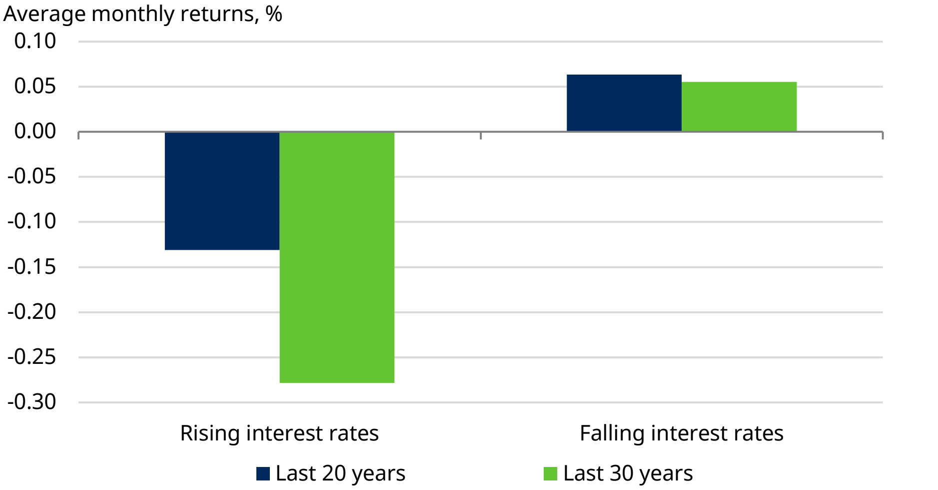
Note: US small versus large caps is Russell 2000 versus S&P 500 (from 1970s to 2016). Global small versus large is MSCI AC world small versus large (from 1994 to 2016). All total return indices in USD. Returns and risk calculated over a completed phase of the cycle. Source: Thomson Datastream, Schroders, September 2017.

Understanding the cycle drivers

Small caps benefit from a low interest rate environment…

While earning growth for corporates is at best modest or even weak during recession and recovery periods, investors anticipate the recovery in profitability with small companies more likely to benefit from lower borrowing costs from falling interest rates or a benign liquidity backdrop. Chart 21 illustrates that the average monthly returns of the US small cap premia are positive when interest rates are falling over the month compared to negative returns in a rising rates environment.

Chart 21: Performance of the US small cap premia and the interest rate environment

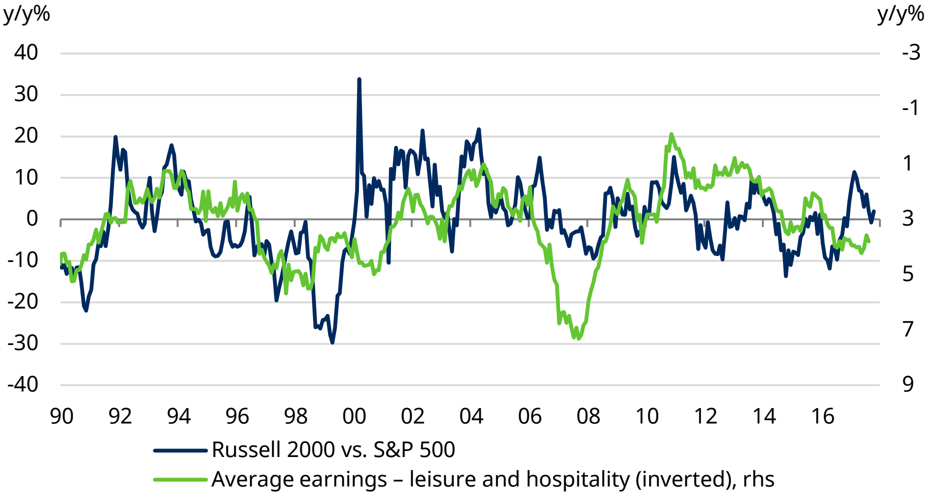


Note: Assume that there are two states where the Fed fund effective rate is rising and falling over the month. US small versus large caps is Russell 2000 versus S&P 500 All total return indices. Source: Thomson Datastream, Schroders, September 2017.

…while rising inflation and wages puts a squeeze on corporate profitability

By contrast, expansion and slowdown periods are more challenging as small companies are more susceptible to rising inflation and wages putting a squeeze on corporate profitability. There is a good relationship between the outperformance of the Russell 2000 relative to the S&P 500 and wage growth in the leisure and hospitality sector (chart 22), with the latter appearing to be better at capturing the wage costs for small businesses.

Chart 22: US small caps tend to underperform when wages are rising



Source: Thomson Datastream, Schroders, September 2017.

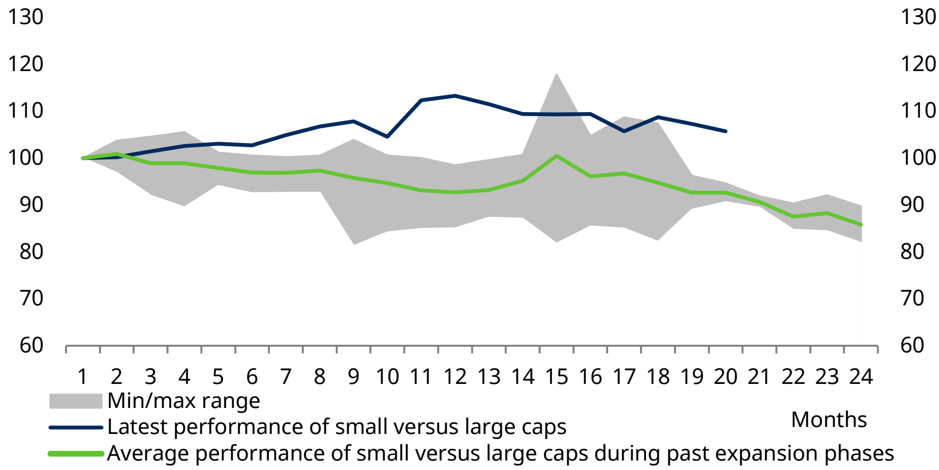
Investment implications and where next for the cycle

The expansion phase is a challenging landscape for the small cap premia

According to our BCI, the US is in the expansion phase, which tends to be a difficult landscape for the small cap premia to stand out. Comparing the current expansion phase with past episodes since the 1970s, the performance fortunes of this cycle has been somewhat different. Chart 23 shows that the latest path of returns for the small cap premia has fared better.

In part, the intial performance of small caps was boosted by Trump's victory in the 2016 election and the expectation of improved business conditions for domestic corporates. This has faded this year with the market discounting a low probability that the Trump administration will be able to enact these reflationary policies. Hence, this expansion phase could be different for the small cap premia if there are signs that these tax reforms will be realised.

Chart 23: Performance path of the small cap premia in the current expansion phase compared to past expansion periods

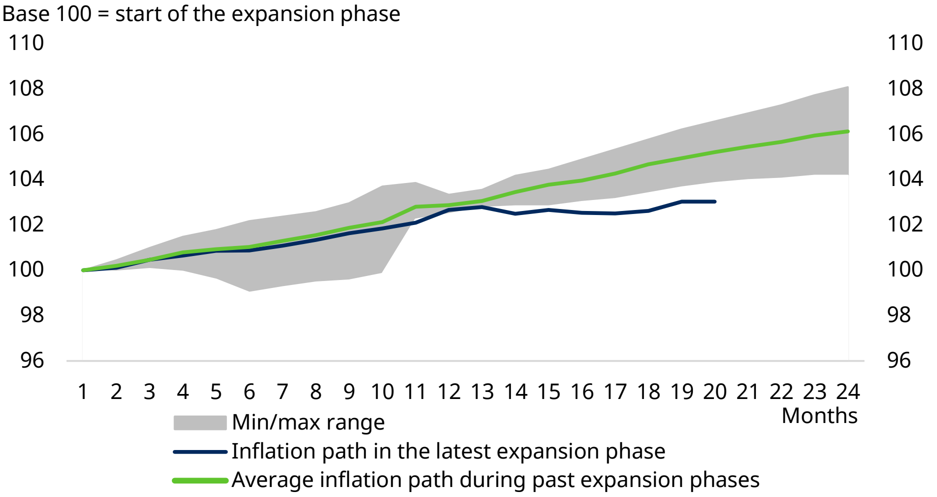


Note: US small versus large caps is Russell 2000 versus S&P 500 (from 1970s to 2016). All total return indices. Source: Thomson Datastream, Schroders, September 2017.

This time could be different given subdued inflation compared to past cycles and the prospect of tax reforms

On the other side of the coin, the recovery in headline inflation in the US over the latest expansion phase has been more subdued compared to past cycles (chart 24). As highlighted, corporate margins of small companies are more vulnerable to higher inflation than their large cap counterparts. Looking ahead, we forecast growth in the US to remain intact but inflation to slow. In an expansion phase with muted inflationary pressures, coupled with a Fed hiking at a gradual pace, this would suggest a more positive setting for the small cap premia compared to previous cycles.

Chart 24: US inflation path in the current expansion phase compared to past expansion periods



Note: The cumulative US CPI path based on m/m% (from 1970s to 2016). Source: Thomson Datastream, Schroders, September 2017.

Market returns

	Total returns	Currency	September	Q3	YTD
Equity	US S&P 500	USD	2.1	4.5	14.2
	UK FTSE 100	GBP	-0.7	1.8	6.6
	EURO STOXX 50	EUR	5.2	4.8	12.6
	German DAX	EUR	6.4	4.1	11.7
	Spain IBEX	EUR	0.8	-0.1	13.8
	Italy FTSE MIB	EUR	5.1	10.8	21.5
	Japan TOPIX	JPY	4.3	4.7	12.5
	Australia S&P/ ASX 200	AUD	0.0	0.7	3.9
	HK HANG SENG	HKD	-1.2	8.6	29.8
EM equity	MSCI EM	LOCAL	0.5	7.7	23.9
	MSCI China	CNY	0.9	14.8	44.2
	MSCI Russia	RUB	3.7	15.3	-3.2
	MSCI India	INR	-1.6	4.0	19.4
	MSCI Brazil	BRL	4.8	17.4	23.3
Governments (10-year)	US Treasuries	USD	-1.6	0.6	2.3
	UK Gilts	GBP	-2.8	-0.3	0.7
	German Bunds	EUR	-0.9	0.8	-0.9
	Japan JGBs	JPY	-0.5	0.3	0.2
	Australia bonds	AUD	-0.8	-0.8	1.9
	Canada bonds	CAD	-2.1	-2.6	-1.8
Commodity	GSCI Commodity	USD	3.3	7.2	-3.8
	GSCI Precious metals	USD	-3.0	2.8	9.8
	GSCI Industrial metals	USD	-2.7	9.3	18.2
	GSCI Agriculture	USD	0.1	-8.1	-10.1
	GSCI Energy	USD	5.9	14.1	-7.4
	Oil (Brent)	USD	10.1	20.4	1.5
	Gold	USD	-2.4	3.2	10.9
Credit	Bank of America/ Merrill Lynch US high yield master	USD	0.9	2.0	7.0
	Bank of America/ Merrill Lynch US corporate master	USD	-0.2	1.4	5.3
EMD	JP Morgan Global EMBI	USD	0.0	2.4	8.7
	JP Morgan EMBI+	USD	-0.1	2.2	8.6
	JP Morgan ELMI+	LOCAL	0.3	1.0	3.0
Currencies	EUR/ USD		-0.9	3.0	10.9
	EUR/JPY		1.5	3.4	7.9
	JPY/ USD		-2.4	-0.5	2.8
	GBP/USD		3.5	2.6	7.8
	AUD/USD		-1.4	2.0	9.2
	CAD/USD		0.1	3.9	7.5

Source: Thomson Datastream, Bloomberg, 30 September 2017.
Note: Blue to red shading represents highest to lowest performance in each time period.

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