

Fundamentals:

Re-thinking equity values



Valuations are one of the most common topics in discussions about equities. But although superficially simple, these are also one of the most misunderstood and sloppily used tools in the market.

In this month's Fundamentals, Equity Strategist Lars Kreckel aims to clear up some of the common misconceptions around equity valuations, explains why equities do not appear excessively expensive and presents a new LGIM Composite Valuation Indicator, the Z-Factor.

VALUATIONS - WHAT ARE THEY GOOD FOR?

Let's start with the good news! Valuation multiples are useful for investors trying to estimate the long-term return prospects of equities. There is broad historic evidence that multiples such as the popular CAPE (cyclically adjusted PE ratio, calculated as the current price divided by the ten-year average of reported earnings per share, both adjusted for inflation) have a good correlation with subsequent ten-year equity returns. **Figure 1** shows that generally the lower the CAPE when buying equities the better the return over the next decade and vice versa.

The bad news is that for all their usefulness in long-term equity return predictions, valuations are nearly useless when it comes to more tactical decisions. In statistical terms, **figure 1** shows that the correlation between the CAPE and the subsequent 10-year equity return is a pretty high R2 of 69% (100% being the maximum), but when we shorten the investment horizon to 12 months the R2 falls to a paltry 8% (see **figure 2**). And this is not just a problem of the more long-term oriented CAPE; all other valuation multiples fare similarly poorly when testing their predictive power for shorter term returns.

The lack of correlation between valuations and short-term returns is not exactly a ground-breaking discovery. It is very well covered

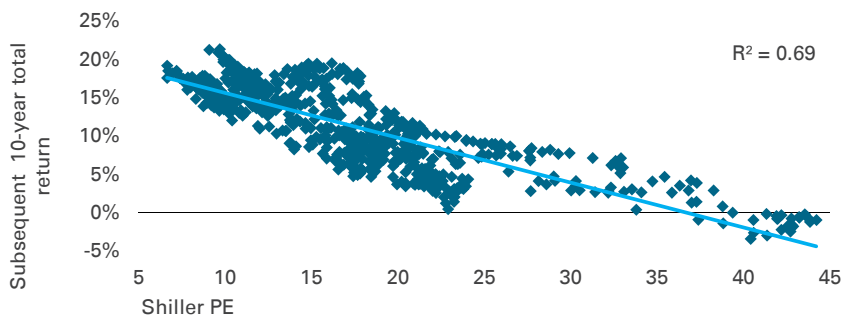
INSIDE:

Market overview:
Policy push

Snapshot:
Is Abenomics missing the target

UK forecast:
Capacity for debate

Figure 1. CAPE and subsequent 10-year returns



Source: LGIM, Shiller

in academic literature and is the reason we describe our tactical investment approach as value-aware rather than value-driven. But it makes it all the more surprising how much time is devoted to valuations in analyst reports and investor discussions; especially as many investors' time horizon is likely to be closer to one year than ten, and in many cases may be even shorter.

COMPLEX, AND NOT ALWAYS USEFUL

Most investors would agree that the value of a financial asset is the present value of its future cash flows. Unfortunately, calculating this is a very difficult exercise. It requires forecasting cash flows, which are difficult to predict to begin with, into an uncertain future and discounting them at an unknown rate. In other words, it requires making a large number of assumptions about factors we cannot reliably predict. Multiples offer a tempting alternative. In the case of a PE ratio, all we need to estimate are next year's earnings and we can observe the current share price. The ratio of the two will tell us whether a stock is cheap or expensive. Seems easy, but this shortcut means that the difficult parts of the calculation that are explicit in a discounted cash flow model are made implicit, hidden out of sight, in a valuation multiple. We still need to understand what

the implicit assumptions are in order to translate the number into an investment decision.

Another common assumption is that low valuations are a protection against excessive losses. But is this really true? Having shown that there is no correlation between valuations and subsequent short-term returns should make one doubt that assertion and a look at some real life examples confirms our suspicion. Two of the most recent sharp corrections occurred in Turkey during last year's 'Taper Tantrum' and in Russia with the uncertainty around Ukraine earlier this year. In neither case was there any correlation at the individual stock level between the PE before the correction and its peak to trough drop during the correction (figure 3). So the cheapest stocks in Russia and Turkey fell no more but also no less than the most expensive stocks. One of the

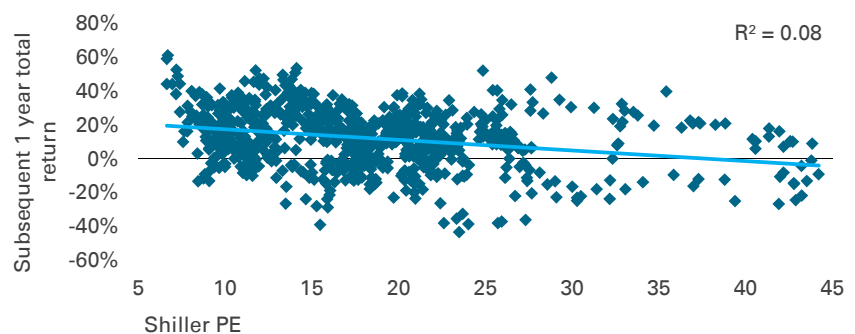
best examples was Gazprom, which traded on what by most standards is an extremely low PE of 3x before the Crimea invasion, but still lost almost a quarter of its value, roughly the Russian market average, in the weeks that followed. Perhaps this only happens in a sudden correction, like a crash. Could investors behave differently in a more gradual bear market? However, we find the same results in the last two bear markets, where 'cheaper' technology stocks fell no less than 'more expensive' technology stocks when the TMT bubble imploded and 'cheap' banks fell no less than 'more expensive' banks during the more recent financial crisis.

WHICH MULTIPLE TO LOOK AT?

There are so many valuation multiples available that at any one time (figure 4) it is possible to find at least one that makes equities look expensive or cheap. Confirmation bias makes it tempting to focus on the multiples that support one's case.

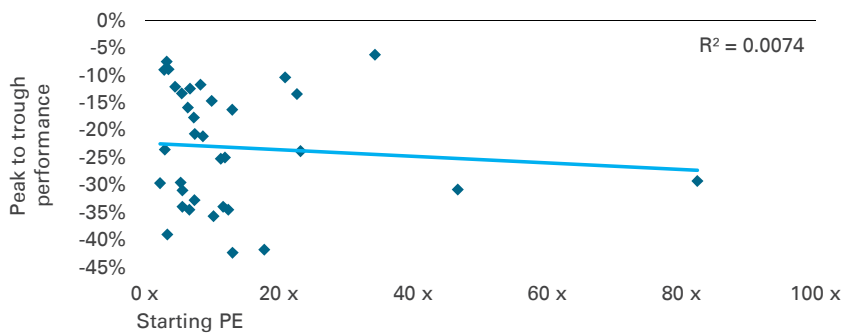
Is there a more rigorous approach of narrowing down the number of multiples to look at? Are some valuation multiples more useful than others? There are different approaches to answering these questions. The typical approach

Figure 2. CAPE and 12 month subsequent returns



Source: Shiller, LGIM

Figure 3. Starting to PE and peak-to-trough performance during Ukraine crisis 2012



Source: LGIM, Bloomberg

is to discuss the intellectual merits of specific multiples and perhaps make an adjustment to correct for a perceived inaccuracy of a specific multiple.

We would argue that the most important characteristic a multiple must have is not its intellectual purity but rather that it has a good track record of predicting future equity returns. As long as a multiple is not intellectually flawed our aim is (and should be) to maximise the predictive power for future returns. This is why we look at valuations in the first place.

AN HISTORICAL BACK-TEST

With this in mind, we can run some simple tests on how well different multiples have achieved this goal. Assuming valuations mean-revert in the long-run, say ten years, the total return equities should deliver can be easily calculated as the earnings growth rate, gradual reversion to the mean multiple and the dividend yield. As a test case, we looked at US equities, where the longest historic data series are available.

The first conclusion is that we can discard some valuation multiples. The relative multiples we looked at compare equity valuations with those of bonds, such as equity risk premium and earnings yield ratio, have a very poor track record at predicting long-term equity

returns. Arguably this is not surprising as relative multiples aren't designed to predict absolute returns, but given they are often used as an argument for

or against buying equities, it is worth noting that they have had exceptionally poor track records in this task.

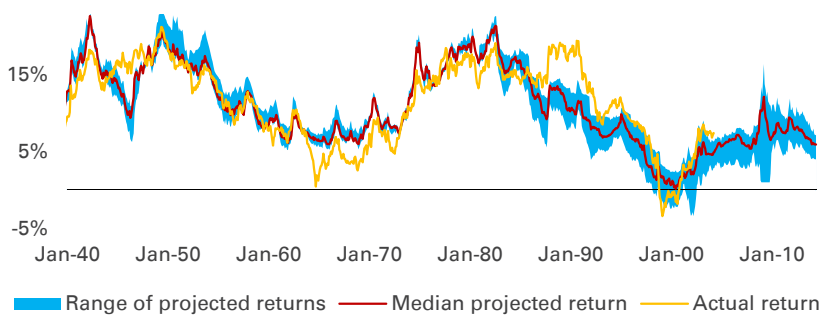
For the absolute valuations, the most surprising conclusion is that it doesn't matter which multiple you use because most have a similarly good track record. We get some of the best results for enterprise value based measures and price to book, but we only have data for these going back to 1980. Of those with a history back to 1940 we get particularly good results for cyclically adjusted PEs

Figure 4. Valuation overview

		Current	Average	Min	Max	Percentile
PE trailing	World	16.7	16.9	8.0	30.4	47%
	US	19.6	16.3	6.8	31.6	73%
	UK	15.7	14.0	3.2	26.7	69%
	EMU	17.6	13.9	6.9	26.4	85%
	Japan	14.6	35.3	13.0	84.6	4%
PE forward	World	13.0	13.5	7.8	21.7	48%
	US	14.1	15.5	8.8	24.8	34%
	UK	15.8	15.2	8.7	25.8	71%
	EMU	14.2	13.2	7.5	22.1	75%
	Japan	14.8	13.8	7.7	26.5	73%
PB	World	12.5	26.9	10.3	56.3	6%
	US	11.1	12.9	6.5	28.2	42%
	UK	2.0	2.0	1.1	303.0	50%
	EMU	2.8	2.5	1.1	5.0	75%
	Japan	2.1	1.8	0.7	3.1	62%
DY	World	1.6	1.6	0.7	3.2	58%
	US	1.4	1.9	0.8	4.1	19%
	UK	1.8	1.8	1.1	2.9	46%
	EMU	2.5	2.8	1.2	5.2	53%
	Japan	2.0	3.0	1.0	6.5	31%
EV EBITDA	World	3.3	4.2	2.2	11.0	24%
	US	2.8	3.3	1.5	7.1	32%
	UK	1.9	1.3	0.4	3.1	74%
	EMU	3.1	2.4	1.4	4.7	94%
	Japan	10.2	8.7	3.8	13.3	63%
EV Sales	World	12.0	9.2	4.4	14.0	83%
	US	10.4	8.8	2.6	15.4	57%
	UK	10.6	7.7	1.8	13.7	66%
	EMU	8.0	8.6	3.6	13.4	27%
	Japan	7.4	8.1	5.2	12.2	36%
CAPE	World	1.4	1.1	0.4	2.0	78%
	US	1.8	1.4	0.6	2.5	86%
	UK	1.2	1.1	0.3	2.4	58%
	EMU	1.1	0.8	0.2	1.6	79%
	Japan	0.8	0.9	0.3	1.5	32%
Shiller US	World	1.3	1.6	1.2	2.2	9%
	Shiller US	25.6	16.5	4.8	44.2	91%
	Bianco US	19.1	14.5	4.3	36.9	85%
	US	26.1	24.7	12.0	51.3	64%
	UK	15.5	19.8	6.6	33.1	20%
Europe	Europe	15.8	20.6	9.0	35.8	26%
	Japan	23.9	45.1	15.8	93.4	14%

Source: LGIM, Datastream, Shiller

Figure 5. Looking at forecast range and actual returns



Source: LGIM, Datastream, Shiller

such as the Shiller and Bianco PEs with R2 of around 70% with subsequent ten year returns, but other multiples are not far behind. Combining the return predictions of the ‘best’ multiples therefore shows a remarkably tight and accurate range (figure 5) and suggests we should expect US equity total returns between 4% and 7% over the next decade. A similar exercise for European equities suggests returns between 5.5% and 11% over the next decade.

BUILDING A COMPOSITE

As many multiples deliver similarly good results, we have tried to construct a composite valuation indicator that best achieves our stated goal of maximising the predictive power of multiples. Admittedly, this is unlikely to significantly improve returns, but is an interesting (and fun) exercise nonetheless and lets us condense the often lengthy and fruitless discussion of equity valuations into a single number.

We therefore constructed what we call the Z-factor as a composite valuation indicator (Z-Factor because we used normalised z-scores and factor analysis in the construction). We blend the multiples we find intellectually robust, which have strong track records of predicting equity returns and that represent a broad range of different types of multiples (Shiller PE, Bianco PE, trailing PE, price-to-book ratio, Ev/Sales, Q-ratio) to provide a consistent valuation multiple going back 75 years. The result is the Z-Factor, shown in figure 6, which also has a better track record than other multiples of predicting future equity returns (with an R2 of 73%) and currently predicts US equities will deliver an annualised total return of 4.5% over the next decade.

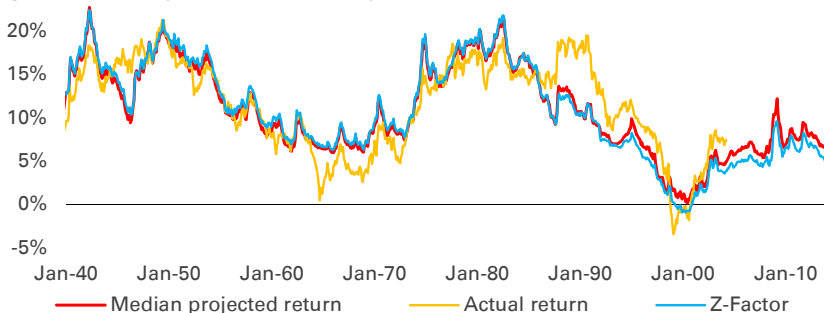
SUMMARY

What does this mean? It tells us that the next time you hear or read about valuations as an argument to buy or sell

equities remember that just because equities are cheap or expensive by historic standards has absolutely no bearing on whether they will go up or down in the next year or two. In addition, be aware that by using multiples you are taking a shortcut that makes many implicit assumptions and that just because a stock may be cheap, it is no realistic protection against painful losses. Be ‘valuation aware’ rather than ‘valuation driven’.

The second main conclusion is that equities may no longer be called cheap, but are equally not yet excessively expensive. Looking at the multiples that have historically been best at predicting future returns suggest we should expect US (EU) equities to deliver in the region of 4% (5.5%) and 7% (11%) total returns per year over the next decade, with our new Z-Factor composite valuation indicator estimating 4.5%. That may sound below par by historic standards, but remains significantly more than one can expect from most alternatives in the fixed income space.

Figure 6. Z-Factor predicted return compared with actual return



Source: LGIM, Datastream, Shiller

Market overview:

Policy push

It's been yet another month dominated by central bank policy. The European Central Bank implemented a further stimulus package, China announced mild policy easing measures and, most recently, Yellen soothed summer volatility concerns with more dovish comments. The only fly in the ointment of stronger equity and bond markets was the increasingly concerning geopolitical tension in Iraq, which has pushed up oil prices.

UK

A hawkish Carney

Mark Carney was surprisingly hawkish at his Mansion House speech recently - emphasising the difficult balance in interest rate policy decisions and growth. He also commented that rates could rise sooner than markets expect. As any increase in rates will have significant implications for sterling assets, more intense policy debate will be closely scrutinised in the months ahead. For now, there has been little change in markets with the yield on ten-year gilts only.

US

A dovish Yellen

In direct contrast, Janet Yellen's recent comments were decidedly dovish. Whilst recognising that labour markets have improved and that the economy has rebounded from the winter lulls, Yellen remains convinced that current equity valuations do not look overstretched. After the announcement, US equities moved

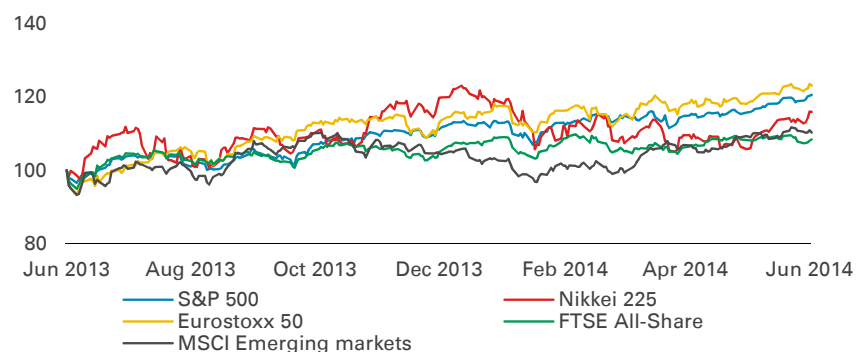
to new highs whilst the ten-year US treasury yield fell slightly to 2.58%. Overall, however, ten-year treasury yields have increased slightly month-on-month.

EUROPE

More help from Draghi

The ECB launched a significant stimulus package with the potential to unblock lending to small- and medium-sized enterprises and provide cheap funding to banks. The programme is expected to support the ongoing recovery in European domestic demand, with evidence that Spain, in particular, is already seeing an improvement in its labour market and confidence. The combination of these targeted measures and Yellen's dovish comments have contributed towards stronger European equity markets and lower government bond yields.

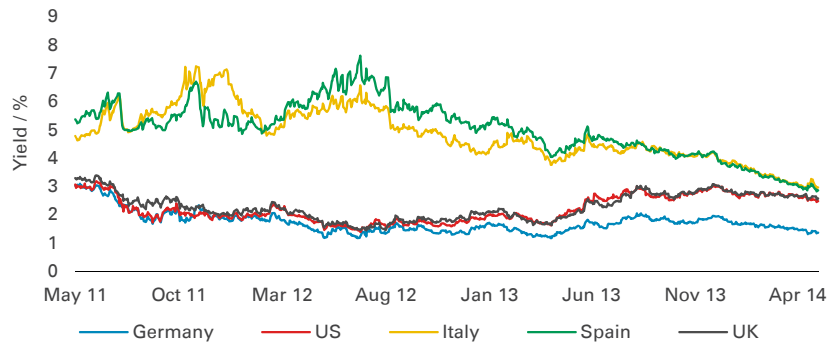
Figure 1. Global equity markets



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

JAPAN**The Abe effect**

Japan looks to have weathered April's VAT hike relatively unscathed – the drop in sales is in line with expectations so far, but investors will still be keeping a close eye on sales levels over the next few months. Japan is already actively pushing stimulus measures and the Bank of Japan (BoJ) has indicated it would most likely continue buying at the same rapid pace through 2015. Indeed, there has been public affirmation that the BoJ will continue easing until 2% inflation is stable – providing sufficient support to Japanese equity markets to rally back towards levels seen at the start of the year.

Figure 2. 10-year government bond yields

Source: Bloomberg L.P.

ASIA PACIFIC/EMEA**PBOC stimulus**

China introduced a number of policy easing measures, including a cut to the reserve ratio requirement for banks that are lending sufficient amounts to agricultural and small- and medium-sized businesses. Although China's growth is set to fall further, led by real estate, the pace of growth deceleration is expected to slow. Elsewhere in emerging markets, Brazil GDP growth was disappointing at just 0.2% for the first quarter of 2014.

FIXED INCOME**Positive returns**

Overall, corporate bond markets have continued to perform well. A combination of technical factors such as the ongoing search for yield in a near zero-rate environment and the lower levels of liquidity in credit markets have resulted in a continued grind tighter in spreads over government bonds. At the same time, government bond yields in developed markets are lower, or are certainly stuck in lower ranges, further contributing to the positive total returns of corporate bonds.

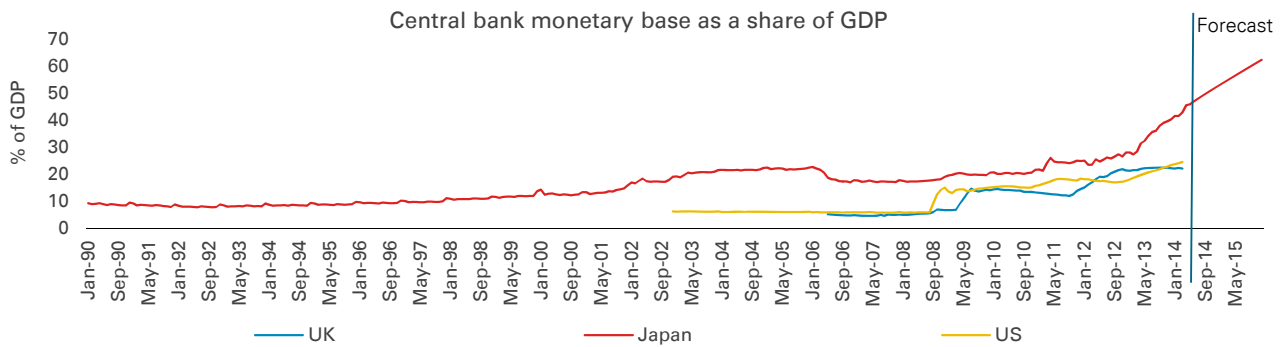
Snapshot:

Is Abenomics missing the target?

Japan has returned to focus following Prime Minister Abe’s recently announced revised growth strategy. The authorities appear to be delivering, just perhaps not as fast as investors had hoped. Reform bills have been steadily making their way through parliament and more are on the way. There have been a number of areas of progress already, including agriculture reform. The planned phased abolition of rice subsidies is an important step and should open up exports. The major push to improve corporate governance continues and the new Stewardship Code commits institutions to engage with companies. The Government Pension Investment Fund (GPIF) is set for an overhaul and should raise its allocation to equities. More recently, the government has agreed on the need for corporate tax cuts and has begun to tackle Japan’s notoriously inflexible labour market.

Earlier in the year there was concern the Bank of Japan (BoJ) was not doing enough to stimulate the economy, but the evidence so far is that growth has not suffered too much following the rise in the consumption tax. The BoJ believes inflation is on track to meet its target as it expects wages to pick up. So there is no longer expectation of further stimulus, even though the BoJ envisages continued rapid asset purchases through 2015 (**figure 1**). However, if the economy falters or inflation rolls over, the BoJ seems prepared to act.

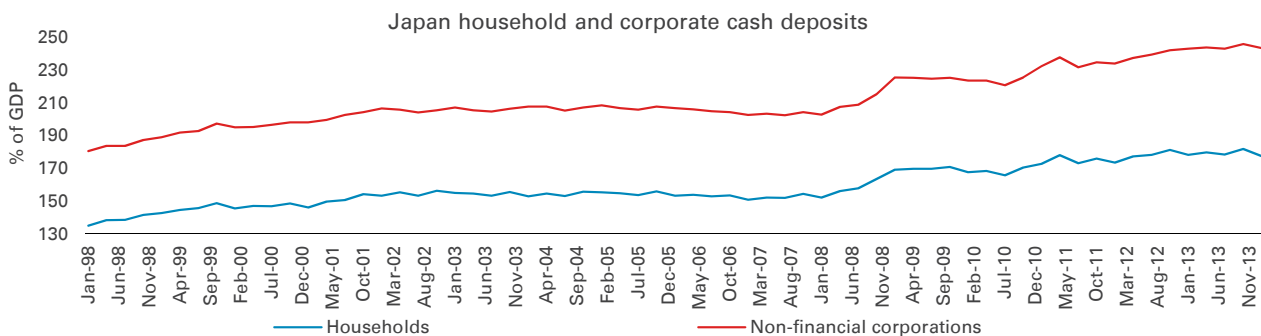
Figure 1. The Bank of Japan has already been very aggressive



Source: Reuters Ecowin

The great hope is that if the BoJ is successful in raising inflation expectations that might cause a portfolio rebalancing by the private sector. There is a huge amount of cash sitting idle (**figure 2**) and this could significantly boost growth. In addition, the banks generally appear financially sound and are well placed to increase lending should demand improve.

Figure 2. Abenomics hopes to melt the cash glacier



Source: Reuters Ecowin

Still, long-term challenges remain. The fiscal situation remains precarious and even under the governments’ optimistic growth assumptions, the primary deficit does not close. Tough choices will need to be made on entitlements and fiscal problems will further complicate the BoJ’s exit strategy when the time arrives. The demographic situation is especially bleak. Japan is already facing signs of labour shortages. This will help break deflation in the short term, but will severely hamper long-term growth if not addressed. There has been some increase in female participation, but ultimately Japan will need to overcome the deep-rooted cultural barriers to immigration.

UK forecast:

Capacity for debate

UK economy	Price inflation (CPI)		GDP (growth)		10-year gilt yields		Base rates		\$/£		£/€		
	2014 %	2015 %	2014 %	2015 %	2014 %	2015*	2014 %	2015*	2014	2015**	2014	2015**	
Market participants' forecasts													
High	3.10	3.30	3.50	3.60	3.60	4.00	0.75	1.50	1.84	1.75	0.86	0.85	
Low	1.40	1.20	1.60	1.80	2.75	2.93	0.50	0.50	1.56	1.50	0.76	0.72	
Median	1.80	2.00	3.00	2.50	3.28	3.50	0.50	0.88	1.67	1.63	0.79	0.78	
Last month median	1.80	2.00	2.90	2.50	3.30	3.50	0.50	0.75	1.65	1.64	0.80	0.79	
Legal & General Investment Management	1.80	2.00	3.10	2.90	3.30	3.75**	0.50	1.25	n/a	n/a	n/a	n/a	

Source: Bloomberg L.P. and LGIM estimates

*Consensus forecasts are for end of Q2 2015

**End 2015 forecast

During the first half of 2014, the debate around UK interest rates has been rather straightforward: everyone agrees that the first move higher is on the horizon, but there are differences of opinion about just how far away that horizon is.

Capacity is at the heart of the argument. Just how fast can you run the engines of UK Plc before it starts to overheat? For several months our view has been that the labour market is starting to run quite warm, but it seemed that the lack of wage growth was enough for Mark Carney to talk about keeping interest rates at current levels for some time. This view was reinforced with the publication of the May Quarterly Inflation Report.

It was therefore something of a surprise when Mr Carney then used a much-watched keynote speech to suggest that interest rates could rise sooner than markets expect. We note that he said 'could' not 'would', but this marked a distinct change in tone. Is the MPC becoming more hawkish, or was this a shot across the bows to temper market expectations? Second-guessing central bankers is an inexact science at best, but we suspect that at the margin, the Bank of England is getting ready to hike rates.

This may seem an odd assertion. After all, recent wage data were much softer than expected, suggesting that inflationary pressures are still quite muted. It is true that wages appear benign at present, but we view both wages and prices as lagging indicators. Waiting until these start to tick higher will be too late. Most interestingly, Mark Carney appears to agree, citing the variables as 'coincident' in his keynote speech.

More forward-looking capacity indicators are now running hot: employment is increasing rapidly, companies are finding it harder to find staff yet productivity growth remains lacklustre. At the same time, external factors are all looking more positive. US growth has picked up after a winter-affected start to the year, and we see recent policy changes by the ECB and People's Bank of China as helpful in allaying concerns over growth in the euro zone and China.

The intensification of the policy debate has been reflected in increased market volatility around UK interest-rate expectations. Carney's change of tone points towards a rate hike later this year. Traditionally, the BoE has used quarterly inflation report months to hike rates. August may be too soon, especially with the Scottish referendum imminent, which means November looks more likely.

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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