JAGGER & A SSOCIATES

Investment Update

September 2019

Investment Headlines & Comment

- The second tranche of the **2054 gilt** attracted £25.8bn of bids, but only £4bn was issued.
- **RPI** calculation changes trigger a 6% fall in long-dated Index-Linked Gilt prices in one day.
- However, such is the irrational demand for any gilts that this was recouped over the month.

This month we consider whether the UK Equity market currently looks fairly valued or is instead unduly under- or over-priced. It follows on from our February 2014 and July 2010 editions where we looked at Shiller analysis (which uses inflation-adjusted earnings over the preceding 10 years, rather than just earnings at a single time point).

In the UK, the All Share index only started publishing a P/E ratio in 1993 (and no back history was created). For the period from 1962 to 1993, the P/E ratio was only published for the index excluding Financials (also known as the FT 500), so this is what we have used, coupled with ONS inflation data, to create a "Shiller P/E" series for the UK. Figure 1a shows the published P/E and the Shiller P/E, starting from the end of the first 10 years of the index in 1972. Their ratio would show the extent of the earnings adjustment, but the focus in Figure 1b is on the Shiller P/E's value relative to its historical average (which for the whole 47 year period is just over 15x). Crudely, when it is above the average, this suggests the market may be expensive, whereas if it is below the average, there may be a buying opportunity.

Figure 1a: Non-Financials P/E outputs

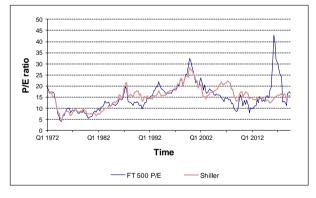
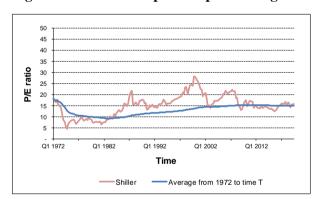


Figure 1b: Shiller output and past averages



Sources: FTSE, ONS, Jagger & Associates

From Figure 1a, the two series are not as correlated as they were in our 2010 analysis (then at about 86% correlation, but now down to 67%). There are some periods when the Shiller series moves strongly ahead, such as in 2007, and others where it is way behind, such as in 2016 and 2017. These are examples of the periods where the Shiller measure may be felt to give a useful signal that one (or both) of earnings and market valuations may be out of line. From Figure 1b (which is on the same vertical scale as Figure 1a), it appears that past Shiller overpricing has been replaced by a fairly neutral Shiller valuation of the UK "excluding Financials" index. The current "single time point" market P/E is about 7% above the 10-year Shiller P/E, but that adjusted P/E is only 4% ahead of its long-run average.

Some readers may recall we expressed concern about earnings data from mid 2015 onwards, because one-off events were not being stripped out of historic earnings in the way that they had been previously (which appeared linked to a change in data provider for FTSE indices). As a result, we felt there was the potential for material divergence between "under-adjusted" historic P/E ratios and "fully-adjusted" prospective P/E ratios. The spike in Figure 1a for Q2 2016 is a good example of this divergence in action, but at least the use of a 10-year smoothing period in the Shiller analysis should damp this distortion down considerably.

The divergence was under review by FTSE Russell and at the time of writing, it seems that still no satisfactory solution has been identified.

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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 30 September 2019

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	3.0	1.3	2.7	6.8	6.8	8.3	5.4
Overseas Equities	0.9	3.6	8.0	12.5	13.8	12.1	7.3
US Equities	0.7	4.9	10.2	15.4	16.9	16.2	6.6
Europe ex UK Equities	1.1	1.6	6.9	10.3	9.9	7.9	8.0
Japan Equities	3.0	6.6	0.3	8.4	12.2	8.7	3.5
Pacific ex Japan Equities	0.7	-0.8	4.1	8.2	10.0	8.5	9.6
Emerging Markets	0.7	-1.0	4.1	8.3	8.5	6.5	9.3
UK Long-dated Gilts	1.0	11.0	23.0	5.3	10.4	9.0	7.3
UK Long-dated Corp. Bonds	0.1	7.8	19.3	4.8	8.7	8.7	7.4
UK Over 5 Yrs Index-Linked Gilts	-0.4	8.7	20.3	5.3	10.6	9.8	7.9
High Yield (Global)	-0.8	3.7	11.9	7.4	10.6	10.3	8.5
Overseas Bonds	-2.7	4.3	15.1	3.0	8.0	4.6	5.9
Property *	0.3	0.6	3.3	7.7	8.6	10.3	8.1
Cash	0.1	0.2	0.8	0.6	0.6	0.6	2.7
Commodities £-converted	0.6	-1.0	-11.4	3.3	-6.8	-2.9	0.9
Hedge Funds original \$ basis *	-0.6	2.2	0.4	4.1	2.8	4.3	5.8
Illustrative £-converted version *	-0.1	5.7	7.2	6.7	9.4	7.4	7.3
Euro relative to Sterling	-2.2	-1.1	-0.7	0.7	2.6	-0.3	1.6
US \$ relative to Sterling	-1.2	3.3	5.8	1.8	5.6	2.6	1.5
Japanese Yen relative to Sterling	-2.9	3.0	11.2	-0.4	5.9	0.7	1.4
Sterling trade weighted	1.7	-0.1	-1.7	-0.3	-2.7	-0.3	-1.3
Price Inflation (RPI) *	0.8	0.9	2.6	3.3	2.6	3.1	2.9
Price Inflation (CPI) *	0.5	0.5	1.8	2.4	1.6	2.2	2.1
Price Inflation (RPIX) *	0.8	0.9	2.6	3.4	2.6	3.2	2.9
Earnings Inflation **	0.0	0.4	4.2	3.0	3.0	2.3	3.0
All Share Capital Growth	2.8	0.1	-1.6	2.6	2.8	4.4	1.8
Dividend Growth	0.4	2.1	9.0	9.6	7.7	6.9	4.7
Earnings Growth	1.4	6.7	-20.8	28.4	0.1	5.4	4.2

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

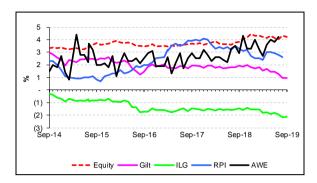
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- $\bullet \ \ UK\ Equities\ (incl.\ dividends\ and\ earnings) FT\text{-}A\ All\ Share.$
- Overseas Equities (incl. regions) blend of FT All-World / World sub-indices
- Emerging Markets from MSCI US \$ based total return index (overall Index to 31 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

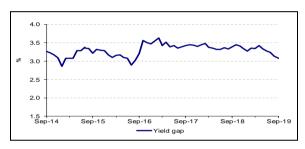
- Commodities GSCI Total Return, converted to UK £ by J&A
- Hedge Funds Composite HFRI US \$ based total return index plus converted to UK £ by J&A. NB A smooth "cash + x%" return will only be shown in the base 'hedged' currency, here the US \$.
- Cash an indicative index based on the three-month London 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.

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.

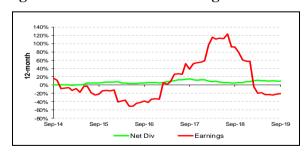


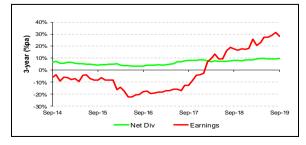
The gap gives a current expectation around 3.1% for longer-term inflation *including the risk premium for gilts, relative to index-linked gilts.*

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

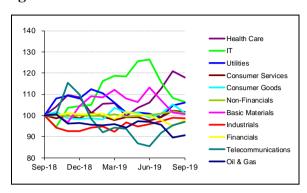




Note: Earnings data from mid 2015 onwards is under review by FTSE Russell as one-off events may be affecting the prospective P/E ratios

UK Equity Sector Returns

Figure 4a: Sectors relative to All Share



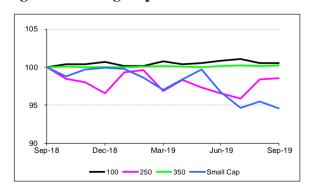
Note: Sector labels for relative lines are in end-value order

There was a small rise this month in the rolling 12-month sector dispersion (from 26% to 27%).

(% absolute return)	1 mth	3 mth	12 mth
Oil & Gas	4.4	-5.3	-6.8
Basic Materials	2.1	-10.0	3.3
Industrials	2.4	4.0	1.1
Consumer Goods	-1.1	3.5	3.8
Health Care	0.4	12.6	21.1
Consumer Services	2.6	5.6	4.5
Telecommunications	4.7	14.9	-0.6
Utilities	4.5	6.6	8.9
Non-Financials	1.9	1.9	3.5
Financials	6.0	-0.6	0.4
IT	1.2	-14.8	9.1
All Share	3.0	1.3	2.7

UK Equity Size Returns

Figure 4b: Size groups relative to All Share



Mid Cap rose but Small Cap fell in relative terms this month.

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

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Bond market information

Figure 5: £ Non-Gilt Credit Margins

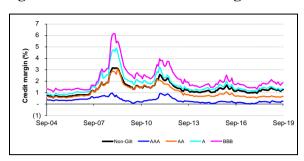


Table 2a: Over 15 Yr Corporate Yields & Margins

Month End	iBoxx Corp AA Y'ld (%)	FT 20 yr Gilt (%)	Margin (%)
Apr '19	2.44	1.67	0.77
May '19	2.30	1.44	0.86
Jun '19	2.24	1.44	0.80
Jul '19	2.08	1.27	0.81
Aug '19	1.80	0.97	0.83
Sept '19	1.80	0.95	0.85

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

Category	Mkt Val @ Sept 19 & 16, 13			Weight (%)
Gilts (43)	1,446	1,401	1,090	69.4
Non Gilts (1,133)	638	579	520	30.6
AAA (155)	131	110	106	6.3
AA (168)	87	97	84	4.2
A (340)	177	180	167	8.5
BBB (470)	243	192	163	11.6

Category	Mkt Val (£bn		W't	Dur'n
	@ Sept 19 & 16)		(%)	(yrs)
Gilts (43)	1,446	1,401	69.4	13.2
< 5 Yrs (10)	308	379	14.8	2.6
5–15 Yrs (12)	378	387	18.1	7.4
> 15 Yrs (21)	761	635	36.5	20.5
Non Gilts (1,133)	638	579	30.6	8.0
< 5 Yrs (405)	210	164	10.1	2.7
5–15 Yrs (498)	274	244	13.1	7.5
> 15 Yrs (230)	154	170	7.4	16.3

Tables 2d, 2e: € Market Size and Maturity (Sept 19)

Mkt Val (€bn) Weight (%) Category 6,894 59.2 Sovereigns (367) 40.8 Non Sovereigns 4,753 AAA (950) 1,318 11.3 1,195 10.3 AA (762) 8.7 A (1,085) 1,010 BBB (1,448) 1,231 10.6

Category	Mkt Val (€bn)	Weight (%)
1 – 3 Yrs (1,129)	2,448	21.0
3 – 5 Yrs (1,240)	2,445	21.0
5 – 7 Yrs (927)	1,894	16.3
7 – 10 Yrs (791)	1,978	17.0
10+ Yrs (526)	2,882	24.7

Table 2f: Breakdown of £ Index-Linked Market

Category (Number of issues)	Mkt Val (£bn @ Sept 19 & 16)		W't (%)	Dur'n (yrs)
Gilts (30)	800	642	100.0	22.1
< 5 Yrs (5)	106	51	13.3	2.9
5 – 15 Yrs (7)	160	146	20.1	10.3
> 15 Yrs (18)	533	446	66.7	29.5

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

US	Euro	Sterling
(%)	(%)	(%)
5.90	3.37	5.44
6.25	3.69	5.71
5.68	3.27	5.51
5.66	3.22	5.57
5.60	3.10	5.52
5.49	3.11	5.48
	(%) 5.90 6.25 5.68 5.66 5.60	(%) (%) 5.90 3.37 6.25 3.69 5.68 3.27 5.66 3.22 5.60 3.10

Sources: DMO, FTSE, iBoxx, J&A, MLX

£ Gilt Market "main" Issuance

- \circ £3.00bn, $\frac{5}{8}$ % 2025 (1.84x, 0.23%, 0%, Aug 19)
- o £2.75bn, ⁷/₈% 2029 (1.94x, 0.54%, 0%, Jul 19)
- $\circ~ \pounds 4.00 bn,~ 1^{5} / _{8} \%~ 2054~ (\textbf{6.45x},~ 1.09 \%,~ n/a,~ May~ 19)$
- \circ £0.57bn IL¹/₈% 2048 (2.19x, ry -2.15%, 15%, Jun 19)

Note: Issuance amounts are nominals. The first % figure in each row is the yield or real yield. The second % figure is the additional amount taken up under the Post Auction Option Facility (PAOF), as a % of the amount of the issue. PAOF does not apply for syndication cases.

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