Currency hedging

Despite Growing Uncertainty Over the Looming Brexit Deadline, Sterling Implied Volatility Suggests Attractive Hedging Opportunities

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As the October 31st Brexit deadline is inching ever closer, the uncertainty factor continues to cast dark shadows over Sterling. While this uncertainty makes any near-term forecasting rather challenging, option markets' volatility readings are implying there to be still ample opportunities for the corporate hedgers to still act prior to this key event risk.

While the implied volatilities in Sterling-crosses have been creeping higher from the Summer lows - hitting 2018-highs in early-September- the current levels are still far cry away from the post 2016 referendum highs, implying the potential worst-case outcomes for Sterling not having been priced in.

The relative moderation seen in the implied volatilities in the past few weeks pave the way open to corporate hedgers with near-future currency exposure to employ options structures as alternative hedging solutions to forward outrights.

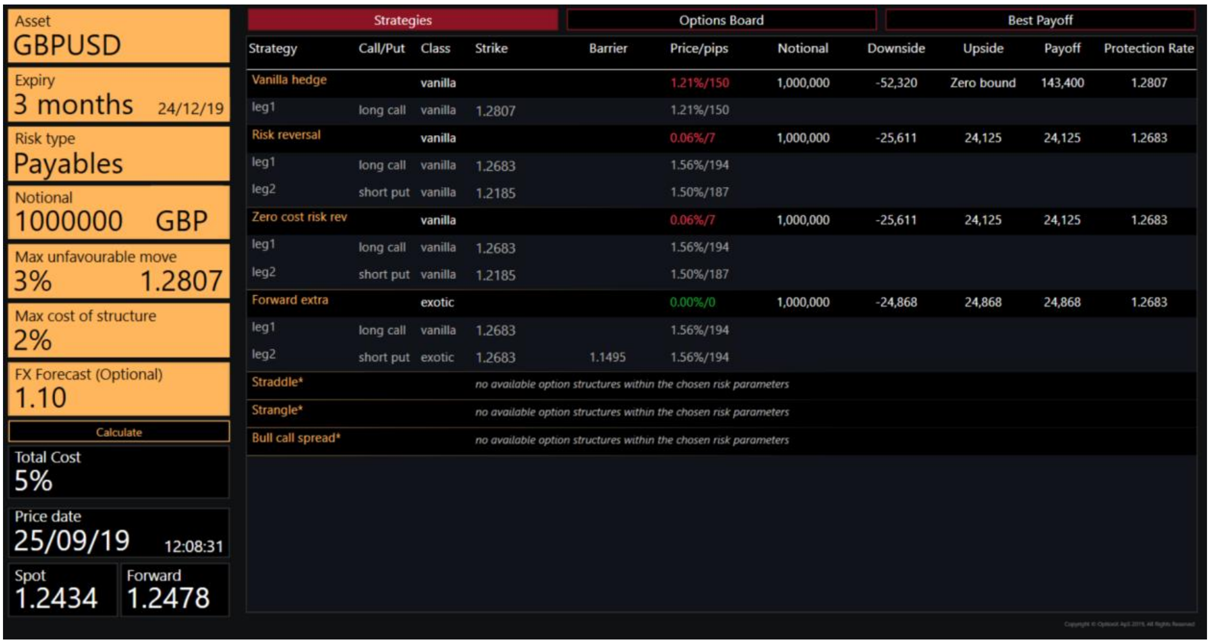
Some the historical extreme moves in Sterling- such as the 16% drop in GBP/USD in September 1992 or the parabolic move in EURGBP towards the parity in December of 2008- are comparable to or even surpass the currency reactions seen in the immediate aftermath of 2016 June Brexit referendum results.

While we are not suggesting that these extreme moves would be re-experienced in the run-up or after the October 31st deadline, prudent corporate treasury management would still call for seeking appropriate protection from potential adverse currency movements. Below, we look at 3 example cases, whereby OptionX, a cutting-edge treasury tool, can be used in finding the most optimum hedging structures.

Scenario 1: USA (US dollar)-based corporate hedger, having to seek protection in covering Sterling-expenses on a 3-month time horizon:

The hedger initiates the analysis by inputting GBPUSD as the Asset, 3 months as the Expiry period, Payables as the Risk type and GBP 1 million as the Notional amount. With the 3-month trading ranges in GBP/USD averaging around 6.5% in the past year, the hedger chooses to input 3% as the Maximum unfavorable currency move that he/she is willing to bear and 2% as the Maximum cost of structure he/she is ready to pay for.

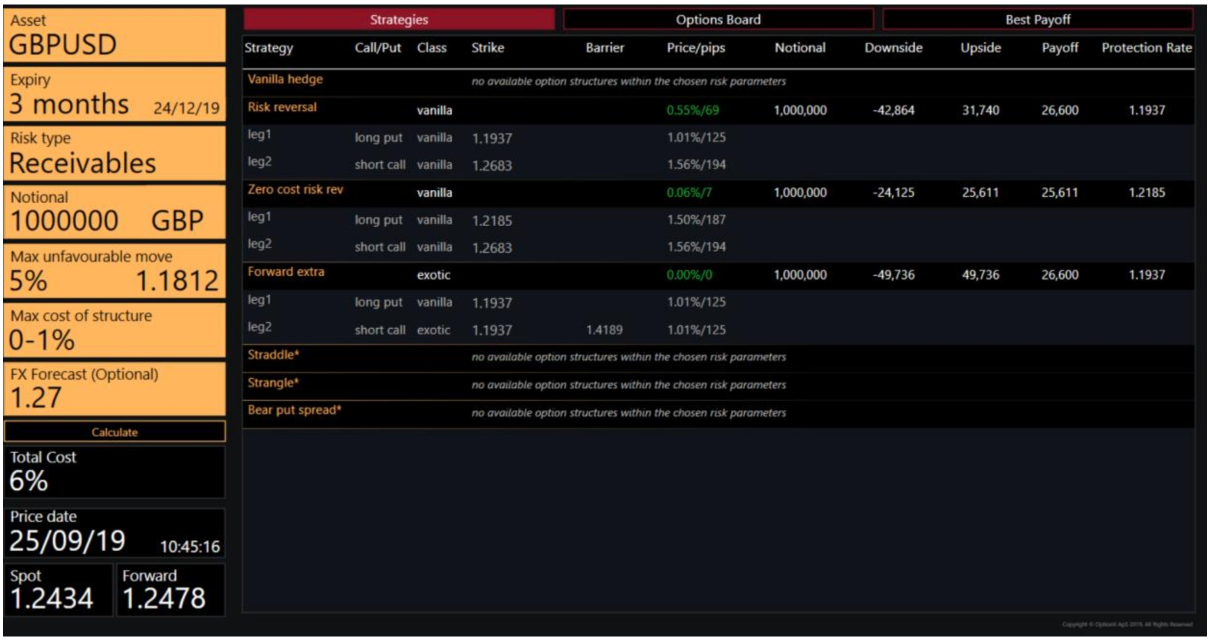
Running the OptionX tool with the above risk parameters yields the following options structures:



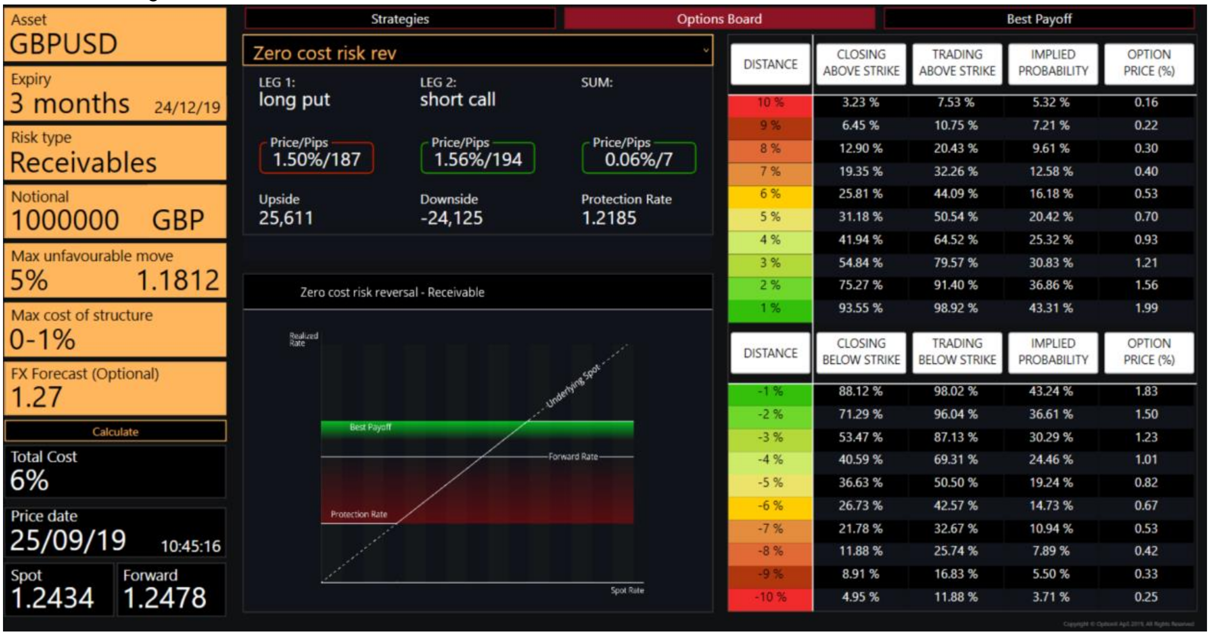
Looking through the various alternatives, the hedger chooses to drill deeper into the Risk Reversal structure, which would allow him/her to gain a protection from unfavorable currency moves beyond 2%, whilst still retaining a potential upside of a 2% favorable currency move at a near zero premium cost.

Scenario 2: USA (USD)-based corporate hedger, having to protect Sterling-income on a 3-month time horizon.

The hedger inputs GBPUSD as the Asset, 3 months as Expiry period, Receivables as Risk type, GBP 1 million as the Notional amount. The hedger inputs 5% as the Maximum unfavorable currency move his is willing to suffer and with a strict hedging cost policy, the hedger chooses 0-1% as the Maximum cost of structure. With a relatively positive Sterling outlook, the hedger also inputs the optional FX Forecast as 1.27 for GBP/USD. Running the OptionX application results in the following alternative options strategies:

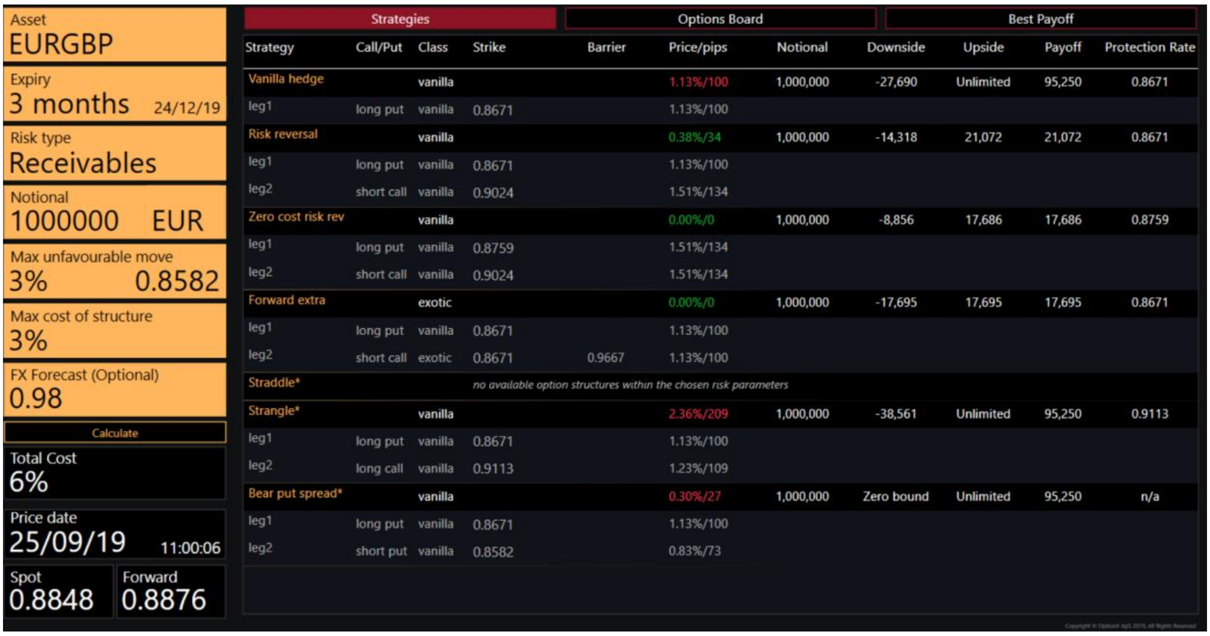


Examining the various alternative structures OptionX displays, the hedger chooses to drill deeper into the Zero cost risk reversal strategy, which offers not only a protection from greater than 2% adverse market moves, but also caps the potential upside 2% from the current spot, at a level closely coinciding with the hedger's own forecast.



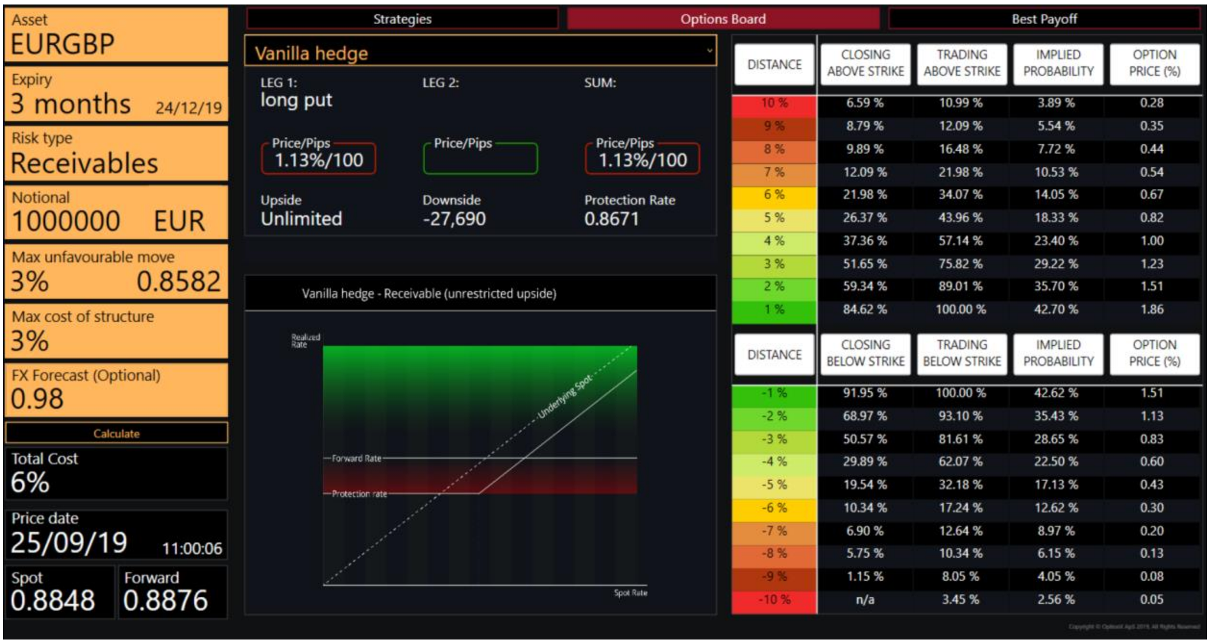
Scenario 3: UK (GBP)-based corporate hedger, facing future EUR-income on a 3-month time horizon.

The hedger inputs EURGBP as the Asset, 3 months as the Expiry period, Receivables as the Risk type and EUR 1 million as the Notional amount. With the 3-month average trading range in EURGBP in the past year around 5.5%, the hedger inputs 3% as the Maximum unfavorable currency move and wanting to see a greater range of alternative option structures, enters 3% as the Maximum cost of structure. Additionally, with a bullish view on EUR, the hedger enters an optional forecast of 0.98 for EURGBP. Having input the above parameters, OptionX yields the following alternative structures:



Strategy	Call/Put	Class	Strike	Barrier	Price/pips	Notional	Downside	Upside	Payoff	Protection Rate
Vanilla hedge		vanilla			1.13%/100	1,000,000	-27,690	Unlimited	95,250	0.8671
leg1	long put	vanilla	0.8671		1.13%/100					
Risk reversal		vanilla			0.38%/34	1,000,000	-14,318	21,072	21,072	0.8671
leg1	long put	vanilla	0.8671		1.13%/100					
leg2	short call	vanilla	0.9024		1.51%/134					
Zero cost risk rev		vanilla			0.00%/0	1,000,000	-8,856	17,686	17,686	0.8759
leg1	long put	vanilla	0.8759		1.51%/134					
leg2	short call	vanilla	0.9024		1.51%/134					
Forward extra		exotic			0.00%/0	1,000,000	-17,695	17,695	17,695	0.8671
leg1	long put	vanilla	0.8671		1.13%/100					
leg2	short call	exotic	0.8671	0.9667	1.13%/100					
Straddle*			no available option structures within the chosen risk parameters							
Strangle*		vanilla			2.36%/209	1,000,000	-38,561	Unlimited	95,250	0.9113
leg1	long put	vanilla	0.8671		1.13%/100					
leg2	long call	vanilla	0.9113		1.23%/109					
Bear put spread*		vanilla			0.30%/27	1,000,000	Zero bound	Unlimited	95,250	n/a
leg1	long put	vanilla	0.8671		1.13%/100					
leg2	short put	vanilla	0.8582		0.83%/73					

Examining the various alternatives, the hedger chooses to analyze closer the Plain Vanilla hedging structure, as this one provides a protection from greater than 2% adverse currency moves at around 1% premium cost, whilst leaving the hedger open to enjoy from potentially unlimited upside gains.



DISTANCE	CLOSING ABOVE STRIKE	TRADING ABOVE STRIKE	IMPLIED PROBABILITY	OPTION PRICE (%)
10 %	6.59 %	10.99 %	3.89 %	0.28
9 %	8.79 %	12.09 %	5.54 %	0.35
8 %	9.89 %	16.48 %	7.72 %	0.44
7 %	12.09 %	21.98 %	10.53 %	0.54
6 %	21.98 %	34.07 %	14.05 %	0.67
5 %	26.37 %	43.96 %	18.33 %	0.82
4 %	37.36 %	57.14 %	23.40 %	1.00
3 %	51.65 %	75.82 %	29.22 %	1.23
2 %	59.34 %	89.01 %	35.70 %	1.51
1 %	84.62 %	100.00 %	42.70 %	1.86

DISTANCE	CLOSING BELOW STRIKE	TRADING BELOW STRIKE	IMPLIED PROBABILITY	OPTION PRICE (%)
-1 %	91.95 %	100.00 %	42.62 %	1.51
-2 %	68.97 %	93.10 %	35.43 %	1.13
-3 %	50.57 %	81.61 %	28.65 %	0.83
-4 %	29.89 %	62.07 %	22.50 %	0.60
-5 %	19.54 %	32.18 %	17.13 %	0.43
-6 %	10.34 %	17.24 %	12.62 %	0.30
-7 %	6.90 %	12.64 %	8.97 %	0.20
-8 %	5.75 %	10.34 %	6.15 %	0.13
-9 %	1.15 %	8.05 %	4.05 %	0.08
-10 %	n/a	3.45 %	2.56 %	0.05

Drilling even deeper into the payoff table readings, the hedger locates payoff reading for the chosen option strategy and compares this to payoff readings of alternative strike distances.

DISTANCE	CLOSING ABOVE STRIKE									TRADING ABOVE STRIKE								
	2%	3%	4%	5%	6%	7%	8%	9%	10%	2%	3%	4%	5%	6%	7%	8%	9%	10%
9 %									0.31									0.75
8 %								0.35	0.22								0.65	0.66
7 %							0.25	0.25	0.12							0.77	0.54	0.55
6 %						0.18	0.12	0.12	-0.01						0.87	0.65	0.42	0.43
5 %					0.50	0.03	-0.03	-0.03	-0.16					1.22	0.72	0.50	0.27	0.28
4 %				0.32	0.32	-0.16	-0.21	-0.21	-0.34				1.20	1.04	0.54	0.32	0.09	0.10
3 %			0.27	0.09	0.09	-0.38	-0.44	-0.44	-0.57			1.06	0.97	0.82	0.31	0.09	-0.14	-0.13
2 %		0.04	-0.02	-0.19	-0.19	-0.67	-0.72	-0.72	-0.85		0.76	0.77	0.69	0.53	0.03	-0.19	-0.42	-0.41
1 %	-0.68	-0.32	-0.37	-0.55	-0.55	-1.02	-1.07	-1.07	-1.21	-0.08	0.41	0.42	0.33	0.18	-0.33	-0.55	-0.78	-0.77

DISTANCE	CLOSING BELOW STRIKE									TRADING BELOW STRIKE								
	-2%	-3%	-4%	-5%	-6%	-7%	-8%	-9%	-10%	-2%	-3%	-4%	-5%	-6%	-7%	-8%	-9%	-10%
-1 %	-0.13	0.00	-0.32	-0.54	-0.89	-1.03	-1.05	-1.41	0.00	0.35	0.94	0.97	0.10	-0.48	-0.63	-0.68	-0.79	-1.17
-2 %		0.39	0.07	-0.15	-0.51	-0.65	-0.67	-1.03	0.00		1.32	1.35	0.48	-0.10	-0.24	-0.30	-0.41	-0.78
-3 %			0.37	0.15	-0.21	-0.35	-0.37	-0.73	0.00			1.65	0.78	0.21	0.06	0.00	-0.11	-0.48
-4 %				0.38	0.02	-0.12	-0.14	-0.50	0.00				1.01	0.44	0.29	0.23	0.13	-0.25
-5 %					0.20	0.06	0.03	-0.32	0.00					0.61	0.46	0.40	0.30	-0.08
-6 %						0.19	0.16	-0.19	0.00						0.59	0.53	0.43	0.05
-7 %							0.26	-0.10	0.00							0.63	0.52	0.14
-8 %								-0.03	0.00								0.59	0.21
-9 %									0.00									0.26

While the option strike levels shown on OptionX must conform to the user's own risk parameters, OptionX application utilizes a proprietary mathematical model that optimizes the final selection of the strike prices in such a way as to offer best potential payoff values within the given risk parameters.