

Hedging Currency Exposures by Multinationals: Things to Consider

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Currency risk is an inherent aspect of international commerce. Fortunately, for enterprises that operate in this space – particularly for those that transact with counterparties having major currencies as their functional currency – there are a variety of derivative instruments that can be used in connection with these risks, including forward contracts, futures contracts, options, and cross currency interest rate swaps. Familiarity with these tools, while necessary, isn't sufficient. Managing these risks requires enterprise-wide coordination. Otherwise, the risk mitigating efforts by a subsidiary or related party may end up exacerbating the exposure of the consolidated entity. This article highlights these concerns and provides a framework for developing an enterprise-wide process for managing these exposures.

■ For something that is so fundamental to international commerce, it is astounding how much confusion exists about managing currency risk. For multinational corporations with multiple business units having different functional currencies and transactions denominated in multiple currencies, risk typically exists both at the unit level and at the consolidated entity; and all too often, a lack of coordination between these two levels leaves companies with suboptimal hedges and thus unintended income volatility. This article hopes to highlight

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this concern and thereby help managers avoid this pitfall.

As a prelude to this discussion, it may be helpful to define some related terms.

I. Terminology

A. Functional Currency

The functional currency is the primary currency of the entity in question – i.e., the currency in which most of the entity's transactions are denominated. In businesses with multiple related companies or subsidiaries, each business unit will likely have its own functional currency. For most such units, the choice of functional currency would probably be obvious. Where discretion is required, however, it should be understood that the decision should be thought of as being virtually permanent. Changing from one functional currency to another requires a significant change in the economic circumstances affecting the entity.

B. Remeasurement

Balance sheet items denominated in currencies other than the functional currency must be remeasured and valued in the functional currency. This remeasurement process gives rise to transaction gains or losses (recorded in earnings) in connection with monetary assets or liabilities. Non-monetary assets and liabilities, on the other hand, do not foster any earnings impacts in connection with remeasurement. These items are carried in the functional currency at a value that reflects the historical exchange rate that prevails as of the time the balance sheet item is originally recorded.

C. Transaction Currency

This is the currency in which transactions are denominated.

Companies that operate with counterparties in many countries may very well have many different transaction currencies.

D. Translation of Foreign Currency Statements

This concept is relevant for companies that have one or more related entities where at least one such entity operates with a functional currency other than the reporting currency of the consolidated entity. Translation is the process of converting from the functional currency to the reporting currency. In translating from the functional currency to the reporting currency, *all* assets and liabilities values (i.e., monetary and non-monetary) are adjusted to reflect the spot exchange rate as of the balance sheet date. Income

statement line items, however, are translated using the average exchange rate that prevailed during the accounting period.

E. Net Investments in Foreign Operations

Net investments are carried on the books of the parent company as a result of establishing or purchasing foreign subsidiaries. The net investment line item, however, is eliminated in consolidated statements. That is, the contributing net assets are simply included as part of all such items for the consolidated entity following the previously discussed translation procedures. It should be appreciated, though, that a net investment in a foreign operation does create an economic exposure to foreign exchange rate movements.

While this area can be fraught with idiosyncratic variances, in the typical case when a parent company establishes or acquires a foreign subsidiary, that subsidiary will declare its home currency to be its functional currency and it will keep its books and records in that same currency. The consolidated entity's balance sheet would include the assets and liabilities of the parent and all subsidiaries. To the extent that any subsidiary's assets were greater than its liabilities, a strengthening of the subsidiary's functional currency (relative to the parent's) would benefit the consolidated entity, and vice versa. This benefit (or detriment) relating to non-monetary balance sheet items, however, isn't recorded in earnings. Rather, it is recorded in an account called the currency translations account (CTA), which is a component

of stockholder's equity.

II. Blatant Currency Risk Exposures

While it may appear that any transaction and/or balance sheet item denominated in a currency other than the functional currency would give rise to currency risk and thereby be a potential candidate to be hedged, this conclusion may be hasty.

In fact, some exposures may serve as natural offsets to others. For example, sales and purchases in the same currency denomination are natural hedges of each other. In other words, the economic exposure would be *excess* sales or *excess* purchases, whichever prevails. Similarly, when payables and receivables of a common denomination

are on the balance sheet, risk derives only from the larger of the two to the extent of the excess.

If hedging is deemed desirable, the objective should be to operate only on these excesses. For the balance sheet items, this excess should be readily observable. It is a little more difficult with expected sales and purchases, though, as these volumes are typically subject to forecasting error. The critical challenge, then, is to be able to forecast the magnitude of these excesses accurately, in advance of their occurrence. If, for example, the company expects to have profitable operations and thus elects to hedge excess sales but then either sales fall short or expenses prove unexpectedly high (both in the currency at risk), the hedge positions could end up exacerbating the risk instead of mitigating it.

While having a high degree of confidence in your forecast would be nice, it may not be essential. That is, even with a high degree of uncertainty, if the tolerance for currency risk is low it may be useful to consider hedging using purchased option contracts. With options, the cost of hedging is known up-front. That cost is the purchase price of the option, also referred to as the 'option premium.' In many cases, companies may want to know that they would be protected if the risk actually arises; and they are comfortable bearing the cost of the option as a contingency, even if the risk ends up not coming to fruition.

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III. Not-So-Blatant Exposures

Perhaps surprisingly, many companies believe they are immune from currency risk simply because all of their transactions are denominated in their own functional currency. This conclusion, however, may not be valid. The fact is, if you and your counterparties operate with different functional currencies, currency risk is present. The only question is: Who bears the risk? By pricing in your own functional currency, you may *think* you have solved your currency risk but you may have made yourself less competitive in the process.

Presumably, when your counterparties bear the risk, they accommodate to that exposure by adjusting their prices accordingly. In effect, you are paying to have your counterparties bear the risk. Why should you believe that the cost the counterparties assign to you in connection with this risk transfer is efficiently priced? In all likelihood it is not.

When counterparties accept currency risk, they are probably pricing in *your* functional currency on the basis of an exchange rate that assumes some degree of deterioration in the exchange rate from their perspective. In this way, the counterparty would still be able to achieve its profit objective even if the exchange rate moves adversely – as long as the move is not too severe. From your point of view, though, you may have ended up locking in less attractive exchange rates than that which you could have otherwise ended up with by hedging yourself. Besides securing more advantageous pricing by hedging the exposure yourself, you may have also become a more attractive counterparty to your customers/suppliers in that you are now adding service to them, rather than vice versa. In a service-oriented global economy, this consideration could be paramount.

IV. Consolidation Concerns

Consider the case of a consolidated entity with various business units having functional currencies other than the reporting entity of the consolidated entity. Such a structure allows for two levels of currency risk: The risk at the level of each business unit and the risk on a consolidated basis. How these risks are managed is an important question. Should the authority for entering into hedges be left to the business unit, or should the treasury function at the parent level bear this responsibility?

Unfortunately, the incentives at the two levels may induce different behavior. Suppose, for example, the consolidated company uses the US dollar as the reporting currency and the consolidated group includes a Euro-denominated subsidiary. Assume further that the subsidiary buys inventory from a US supplier with those purchases denominated in dollars. If there were no natural offsets, this subsidiary would unambiguously

be exposed to the risk of a strengthening dollar. The direction of the income-related exposure on the part of the consolidated entity, on the other hand, is less clear. This exposure would depend on the relative sizes of the subsidiary's Euro-denominated revenues versus its Euro-denominated expenses. The dollar-denominated transactions are irrelevant to the question of currency risk at the consolidated level. The pernicious issue in this fact pattern is that if the subsidiary were to design a hedge with *its* exposures in mind, the resulting transaction would be introducing currency risk to the consolidated entity where it might have otherwise been absent.

This issue is illustrated with the aid of several tables reflecting five different scenarios. Table I shows a base case where a subsidiary with a Euro-functional currency records dollar-denominated (net) expenses. The table illustrates the fact that although the subsidiary bears currency risk in connection with these expenses (i.e., benefiting from a weakening dollar; suffering with a strengthening dollar), the parent does not. That is, in consolidation, despite the fact that the subsidiary's income is beneficially and adversely affected by the dollar weakening and strengthening, respectively, the consolidated entity bears no currency risk specifically in connection with these dollar denominated expenses.

Table II modifies this example by introducing EUR-denominated revenues to this subsidiary. This addition does nothing to the subsidiary's currency exposure, as reflected by the fact that the gains or losses due to exchange rate changes yield identical changes to the subsidiary's net income as those pertaining to the original scenario in Table I. For the consolidated entity, on the other hand, the currency risk in this second scenario is quite different from the prior case. For the subsidiary, currency risk is associated with its own non-Euro revenues or expenses, while for the consolidated entity, currency risk is associated with the subsidiary's non-dollar revenues or expenses.

Beyond recognizing that the subsidiary and the consolidated entity have fundamentally different currency exposures, it should be clear that to the extent that the subsidiary chooses to hedge its currency exposure, hedging activity at the subsidiary level may introduce new risks to the consolidated entity. This conclusion is demonstrated in Table III. The perfect hedge for the subsidiary generates gains or losses in Euros that completely offset the effect of the changes in the exchange rate, again, *at the subsidiary level*. In this instance, hedging at the subsidiary level served to mitigate the risk at the consolidated level, reflected by the diminished dollar gains or losses at the consolidated level as a consequence of currency exchange rate moves (i.e., \$25 changes in the consolidated entity's income in the unhedged case, versus the \$17 changes in the hedged case).

Critically, it is not always the case that hedging at the

Table I: Base Case Scenario

	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	0	0	0
Sub's USD Revenues (Expenses)	(100)	(100)	(100)
Sub's Net Income (EUR)	(77)	(71)	(83)
Changes		6	(6)
Consolidated Income (USD)	(100)	(100)	(100)
Changes		0	0

Table II: Subsidiary with Multiple Transaction Currencies

	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	250	250	250
Sub's USD Revenues (Expenses)	(100)	(100)	(100)
Sub's Net Income (EUR)	173	179	167
Changes		6	(6)
Consolidated Income (USD)	225	250	200
Changes		25	(25)

Table III: Subsidiary Hedges that Mitigate Risk for the Consolidated Entity

Unhedged by the Subsidiary			
	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	250	250	250
Sub's USD Revenues (Expenses)	(100)	(100)	(100)
Sub's Net Income (EUR)	173	179	167
Changes		6	(6)
Consolidated Income (USD)	225	250	200
Changes		25	(25)
Hedged by the Subsidiary			
	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	250	244	256
Sub's USD Revenues (Expenses)	(100)	(100)	(100)
Sub's Net Income (EUR)	173	173	173
Changes		(0)	0
Consolidated Income (USD)	225	242	208
Changes		17	(17)

Table IV: Subsidiary Hedges that Exacerbate Risk for the Consolidated Entity

Unhedged by the Subsidiary			
	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	250	250	250
Sub's USD Revenues (Expenses)	100	100	100
Sub's Net Income (EUR)	327	321	333
	Changes	(6)	6
Consolidated Income (USD)	425	450	400
	Changes	25	(25)
Hedged by the Subsidiary			
	Base Period	Weaker USD	Stronger USD
Exch. Rate	1.3000	1.4000	1.2000
Sub's EUR Revenues (Expenses)	250	256	244
Sub's USD Revenues (Expenses)	100	100	100
Sub's Net Income (EUR)	327	327	327
	Changes	0	0
Consolidated Income (USD)	425	458	392
	Changes	33	(33)

subsidiary level reduces risk at the consolidated level. For example, had the subsidiary generated net sales in dollars (as opposed to net expenses), the subsidiary's currency hedges would have exacerbated the risk for the consolidated entity as opposed to mitigating it. This case is shown in Table IV. (In contrast to the prior case, in this situation, the hedged outcome for the consolidated entity shows a larger change in net income for the same changes in the exchange rate, post hedge versus pre hedge.)

And there is yet another possibility where the exposures for the subsidiary and the consolidated entity are in the same direction, but where the magnitude of the subsidiary's exposure is *larger* than that of the consolidated entity. In this situation, when the subsidiary enters into a hedge, the size of the hedge *more than* offsets the consolidated exposure and actually results in adding risk in the opposite direction.

Clearly, to the extent that a business unit bears currency risk, it is in its interest to manage that risk. It would be wrong to assume that the company has adequately addressed the issue on a consolidated basis if the process of hedging is left entirely to the associated business units individually. Some overarching coordination of currency risk management is critical. In other words, the process of managing currency risk needs to be employed on two levels: (1) at the level of each business unit or units having a common functional currency, and (2) at

the consolidated level. Doing one without the other would allow controllable risks to go unhedged and thereby foster unintended income consequences.

Given the background of this section, it may be useful to consider an extension of the example to the case where the consolidated entity includes multiple foreign subsidiaries. In particular, suppose two such subsidiaries existed where each had exposure to a common third currency. For example, suppose the parent were USD-functional, and two subsidiaries were EUR-functional. Furthermore, suppose that Subsidiary-A bought inputs denominated in British Pound Sterling, while Subsidiary-B made Sterling-denominated sales. If these two Sterling-denominated exposures were of comparable magnitude, each subsidiary would bear currency risk, but the consolidated entity would not. In fact, as long as both subsidiaries hedged like portions of their exposures, the consolidated entity would remain un-exposed to changing Sterling exchange rates. If the hedging were not coordinated – i.e., if one subsidiary hedged but the other did not – an imbalance would again feed through to the consolidated entity.

V. Accounting Issues

The accounting rules pertaining to derivatives and hedging transactions are spelled out in the Financial Accounting

Standard No. 133 (FAS 133). Under these rules, derivatives must be recognized as assets or liabilities and carried on the balance sheet at their fair market values. Where *changes* in value are reported will depend on whether or not these derivatives are designated as the hedging instrument in a hedging relationship; and if they are designated as hedges, precisely what kind of hedging relationship is specified. Undesignated derivatives are simply marked-to-market through earnings. For cash flow hedges, effective gains or losses are initially recorded in other comprehensive income (OCI) and later reclassified to earnings in the period in which the hedge item generates its earnings impacts. (Ineffective results are recorded in current earnings.) Hedges of net investments in foreign operations also have special treatment, whereby effective hedge results are posted to equity in the currency transition account (CTA). In this way, hedge accounting preserves the correct pairing of the hedged items' results and the hedging derivatives' results, not only in terms of timing but in terms of geography as well. That is, earnings (equity) effects for the hedged items will be paired with earnings (equity) effects for the hedging derivatives.

VI. The Question of Geography

One of the critical requirements for applying hedge accounting is that, generally, the entity bearing the risk needs to be the entity that is party to the hedge, although a specific provision may provide the opportunity for a related company having the same functional currency to hold the derivative position under certain conditions. Another constraint is that hedge accounting rules expressly prohibit companies from designating the *income* from a subsidiary as the "hedged item." (Importantly, failing to be able to be designated as a hedged item does not mean that such hedging, per se, is proscribed. It simply means that if hedging is undertaken in these situations, no special accounting will be permitted, and thus the derivatives' gains or losses will have to be recorded in current income irrespective of the intent to mitigate risk).

To illustrate the problem, return to the situation illustrated in Table III, where the subsidiary had hedged its currency exposure but the consolidated entity had not. Again, the exposure of interest to the consolidated entity relates to the

non-dollar net income generated by the subsidiary. This exposure fails to qualify as one that can be designated as the hedged item, such that hedge accounting is not permissible. If the company only sought to cover this exposure one quarter at a time, no special hedge accounting would be needed, as both the hedged item's earnings impacts and the hedging derivative's earnings impacts would be recognized during the same accounting period. But if the company wanted to hedge the earning effects beyond the current quarter, no hedge accounting would mean unintended and undesirable income volatility.

That said, it is possible that the consolidated entity might be able to achieve the desired

deferral of the earnings recognition of derivative's results if, somewhere in the organization, a business unit could identify some forecasted transactions that are subject to the same currency risk as applies for the parent company's exposure to the subsidiary's net income. If this condition were present, this alternative exposure could serve as a designated hedged item, but the business unit having this alternative exposure would have to be the party to the derivatives transaction. For example, suppose the consolidated entity that reports in US dollars wanted to hedge Euro-denominated earnings of a subsidiary, and suppose the desired hedging derivative were Euro forward contracts (i.e., selling euros; buying dollars). If the Euro-denominated subsidiary had forecasted dollar purchases, that subsidiary might be directed to designate some portion of those forecasted dollar-denominated purchases as the hedged item to achieve the intended accounting treatment for the consolidated company.

Critically, if this business unit were to transact the hedge for the benefit of the parent, that action would have a consequence in terms of the reported income of the business unit, as well, which brings up a host of issues relating to incentives and compensation. Of course, these issues must be addressed—but they are surmountable. Simply put, managers at the business unit level need to be recognized for (and compensated for) the performance of the activity under their control. To the extent that hedges of the consolidated entity add to or detract from the reported profitability of the business unit, this effect should be purged from any performance evaluation.

Perhaps surprisingly, many companies believe they are immune from currency risk simply because all of their transactions are denominated in their own functional currency. This conclusion, however, may not be valid. The fact is, if you and your counterparties operate with different functional currencies, currency risk is present.

VII. Hedging Net Investment Exposures

The net investment line item changes as a function of several considerations: It increases or decreases commensurate with income or loss generated by the subsidiary, it adjusts to inflows or outflows of cash for, say, additional investment to the subsidiary or dividend payments to shareholders, and it also varies in response to changes in currency exchange rates. A relatively small portion of reporting entities choose to hedge this currency effect, despite the fact that the exposures may represent substantial risks.

The justification for electing *not* to hedge the currency risk associated with net investments (particularly the non-income portion) may rest on either of two considerations: (1) the company does not plan on selling the subsidiary or repatriating its value, or (2) currency fluctuations are assumed to be mean reverting, such that any such losses would be expected to be short-lived or reversed over time. My own view is that a systematic practice of not hedging this risk is an abrogation of fiduciary responsibility. The availability of derivative instruments allows for this risk to be addressed in a thoughtful manner. Moreover, making the decision to address this exposure at one point in time does not imply a commitment to maintain this hedge forevermore. It seems to me that it is hard to justify having a corporate policy that reflects a view that this risk should *never* be assessed or mitigated. At a minimum, this exposure should be measured and evaluated on some periodic basis.

This point notwithstanding, one legitimate consideration in the calculus of deciding whether or not to hedge the risk of currency exposure in the equity section has to do with the

question of available cash. Using derivative contracts to hedge typically requires making one or more cash settlements. Gains or losses associated with the net investment (which are recorded in the equity section), on the other hand, are unrealized results. Thus, by hedging, the hedging entity could find itself in the position of having to come up with a cash obligation (i.e., due to losses on its derivative position) well in excess of any cash reserves that the company might maintain. This cash flow obligation could thus force either a premature liquidation of the hedge or an inopportune requirement to seek additional financing.

VIII. Conclusion

Conceptually, hedging is easy. Identify an exposure, find a derivative that generates a compensating gain or loss relative to the identified risk, size the derivative position to assure the proper offset, and viola! For multinational companies, it's not quite so simple. In such organizations, a seemingly perverse situation occurs virtually all of the time – that is, currency risk exposure for the consolidated entity differs from the sum of the exposures of the component business units. A company that fails to coordinate their risk management activities to reflect what is going on both at the unit level and the consolidated level may find that the risk management activities it undertakes at the business unit level may actually do more harm than good for the consolidated entity. Failure to qualify for and apply hedge accounting optimally could lead to valuation estimates that do not fully reflect the company's worth. ■

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