

June 2017

Legal & General Investment Management



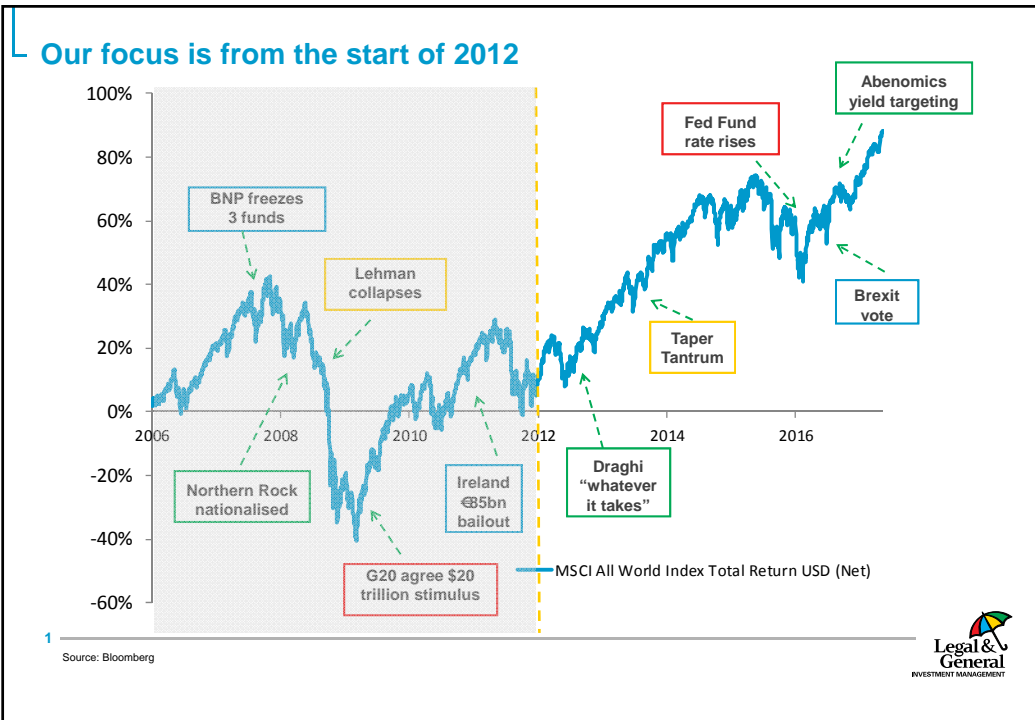
## Lessons Learned Since the Great Financial Crisis

### LGIM Asset Allocation

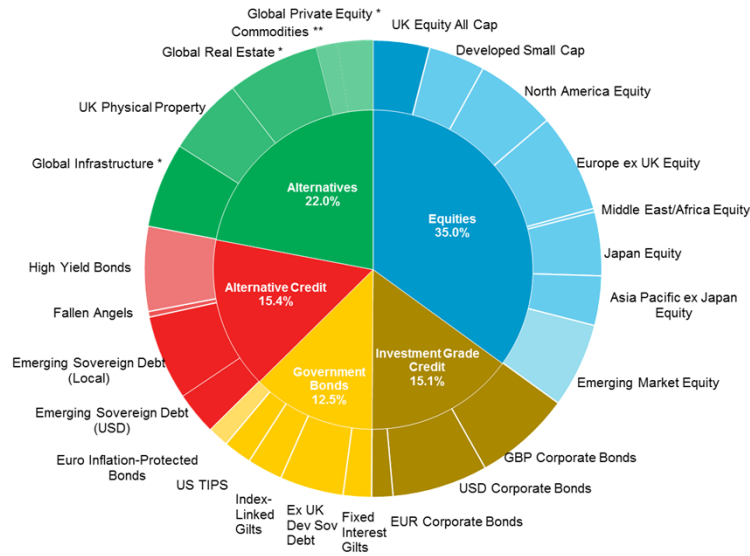
John Roe – Head of Multi-Asset Funds  
Francis Chua – Assistant Fund Manager



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## Focus on broad themes impacting diversified portfolios



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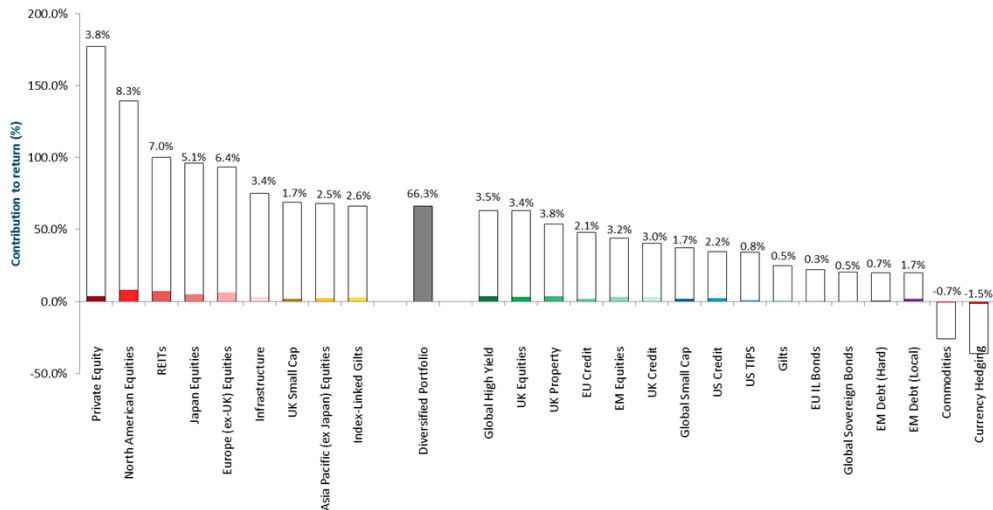
Neutral asset allocation for LGIM's Diversified Fund as at April 2017. Holdings and allocations are subject to change.

\* Exposure through shares in listed infrastructure and private equity companies and global Real Estate Investment Trusts (REITs).

\*\* Exposure through investing in funds that aim to provide a similar return to selected commodity indices. The underlying funds invest in derivatives to provide the return of the specified indices.



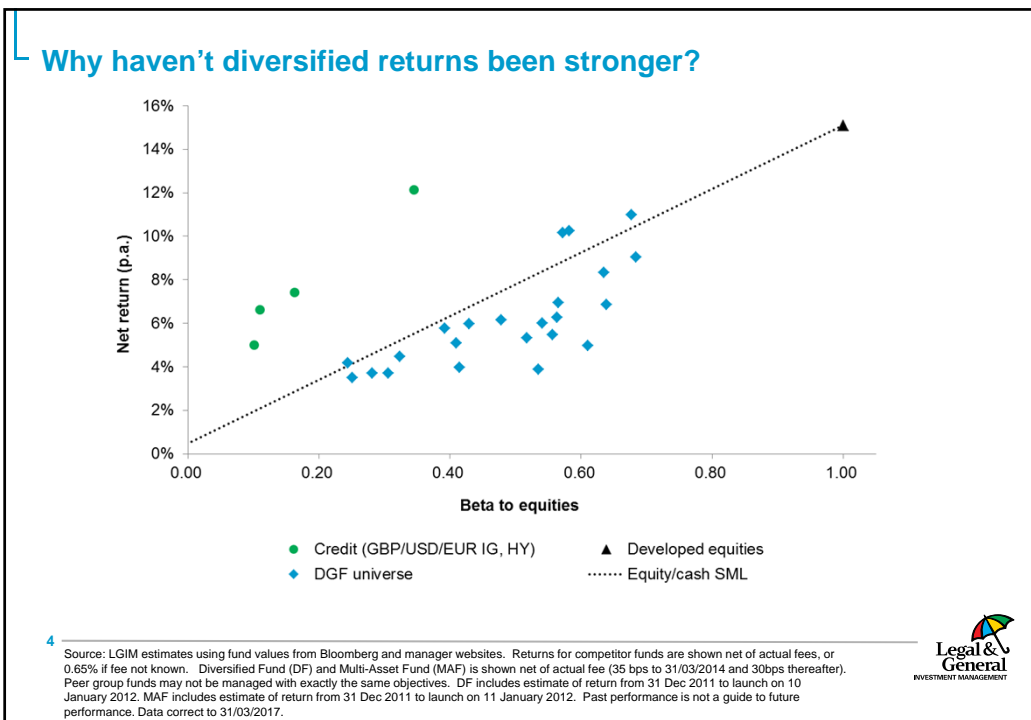
## Very strong environment for asset returns



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Source: LGIM. Returns shown from 4 January 2012 to 28 April 2017, PMC units, mid price to mid price. The Diversified Portfolio shown as LGIM's Diversified fund. White columns show the gross return of the underlying funds. Coloured components and numerical labels show the contribution of the underlying funds to the return of the Diversified Fund (approximately, the gross return multiplied by the weight).





Behavioural explanation – inefficient markets

## The role of behavioural biases – Availability and Recency

People extrapolate recent events into the future indefinitely

Survey Period	Net% FM OW Global Equities	Change From Previous Month	Performance of Global Equities Between Survey Periods
07/11/2014 13/11/2014	46%	12%	4%
05/12/2014 11/12/2014	52%	6%	2%
09/01/2015 15/01/2015	51%	-1%	1%
06/02/2015 12/02/2015	57%	6%	4%
06/03/2015 12/03/2015	58%	1%	1%
02/04/2015 09/04/2015	54%	-4%	1%
08/05/2015 14/05/2015	47%	-7%	0%
05/06/2015 11/06/2015	38%	-9%	-1%
02/07/2015 09/07/2015	42%	4%	-1%
07/08/2015 13/08/2015	41%	-1%	2%
04/09/2015 10/09/2015	17%	-24%	-8%
02/10/2015 08/10/2015	26%	9%	-1%

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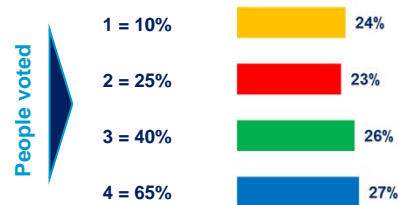
Source: Bank of America Merrill Lynch, LGIM



## The role of behavioural biases – Anchoring

Q1: Are more or less than 10% of African countries members of the United Nations?

Q2: What percentage of African countries are members of the United Nations?



7

Source: LGIM



## The role of behavioural biases – Ego

There is a tendency to ascribe more responsibility to the things that you do

Q: How impacted were you by the biases?

1. Less than the average person



2. More than the average person



• People will over-weight successes and their contributions to group outcomes

8  
Source: LGIM

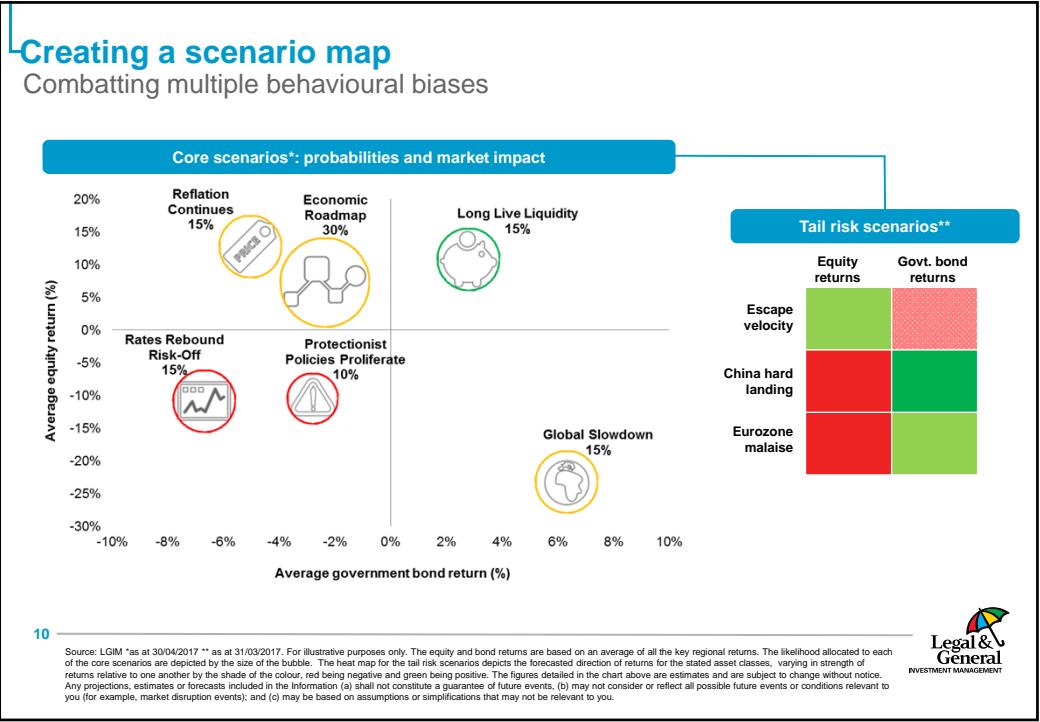


## The role of behavioural biases – Hindsight



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Source: Getty Images





A framework for assessing surprises, changes in landscape and trends

## How we think of risks in a multi asset setting

Trends – slow moving, longer-term

Regimes – changes to policymakers' behaviour

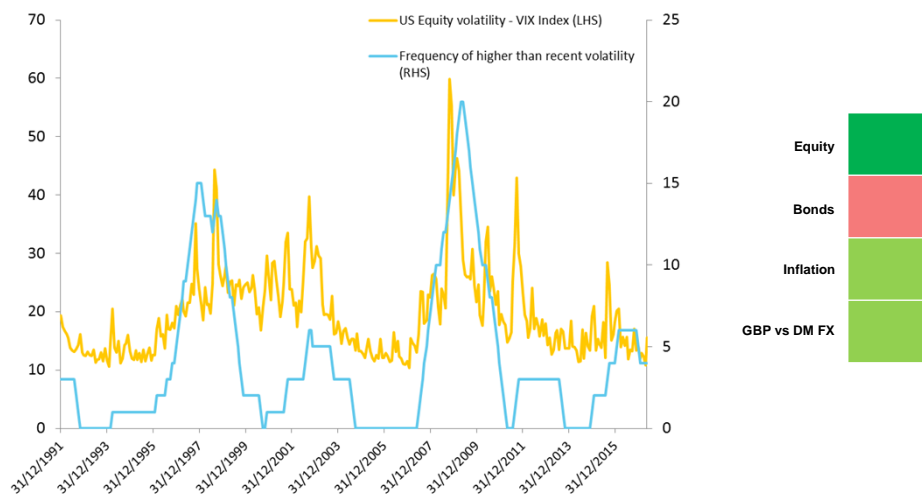
Shocks – sudden, sharp shocks to economies and markets

12

Source: LGIM, Datastream, Bloomberg L.P. Returns are shown from 31 December 1993 to 31 December 2016 for: 50% FTSE AW Developed Index, 50% FTSE AW Developed (Hedged to GBP) Index (using FTSE AW Developed LC before Nov 2008); and the LGIM Diversified Fund simulated performance based on the strategic asset allocation at launch to January 2012 and actual performance afterwards. Past performance is not a guide to future performance.



## No major shocks since 2012

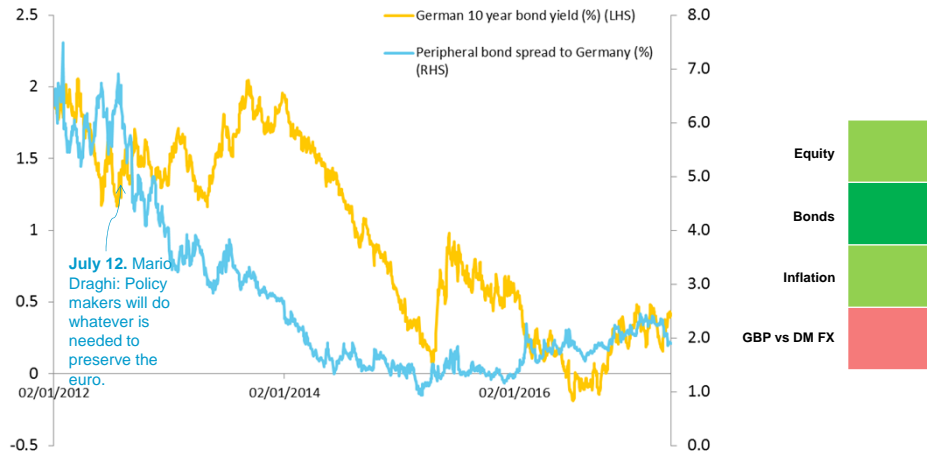


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Source: LGIM, Bloomberg L.P.



## Regime shifts – Europe's "Whatever it Takes"

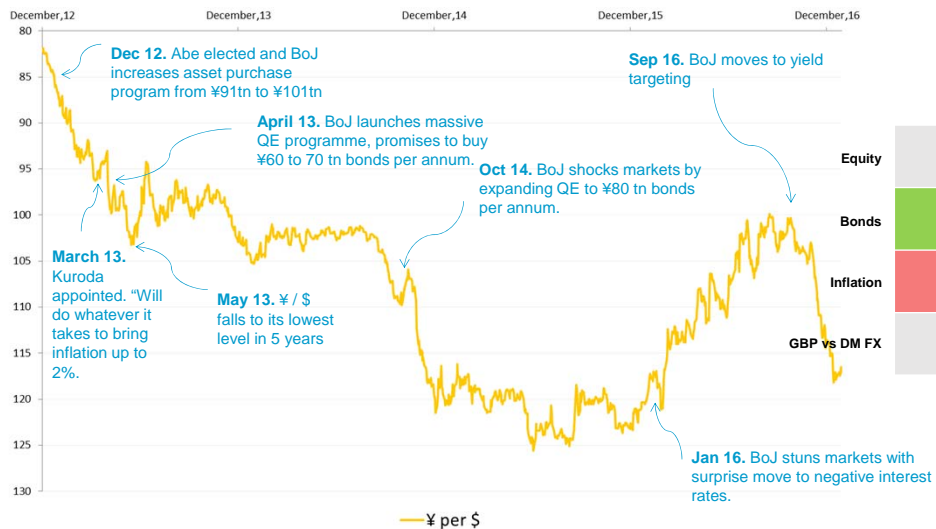


14

Source: LGIM, Bloomberg L.P.



## Regime shifts – Abenomics



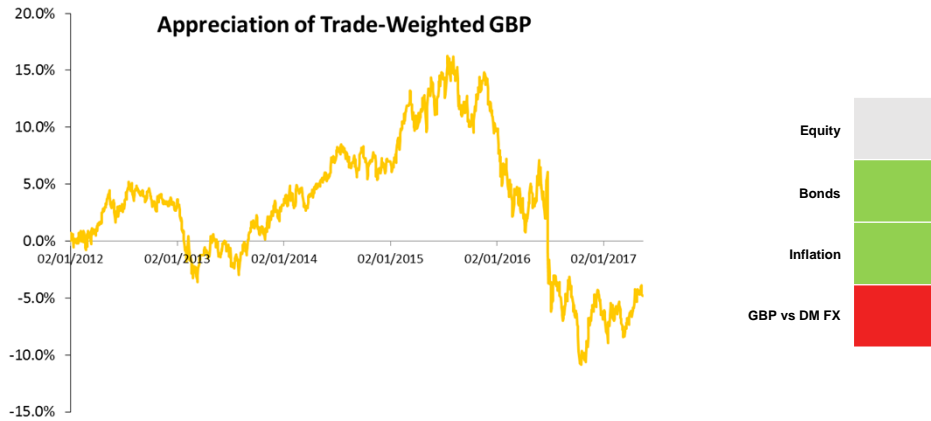
15

Source: LGIM, Bloomberg L.P.





## Regime shifts – Brexit

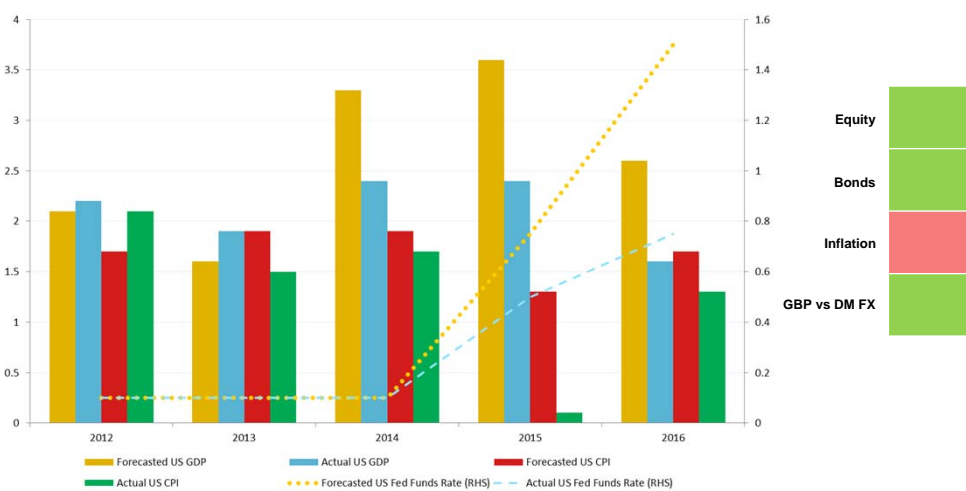


16

Source: LGIM, Datastream, Bloomberg L.P.



## Economic surprises: Growth, rates and inflation have disappointed



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Source: LGIM.



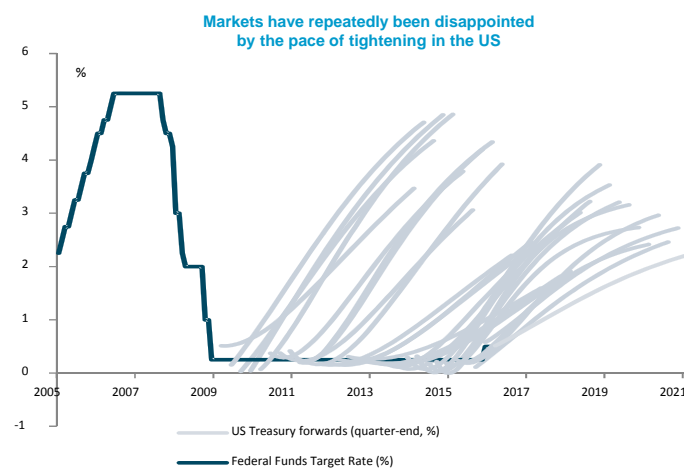
## New information from regimes and shocks – expected market impacts

	Lack of shocks	Europe – Whatever it takes	Abenomics	Brexit	Economic surprises	Overall from shocks and regimes
Equity	Green	Green	Grey	Grey	Green	Green
Bonds	Red	Green	Green	Green	Green	Green
Inflation	Green	Green	Red	Green	Red	Grey
GBP vs DM FX	Green	Red	Grey	Red	Green	Red

18  
Source: LGIM.



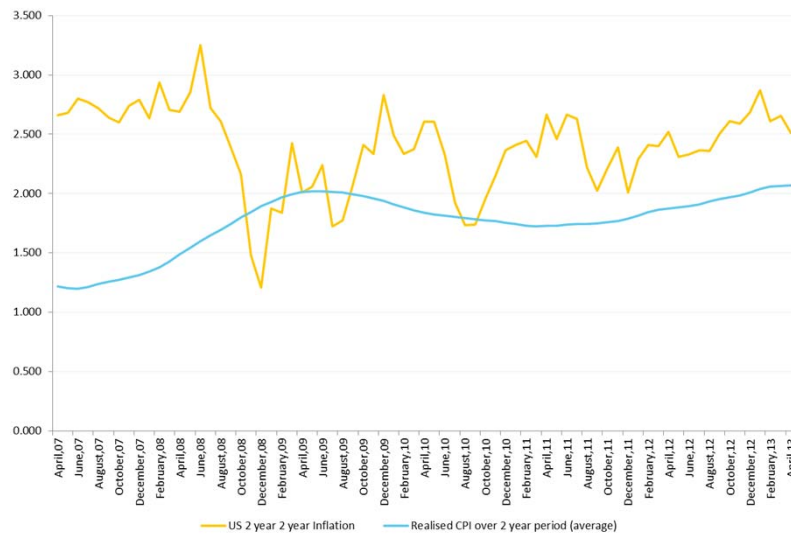
## Rates expectations anchoring to higher historical levels



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Source: Bloomberg LLP, LGIM



## Inflation puzzle. Something has changed, we just don't know what

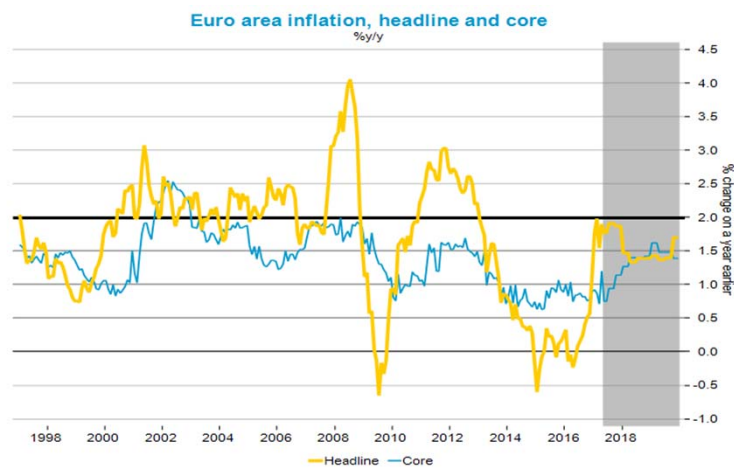


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Source: LGIM, Bloomberg L.P.



## Europe is running out of time to cause inflation pressure



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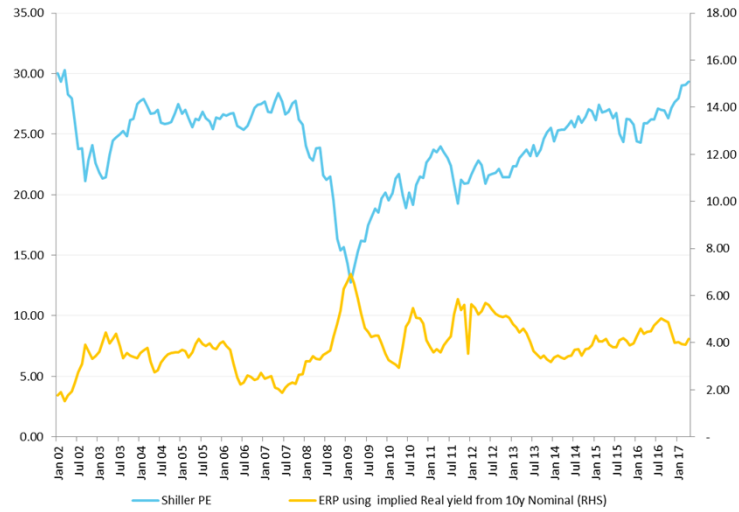
Source: LGIM, Bloomberg L.P., Macrobond.





Other conclusions

## Put assets in competition – relative valuations matter

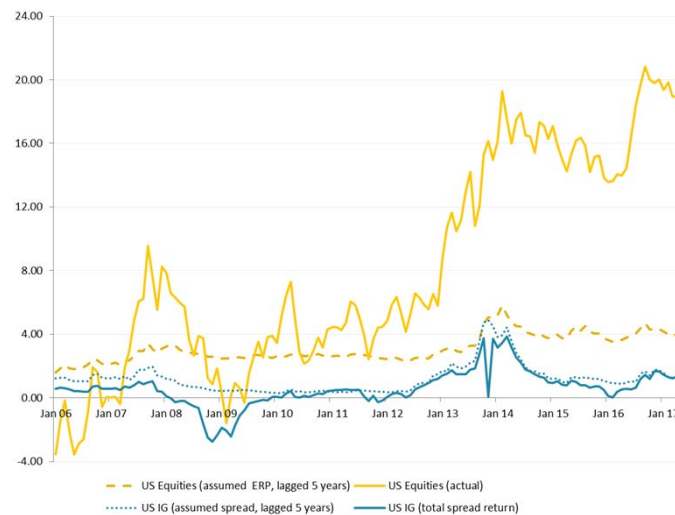


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Source: LGIM, Shiller, Datastream, Bloomberg L.P.



## Fundamentals used systematically encourage anti-cyclical behaviour

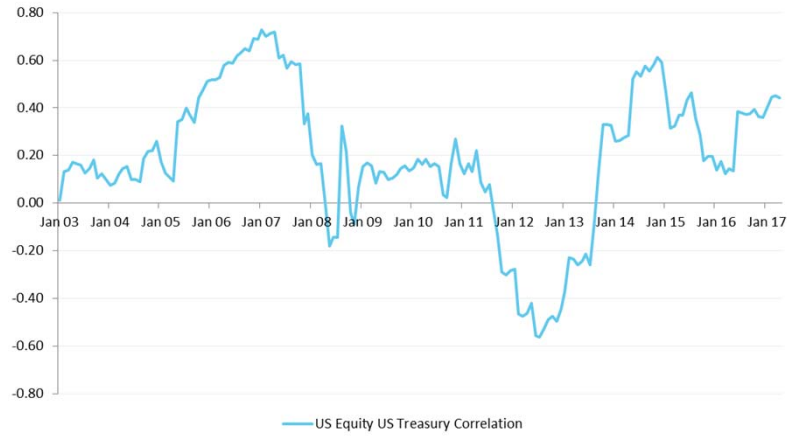


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Source: LGIM, Bloomberg L.P. Actual returns shown as rolling 5 year returns. Assumed ERP and IG spread are lagged by 5 years; for example, the ERP of 4.2% shown as at Jan 2017 above is the assumed ERP for the next 5 years starting from Jan 2012.



## The world is going multi-asset. Co-behaviour matters

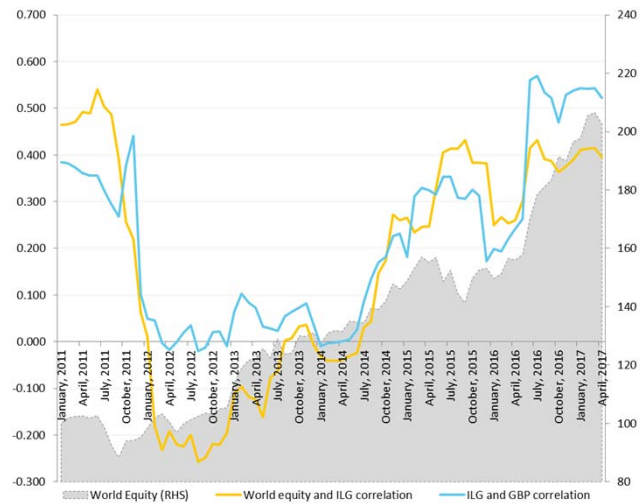


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Source: LGIM, Bloomberg L.P. Rolling correlation based on 2 year returns.



## UK Index-Linked Gilts are great for hedging but not for multi-asset



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Source: LGIM, Bloomberg L.P. Rolling 3 year correlations.



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