CASE STUDY: RISK MANAGEMENT

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IN BOTH OUR business and personal lives, we deal with risk and related decisions over uncertain outcomes on a daily basis. Anything that offers a less than certain outcome can be viewed as a risk. Treasury management involves dealing with several factors and risk is among them: liquidity, cost, control and risk. A corporation aims to secure ample liquidity, minimise cost, institute adequate control and manage risk. Designing an appropriate objective, strategy, policy and procedure for risk management, and ensuring related sound execution can, therefore, occupy a substantial portion of a treasurer's time.

Major risks

Risk results in an exposure outcome that deviates from a certain sum, giving either upside exposure for profit or downside exposure for loss. However, some corporations may be willing to take a one-sided view of risk, rather than a two-sided view. They may enjoy an unexpected swing of profit increases but see a swing the other way as their real risk. Therefore, risk may be seen as a measure of a corporation's potential exposure to a loss that results from a change in key factors.

Risks that usually fall within the responsibility of a treasury and/or risk insurance function are listed in Figure 1, along with their exposures. The treasury adds value by identifying and managing the risk exposures resultant from these external factors, which could prevent the corporation from achieving its financial priorities. Additional risks to a business include environmental, business and legal risks.

In particular, the management of currency, interest rate and equity market risks is the lifeblood of the treasury function. These three risk elements generally relate to a multinational corporation's (MNC's) cost of capital, which is optimised through a mix of debt (involving interest rate risk) and equity (stock price risk in both primary and secondary stockmarkets) beyond national boundaries (currency risk). Currency risk also arises from considerations of an operational nature (revenues and costs denominated in various currencies). Active management of risk exposure involves an ongoing assessment of the risks a corporation faces and the most efficient methods of eliminating, reducing or transferring them.

Figure 1: Risk exposure

Type of risk	Exposures
Interest rate	Adverse economic and financial results due to changes in interest rates.
Currency	Adverse economic and financial results due to foreign exchange (FX) fluctuations.
Liability	Injury or damage caused by the company's products or services; and injury to employees at work.
Directors and officers	Shareholder litigation; litigation from employee participants of pension and retirement funds; and fraud.
Property	Damage or destruction of physical assets due to natural or other hazards; and loss of profits due to damaged or destroyed property.
Political	Confiscation or expropriation of assets by governments.

The risks of property, liability, directors and officers, politics and pension are commonly dealt with on an insurance basis. The decision over whether to buy an insurance policy to get coverage of underlying risks has much to do with the nature, amount and frequency of the risk occurrence. Insurance risk management aims to minimise the total cost of these insurable risks, which represent retained losses plus the premium for risk transfer.

A large corporation may have many insurance policies for different risks; however, in the past two years more corporations have started to look into implementing an integrated risk insurance programme that may cover many risk elements over several years. Honeywell's integrated risk insurance programme has created value for the company by reducing total insurance payout, enhancing overall coverage and longer-term stability, and reducing administration. In essence, it consolidates many insurance policies with fewer brokers and provides improved insurance coverage on a multi-year basis that includes global casualty, property and currency translation risk management.

Interest rate risk

Most interest rate risk management centres, first, on borrowing at a debt level that allows a corporation to optimise its debt and equity mix and the resultant cost of capital, and, second, on an optimal mix of floating versus fixed rate debt. An MNC generally has the additional advantage of being able to tap into international capital markets to exploit debt denominated in a foreign currency, which may sometimes offer a good rate for its desired maturity. This is particularly useful when an MNC has a revenue stream generated in a foreign currency, which can be effectively used to service the debt raised.

The purpose of creating an optimal mix of floating versus fixed rate debt is to achieve the best cost of debt while minimising volatility in interest rates. A total 100% of fixed rate debt can reduce interest rate volatility but requires a corporation to pay significantly higher costs – debt with longer-term duration typically calls for a liquidity premium. Floating rate debt is usually less expensive than fixed rate debt but exposes the corporation to greater interest rate volatility. The recent Asian currency turmoil has shown what volatility means day-to-day – seeing short-term interest rates soaring and exchange rates going up and down dramatically. Such periods present a corporation with additional liquidity risk due to increased uncertainty in both external capital markets and internal profitability stream. With increased liquidity risk and doubt in rolling over short-term debt, a corporation may consider adjusting its financing from short-term debt to equity or longer-term debt.

HKD borrowing

In June 1997 Honeywell undertook a Hong Kong dollar (HKD) borrowing. It borrowed sums from two banks with floating interest rates tied to three-month HIBOR. It simultaneously entered interest rate swaps with the same banks, which effectively meant Honeywell paid two-year fixed rate interest for the loans. These fixed rates were substantially lower than the prevailing interest rates and helped generate substantial economic benefits for the company when three-month HIBOR peaked at 25% on 23 October 1997. From an FX management perspective, the HKD loans gave Honeywell a more naturally hedged position for its HKD-denominated assets and liabilities. Such financing activity reveals the

importance of execution timing, and how experienced and knowledgeable treasury professionals can add value to corporations.

Currency risk

Broadly speaking, there are two types of currency risk for a corporation to manage or hedge. One is risk from translation of international profits; the other is transactional risk that typically arises from imports and exports of commodities, and from financing and settlement of cross-border lending and dividend repatriation. The objective of hedging these risks is to optimise the risks involved or to maximise the ultimate cash receipts in the desired currency. Today's financial instruments are so all-encompassing and highly developed that one can hedge or insure almost anything that has some inherent risk. However, the comprehension of complicated financial derivatives can be related to an understanding of how a simple forward contract and an option are constructed.

A forward contract is an obligation to exchange a given quantity of a particular currency at a specified date at an agreed price. An option contract, in exchange for the payment of a premium, gives the option holder the right, but not the obligation, to buy or sell the underlying product (or settle for cash value) at a pre-agreed price for a specified date or during a specified period. Once the basic mechanics and mathematics of these two types of hedging instruments are understood, the world of risk hedging becomes easier to comprehend. A word of caution, however: consideration and choice of certain hedging instruments should take into account the hedge accounting treatment and the related mark-to-market requirement.

FX risk differs around the region depending on whether or not a government allows its currency to be freely determined by market forces. How a currency behaves is a function of the local economic conditions, interest rates, local asset prices (stock and real estate markets), foreign reserves, trade balance and international purchasing power parity. A higher-than-expected inflation differential in a given country leads to its currency depreciation. By the same token, a one-year forward contract of such a currency should sell at a discount and the one-year interest rates should also increase commensurably. What is dynamic and challenging in the real world, however, is that these adjustments take place continuously. When an economic crisis suddenly arises, one is effectively forced into forecasting the direction of the wind in the eye of a typhoon.

FX risk management

Honeywell Asia Pacific has been considering the possibility of a centralised FX management structure within its regional treasury function (which began operations in late-1996). Its FX management and related hedging transactions have, in recent years, been carried out from five locations, namely Sydney, Singapore, Hong Kong, Taipei and Auckland. This regional treasury function started by coordinating and advising FX management activities and, at the same time, establishing a monthly process to review the results and take appropriate actions. It is now discussing with its banks and some MNCs the feasibility and benefits of conducting all hedges from a central location.

Good FX management starts with timely identification of FX exposure, both in terms of timing and amount. In forecasting currency moves, one can see forecasts based on market

forces (supply versus demand) and on models (fundamental analyses of macroeconomic policies and variables, and international purchasing power parity, as well as technical analyses of charting and trends). Just like investing in the stockmarket, one can be rewarded by good homework and staying on top of the market news.

However, I believe widely dispersed FX management structures or executions are a disadvantage for a corporation. As Alan Shapiro states,[2] the following requirements for consistent successful currency forecasting can be stringent:

- exclusive use of a superior forecasting model;
- consistent access to information before other investors;
- exploiting small, temporary deviations from equilibrium; and
- predicting the nature of government intervention in the FX market.

An efficient market hypothesis would call for exchange rates to fluctuate randomly as market participants assess and then react to new information, much as security and commodity prices in other asset markets respond to news. Unless you are a fortune-teller, exchange rate movements are unpredictable; otherwise, it would be possible to earn arbitrage profits. Expecting to earn such profits consistently would not be a market reality. It is, therefore, a prudent business practice for a corporation to hedge FX risk through a centralised treasury centre with expertise, timely information and focused attention.

Recent developments

Increasingly, corporations are looking into valuation models and sensitivity analyses for their risk management. They have become receptive to the concept and technique of value at risk (VAR), which the financial services industry has been researching and adapting in recent years. By adopting VAR, a corporation can passively evaluate or actively manage its maximum expected loss for the appropriate confidence level, given its portfolio position, expectation and the probability of occurrence of certain market factors.

Conclusion

The recent Asian currency turmoil has caught its fair share of headline news. The market reports we are entering an age of US dollar (USD) dominance and currency instability, following the fixed-rate age of the Bretton Woods system, and a long period of a weak USD and managed peg or float of various Asian currencies to the USD. Gone are the favourable interest rate differentials with little FX risk for investing into various developing Asian countries. Corporate treasurers in Asia have now got to face and effectively manage the increased risk and volatility of interest rates, FX rates and stock prices. We may see the economic and currency instability of some Asian countries continue well into the second half of 1998. Certainly, it is helpful to go back to the basics by gaining a good understanding of the nature of the risk, identifying the amount and timing of various risks, and actively managing the risks by eliminating, reducing or transferring these risks. ❑

1. *The author would like to thank his colleagues Terry Gray and Dan Darazsdi who reviewed the draft of this article.*
2. *Alan C. Shapiro*, Multinational Financial Management, *Fourth Edition, p150-151, Allyn and Bacon.*