FORTEM CAPITAL

FRIDAY NIGHT 'LIGHTS

Simple equity market hedging

29th July 2016

Given the recent FTSE rally, S&P at all-time highs and concerns still remaining on Europe, we thought it perhaps pertinent to discuss briefly the variety of relatively simplistic hedging techniques one could use to protect against or indeed take advantage of an equity market sell off over the next 6-12 months.

Divesting

The first and simplest approach would be to divest out of whatever instruments that are being held that provide long equity exposure. This may not suit as, for example, it could prove costly (transaction costs, bid/offers, significant discount to NAV….), be administratively burdensome or just not suit if your strategy is to profit from a falling market, rather than simply not lose any money!

Shorting

The second approach could be to go outright short via, for example, shorting futures, swaps or short ETFs. Short ETFs in our opinion have significant draw backs as they rebalance on a daily basis so whilst intra-day should capture any negative moves, over the longer investment horizon because of the daily rebalancing mechanism, they will often not perform in line with the underlying itself. And of course in all cases if the market does rally against you, you will lose money on the upside.

Option-based

The third approach could be to utilise option based investments. Whilst longer term derivative based investments (and by that we mean greater than say 2-3 years) may appear to provide the exact type of investment exposure you may wish, given their headline terms, short term performance via their mark-to-market may actually be rather disappointing. To be clear we are not dismissing such investments should your investment horizon be longer, but if indeed your outlook is shorter term then something more specific might be more appropriate.

And so to that end, we look below at some simple shorter dated vanilla option strategies and how they perform over different time horizons and market moves. Arguably also quite timely given the sell-off in shorter dated implied volatilities.

The basic vanilla put will provide a positive net return should the underlying be at or below the put strike minus the up-front premium at maturity. In the analysis below we look at option strategies based on the FTSE 100 capital return index.

The first table provides an indication of the types of premium one would have to pay for a 100% strike put and 90% strike put and how they will mark-to-market during their life and under different market conditions. Arguably the 100% put is too expensive and requires the markets to be off significantly for you to make a positive return net of up-front premium, the 90% strike put requires also a significant negative move, although expenditure on up-front premium is less should you have made the wrong market call.

Consideration should also be given when to trade out or roll option positions. Premium decay increases exponentially as options approach their expiry date and therefore it often makes sense to roll out of the 6 month options a month or so prior to expiry and 2-3 months prior to expiry of the 12 month options.

Rates (bps)	Current	Week Chge
GBP 1yr	51.00	-2.90
GBP 3yr	48.50	-2.50
GBP 5yr	55.00	-4.10

Equity Indices (%)		
FTSE 100	6713.94	-0.18%
S&P 500	2169.26	0.25%
Nikkei 225	16569.27	-0.35%
Eurostoxx 50	2981.60	0.34%

Currencies (%)		
GBPUSD	1.3182	0.67%

5yr Credit Spreads (bps)		
Citigroup	81.44	4.58
Credit Suisse	140.01	0.84
Deutsche	222.29	5.14
GS	96.34	3.21
HSBC	84.65	4.07
JPM	62.35	2.49
MS	94.83	3.25

Commodities (%)		
Gold	1342.18	1.34%
Oil	40.67	-8.57%

3m Implied (vol pts)		
FTSE 100	13.53%	-0.29%
S&P 500	12.70%	0.25%
Nikkei 225	23.68%	-0.54%
Eurostoxx 50	20.42%	0.15%

5yr Implied (vol pts)		
FTSE 100	19.30%	-0.08%
S&P 500	21.70%	0.22%
Nikkei 225	20.65%	0.65%
Eurostoxx 50	19.68%	-0.09%

Source Bloomberg / Partner Banks
Data as at 29th July, 2.30pm

Indicative Levels – 6yr	
FTSE 80/110 boost. 65% EKIP	235%
FTSE flat, 65% EKIP	10.2%
FTSE/S&P 5% step, 60% EKIP	8.70%

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Upcoming Events	
4th	BOE Rate Announcement
4th	ECB Publishes Economic Bulletin
4th / 5th	US Factory Orders, Non-farm Payroll, Unemployment Rates

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6 Month 100% Strike Put – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				5.05%		
3m	16.12%	11.22%	6.57%	3.30%	1.56%	0.76%
6m	15.00%	10.00%	5.00%	0.00%	0.00%	0.00%

12 Month 100% Strike Put – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				8.25%		
3m	18.49%	13.85%	9.93%	6.90%	4.73%	3.20%
6m	16.80%	12.05%	8.01%	5.05%	3.16%	1.96%
9m	16.20%	11.21%	6.60%	3.30%	1.56%	0.76%
12m	15.00%	10.00%	5.00%	0.00%	0.00%	0.00%

6 Month 90% Strike Put – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				1.89%		
3m	6.60%	3.28%	1.52%	0.71%	0.32%	0.14%
6m	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%

12 Month 90% Strike Put – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				4.15%		
3m	10.04%	6.84%	4.70%	3.13%	2.09%	1.39%
6m	8.05%	5.10%	3.13%	1.88%	1.15%	0.70%
9m	6.60%	3.28%	1.52%	0.70%	0.32%	0.14%
12m	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Put spreads

The long put position can be cheapened by selling options and receiving premium to offset the premium spent on the long put position. The first option 'strategy' is one where you go long the 100% strike put and go short the 90% strike put. Evidently this lessens the up-front outlay, but obviously caps your return at -10% market move less the up-front premium paid.

6 Month 100-90 Put Spread – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				3.16%		
3m	9.59%	7.94%	5.06%	2.54%	1.24%	0.61%
6m	10.00%	10.00%	5.00%	0.00%	0.00%	0.00%

12 Month 100-90 Put Spread – Up Front Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				4.10%		
3m	8.54%	7.01%	5.23%	3.77%	2.64%	1.81%
6m	8.75%	6.95%	4.89%	3.16%	2.01%	1.26%
9m	9.59%	7.94%	5.06%	2.59%	1.24%	0.61%
12m	10.00%	10.00%	5.00%	0.00%	0.00%	0.00%

Arguably for moderate market moves of up to down 10%, the net return after up-front premium is superior for the put spread than the outright long put. It is also indeed the same case obviously for a positive market move as the premium foregone versus zero option payoff is less for the put spread trades than the outright long.

Put spreads with OTM call

The second example of cheapening the structure further is to sell an out of the money call. So in this strategy you have two lots of premium to offset the long 100% strike put. In the analysis below we have taken a package of long 100% strike put, short 90% put and short 105% call. Hopefully it is self-evident that you will be capped out at 10% negative moves and will actually start to lose money should the underlying have gained more than 5% at expiry.

6 Mnth 100-90 Put Spread, 105 Call – UF Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				1.77%		
3m	9.59%	7.93%	4.23%	1.35%	-0.79%	-4.93%
6m	10.00%	10.00%	5.00%	0.00%	0.00%	-5.00%

12 Mnth 100-90 Put Spread, 105 Call – UF Premium & MTM

	-15%	-10%	-5%	0%	5%	10%
Premium				1.61%		
3m	8.41%	6.96%	5.03%	1.86%	-1.42%	-4.75%
6m	8.73%	6.88%	4.50%	1.77%	-1.59%	-4.83%
9m	9.59%	7.93%	4.51%	1.56%	-0.97%	-4.93%
12m	10.00%	10.00%	5.00%	0.00%	0.00%	-5.00%

Similar to the put spread versus long put analysis, cheapening the up-front premium by adding the short call, enhances the net return for up to down 10% market scenarios. Whilst this is evidently the pro, the con with the short call position is the potential mark to market and expiry losses where the market is up more than 5%.

These are relatively simple strategies and of course can be cheapened further by selling more positions and / or including contingent features. However, as hopefully we've illustrated, in cheapening the structure you've also narrowed down the range of market moves which provide for a net positive return. So whilst on paper the up-front premium looks good value, dare we say it cheap, beware the scenarios where the product payoff can decrease quite significantly.

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