

# THE BEAUTY OF DEALING IN EXOTICS



NEW PRICING SYSTEMS ARE ENABLING COMPANIES TO MAKE BETTER USE OF EXOTICS TO HEDGE EXPOSURE TO MOVEMENTS IN FX. **DAVID GERSHON** OF SUPERDERIVATIVES REPORTS.

In the eyes of many, derivatives are often seen as the bad boys of financial markets – a reputation that is not entirely surprising, considering some of the high profile financial scandals that have occurred as a result of the misuse of derivatives. These include the collapse of Barings Brothers in 1995, the Hammersmith & Fulham swaptions scandal in 1988, and the £150m losses incurred by Allied Lyons from unsuccessfully speculating in currency options in 1991. But is this reputation fair? The answer is no.

Derivatives are the unfortunate victims of bad press, and what are potentially powerful tools for all participants in the financial markets have been unfairly tarnished. The examples of derivatives misuse mentioned only illustrate what can happen if the instruments are used by unscrupulous traders, or by people who simply do not understand them. None reflect the main reason to use derivatives, which is to bring about a reduction – not an increase – in risk.

If futures are considered by many as being a little risqué, then options, particularly exotics, are definitely for an adult audience only. This is probably a reflection of the relative youth of the options market. Until Fischer Black and Myron Scholes published their options pricing model in the early 1970s, the market was controlled by a few experienced and professional traders.

The Black-Scholes model significantly increased transparency in options. However, since it oversimplifies market conditions, the price it produces can deviate substantially from where a particular option is actually trading. Therefore, until the recent development of newer pricing systems the world of currency option trading, particularly exotics, has remained opaque. This sounds contradictory, but a key feature of the currency options market is that the vast majority of business is carried out over the counter. There is no single reference point, such as a formalised exchange, to provide a fixed and determined price.

**OPTIONS AND FORWARDS.** So, what is an exotic option, and what does it allow the end user to do? By definition, an exotic option is simply one that is not a standard vanilla option. Exotics can be made up of combinations of options and forwards, or they can be

derived from changing the aspects of vanillas, such as the activation and deactivation of the option, the calculation of the pay out, the type of underlying and numerous other factors.

The use of exotic options can prove an efficient way of hedging exposure to movements in foreign exchange and the new pricing systems can produce the market price of more than 70 different popular types, from average rates to windows.

A problem in the recent past has been that, if you called six banks for an exotic currency option, you might easily have got six different prices. This is because most pricing systems, unlike the newer models mentioned, provide only a theoretical value (TV) price, not the market price. And people do not often trade on TV. This means that even if an end user is aware of the cost benefits to be gained from using exotic options, the opaqueness in the market has presented several problems that have not always been easy to overcome.

Hedging through any type of financial instrument obviously demands the requisite knowledge from the trader to use the product properly. But as importantly, it is essential that risk managers are able to monitor and accurately assess the strategies a treasurer is using to manage a company's exposure.

**RAISING THE STANDARDS.** The introduction of standards such as FAS 133 has formalised the risk management of derivatives. Among other strictures, if a company wants to be FAS 133-compliant, it has to regularly revalue its derivative positions at 'fair value'. This is defined as the market price of the instrument.

As I have already mentioned, in the past, it has been relatively difficult to independently obtain the market price of an option and companies have often had to rely on the same bank they initially traded with for their revaluation rates.

Recent anecdotal evidence suggests that there has been a slight decline in currency option activity from companies because of some of the difficulties in complying with FAS 133. This is likely to prove only short term, as the cost benefits of using options far outweigh any audit problems. At the same time, there has apparently been an increase in outright forward transactions by firms to manage foreign exchange exposure. In some cases, this has

## □ FORWARD THINKING

A UK company with liabilities in euros is concerned that EUR/GBP will go higher in the next six months.

It could do an outright forward deal, locked in at a rate 0.6200. Alternatively, it could use this simple options strategy, which requires no more management than an outright position but which is far more beneficial from a risk reward/reward perspective.

Over the past year, EUR/GBP has traded between 0.5950 and 0.6420. So the company decides to carry out what is known as a forward knock-in, rather than an outright forward currency transaction.

It buys a 0.6250 EUR call, and at the same time it sells a 0.6250 EUR put, with a knock-in at 0.58. Just as if it had done the outright, this trade does not cost anything to put on because the premium paid is matched by the premium received.

As long as EUR/GBP stays above 0.5800 over this six-month period, the customer remains hedged but not locked in at 0.6250. So, for example, if the rate falls to 0.5900, the company is able to gain the benefit of the 5% currency move. Obviously, if it had just carried out the forward, this opportunity would have been lost.

If the rate does happen to fall below 0.58, the EUR put the company sold at 0.6250 is knocked in. This means that the company has effectively bought an outright forward at 0.6250. This is a slightly worse rate than if an outright had been done at the original rate of 0.6200. But from a risk/reward perspective the trade looks very attractive, and it requires as little management as the inflexible outright forward.

happened even when the company knows that using forwards is seldom as efficient a strategy as using options.

So why choose outright forwards and not options? As well as the issue of easier compliance with standards such as FAS 133, forward deals can largely be forgotten about once the trade is carried out. To an extent, this is also true for plain vanilla options. But even the use of vanilla options, let alone exotics, offers the end user far more benefits than outright forwards.

Using options eliminates downside risk but the end user can retain unlimited upside potential. This upside potential simply does not exist if exposure is managed by carrying out an outright forward. For example, if a Japanese exporter hedged their dollar exposure a year ago using a one-year outright forward, he would have been locked in at a rate of roughly 106. He would have failed to benefit from the rise in dollar/yen to back above 130.

Even hedging through the purchase of an ordinary vanilla option would have resulted in a 12% gain on the hedge. This sort of efficiency should not be ignored.

It is also easier to hedge variable exposures with options than outrights. Should there be an unexpected fall off in business, then a company could easily find that it has bought too much of a currency forward. In such a scenario, it is obvious that the treasurer is far from ideally hedged. It is not uncommon for companies to include a provision in their results about the impact of adverse currency movements. An obvious question is how many will make such provisions in the future, if they only manage currency risk through forward transactions?

That there are so many different types of exotic options and strategies might seem daunting. But few people fully understand the science and mechanics of a car. The vast majority of drivers are

not interested in what makes the vehicle move but know that when they get in it, they can switch on the ignition and the car will facilitate their journey. How this is done is of little interest.

Option users can take the same approach. How a price is derived is not particularly relevant. What is important is that the price is accurate – in other words, that it is the market rate.

Once there is confidence in the price, then a strategy can be tailored to manage risk discretely, rather than using the broadsword approach of doing an outright forward.

This is the real advantage of using exotic options over other trading strategies. Exotics can provide a bespoke service to reduce risk, and they can do this incredibly efficiently.

**HEDGING YOUR BETS.** Strategies can be designed to hedge the average price of a currency over a given time, or to make a fixed payout above or below a certain rate – this could act as compensation for the loss of a contract due to adverse currency movement. There are even options which are active only during a certain time, for example, over the year-end when there might be some unexpected moves because of liquidity problems in a given currency.

The minor price to pay for this greater hedging efficiency is that to gain the full benefits of an exotic options strategy requires more management of the position than for an outright forward. Close co-operation with a partner bank can help ensure that opportunities to maximise the risk reduction benefits are obtained. Or, treasurers can take advantage of the more sophisticated pricing systems that are now evolving and do this themselves.

The advent of the internet and development of new pricing systems means that exotic options are fast becoming more transparent and more accessible. Customer feedback suggests it is not just the provision of market prices that is popular but also the inclusion of risk matrices and graphic portrayals of risk profiles. This makes it easier to see how market moves are changing a company's level of risk.

The use of exotic options can prove an efficient way of hedging exposure to movements in foreign exchange. New pricing systems, such as SuperDerivatives, can produce the market price of more than 70 different popular types, from average rates to windows. Once a benchmark is accepted, which is likely to prove only a matter of time, the benefits of using exotic options will be available to a far wider range of market participants.

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This article represents the views of the author which are not necessarily those of the Association. As with transactions in all financial instruments, FX options should only be utilised, within predetermined limits, when approved by a formal risk management process as being appropriate to the commercial and risk management strategies of the user. The nature of risks attaching to the instrument and the potential impact of price movements on the financial performance of the transacting entity should be fully understood at all levels of the organisation, including the executive management. The use of derivative transactions may also require additional infrastructure in areas such as accounting systems, risk monitoring, management information and internal controls.

If readers have any comments on any aspect of this article, please contact the editor, Mike Henigan, at [mhenigan@treasurers.co.uk](mailto:mhenigan@treasurers.co.uk).