JAGGER & A SSOCIATES

Investment Update

March 2017

Investment Headlines & Comment

- Aberdeen and Standard Life announce plans to merge. Overlap of roles may have triggered the early exit of a head of equities?
- The Pensions Regulator has updated its <u>investment guidance</u>, but we feel some of it is naïve and other bits are not very cost-aware.
- Standard Life move GARS onto bid price; we estimate net outflows over the 5 months to Feb 17 of c. £1.5bn (still a small % of the fund).

This month we update some inflation charts last used in our <u>February 2009</u> edition, and consider what the trade-off is between future volatility of inflation and the significance of the caps in place for various pension increases in Defined Benefit schemes. In the past, higher gilt yields meant that any nudges in pension increase assumptions were not often significant, but it's rather different now.

Figure 1a shows the rolling 12-month inflation for RPI and CPI over the period of the current ONS dataset. Longer datasets do exist, but there has to be a question on relevance, e.g. the Thatcherite change in the priority given to keeping inflation under control making earlier data less relevant. We can infer from Figure 1a that since December 1992, annual CPI has averaged about 2% and annual RPI has averaged about 2.7%. It is pretty clear that for the period after the financial crisis, the range of inflation values seems to have increased relative to that seen in the 1990s and early 2000s, and the speed of reversion seems to have decreased, but there does still seem to be some oscillation going on. Over that same period, the volatility of RPI has been 1.3% p.a. and for CPI, 1% p.a.

Figure 1b shows a histogram of the RPI values, sorted into band widths of 0.5%, except the lowest being for all negative values, and the highest being for those over 7.5% (which are all back in the late 1980s / early 1990s). To be fair, these are overlapping 12-month periods (otherwise there wouldn't be much of a dataset to use). You can see that historically, a 5% cap would not have bitten very often, but a 2.5% or a 3% cap would have bitten significantly.

Figure 1a: Annual inflation rates - time order

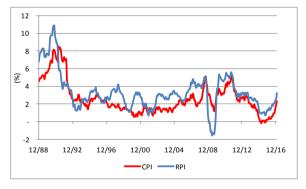
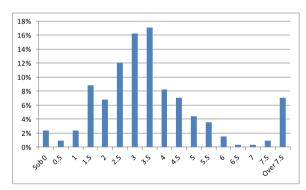


Figure 1b: Annual RPI inflation rates - size order



Source: Office for National Statistics

Now, let's use a simple 20-year random walk for inflation (i.e. ignore any oscillation), and see how significant the future volatility is, in each case applying a floor of 0% for the pension increase, and generating 10,000 simulations to get a good dataset. If we start with an expected annual inflation figure of 2.7%, and a bearish volatility of 2% (e.g. due to uncertainty over the impact of Brexit), with a cap at 5%, then the average capped annual inflation is 2.65%, with a small variability, hence not much adjustment required to get to the pension increase from the inflation assumption. However, if we lower the cap to 3%, then the average capped inflation falls to 2.1%, and if we go as far as a 2.5% cap, then the average capped inflation drops to 1.9%. These are material reductions from the original inflation assumption.

Prospective inflation, as traditionally measured by the gap between gilt and index-linked gilt yields has not been down to the past historical average of 2.7% since late 2012, so it will be interesting to see how significant a deduction is made in funding assumptions for perceived supply- or demand-led distortions arising from the real yields on index-linked gilts being so low. In the above example, we applied a 0.7% trim (given the prospective inflation measure is 3.4% at the end of March 2017, which is also a reasonable guide to the fixed rate used in LDI inflation swaps). If instead a smaller trim of 0.4% is used, and the inflation assumption was increased to 3% (and still with volatility at 2%), then the 5% cap produces an average capped inflation of 2.9%, whereas the 3% cap gives 2.3% and the 2.5% cap gives 2.0%, so a fairly similar progression.

$J^{\underline{AGGER}} \ \& \ A^{\underline{SSOCIATES}}$ Investment Update

March 2017



Asset Returns and Financial Measures [in Sterling unless marked otherwise]

The cells in bold with light shading show the best and worst performing asset classes from each column. The commodities and \$-based and unhedged-£-conversion hedge fund returns are excluded from that.

[**NB** Future returns <u>cannot</u> be inferred from this table alone, but coupled with other items within *Update*, readers can make inferences as to whether they should be higher or lower than the past returns shown below.]

Table 1: Investment Data to 31 March 2017

Asset Class	1 month	3 months	12 months	3 years	5 years	10 years	20 years
	(%)	(%)	(%)	(% p.a.)	(% p.a.)	(% p.a.)	(% p.a.)
UK Equities	1.2	4.0	22.0	7.7	9.7	5.7	6.7
Overseas Equities	0.8	5.9	33.8	17.1	15.0	9.9	8.4
US Equities	-0.3	5.0	35.2	21.2	18.9	12.5	7.9
Europe ex UK Equities	4.5	7.0	28.5	9.7	12.3	6.0	9.4
Japan Equities	-0.7	3.6	32.8	17.8	12.9	5.7	4.0
Pacific ex Japan Equities	2.6	11.2	36.8	14.8	10.6	10.2	7.3
Emerging Markets	2.0	10.2	35.2	11.8	6.3	7.8	7.5
UK Long-dated Gilts	0.7	2.6	12.3	14.0	9.2	8.8	8.5
UK Long-dated Corp. Bonds	0.6	2.4	15.7	11.6	9.8	7.7	ı
UK Over 5 Yrs Index-Linked Gilts	0.7	2.0	22.0	14.6	9.9	9.7	8.7
High Yield (Global)	-0.5	1.8	30.8	13.6	11.7	12.1	-
Overseas Bonds	-0.4	0.1	11.3	9.5	4.7	8.2	6.0
Property *	0.6	2.5	2.7	11.4	9.8	3.9	8.8
Cash	0.0	0.1	0.4	0.5	0.6	1.6	3.5
Commodities £-converted	-4.4	-6.2	24.6	-14.9	-10.7	-4.9	-0.5
Hedge Funds original \$ basis *	1.0	2.2	10.7	2.7	4.0	2.4	
Illustrative £-converted version *	1.0	3.3	10.7	2.7	4.0	3.4	6.8
mustrative £-converted version **	2.1	3.7	24.0	13.4	9.3	8.2	8.3
Euro relative to Sterling	0.2	0.2	7.9	1.2	0.5	2.3	-
US \$ relative to Sterling	-0.5	-1.2	14.9	10.1	5.0	4.6	1.3
Japanese Yen relative to Sterling	-0.1	3.4	15.9	7.2	-1.2	5.2	1.9
G. P. J.			0.7			• •	
Sterling trade weighted	0.1	0.2	-9.5	-3.4	-1.1	-2.9	-1.0
Price Inflation (RPI) *	1.1	1.1	3.2	1.8	2.3	2.8	2.8
Price Inflation (CPI) *	0.7	0.7	2.3	0.9	1.4	2.3	1.9
Price Inflation (RPIX) *	1.1	1.1	3.5	2.0	2.4	3.2	2.8
Earnings Inflation **	-0.1	2.6	1.7	1.9	1.7	1.5	3.2
All Share Capital Growth	0.9	3.0	17.5	3.9	5.8	2.0	3.3
Net Dividend Growth	0.6	3.0	8.2	4.5	6.0	4.0	-
Earnings Growth	1.5	10.2	1.0	-17.2	-13.1	-5.3	0.8

Note: All market returns are total returns for pension funds with income reinvested monthly. Indices used are as follows:

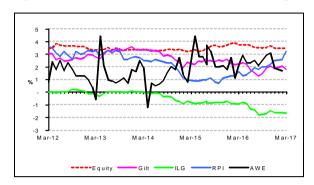
- UK Equities (incl. dividends and earnings) FT-A All Share.
- Overseas Equities (incl. regions) blend of FT All-World / World subindices
- Emerging Markets from MSCI US \$ based total return index (overall Index to 31 Oct 2001, Free Index from 1 Nov 2001 to take account of foreign investment restrictions), conversion to UK £ by J&A.
- UK Bonds FT-A indices (Gilts Over 15 Years, ILG Over 5 Years)
- UK Corporate Bonds iBoxx Non-Gilt Over 15 Year index (all credit ratings combined)
- High Yield Merrill Lynch Global, £ Unhedged
- Overseas Bonds JP Morgan Traded Unhedged World ex UK
- Property MSCI IPD UK Monthly Property Index

- Commodities GSCI Total Return, converted to UK £ by J&A
- Hedge Funds Composite HFRI US \$ based total return index plus converted to UK £ by J&A. NB A smooth "cash+x%" return will only be shown in the base 'hedged' currency, here the US \$.
- Cash an indicative index based on the three-month London Interbank Sterling mid-rate, calculated internally by J&A
- Price and earnings inflation RPI, CPI, RPIX, and Average Weekly Earnings (whole economy, not seasonally adjusted, latest provisional data)
- Currency data London close, from the Financial Times
- * denotes data lagged by 1 month, ** by 2 months these reflect the later publication dates of these data items.

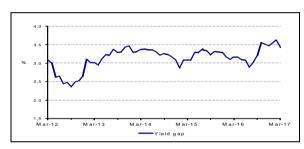
Jagger & Associates Investment Update March 2017

Yields and Yield Gaps

Figure 2: Yields, Inflation and Yield Gaps



The yield gap is a measure of expected average future inflation, derived as long bond yield minus ILG yield.

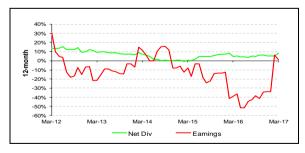


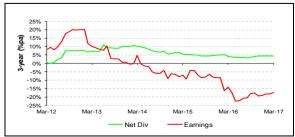
The gap gives a current expectation around 3.4% for longer-term inflation + risk premium for gilts, relative to index-linked gilts.

Growth in Earnings and Dividends

These charts show movements in rolling 12-month and 3-year dividend and earnings growth for UK Equities over the last 5 years. [NB the charts have different scales]

Figure 3: Dividend & Earnings Growth

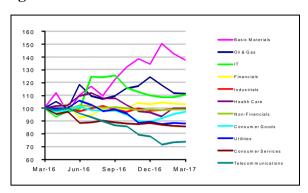




Note: Earnings data from mid 2015 onwards is under review by FTSE Russell as one-off events may be affecting the prospective P/E ratios

UK Equity Sector Returns

Figure 4a: Sectors relative to All Share



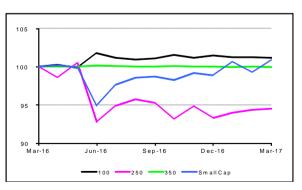
Note: Sector labels for relative lines are in end-value order

There was a marked fall this month in the rolling 12-month sector dispersion (from 81% to 64%).

(% absolute return)	1 mth	3 mth	12 mth
Oil & Gas	0.7	-6.5	36.0
Basic Materials	-2.2	6.7	67.9
Industrials	2.0	6.0	22.0
Consumer Goods	3.1	12.8	18.3
Health Care	1.2	7.3	21.9
Consumer Services	0.7	1.2	4.8
Telecommunications	1.8	-1.5	-10.0
Utilities	0.4	2.5	7.1
Non-Financials	1.3	4.0	20.6
Financials	1.2	4.2	26.0
IT	2.6	4.1	34.5
All Share	1.2	4.0	22.0

UK Equity Size Returns

Figure 4b: Size groups relative to All Share



Mid and Small Cap rose slightly in relative terms this month.

FRS17 volatility indicator

Now discontinued, but available on request.

Sources for charts on this page: Financial Times, Office for National Statistics, J&A

$J^{\underline{\mathsf{AGGER}}} \ \& \ A^{\underline{\mathsf{SSOCIATES}}}$ Investment Update

March 2017

Bond market information

Figure 5: £ Non-Gilt Credit Margins

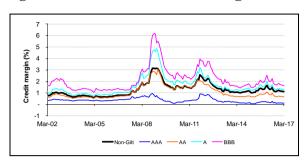


Table 2a: Over 15 Yr Corporate Yields & Margins

Month	iBoxx Corp	FT 20 yr	Margin
End	AA Y'ld (%)	Gilt (%)	(%)
Oct '16	2.63	1.85	0.78
Nov '16	2.82	2.03	0.79
Dec '16	2.60	1.86	0.74
Jan '17	2.77	2.03	0.74
Feb '17	2.50	1.77	0.73
Mar '17	2.50	1.76	0.74

Tables 2b, 2c: £ Market Size (£bn) and Maturity

Category	Mkt Val			Weight
	@ Mar 17 & 14, 11			(%)
Gilts (41)	1,382	1,070	815	71.2
Non Gilts (1,013)	559	524	464	28.8
AAA (130)	108	100	129	5.6
AA (168)	88	86	72	4.6
A (336)	169	169	162	8.7
BBB (379)	193	169	100	9.9

Category	Mkt Val @		W't	Dur'n
	Mar 17 & 14		(%)	(yrs)
Gilts (41)	1,382	1,070	71.2	11.5
< 5 Yrs (11)	377	269	19.4	2.6
5–15 Yrs (11)	377	405	19.4	7.4
> 15 Yrs (19)	628	396	32.3	19.4
Non Gilts (1,013)	559	524	28.8	8.3
< 5 Yrs (337)	163	151	8.4	2.8
5–15 Yrs (448)	239	225	12.3	7.5
> 15 Yrs (228)	157	148	8.1	15.1

£ Gilt Market "main" Issuance

- o £2.50bn 1/2% 2022 (2.39x, 0.58%, Jan 17)
- o £2.87bn ½% 2022 (2.07x, 0.61%, Mar 17)
- o £2.56bn 1¼% 2027 (2.19x, 1.31%, new)
- o £2.30bn 1½% 2047 (1.79x, 1.79%, Feb 17)
- £0.83bn ¹/₈% IL 2036 (2.95x, ry -1.65%, Dec 16)
 Note: Issuance amounts are nominals.

Tables 2d, 2e: € Market Size and Maturity (Mar 17)

Category	Mkt Val (€bn)	Weight (%)
Sovereigns (338)	5,789	59.9
Non Sovereigns	3,871	40.1
AAA (754)	1,127	11.7
AA (615)	987	10.2
A (822)	805	8.3
BBB (1,087)	952	9.9

Category	Mkt Val (€bn)	Weight (%)
1 – 3 Yrs (766)	2,062	21.3
3 – 5 Yrs (951)	2,091	21.6
5 – 7 Yrs (784)	1,653	17.1
7 – 10 Yrs (724)	1,785	18.5
10+ Yrs (391)	2,069	21.4

Table 2f: Breakdown of £ Index-Linked Market

Category (Number of issues)	Mkt Val (£bn @ Mar 17 & 14)		W't (%)	Dur'n (yrs)
Gilts (28)	653	396	100.0	23.1
< 5 Yrs (3)	53	44	8.1	3.4
5 – 15 Yrs (7)	138	124	21.1	12.4
> 15 Yrs (18)	463	227	70.8	28.5

Table 2g: High Yield bond yields (BB-B indices)

Month End	US (%)	Euro (%)	Sterling (%)
Oct '16	5.70	3.43	6.09
Nov '16	5.84	3.77	6.04
Dec '16	5.61	3.45	5.80
Jan '17	5.49	3.39	5.75
Feb '17	5.32	3.30	5.52
Mar '17	5.43	3.42	5.59

Sources: DMO, iBoxx, J&A, MLX



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