FORTEM CAPITAL

FRIDAY NIGHT 'LIGHTS

Head over Heels – when models don't align with the real world

10th March 2017

This week we look at some of the ways in which a savvy investor could potentially benefit from both a bank's structure and the assumptions financial models make when pricing options. We at Fortem are always looking for such opportunities, and aren't *clothes-minded* when looking at any and every angle on behalf of our clients.

The first example will be one many of our readers are familiar with: implied vs realised volatility. A fundamental reason why structured investments are potentially attractive is the dislocation between the issuer's focus on the daily moves (and the volatility thereof) and an investor's interest in the longer term overall performance. 6yr implied volatility on the FTSE for example is currently trading around 20%, whereas realised volatility is currently sub 10%. This results in banks potentially overpaying for puts, particularly when compared to how frequently those puts would have been activated in the past. For the banks, it is more about the journey, than the destination.

There are of course other assumptions that go into pricing your structures; for example, correlation on multi asset investments. When considering a typical Autocall investment product we know the investor receives a higher annual coupon for a dual index over a similar single index structure. The relationship between these indices, the correlation, determines the level of increase in the coupon over a single index investment product. When banks sell investment products on multiple underlying equity indices, they make certain assumptions as to what the expected correlation between those underlying indices will be. Hopefully it's intuitive that the lower the assumed level of correlation, the higher the potential investor returns could be.

For lower correlated assets, the pricing models assume there is a higher probability for a greater dispersion of returns and understandably a greater risk for the investor than a single index investment. However, by adding in the second index's volatility assumptions as well you can begin to see some really intriguing results. In a nutshell, a phoenix autocall (an income paying investment product, callable annually by issuer) on the worst performing index between S&P 500 and Russell 2000 Index. Two indices that are surprisingly correlated (circa 90%) and yet banks pricing models grant you a welcome pick-up in terms of potential coupon.

As our favourite bargain hunter, David Dickinson would say: *"That's a real bobby-dazzler".*

"Of course the value would have been considerably higher if you had a pear."

Product	Coupon
Citi USD SPX/RTY Annual Phoenix Autocall, 100% AC barriers, 80% coupon barrier, 60% EKIP	7.30%

Product	Capital Growth Amount
Morgan Stanley 6yr Autocall EIS, 100/100/100/95/85/65, 65% EKIP	8.35%

Rates (bps)		
	Current	Week Chge
GBP 1yr	53.80	0.90
GBP 3yr	71.20	4.80
GBP 5yr	90.40	7.10

Equity Indices (%)		
FTSE 100	7345.72	-0.39%
S&P 500	2364.87	-0.77%
Nikkei 225	19604.61	0.70%
Eurostoxx 50	3435.87	0.95%

Currencies (%)		
GBPUSD	1.2168	-1.00%

5yr Credit Spreads (bps)		
Citigroup	60.86	3.69
Credit Suisse	107.65	-0.31
Deutsche	127.09	-4.36
GS	77.30	3.39
HSBC	58.33	0.98
JPM	51.80	3.77
MS	73.08	2.76

Commodities (%)		
Gold	1196.65	-3.09%
Oil (CLA)	49.48	-7.22%

3m Implied (vol pts)		
FTSE 100	12.71%	-1.18%
S&P 500	12.12%	-0.07%
Nikkei 225	17.55%	-1.13%
Eurostoxx 50	17.44%	-0.88%

5yr Implied (vol pts)		
FTSE 100	18.96%	-0.08%
S&P 500	20.25%	0.08%
Nikkei 225	19.11%	-0.24%
Eurostoxx 50	20.00%	-0.07%

Source Bloomberg / Partner Banks
Data as at 10th March, 10.30am

Upcoming events	
15th Mar	Federal Reserve FOMC meeting
16th Mar	BoJ Policy Statement
16th Mar	BoE Monetary Policy Committee and Base Rate Decision

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"Practical men who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist" - *John Maynard Keynes*

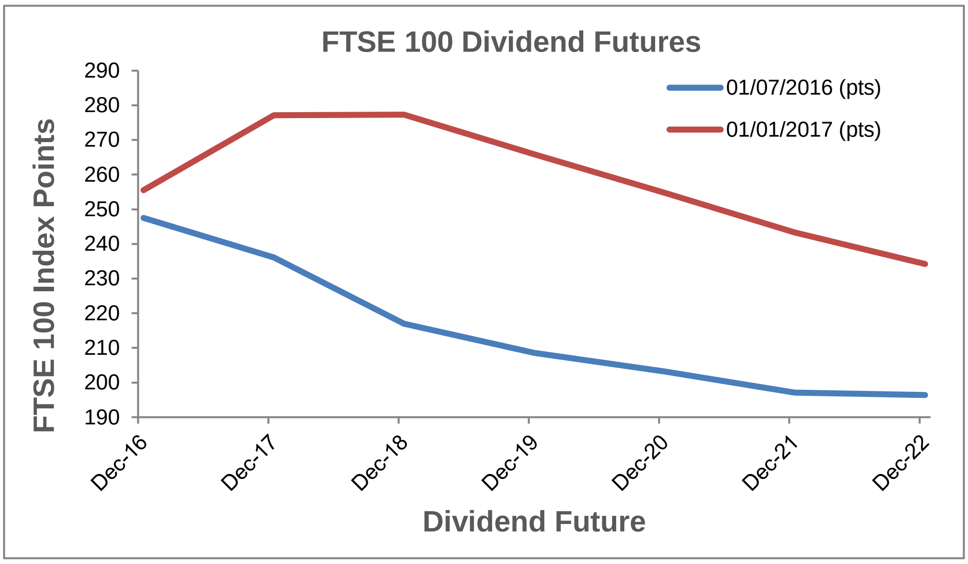
"Off the rack" Indicative Terms

Type	Annual Phoenix Autocall
Underlyings	Worst Of S&P 500 (SPX) / Russell 2000 (RTY)
Currency	USD
Tenor	6yr maximum
Autocall Barriers Y1-6	100%
Soft Protection	60% European
Annual Coupon Barrier	60%

Contingent Coupon: 7.30% per annum so long as both indices are above coupon barrier (vs circa 5.5% for S&P only)

The pricing is that much better for reasons other than just the purchasing of correlation risk. The implied volatility on the Russell 2000 is approximately 3.4% higher (at ~24% vs 20.6% on the S&P 500) which we know means the banks overpay for the put and this subsequently boosts your coupon.

The final example is something all our readers will have exposure to, but potentially not by direct access, and that is dividends as an isolated asset class. Dividend futures have become an increasingly utilised financial instrument as transparency, liquidity and understanding have grown. Whilst the cost of buying near term future dividend streams tends to be similar to realised levels (especially at the present time), limiting any opportunity for growth and therefore gains, over the medium to longer term, disparities can and do occur when the costs of buying future dividend streams may be at odds with what analysts predict those dividends will be. i.e. the costs of buying future dividend streams trade at a discount to analysts' forecasts.



- **July 16:** FTSE 100 dividend futures were trading at a discount to prevailing dividend levels & yields:
  - **2017 futures were trading at circa 5% discount**
  - **2018 futures at circa 12.5% discount**
- **Jan 17:** FTSE 100 dividend futures were trading back in line with analysts' forecasts:
  - **2017 futures at circa 17% higher**
  - **2018 futures at circa 28% higher**

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The primary driver of this is now relatively well known; that is, banks being left long dividends from the options they write, who then mark them down, thereby enabling the savvier investors amongst us to potentially participate at lower than realised levels. At this point it is worth noting when banks mark down their future dividend estimates this increases the forward for that underlying (Forward = Spot + Interest – Expected Dividends), making the options they write more expensive. Thus, for banks it is a "size zero" sum game. For investors in dividends though, it provides an opportunity to gain equity like returns, albeit arguably with more defensive features as invariably dividends tend to remain relatively more stable over the short to medium term – the model will never take into consideration corporate board rooms tasked with maintaining or indeed growing dividends to ensure share price stability on a dividend heavy index like the FTSE.

As you can see there are numerous opportunities for an investor to take advantage of when bank pricing doesn't align with the realities of investing. We at Fortem Capital shall continue to be model citizens and scour the markets for interesting disparities, all the while passing on those discoveries to our clients.

Disclaimer

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