Fundamentals:

Stressed out

Markets are worried by the crisis in emerging economies as commodity prices fall. Does this herald more widespread problems for the US?

In this edition of Fundamentals, LGIM Economist James Carrick considers the mainstay of global growth – the US economy – concluding that while it should remain insulated by strong domestic demand, there is a risk that turbulence in high-yield bond markets feeds through into a broader tightening of credit conditions.

Global growth has continued to disappoint, with industrial production and business confidence remaining sluggish in recent months. Our inventory analysis does not yet detect any signs of an imminent recovery **(figure 1)**, though we do not anticipate a further deterioration either. We had expected the global consumer to benefit from the 'tax cut' of lower energy prices last year[1]. With oil prices falling further in 2016, it is important to understand why this lift to growth has not occurred.

Each recession since 1974 has been preceded by a spike in oil prices. A combination of supply shortages, higher prices and tighter monetary policy hurt activity in oil-consuming economies quicker than it boosted spending by oil producers. So if rising oil prices have historically been bad for growth, then in theory, a decline in oil prices should be positive for growth.

Empirically, there aren't many examples of sharp falls in oil prices but we expected the positive supply shock (as OPEC took on increased production from US shale producers) to give the global economy a boost by reducing inflation and raising household purchasing power.

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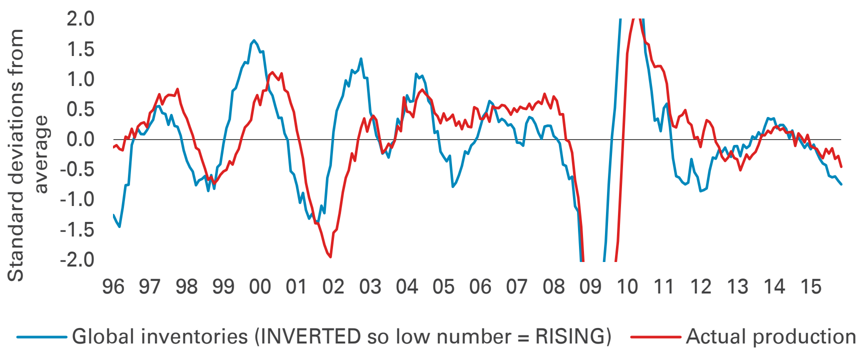
Legal & General INVESTMENT MANAGEMENT

[1] Fundamentals: 'beyond goldilocks', February 2015

Figure 1. Global manufacturing deteriorated in 2015.



Sources: Macrobond, LGIM estimates

WHERE IS THE CONSUMER?

Perhaps the effects are non-linear. The plunge in prices could have forced oil explorers to slash capex budgets more aggressively than consumers could spend the extra money in their pocket. In hindsight, we underestimated the speed at which US shale producers cut capex. This suggests the global economy could recover in 2016 if the bulk of the capex cuts are out of the way. But this ignores the fact that global retail sales still slowed slightly last year, led by a sharp decline in emerging economies **(figure 2)**. OECD retail sales growth held up at an above-trend rate, but sales plunged in Brazil and Russia and slowed in other emerging market (EM) economies.

It is possible there are long lags at work. In some countries, such as the US, the reduction in gasoline prices appears to have largely gone into higher savings. With the housing market improving and the labour market tightening, some of this windfall could be spent over the next few months. In countries such as the UK and Europe, lower oil and gas prices are only just beginning to feed into lower utility prices and so the consumer is yet to feel the full benefit.

EMERGING DISTRESS

However, it isn't just oil prices that have fallen in recent years. There has been a broad-based fall in commodity prices. While global oil demand rose in 2015, global steel demand fell on the back of weaker Chinese investment. EM commodity producers could be trapped in a self-reinforcing downturn. Not only are weaker commodity prices hurting borrowers' revenues, but a strong dollar is also hampering their ability to service their dollar-denominated loans. Banks appear to be recognising this problem. Emerging economies experienced a tightening in credit conditions in 2015, according to a survey from the Institute of International Finance.

The downturn in emerging economies, cuts in commodity capex and a soaring exchange rate have hurt US exports and manufacturing, pushing the widely-watched ISM manufacturing index into contractionary territory in the fourth quarter. Even though the US is a fairly closed economy (exports are just 13% of GDP), with overall GDP barely growing over the same period financial markets are worried about the broader US economy.

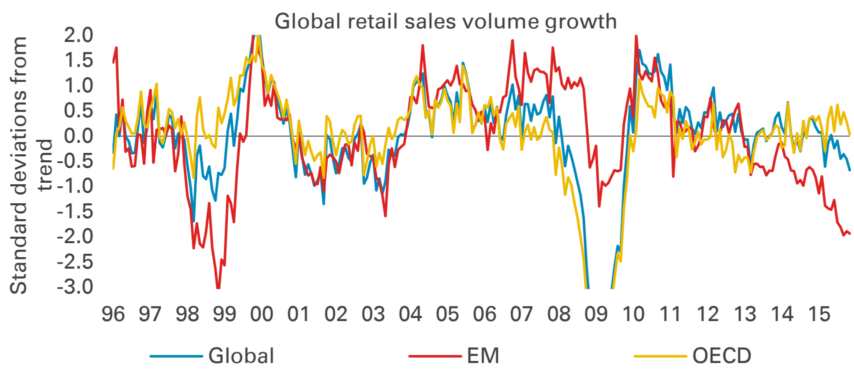
MODEL APPROACH

We have developed a model to try and capture all these effects. We include cyclical variables such as US credit conditions, the oil burden, exchange rates and interest rates, as well as structural factors (population growth, debt and a proxy for GDP mismeasurement). We also include overseas demand to assess the impact of weak emerging markets on the US.

Under a baseline assumption that US government spending improves in line with Federal budget plans, but that overseas demand remains at its recent sluggish pace, then our model indicates the US economy (ex oil investment) should grow by around 2% over the coming year. Within this, consumer spending could grow by a robust 3% but this could be offset by a huge net trade drag **(figure 3)**.

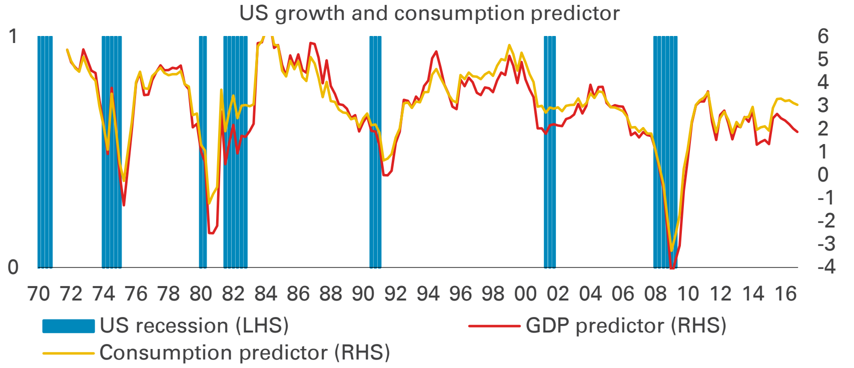
GDP growth of 2% seems modest, but it is exactly in line

Figure 2. EM retail sales growth plunged last year while OECD sales held up



Sources: Macrobond, LGIM estimates

Figure 3. Strong US consumption should be offset by weak net trade



Sources: Macrobond, LGIM estimates

with the average growth rate of the past five years, during which employment has grown rapidly. Indeed, using an almost identical model suggests payrolls growth should remain around 200k per month by the end of 2016 **(figure 4)**. We think GDP mismeasurement partly explains this divergence between reported real GDP growth and employment. We believe statisticians are failing to deflate software prices adequately (and so overestimating inflation and underestimating real GDP and productivity).

If job growth remains robust then US unemployment should continue to fall and banks should remain willing to lend to consumers for consumer durables and mortgages. Traditionally, a survey of banks' willingness to lend to households and corporates has led both turning points in the economy as well as credit spreads. And this survey continued to point to easier credit conditions in the first quarter of 2016 in both the US and the EU **(figure 5]**.

BOND MARKET CONCERNS

But since the great financial crisis, companies have tapped credit markets more than relying on banks for funding. Indeed, the Bank of England has highlighted that a record number of UK companies have accessed credit markets in recent years as banks retrenched. So it is possible we are overestimating credit availability for corporates by focusing on banks' willingness to lend, rather than developments in corporate bond markets.

High yield bond defaults are expected to soar this year, primarily due to bankruptcies amongst oil and other commodity producers. This could scare investors away from this asset class, particularly in an environment of higher Fed Funds rate. Aggressive redemptions could cause access to funding for 'good companies' to dry up – the definition of a 'credit crunch'. With restricted access to credit, good companies might have to curtail capital expenditure and hiring, undermining consumer spending.

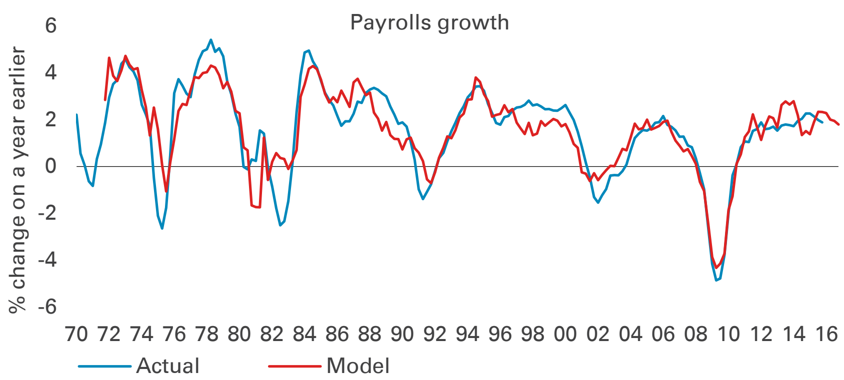
A counter argument to this is that a lot of bond issuance in recent years has been for share buy backs rather than capex, in which case the economic consequences of weaker bond issuance might be limited. Quantitative easing encouraged firms to issue debt as investors were pushed out of government bonds into higher-risk credit assets. Firms were able to extend the maturity of their debt and lock in lower rates.

STRESS TESTING CONDITIONS

Nevertheless, our model allows us to simulate the US economy under a variety of scenarios including the impact of a domestic credit crunch. Not only do we directly take into account corporate bond yields (as well as mortgage rates) but we can also stress test the 'credit conditions' variable. Figure 6 below shows the results of shocks to credit conditions, market interest rates (an average of BAA corporate yields and mortgage rates), the trade-weighted dollar, foreign demand and the oil price.

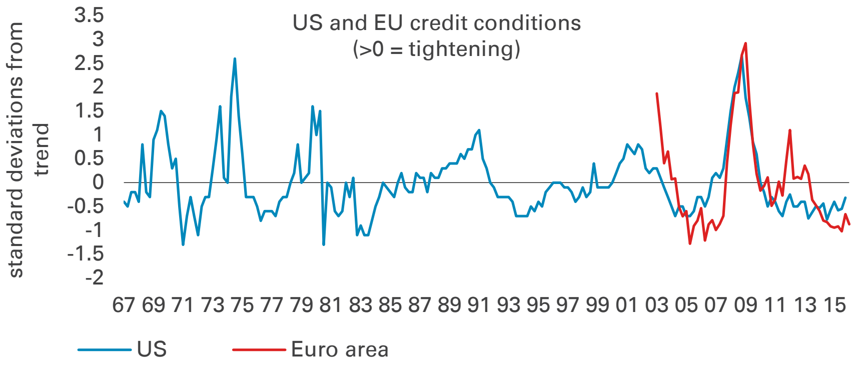
At present, US credit conditions are still easing slightly. But our analysis suggests the economy is very sensitive to a tightening in credit conditions. Even if we were to just assume that overall (household and corporate) credit conditions were unchanged rather than loosening modestly, this could knock around ½% off

Figure 4. Our model suggests employment growth will remain strong



Sources: Macrobond, LGIM estimates

Figure 5. Banks continue to report easier lending standards in the US and EU



Sources: Macrobond, LGIM estimates

growth. And credit cycles can be self-reinforcing because if growth were to slow by ½%, this would knock profits and therefore push up corporate interest gearing, in turn causing banks to be more cautious about lending. A 1% rise in BAA corporate bond yields – assuming mortgage rates are unchanged – could push GDP growth around ¼-½% lower.

WIDER US DOLLAR EFFECTS

Emerging economy growth could also be weaker than we assume. Our analysis suggests emerging economies remain vulnerable to a financial crisis, particularly as the Fed hikes interest rates and the dollar strengthens (see Snapshot). So far, weak demand in emerging economies is being offset by solid domestic demand growth in the euro area (where credit conditions are easing rapidly). So we estimate we're currently in a weak but not disastrous external growth environment for the US. But another leg down in Chinese growth could easily push the global environment towards recessionary levels and this could knock an extra ¼-½% off US growth, on top of which would be additional multiplier effects through the profits and credit conditions channel.

A strong dollar can indirectly affect the US economy by hurting emerging economies with excessive dollar-denominated debt. But our analysis suggests the domestic US economy might be relatively insensitive to movements in the exchange rate because a strong dollar has traditionally boosted domestic demand through lower import prices, offsetting the hit to the relatively small export sector. However, we would interpret this result cautiously, as we find the coefficient of the dollar unstable. In particular, if we run the model over a shorter-time period (since 1985 rather than 1970), the dollar becomes much more significant. We also find credit conditions become more powerful, whereas interest rates and overseas demand become less so.

FED UP?

This highlights the importance of anticipating the US credit cycle correctly. If falling unemployment means credit conditions continue to ease, then the US domestic economy should be strong enough to offset the net trade drag from emerging economies and the strong dollar. But if a surge in commodity-related corporate defaults hampers the ability of 'good firms' to raise finance, then the US economy would be vulnerable. Given the increased importance of corporate bond issuance in recent years, the weakening of the high yield bond market poses downside risks to credit conditions and economic growth this year. This, combined with continued weakness in emerging economies, suggests that the Federal Reserve should act cautiously if financial markets remain volatile.

Figure 6. Ready Reckoners of shocks to the US economy

	Credit conditions 1 sd tighter	RoW demand 1 sd weaker	Market rates 1% higher	Real FX 10% higher	Oil (ex drill-ing) $10 up
GDP (a)	-1.5	-0.6	-1.1	0.0	-0.2
%yoy (b)	-2.0	-0.3	-0.4	-0.7	-0.2
Payrolls (a)	-110	-60	-120	0	-10
000s/m (b)	-140	-50	-40	-90	-20
Consumption (a)	-1.3	-0.4	-0.4	0.3	-0.2
%yoy (b)	-2.1	0.2	0.0	0.1	-0.2
Net trade (a)	0.4	-0.2	0.0	-0.5	0.0
% contribution (b)	0.5	-0.1	0.2	-0.5	0.0

Source: Macrobond, LGIM estimates

Market overview:

Volatility returns to markets

Having staged a recovery in the final quarter of 2015 amid an interest rate rise and positive commentary from the US Federal Reserve, global investment markets weakened sharply in early 2016. With the Chinese yuan renewing its slide against the US dollar, investor fears over the potential for a sharper devaluation in the Chinese currency grew. Risk asset markets fell in unison, with oil prices dropping below $30 a barrel and several major equity markets reaching bear market territory. Meanwhile, traditional safe haven assets such as government bonds, gold, the US dollar and the Japanese yen found themselves firmly back in favour.

UK

Carney remains dovish amid rising market volatility

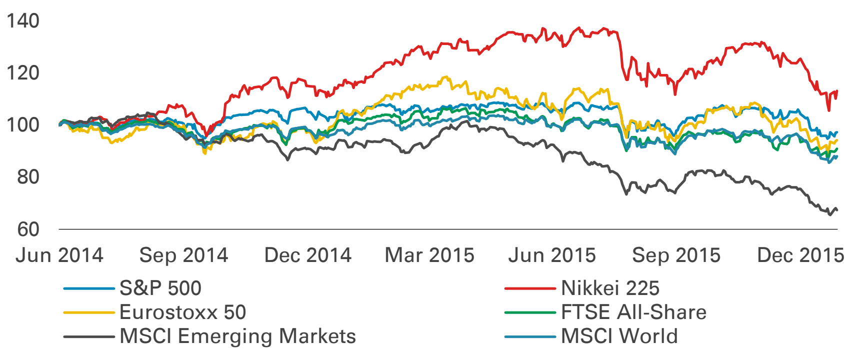
Despite sterling falling sharply in December and January against most major currencies, the Bank of England remained exceptionally dovish over the period. With Governor Mark Carney citing the risk of rising financial market volatility and stating that he had no intention of swiftly following the Federal Reserve's move, expectations for a 2016 rise in UK interest rates receded even further. Meanwhile, focus on the issue of 'Brexit' resurfaced, with David Cameron keeping the possibility of a late-2016 referendum on the UK's membership of the European Union very much on the table.

US

Federal Reserve raises interest rates

In what was a well-telegraphed move, the US Federal Reserve announced at its mid-December meeting that it was raising interest rates for the first time in nearly ten years. With falling oil prices and modest wage increases continuing to lead to higher disposable incomes, the backdrop for the US consumer remained robust and employment growth continued, despite the fact that weak export markets weighed further on the manufacturing sector. However, the sharp rise in market volatility since the New Year dampened expectations for any further US rate hikes in the near future.

Figure 1. Global equity markets



Source: Bloomberg L.P. chart shows price index performance in local currency terms

EUROPE

Draghi extends asset purchase scheme

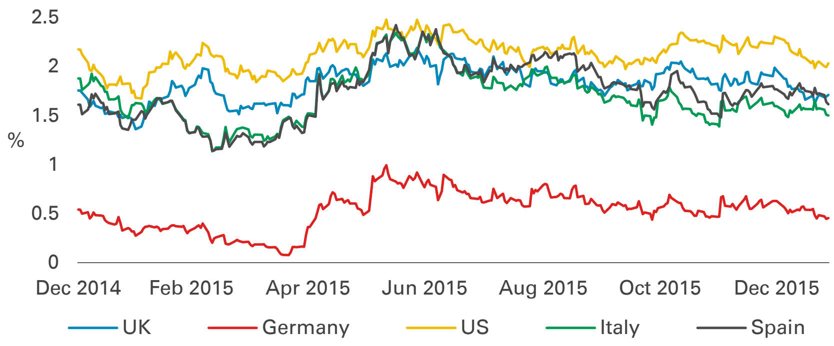
Having reiterated that he would do "whatever it takes" to promote continued stability in Europe, European Central Bank head Mario Draghi extended his asset purchase scheme further in December and cut domestic interest rates by 0.1% to -0.3%. However, despite such a negative policy rate being unprecedented for Europe, investors had been expecting even more extreme monetary measures and the euro strengthened sharply in response, while equity markets fell alongside global markets as January progressed.

JAPAN

Yen strengthens sharply amid market volatility

Having been one of the worst performing major global currencies ever since Prime Minister Abe announced his monetary stimulus programme in late 2012, the Japanese yen strengthened sharply as global equity market volatility increased. Given the Japanese market's high sensitivity to the pricing of exports, particularly compared to those from China, Europe and the United States, equities fell sharply before recovering somewhat late on. However, economic data highlighted that the Japanese economy returned to growth in the final quarter of the year, even as inflation expectations remained exceptionally subdued.

Figure 2. 10-year government bond yields



Source: Bloomberg L.P.

ASIA PACIFIC/EMEA

Chinese growth fears persist

Having led the rebound in risk assets in the final quarter of 2015, emerging market asset prices fell sharply early in the New Year. Lower commodity prices and a stronger US dollar continued to weigh on investors' minds, while fears that the Chinese economy was decelerating also took centre stage. Local Chinese share markets bore the brunt of the losses, with a new mechanism for limiting daily losses being removed only shortly after it had been implemented. Most emerging equity markets found themselves in negative territory, while a basket of emerging market currencies fell to new lows against the US dollar.

FIXED INCOME

Safe haven government bonds return to favour

With equity market volatility rising sharply, investors moved into safe haven fixed income assets as 2016 began. Despite the US Federal reserve only just having raised interest rates for the first time since the global financial crisis, gilt and US treasury prices were both notably firmer as result, although index-linked government bonds underperformed given the continued fall in commodity prices and inflation expectations. In addition to safe haven demand, strength in European government bonds was driven by the European Central Bank's decision to extend its programme of quantitative easing and lower domestic interest rates.

US energy sector bears brunt of credit market falls

Following a modest recovery during October and November, credit markets weakened as 2015 came to a close. Higher levels of volatility continued into the New Year, with investors becoming increasingly concerned over the potential for rising company defaults. Fears were concentrated in commodity-linked sectors and in US energy companies in particular, with the ongoing slide in oil prices the major concern. High yield and emerging market bonds were also in the spotlight, with spreads (the additional yield available on corporate bonds over equivalent government bonds) in these areas rising particularly sharply.

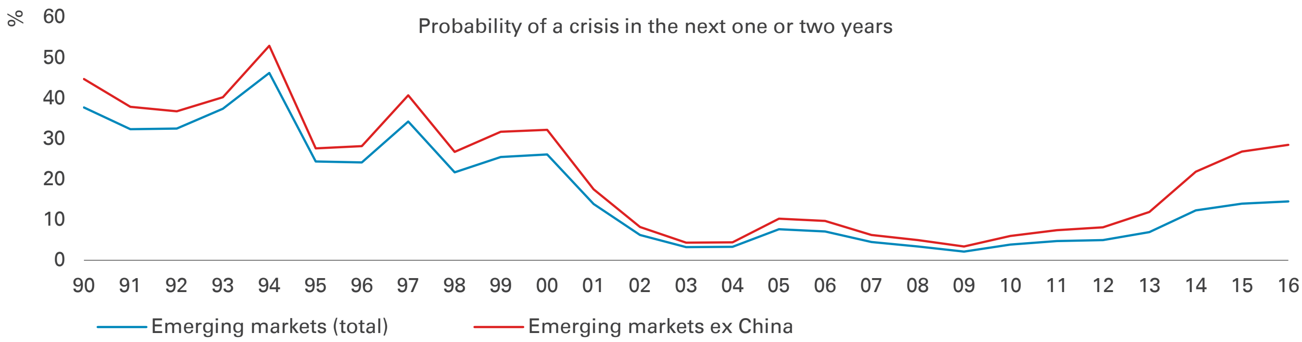
Snapshot:

Emerging market crisis

Emerging economies dragged global growth down last year and an analysis of credit cycles suggests that emerging economies could remain weak in the coming years. In Fundamentals last year, we highlighted that emerging economies had been on a debt binge and had a positive 'credit gap' ("Examining capitalism's Achilles heel", September 2015). Since then, a survey by the Institute of International Finance has signalled a credit crunch is developing as banks restrict credit availability in emerging economies. A combination of excessive debt and tighter credit conditions spells trouble.

An IMF paper defines a 'crisis' as when a country's currency falls by 30% against the US dollar, banks are recapitalised or sovereign debt is restructured. Using a dataset of such crises spanning back to the 1970s, we have produced a model to predict the probability of a crisis occurring in the next one or two years. Figure 1 shows how this has shot up to a 16-year high. The key drivers of our model were external debt (particularly short term), foreign exchange reserves, credit growth, and US monetary conditions (the Fed funds rate and the trade-weighted US dollar index). A stronger dollar and higher US interest rates hurt emerging economies in two ways. First, they directly hurt those who have borrowed in dollars. They also make local currency emerging market assets less attractive for global investors.

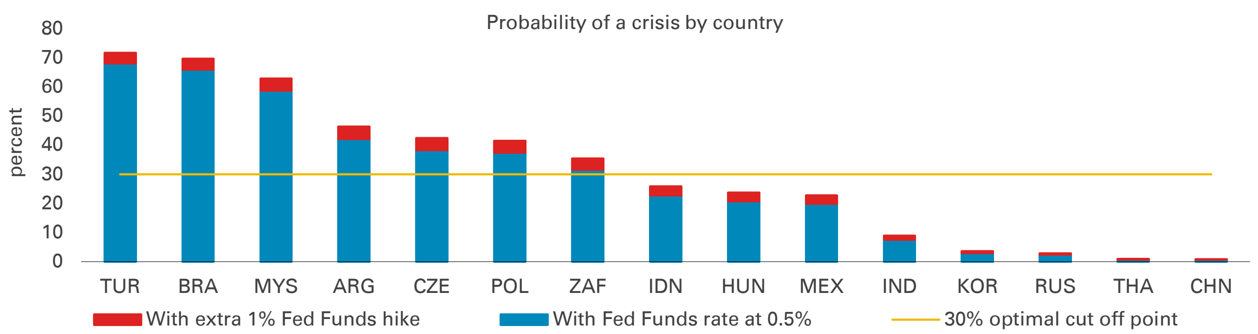
Figure 1. The probability of crisis in emerging economies has shot up to a 16-year high



Source: Macrobond, LGIM estimates

Our analysis suggests that a 30% cut-off point is a good guide to predicting a crisis. On this metric, seven out of fifteen major emerging economies are running significant risk of a crisis. Thankfully, the probability of China suffering a typical emerging market crisis is low, thanks to its strong external balance sheet. It is less likely to suffer from sharp capital flight than an economy funded by 'hot money'. However, China is still likely to suffer from a prolonged period of weakness. Our analysis suggests that economies that have had a huge debt build up tend to experience weaker growth for many years. The danger for China is that 'zombie' companies are kept afloat by banks, which are then unable to finance the expansion of more dynamic enterprises.

Figure 2. The probability of an emerging market crisis is lower in China than elsewhere



Source: Macrobond, LGIM estimates

UK forecast:

All by ourselves?

UK economy	Price inflation (CPI)		GDP (growth)		10-year gilt yields		Base rates		$/£		£/€	
Market participants' forecasts	2015 %	2016 %	2015 %	2016 %	2016 %	2017* %	2016 %	2017* %	2016	2017**	2016	2017**
High	0.20	2.00	2.70	2.70	3.50	4.50	1.50	2.25	1.63	1.70	0.80	0.83
Low	0.00	0.00	2.20	1.50	1.50	1.40	0.50	0.50	1.20	1.27	0.66	0.65
Median	0.00	1.00	2.20	2.20	2.39	2.70	0.75	1.13	1.48	1.53	0.71	0.71
Last month median	0.10	1.30	2.40	2.30	2.00	2.50	1.00	1.25	1.52	1.53	0.71	0.70
Legal & General Investment Management	**0.00**	**0.50**	**2.20**	**2.20**			**0.75**		**n/a**	**n/a**	**n/a**	**n/a**

Source: Bloomberg L.P. and LGIM estimates
***Forecasts for end of Q2 2017**
****Forecast for end of 2017**

In the age of the 24-hour newscycle, it is sometimes difficult to get excited about individual events. There are so many 'momentous' or 'potentially ground breaking' moments that we start to ignore or downplay these. Yet we could have such an event here in the UK with the referendum on the UK's continued membership of the EU expected to take place this year.

The politics around the referendum have been covered at great length and we can expect this to continue as the referendum draws closer. As an investment manager we obviously have to look at the potential economic and market impacts ahead of the vote, as well as considering what would happen if the UK did vote to leave – the so-called Brexit scenario.

In the short term, one might expect business investment to fade somewhat, as companies tend to rein back spending during periods of uncertainty. However, the latest British Chambers of Commerce survey showed a recovery in investment intentions. This is a key variable to watch as the Brexit vote approaches, but we feel it should hold steady, partly because with labour markets tight, companies have a greater incentive to substitute workers with machines (see our July 2015 Fundamentals: Rise of the Machines). All else being equal, sterling would probably expect to be a little weaker in the run-up to the vote, reflecting uncertainty. However, all else will definitely not be equal – inflation and interest rate expectations are also significant influences at present, and hence we can expect more volatility from the pound. Our medium-term view on sterling is not overly constructive, but Brexit fears could easily get over-blown.

If the outcome is Brexit, the effects on GDP are very difficult to quantify. When looked at estimates from a number of think-tanks, we noted that political bias appeared to be a major factor in the headline costs or benefit figures. However, the other factor to consider is what legal relationship the UK would have with the EU. For example, if the UK joined the European Economic Area (which includes Norway), the UK would still have tariff-free access to the single market in goods and services. If the UK joined the European Free Trade Agreement – as Switzerland has – this gives tariff-free access to the single market in goods, but patchy access on services. Importantly, EEA membership is the only arrangement which guarantees single market access for financial services, but it also implies ongoing contributions to the EU budget.

All this means that predicting costs and benefits of leaving the EU is probably about as accurate as predicting the result of the referendum right now. In April last year there was considerable uncertainty over the General Election. We stated then we think it a good rule of thumb for investors to diversify internationally and hold reasonable non-domestic currency exposure as a hedge against idiosyncratic risks in their home markets. The EU referendum clearly falls into that category.

The forecasts above are taken from Bloomberg L.P. and represent the views of between 20–40 different market participants (depending on the economic variable). The 'high' and 'low' figures shown above represent the highest/lowest single forecast from the sample. The median number takes the middle estimate from the entire sample.

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