FLEXIBILITY OR HEDGING?

Antonio Mello, John Parsons **and** Alexander Triantis **dispute the view that there is a straight choice between relocating production or hedging for companies coping with currency fluctuations**

Large and rapid swings in exchange rates provide a major challenge to firms competing in today's globally integrated market-place. In the 1980s, it was the competitiveness of US firms that suffered. Today, it is German and Japanese producers that face competitive pressures from their strong currencies. Volatile exchange rates pose a competitive challenge for all firms and all countries.

One way to respond to exchange rate movements is to shift production to where the currency is cheap. An even more proactive step is to set up global operations to allow relocation of production in response to exchange rate movements.

Firms also manage exchange rate exposure by hedging with derivatives such as futures, options and swaps. Some companies choose the currency denomination of their debt and other obligations with an eye to providing a hedge against exchange rate movements.

Operating flexibility and financial hedging are often regarded as alternative strategies. For example, academic theorists have argued that "exchange rate-induced volatility can be hedged by selling a forward contract on the foreign currency... Alternatively, the firm could hedge through an on-balance-sheet strategy; it might relocate production facilities abroad..." (Nance, Smith & Smithson, 1993).

A 1993 report by the Economist Intelligence Unit recommended moving production abroad to mitigate currency exposure. The implication is that firms that set up operations abroad shield themselves against exchange rate movements and therefore have less need for financial hedging. Conversely, according to this view, a well-crafted set of financial hedges can protect the firm from currency movements so that the firm feels less pressure to shift production abroad.

Neither of these conclusions is correct. Firms with global operations are exposed to currency risk and can profit from a wisely structured financial hedging strategy. And no amount of hedging can transform a single firm based in a country with an overvalued currency into a low-cost competitor. Operating flexibility and financial hedging are not alternatives to each other. To see why this is so, we look first at the distinct roles served by the two activities and then at how they interact.

Corporations value the ability to respond rapidly to changes in the economic environment. One of the reasons why firms have created global networks of production sites is to take advantage of fluctuating exchange rates. A firm with production plants in Japan and in the US can decide to shift more production to its US plant as the yen appreciates.

According to the *Financial Times* (September 26, 1995): "Ever since the yen began its sharp ascent against major currencies... hardly a day has gone by without one Japanese company or another revealing plans to set up production overseas."

The advantage of flexibility is the option it provides of shifting production to the lowest cost site. Flexibility means that the firm's costs will, on average, be lower than its competitors' through a wide range of exchange rates. The firm with operations in different countries can always produce at the cheapest cost regardless of how exchange rates move. Rather than insulating the firm from exchange rate movements, operating flexibility allows the firm to take advantage of these fluctuations and press its competitive edge.

Some have argued that firms with operations in multiple countries should not hedge. The value of their flexibility, the argument goes, increases with the volatility of the exchange rate and hedging reduces volatility. This argument is flawed because hedging does not reduce the volatility of the exchange rate upon which the firm's operating options are contingent. Flexibility directly increases profitability, whether or not the firm hedges.

Financial hedging helps the firm in a different fashion, allowing it to lock in its profits despite volatile exchange rates. Hedging is just a side bet, adding to profits made under rising exchange rates but subtracting the same amount of profits made under falling exchange rates. Alternatively, if the firm wants to hold on to its profits under falling exchange rates, then it will have to pay an option premium to compensate the seller of the hedge for giving it guarantees in the face of rising exchange rates.

The firm's competitiveness is determined on the left-hand side of its balance sheet. Hedging is about the right-hand side of the balance sheet. If the firm is not competitive in what it produces at the prevailing exchange rate, hedging will only trade off profits made at one exchange rate with losses made at another. Hedging cannot consistently improve the firm's overall profitability.

But hedging can improve the firm's prospects in an indirect fashion. The insurance bought against a rise in exchange rates may be well worth the expense paid or the upside foregone. In the face of a rising exchange rate and increasingly uncompetitive operations, a hedge buys the firm time. The hedge helps the firm avoid further, purely financial, problems that arise from exposure to volatile exchange rates.

DOUBLE-EDGED SWORD

Let us imagine that a German corporation decides to establish a new factory in the US. The company finances this expansion partly by issuing additional debt. Once the expansion is complete, the firm will take advantage of its newly acquired flexibility when the Deutschmark is relatively strong *vis-à-vis* the dollar.

Should the Deutschmark become weak, however, the additional flexibility will add little value. In fact, the extra debt burden assumed to finance the capital expenditure required may now outweigh the added value from the additional flexibility. The firm's liquidity may be more precarious than before its expansion abroad. It can mitigate these dangers by hedging exchange rate risk. A long position on dollar forward contracts secures the added value of flexibility from the financial risks created by the additional debt burden.

Since the risk of financial distress may have increased with the capacity expansion, the firm may have an even greater need to hedge than it did before its expansion, particularly if the prices of its products are negatively correlated with the exchange rate.

This negative correlation enhances the volatility of the firm's value since a drop in prices is typically combined with a strong dollar. Both factors affect the firm's liquidity and risks of financial distress and, as a result, increase the need for hedging. ■

With the protection the hedge offers, the firm can weather a cashflow squeeze and make a transition in the face of new competitive realities. Without the hedge, an unexpected bad ĕxchange rate outcome might force the firm to abandon valuable investment opportunities or even to become insolvent. Some of the reasons for hedging are discussed in Shimko (1995), Lewent & Kearney (1991) and Maloney (1991).

Although flexibility and hedging perform different roles, they interact with each other in some complex ways. While exchange rate volatility increases the value of both, the other factors determining the value of each are distinct. A well-designed strategy of risk management must take into account the nature of the interactions and how these affect the value of the firm.

The case analysed in the box illustrates that the value of operating flexibility can increase as a result of hedging and that the amount of hedging may be positively related to the degree of flexibility in the firm. The latter result clearly runs counter to conventional intuition that operating flexibility and hedging are alternative strategies.

Operational flexibility and financial hedging are important tools in exchange rate risk management. As exchange rates become more volatile, the values attributable to both financial hedging and operating flexibility increase. However, that does not imply that a firm can use one as a substitute for the other. Hedging and flexibility differ in at least three key ways. First, hedging reduces the volatility of the firm's cashflows without changing the underlying risk of the firm's assets, while flexibility alters the profitability and the risk profile of the assets. Second, flexibility gives the firm a permanent edge by reducing production costs, while hedging provides insurance, which minimises the adverse effects associated with fluctuations in a firm's cashflow. Third, flexibility is an investment decision by a firm that chooses to set up operations abroad. Hedging, on the other hand, is a financing decision that alters the currency composition of the firm's capital structure.

It is precisely because financing and investment decisions are inseparable that it is important to take full account of the degree of flexibility in designing a hedging programme, as well as to understand how hedging affects flexibility. Risk management programmes should be designed to integrate operating flexibility and financial hedging strategies (we showed how to design such an integrated strategy for a multinational firm in Mello, Parsons & Triantis, 1995). If, instead, a firm acts on the basis of an apparent substitutability between flexibility and hedging, it may end up foregoing considerable value in a volatile environment. ■

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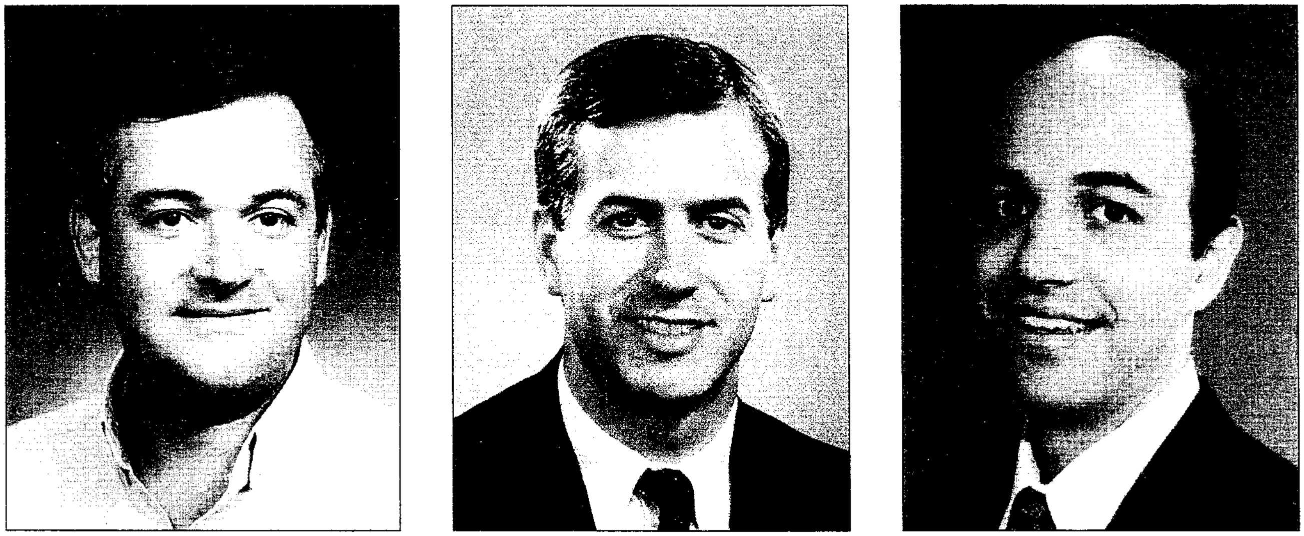

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