Risky business – weighing up your company's FX options

Managing your company's foreign exchange should be easier than ever before, says Alan Hicks of Fenics Software, it's just a matter of making the right choice.

In today's world of high technology and sophisticated financial derivatives, many products are now available to eliminate, or manage foreign exchange (FX) risk to meet the requirements of those companies exposed to changes in exchange rates. Highly liquid and efficient markets such as the FX Options market exist to disseminate FX risks among banks and other institutions.

Despite such advances in financial product diversification, companies continue to report that earnings have suffered or order books are down due to 'adverse exchange rate movements'. So why don't these companies hedge themselves against such risks? This article looks at various reasons why FX hedging has not been done in the past, and offers some solutions provided by the FX Option product.

The 'continuously-declining' pound syndrome

Although sterling has achieved some stability against the dollar in the recent past, the pound has been a traditionally weak currency for some time. If one looks back over, say, 50 years, this is all too evident (remember Swiss franc at 10 to the pound in 1960?).

The apparent continuous long-term decline of sterling has resulted in some corporations being reluctant to hedge FX risk. For example, an exporter of manufactured goods would not hedge foreign currency receivables (by buying pounds forward), as it was easier to do nothing and take the expected FX gain as part of their business. This inaction is similar to those firms which have traditionally invested in overseas equities without regard to the inherent FX risk of being long foreign currency denominated assets – any decline in the stock value would be partly offset by the increasing value of the foreign currency (decreasing the value of sterling). Take a look at, for example, Japanese equities over the last 10 years!

With the introduction of the euro (and its subsequent weakness), many companies have been caught out by the 'strong' pound. Hence the current bemoaning of how bad it is to have a strong national currency

However, things may be changing. Over the last few years sterling has appreciated in the FX markets and, with the introduction of the euro (and its subsequent weakness), many companies – particularly those in manufacturing and export industries – have been caught out by the 'strong' pound. Hence the current bemoaning of how bad it is to have a strong national currency.

Alan Hicks

Importers and those corporations with 'long' sterling risk positions ('short', or the need to pay, foreign currency) have the opposite viewpoint to the exporters. Many of these companies have traditionally hedged themselves by buying the foreign currency (and selling sterling) on a forward basis in the FX markets – the large UK tour operators are a good example. Those which were foolish enough not to hedge complained about the increased cost of their products (remember the 'surcharges' on travel package tours?) and point out the inflationary dangers of having a weak national currency.

The above is a simple yet realistic example, but it highlights the fact that exporters and importers have opposite FX risk and that there is a mutual interest for one side to hedge their FX risk with the other. This is where the banks play an important part in being the market intermediary for FX risk, just as they take deposits from those with surplus cash and lend it to those with cash shortages. Notwithstanding the above and that more firms hedge FX risk than ever before, it is still commonplace to see a FTSE 100 firm report a large loss of earnings due to adverse exchange rate changes. Apart from the 'continuously-declining pound' syndrome, there is another reason for the reluctance to hedge.

Fear of what the competition is doing/not doing

There is fear that an unhedged competitor may gain from a favourable rate movement while a hedged company would not. Although the opposite is also true – a hedged firm will gain (not lose) while the competitor loses – this results in a strange kind of 'herd instinct' that states that all firms within a specific industry must act in a similar manner.

FIGURE 1

FX rate on maturity	GBP receipts from sell EUR			Difference versus forward		
	Do nothing	Sell forward at 0.6	Buy option EUR / GBP put	P/L in GBP		
				Do nothing	Sell forward	Buy option
0.4000	400,000	600,000	575,000	-200,000	0	-25,000
0.4200	420,000	600,000	575,000	-180,000	0	-25,000
0.4400	440,000	600,000	575,000	-160,000	0	-25,000
0.4600	460,000	600,000	575,000	-140,000	0	-25,000
0.4800	480,000	600,000	575,000	-120,000	0	-25,000
0.5000	500,000	600,000	575,000	-100,000	0	-25,000
0.5200	520,000	600,000	575,000	-80,000	0	-25,000
0.5400	540,000	600,000	575,000	-60,000	0	-25,000
0.5600	560,000	600,000	575,000	-40,000	0	-25,000
0.5800	580,000	600,000	575,000	-20,000	0	-25,000
0.6000	600,000	600,000	575,000	0	0	-25,000
0.6200	620,000	600,000	595,000	20,000	0	-5,000
0.6400	640,000	600,000	615,000	40,000	0	15,000
0.6600	660,000	600,000	635,000	60,000	0	35,000
0.6800	680,000	600,000	655,000	80,000	0	55,000
0.7000	700,000	600,000	675,000	100,000	0	75,000
0.7200	720,000	600,000	695,000	120,000	0	95,000
0.7400	740,000	600,000	715,000	140,000	0	115,000
0.7600	760,000	600,000	735,000	160,000	0	135,000
0.7800	780,000	600,000	755,000	180,000	0	155,000
0.8000	800,000	600,000	775,000	200,000	0	175,000

One can see the results of this when, given a sharp movement in the pound, the share prices of companies exposed to the FX risk will react in a similar manner, irrespective of an individual company's stated hedging policy. In other words, one corporation may be fully hedged to the exchange rate change (such hedging policy having been declared in the annual report), and another completely unhedged, yet the share prices of both will react in a similar manner. Good or bad, the City assumes everybody is unhedged – strange!

Shareholder/press acceptance of exchange losses

Corporations automatically insure themselves against all manners of risks – fire and flood, staff accidents, equipment failure and the like – because shareholders would not accept company losses due to such events. With FX risk, however, it's a different matter.

Company treasurers know that shareholders will accept exchange rate losses as a circumstantial event and therefore have a ready-made excuse not to hedge and maintain the same financial risk stance as the competition.

'Our results are bad, but no worse than the competition' is the usual excuse. In this sense, we are back to the previous point of the herd instinct.

In the current debate over our 'overvalued' currency, has any journalist ever questioned why the manufacturing companies are in such an apparent unhedged state? FX Risk is like any other and it can be managed using established financial products that are akin to insurance.

This is where the option, in its many guises, can play a major role – providing the protection that is needed while retaining the benefit of favourable FX rate movement.

Traditionally, those corporations that did hedge their FX exposure did so using the foreign exchange forward – buying or selling the foreign currency for delivery on a specified date in the future. If the currency amount and anticipated date were known with some measure of accuracy, then the FX forward guaranteed a rate of exchange and negated all FX risk at no extra cost: ie, banks would make no transaction fees or commission on FX deals.

The problem with the FX forward is that it left no room for gain if the eventual spot rate turned out to be more favourable than the guaranteed rate. With options this all changes for the sake of a small percentage cost – the premium.

To illustrate the effectiveness of the option contract, let us look at a UK exporter with known receivables of €1m one year from now, and three possible decisions regarding the inherent FX risk of long EUR/short GBP:

1) do nothing and sell the euro in the spot market, one year from now;
2) sell €1m and buy GBP as a one-year forward contract; or
3) buy a one year EUR put (GBP call) option with guaranteed rate ('strike') equal to (2), the forward FX rate. This option gives the right, but not the obligation, to sell, or 'put', euros (and therefore 'call', or buy, pounds) at the guaranteed rate.

Using a forward EUR/GBP rate of 0.6000, the euro put option might cost £25,000 for the one-year term. *Figure 1* shows:

i) the resultant GBP receipts under the three scenarios at various levels of the spot rate on maturity in one year from now; and
ii) the difference, or profit/ loss, compared to selling the euro forward at 0.6000.

The 'do nothing' scenario opens up the possibility of receiving £800,000 at

FIGURE 2

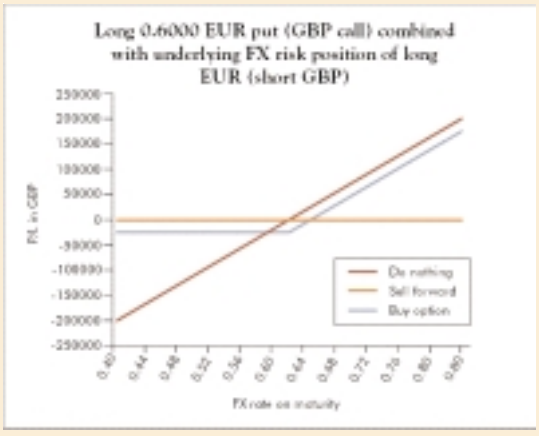
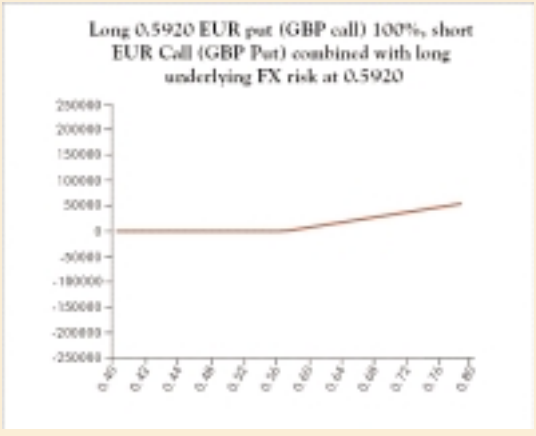


FIGURE 3



0.8000, but also the risk of receiving half that amount with spot of 0.4000 on maturity – a high risk strategy indeed.

Here, we can see the relative safety of selling forward (decision 2) at 0.6000 is the guaranteed receipt of £600,000 at any level of spot. Safe as houses, but with the lost opportunity of any euro appreciation.

Finally, the purchase of the euro put option shows that there is a guaranteed receipt of a minimum of £575,000 (£600,000 by 'exercising' the put at the strike of 0.6000, minus the premium cost of £25,000) should the euro decline below the current forward rate of 0.6000. Alternatively, if the euro were to appreciate, it would be better to sell at the higher market spot rate (rather than use the option's rate), which results in increasing receipts of sterling above 0.6000. In this case, the receipts are equivalent to the 'do nothing' scenario, less the option premium cost of £25,000.

Figure 1, P/L in GBP, shows that the difference compared to the selling forward scenario is never worse than the £25,000 premium cost of the option, but is better by increasing the amount at all rates above 0.6250. This level, called the 'breakeven', is where the premium cost is recouped by the appreciating euro. Above 0.6250 it is profits all the way up.

Figure 1, known as a 'payout diagram', shows the risk limitation of using options which, of course, is the basic hedging function of the product. Buyers of options always have limited loss/unlimited profit profiles.

The problem of options

The above example shows the premium cost for the one year euro put option as £25,000 or just over 4% of the £600,000 FX risk. While to many, this insurance cost would seem to give good value, history has shown a strong reluctance on the part of the corporate hedger to pay option premiums to reduce FX risk. This is the 'problem' with options – one has to pay for the rights inherent in the contract.

The beauty of options

The use of options allows one to 'manipulate' the straight-line (symmetric) aspect of FX risk. This can be seen from the payout diagram where the downside (unlimited) loss of the 'do nothing' scenario is cut short by the use of the option to give an asymmetric profile. The beauty of options is it is possible to construct all sorts of different payout profiles to suit the risk appetite of the corporate hedger by combining puts and calls with different strikes, values, maturity dates and direction (buy or sell).

Such option combinations come as packaged risk strategies under various names, depending on which bank one is talking to. There follows an example that is typical of the kind of strategy invented by banks to suit the corporate hedger – there is no premium to pay.

The profit sharing forward

Using the same example as above, the UK exporter buys a euro put (GBP call), but this time we will set the strike at the current spot of 0.5920 (instead of the forward of 0.6000). This reduces the premium to about £21,000.

Furthermore, we are going to make the assumption that the company has budged the income of €1m at the same current spot rate (not unreasonable to adopt the spot rate when pricing company goods). So, euro downside risk has been eliminated at the budget rate of 0.5920 for the next year for the expense of the premium cost of £21,000.

The next step is to eliminate the premium. We do this by *selling* the euro call (GBP put) in an amount whereby the premium *receipt* is sufficient to net the premium (from buying the euro put) cost to zero. As the euro call premium is £28,500 per €1m, we need only sell a proportion to net the premiums:

€1,000,000 x 21,000/28,500 = €736,842 or about 74%

The resultant payout diagram for this strategy, the profit sharing forward, is shown in *Figure 2*.

This strategy gives 100% protection from a declining euro below 0.5920 and a 26% profit share (ie, of an uncovered position – the 'do nothing' scenario) at rates above that level with *no premium cost*.

In this example, the profit sharing forward is an apparent 'no lose' scenario – either the company receives £592,000 – equivalent to exchanging at the current spot rate – or something in excess. The 'catch' is that the company has given up the benefit of selling the euros forward at a better rate (0.6000), which is equal to £8,000 in 'lost' revenue. It is this amount that pays for the upside benefit of 25% of an uncovered position.

Hedging your bets

FX Risk is far easier to manage now than ever before and simple option strategies, such as the profit sharing forward, exist to provide cover to suit the corporate. There is a place for an option in every corporate hedging policy. ■

Alan Hicks is FX Derivatives Consultant at Fenics Software. He has spent over 20 years in foreign exchange with major banks, specialising in FX Options since 1983. He was Global Head of the produce at Chase Manhattan and, more recently, at Standard Chartered Bank. Alan is the author of Managing Currency Risk using FX Options, *2000, published jointly by the Association and Woodhead Publishing, and* Foreign Exchange Options *published in 1993, 1997 (2nd Edition).* www.fenics.com