



# TRANSFER PRICING



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**REPORT**

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**HIGHLIGHTS**

**Archer Incorporates APA Disclosure Restrictions into Tax Bill**

House Ways and Means Committee Chairman Bill Archer (R-Tex) releases a major tax bill, which includes a provision to restrict public access to advance pricing agreements and related background information, while mandating that the Treasury Department publish annual reports on the results of the APA Program. The Bureau of National Affairs, Inc., meanwhile, is circulating its own alternative proposal that would require that the IRS release redacted APAs, but would protect APA background documentation from disclosure. **Page 219; Text, Page 224; Text, Page 226; Text, Page 229; Text, Page 230**

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# Analysis

## Transfer Pricing and Foreign Exchange Risk

BY MUKESH BAJAJ, PH.D., BRIAN BECKER, PH.D.,  
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**F**oreign exchange risk has been the subject of considerable debate as the U.S. transfer pricing regulations under Section 482 do not explicitly quantify how foreign exchange risk should be treated in intercompany transactions. Moreover, companies have utilized a broad range of approaches for allocating foreign exchange risk between related entities, so it is virtually impossible to identify a single common practice.

It is useful to differentiate between two types of effects that foreign exchange risk can have on transfer prices. The first type of effect involves longer-run changes in exchange rates that in effect alter the relative costs of products manufactured in one country and sold in another. This *economic or operational risk* is often outside the control of any one company and is extremely difficult to manage as part of the company's daily operations.

The second type of effect involves shorter-run changes in exchange rates that occur between the time an order is placed and the time payment is made. This *transactional risk* can be managed by an individual company through hedging activities. Transactional foreign exchange risk can be quantified fairly easily in transfer pricing and should not require any unusual intercompany arrangements. Operational foreign exchange risk, however, may threaten the long-term viability of a controlled manufacturer/distributor relationship, and may force companies to make special arrangements to account for these implications over the long term.

This article contains a brief discussion of the regulatory and legal environment related to transfer pricing and foreign exchange risk and presents the macroeconomic theory of exchange rates and foreign exchange risk. In addition, the authors consider several aspects of microeconomic theory that have important implications for how individual companies deal with foreign exchange risk. Some initial thoughts in terms of a general framework for addressing foreign exchange risk in transfer pricing are presented and are quantified with an example.

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### Background

U.S. transfer pricing regulations do not contain any specific guidelines for the treatment of foreign exchange risk. The lack of attention paid to foreign exchange risk is not surprising in light of the fact that the original regulations were written in 1968 when exchange rates were fixed. It was not until the 1970s when many exchange rates changed dramatically that exchange rate risk received much attention. However, despite the potentially disruptive effects of broad swings in currency values on international transactions, foreign exchange risk still was not addressed specifically when the regulations were redrafted in the early 1990s.

The current regulations' themes in establishing an arm's-length price are that the transactions must be as if the two parties were trading at arm's length. This implies that a controlled company should receive compensation for the functions it performs and risks it assumes just as an uncontrolled company would if it were dealing in a similar situation with an unrelated party. While the regulations do not provide specific guidelines for assessing exchange rate risks in transfer pricing, they do provide general guidelines for the allocation of risk at large.

The closest the Internal Revenue Service came to addressing foreign exchange risk directly was in September 1992 when it issued a technical advice memorandum, TAM 9237008, that advocated the use of hedging as one way of reducing the financial exposure of changes in exchange rates. The IRS' advice was criticized by tax professionals as too vague to provide any practical guidance.<sup>1</sup> More important, the TAM's emphasis on hedging made it clear that its focus was only on transactional foreign exchange risk, and not the economic risk associated with longer-term swings in exchange rates, which are far more difficult to hedge.

Just as the transfer pricing regulations provide no clear-cut guidelines for dealing with the issue of foreign exchange risk, case law in the U.S. Tax Court is similarly vague. There have been a number of cases in which the IRS has questioned the allocation of risk in related-party transactions. However, there were not any cases identified in which foreign exchange risk was the primary focus or in which a specific methodology was quantified.

<sup>1</sup> See 1 *Transfer Pricing Report* 300, 9/23/92; 1 *Transfer Pricing Report* 310, 9/23/92, and 1 *Transfer Pricing Report* 506, 12/16/92.

## Macroeconomics of Currency Markets And Foreign Exchange Risk

The foreign exchange market is a 24-hour, "over the counter market" that has become the largest asset market in the world. The Bank for International Settlements estimates that average daily trading volume on the foreign exchange market exceeded \$1.1 trillion in 1996. This figure is several orders of magnitude larger than average daily international trade in goods and services, and long-term capital.<sup>2</sup> Moreover, the average volume on the foreign exchange market eclipses on average the largest trading day in New York Stock Exchange history (Oct. 19, 1987) by a factor of 25.

Exchange rates have been notoriously difficult to model accurately. The extraordinary trading volumes on foreign exchange markets have presented a particularly thorny challenge to traditional economic modeling of exchange rates. Recent research efforts have attempted to rationalize these trading volumes by appealing to models where agents possess heterogeneous information, or sometimes destabilizing expectations of future spot rates. In addition, economists have investigated models that allow exchange rates to deviate (in the short run) from values implied by fundamental variables (e.g. interest-rate differentials, price-level differences or inflation-rate differentials, relative real output growth rates, and changes in the trade balance, among other macroeconomic factors).

There is good reason for the economic profession's interest in models that allow the "actual" exchange rate to deviate from its "fundamental" value. Over two decades of academic research on floating and quasi-floating exchange rates in the post-Bretton Woods era (March 1973 to the present) have shown that short- to medium-run exchange rate changes for the major bilateral rates are difficult to predict *ex ante* or even to rationalize *ex post*.<sup>3</sup>

### Common Parity Relations

The traditional, academic approach to modeling exchange rates typically has relied on various macroeconomic fundamentals. Unfortunately, no existing set of macroeconomic variables is capable of explaining major currency movements over the modern floating rate period. A commonly used approach taken by international economists is to rely on international "parity relations" to help explain the interaction of exchange rates with other macroeconomic variables. The two most common parity relations are covered interest parity (CIP) and purchasing power parity (PPP).

The CIP theorem describes a relationship between the current spot exchange rate, the current forward

<sup>2</sup> A good reference on the institutional features of the foreign exchange market is Riehl, Heinz and Rodriguez, Rita, *Foreign Exchange and Money Markets* (McGraw-Hill). The book also provides an introduction to the management of foreign exchange exposure.

<sup>3</sup> See Meese, Richard, "Currency Fluctuations in the Post Bretton Woods Era," in the *Journal of Economics Perspectives*. This article surveys the academic literature on exchange rate determination. It provides documentation of the predictive failure of fundamental models of exchange rates, and explores some of the recent alternative modeling strategies noted in this article.

rate, and interest rates on similar securities denominated in the two currencies. Covered interest parity ensures that the returns on assets denominated in either currency will be equal, and that no risk-free arbitrage exists.

The second important parity relation is purchasing power parity (PPP). There are both absolute and relative versions of PPP. The absolute version, also referred to as "the law of one price," links the current spot rate to the current price of the same good in two different currencies. There is little if any empirical evidence for the absolute version of PPP, especially for aggregate price levels such as the consumer price index, wholesale price index, or the Gross Domestic Product deflator. Transportation costs, trade restrictions, taxes, imperfect competition, and long-term labor contracts often incline producers not to adjust prices in response to exchange rate changes, especially since they are unsure if such changes will persist or soon be reversed. Thus, deviations from absolute PPP are common.

The relative version of PPP concerns the relation between changes in exchange rates and inflation—in effect, the proportional change in the spot rate is equal to the difference in inflation rates in the two countries. Relative PPP has more empirical support than absolute PPP, but only at very long horizons.

One might conclude from the last few paragraphs that real rather than nominal interest rates and deviations from relative PPP (changes in real exchange rates) are the appropriate fundamentals to consider in the foreign exchange market. However, real interest rates by themselves have only minimal explanatory power for future spot rates. Part of the problem is that real interest rates, like exchange rates, are forward looking and depend on the market's expectation of future inflation. Such expectations have always been difficult for economists to predict. As noted above, other macroeconomic fundamentals also have limited explanatory power for future spot rates.

The instability in the relation of exchange rates to macroeconomic fundamentals precipitated interest in technical models of exchange rate forecasting.<sup>4</sup> While such models worked well in the 1980s, the forecasting performance has diminished recently.

In sum, bilateral exchange rate movements for the major industrialized countries since 1973 have proved difficult to explain even with the benefit of hindsight. While exchange rates are hard to predict, currency markets may still be efficient in the sense that no riskless profit opportunities are readily available, or that risk-adjusted returns are commensurate with other risk-adjusted returns on other assets.

### Foreign Exchange Risk

Textbook treatments of currency risk note that an international firm faces three types of risk from currency

<sup>4</sup> Technical models rely on pattern recognition or trading rules to predict future exchange-rate movements. They usually rely on nonlinear filtering techniques and do not generally make use of macroeconomic fundamentals. Since technical models are used on very high-frequency data (daily or hourly observations), the only fundamental variables available at this frequency are domestic and foreign interest rates. Again, see "Currency Fluctuations . . ."

change: accounting exposure, transaction exposure, and operational exposure.<sup>5</sup> Accounting exposure arises from changes in the value of balance sheet items caused by exchange rate changes. The resulting changes in the balance sheet are determined by accounting rules and reflect only "paper" losses or gains. Transaction exposure refers to existing contracts or agreements denominated in foreign currencies that have yet to be settled. Operational exposure is by far the most important. It refers to the changes in future operating cash flows caused by unexpected exchange rate changes.

Transactional exposure is easy to hedge or can be avoided by writing contracts in the domestic currency. In contrast, estimating a domestic firm's future cash flows is hard enough, even without consideration of cash flows denominated in foreign currencies. The uncertainty surrounding estimates of future cash flow makes hedging operational currency risk all the more difficult.

There is currently some debate in the academic literature about whether companies should hedge foreign exchange risk at all. The more traditional view suggests that managing foreign currency risk (or for that matter any financial risk) will not increase shareholder value. In addition, since there are costs associated with currency hedging, risk management could actually decrease the value of the firm. In contrast, the "new view" of corporate finance is that exchange-rate exposure should be considered from the perspective of the entire firm, rather than some subset of its international operations in isolation.<sup>6</sup>

## Costs Associated with Hedging

Turning now to the cost, there are three important costs associated with hedging: commissions, transaction costs associated with buffer flows, and loss in expected return. Estimates of commissions range from 15 to 25 basis points per year on the amount hedged.

The posting of losses in the currency hedge will also cause additional transaction costs, as additional resources will be needed to maintain the hedge. The net position of the two activities (hedging and exporting) is the hedged "portfolio;" flows between the hedge fund and the exporting business are necessary to maintain the hedge. For a major corporation with access to (highly competitive) foreign currency services from its commercial bank, a reasonable estimate of these buffer flows is 30 basis points per year on the amount hedged.

The final cost is a bit esoteric and relies on some recent financial theory. The cost associated with the loss in expected currency return is estimated to be about 60 basis points a year.<sup>7</sup> The sum of all of these cost estimates is thus 1.1 percent (20+30+60 basis points) per year on the amount hedged.

<sup>5</sup> See for example, *Foundations of Multinational Financial Management*, by Shapiro, Alan (Prentice Hall). The text provides a useful discussion of the sources of currency risk and conventional currency risk-management strategies.

<sup>6</sup> See for example, Froot, Kenneth A., Scharfstein, David, and Stein, Jeremy C., "A Framework for Risk Management," in the *Harvard Business Review*, v72, No. 6, pp.91-102, November 1994.

<sup>7</sup> See Black, Fisher "Equilibrium Exchange Rate Hedging," *Journal of Finance*.

## Microeconomics of Foreign Exchange Risk and Transfer Pricing

Microeconomic theory provides a rationale for a commonly observed empirical phenomenon, namely that exchange rate fluctuations are only partially passed through to domestic currencies. One implication of this partial pass-through is that some foreign exchange risk likely will be shared by a foreign manufacturer and a domestic distributor.<sup>8</sup>

Prices in one currency (the distributor's country) may not fully reflect changes in the value of the currency of the manufacturer's country. To address this issue, a simple model of short-run competitive equilibrium viewed from the perspective of both a manufacturer and a distributor can be used.<sup>9</sup> As shown in Exhibit 1, the manufacturing industry starts from a competitive short-run equilibrium with quantity  $Q_1$  and foreign price  $P_1$ . On this equilibrium, the authors impose an appreciation of the manufacturing company's currency relative to the currency of the distributor. From the manufacturer's perspective, the impact of the appreciation translates into a leftward shift of the demand curve, which produces a new short-run equilibrium with lower output  $Q_2$  and a lower price in the manufacturing company's currency,  $P_2$ . The drop in the manufacturing company's currency price, however, does not fully reflect the currency's appreciation because the supply curve is not completely inelastic (i.e., the supply curve is not vertical). The manufacturer thus bears some of the cost of the appreciation, in terms of lower revenue and lower profit, although the drop in the price is proportionately less than the decline in the value of the manufacturing company's currency.

## Domestic Distributor's Viewpoint

The same situation can be viewed from the perspective of the domestic distributor. This perspective shows a similar partial adjustment of the dollar price of the imported good, where the extent of the adjustment depends on the domestic market's elasticity of demand.

One implication of this simple model of supply and demand, therefore, is that the price in one currency will not fully reflect the change in the value of that currency relative to another. In other words, there is a partial pass-through of exchange rate induced changes in price, where the extent of the pass-through depends on conditions in the market.

In the long run, this model of perfect competition includes a final equilibrium in which there is a full pass-through. Some empirical studies, however, have generally failed to find evidence that this complete pass-through occurred even over relatively long periods of time. One reason for this failure may be the desire of foreign manufacturers to maintain market share

<sup>8</sup> For purposes of our discussion here, the authors refer to a situation involving a foreign manufacturer and a domestic distributor, although the conclusions are the same for any cross-border, related-party transaction.

<sup>9</sup> Much of the analysis of this simple model is drawn from McKee, Michael, Patton, Mike, and Kapoor, Vinay, "Quantifying the Effect of Foreign Exchange Rate Fluctuations on the Profits of Distributors," *Tax Management International Journal*, June 9, 1995.

abroad. For example, Japanese manufacturers absorbed most of the long-term appreciation of the yen during the 1980s (in some instances by shifting production outside of Japan), and avoided raising the dollar prices of many of their products.

Another implication of the simple microeconomic model shown in Exhibit 1 is that, under certain circumstances, both the manufacturer and the distributor bear some of the cost of the currency appreciation. That the manufacturer pays this cost is clear—it sells a smaller amount of product at a lower price in its own currency, thereby receiving less revenue and lower profit. For the distributor, this conclusion is less obvious—the importer sells fewer products at a higher price in its own currency, with an indeterminate effect on revenue and profit. If the percentage increase in the price exceeds the percentage decline in quantity sold, then overall revenue will actually increase in response to the appreciation of the foreign currency. This will only occur, however, if the demand curve is fairly steep, that is, if demand is relatively inelastic. In contrast, if demand is relatively elastic (the demand curve is flatter), the percentage increase in price will be smaller than the percentage decline in quantity sold, and the distributor's revenue and profit will fall.

This result suggests that foreign exchange risk actually is shared by the manufacturer and the distributor. A similar conclusion can be obtained in the context of other economic models, for example those that deal with principal/agent problems. These problems arise whenever one individual or company (the principal) engages another individual or company (the agent) to act on its behalf. The solution to these models usually involves some sharing of the risk, so that both parties will act to minimize the impact of the risk.

## Risk Sharing for Foreign Exchange

In the foreign exchange context, the parent manufacturer can be viewed as the principal with the distributor as its agent, acting on its behalf. If the manufacturer insulates the distributor from all of the risks of its operations, say by guaranteeing it a certain level of profit, then the distributor has no incentive to maximize its sales or minimize its costs. In fact, the distributor could make no effort to sell the product and still receive the promised level of profit. If the distributor faces some operational risk, however, then the manufacturer can be more assured that the distributor will act in a manner that is consistent with the interests of both companies.<sup>10</sup>

Foreign exchange risk is one type of operational risk. With appreciation of currency in the country of the parent manufacturing entity, a new underlying cost structure will make it less competitive relative to domestic alternatives. If the new exchange rate persists, then some way of cutting costs must be found in order to restore the competitiveness of the product. This means that either the manufacturer or the distributor, or both, must restructure their operations in order to reduce costs. By sharing exchange rate risk, it becomes incentive compatible for both companies to make the necessary ad-

<sup>10</sup> In a contract manufacturing context, the manufacturer could be the agent with the distributor as the principal.

justments. This kind of behavior is consistent with what has been observed in practice.

Microeconomic theory provides an additional implication that is relevant to our analysis of the transactional risk of foreign exchange. This implication can be found in the economics of insurance markets. In the broadest terms, insurance provides a means for individuals to avoid losses arising from certain unforeseen events. The market for insurance exists because individuals are averse to risk in that the more risk-averse someone is, the more insurance they buy.

One notable characteristic of many insurance policies is that they do not cover all losses. That is, most policies include a deductible whereby the policyholder is responsible for small losses while the insurer covers all losses greater than the amount of the deductible. The primary reason why deductibles came about was because, without them, individuals face no risk of loss and may act in a reckless manner that increases the likelihood of making a claim against the insurer (so-called moral hazard). In effect, the deductible provides the insurer a means to align its own incentives with those of its policyholders. Moreover, insurers charge significantly higher premiums for smaller deductibles, and at some point the cost of the insurance becomes prohibitively expensive. As a result, many individuals (and companies) self-insure against small losses and hold insurance policies to cover larger ones.

A controlled distributor, therefore, could negotiate an arrangement with its parent supplier whereby the distributor bears the cost of small fluctuations in exchange rates and shares the costs of larger fluctuations with the supplier. All of these economic models and observations form the basic structure in the next section of this article.

## Practical Considerations, Initial Ideas

In this section, the theoretical and institutional background described above is drawn upon to develop some initial thoughts for incorporating foreign exchange risk into transfer pricing. Inherent in this analysis is that companies receive compensation for performing certain functions or assuming certain risks. In the case of a manufacturer/distributor relationship, if the distributor assumes risks that are generic for its industry, then it should earn a fairly generic rate of return. However, if the distributor assumes a risk that is either:

- beyond the risks associated with generic distribution assets that complement those of the manufacturer;<sup>11</sup> or
- usually in the purview of the manufacturer (such as warranty repairs).

Then it will negotiate to share this risk or receive additional compensation for bearing this risk. In this way, it is possible to identify arrangements that are not generic and may require additional compensation or an adjustment to intercompany prices.

In this context then, foreign exchange risk may be just such a non-generic risk, especially if the companies

<sup>11</sup> See Teece, David J. (ed.), *The Competitive Challenge - Strategies for Industrial Innovation and Renewal*, Center for Research in Management, School of Business Administration, University of California, Berkeley, 1987.

that are selected as comparables<sup>12</sup> do not share or bear this kind of risk. If it is not possible to identify comparable companies or transactions in which foreign exchange risk exists, therefore, some adjustment may be necessary to improve comparability and ensure that the arm's-length range of transfer prices reflects all functions and risks.

## Intercompany Transactions Involving Foreign Exchange Risk

Based on these considerations, taxpayers may consider the following kind of arrangements for intercompany transactions involving foreign exchange risk:

- The companies may calculate transfer prices in the absence of any exchange rate risk (both operational and transactional), using a transfer pricing method that is acceptable to the tax authorities.

- The transfer price established in the step above is based, either implicitly or explicitly, on the current exchange rate and the expected future exchange rate over some standard contracting period (e.g., one year). Over the long term, this reference rate should reflect an "equilibrium" relationship between the two currencies, such as purchasing power parity. Since exchange rates can deviate from parity over relatively long periods of time, the reference rate in any individual contracting period may not be fully reflective of the underlying equilibrium or purchasing power parity relationship.

- Around this reference exchange rate, the companies may identify a range or band of exchange rates in which the transfer price will not require explicit adjustment. As long as the exchange rate remains within the band, then no adjustment to the transfer price will occur during the contract period.<sup>13</sup> The band should be narrow enough that exchange-rate fluctuations will not have a significant effect on the company's performance or profitability. At the same time, it should be broad enough to provide an incentive to manage foreign exchange risk prudently.

As a first suggestion to be consistent with the transfer-pricing regulations, the range could be defined in a way to put the tested-party company at the bounds of the interquartile range of its comparables.<sup>14</sup> Similar bands could be defined using transactional methods.

- As with any risk, the company that assumes foreign exchange risk within the band should receive compensation for doing so. The authors expect, however,

<sup>12</sup> In addition to the comparable company (profitability) methods described below, foreign exchange risk should also be considered when analyzing transactional methods. For example in a comparable uncontrolled price (CUP) analysis, a distributor bearing foreign exchange risk should pay less for an equivalent product than a distributor not bearing this risk.

<sup>13</sup> In effect, this band of exchange rates represents the "deductible" of the insurance policy in which one of the companies chooses to self-insure.

<sup>14</sup> Suppose, for example, the distributor was the tested party in a comparable profit method (CPM) analysis where the comparables earned operating margins ranging (interquartile range) from 1 percent to 5 percent. This "foreign exchange" band could be set such that the exchange rates could vary as long as the distributor earned no more than a 5 percent and no less than a 1 percent operating margin.

that this compensation will be fairly small because the band was chosen to reflect typical day-to-day fluctuations in the exchange rate and not large or extreme movements.

- If the exchange rate moves outside the band during the contract period, the companies could agree to share this additional risk.<sup>15</sup> The exact allocation between the two companies would be case-specific, although it should not clearly benefit one company to the detriment of the other. The final outcome typically would involve an adjustment to the transfer price by some proportion of the move in exchange rates, or a new arm's-length range of profitability that reflects a portion of the change in the exchange rate. Since this type of situation differs from a comparable with no foreign exchange risk, an adjustment may be considered to reflect this.

Nakamura<sup>16</sup> suggests "extending the band" by adjusting the profitability margins of the comparable companies (incurring no foreign exchange risk) to reflect the risk involved in the related-party transaction. This adjustment depends on the extent to which the export prices in the manufacturing company's industry reflect exchange-rate changes (i.e., the extent of pass-through), as well as how much the exchange rate deviates from its expected range. Empirical studies<sup>17</sup> of this pass-through also could be used as the basis for making this calculation. To keep current with changes in the market and in the functions of the manufacturers and distributors, such a process should be updated periodically (yearly updates could be included with tax returns and transfer-pricing documentation).

## Examples

The "band range" described above can vary depending on the size of the interquartile range and the proportion of costs of goods sold of total costs. For purposes of this example, the authors assume a situation involving a French manufacturer and a U.S. distributor. The authors also assume that the related companies decide to denominate transfer prices in francs, so that the domestic distributor is exposed to foreign exchange risk for the year 2000. (The current franc-to-dollar exchange rate is assumed to be 5:1.)

In the absence of third-party transactions, the authors conclude that CPM is the best transfer pricing method, using the domestic distributor as the tested party. The comparable distributors earned operating margins with an interquartile range of 1-5 percent. From the perspective of the related distributor, the only item of its financial statement being affected by the exchange rate is cost of goods sold (COGS), where it has planned to pay its related manufacturers 200 francs

<sup>15</sup> If the manufacturing entity's currency appreciates relative to the distribution entity's, there is a net loss to be split. If, however, the manufacturing entity's currency relatively depreciates, a net gain is split.

<sup>16</sup> Nakamura, Toru, "Profit Theories in Transfer Pricing: Abuses by Proxy," (6 *Transfer Pricing Report* 673, 2/25/98).

<sup>17</sup> For example, Silva, Edinaldo A., "Foreign Exchange Adjustment Under Section 482," (4 *Transfer Pricing Report* 416, 11/29/95).

(\$40). As seen below, the actual franc-to-dollar exchange rate seen over the year 2000 will have a direct effect on the related distributor's operating margin.

Rate in 2000	Rate of 5:1	Rate of 4.76:1	Rate of 5.26:1
Sales	100	100	100
COGS (\$)	40	42	38
Op. Expenses	57	57	57
Operating Profit	3	2	4
Operating Margin	3%	1%	5%

Thus, if the comparable distributors' operating margins' interquartile range was 1 percent-5 percent, the (annual) franc-to-dollar exchange rate would have a modest amount of room to stay within this band. While this example is instructive, it is also important to remember that exchange rate changes also may affect factor prices such that the domestic distributor's sales figure or operating expense level might be affected.

Similarly, the manufacturer's production costs (and hence its sales price) might vary.<sup>18</sup>

### Conclusions

While it may be possible (though costly) to hedge against the transactional component of foreign exchange risk, it is extremely difficult to hedge against longer-term secular movements in exchange rates like those that have occurred recently.

One of the most notable features of recent foreign exchange movement is that it was not accompanied by a complete pass-through. This partial pass-through is consistent with a simple model where both supply and demand are elastic. Microeconomic theory also suggests that, while exchange rate risk may be absorbed by either the manufacturer or the distributor for small fluctuations in exchange rates, the costs associated with large exchange rate changes likely will be shared.

<sup>18</sup> The amount of variance in factor prices depends on elasticities and other market conditions, described above (i.e., the degree of pass-through).

Exhibit 1  
Effect of Currency Appreciation  
From Foreign Manufacturer's View

