

Cross Purpose

How businesses can hedge cross-border balance sheet exposures

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Entities that operate across borders undoubtedly appreciate that changing exchange rates will impact earnings—sometimes for better and sometimes for worse. Of course, these effects can generally be hedged, but not without appreciating an inherent tradeoff: Protecting the firm from currency exchange rate losses necessarily means foregoing at least some portion of potential gains.

Given that consideration, it's reasonable that firms might like to hedge larger portions of their exposures when the threat of an adverse exchange rate appears to be more pressing and smaller portions when the threat appears to be more remote; but those judgments are highly unreliable. The way exchange rates move, it's not easy to anticipate the future correctly. As a consequence, many hedgers take the defensive posture of hedging only a portion of their exposures as an ongoing practice, with the objective of reining in the magnitude of these effects, as opposed to eliminating them, altogether.

This article addresses one particular category of currency risk: the risk associated with carrying financial assets or liabilities denominated in a currency other than the functional currency. Such assets and liabilities are reported on the balance sheet in the functional currency at values that reflect spot exchange rates at the end of each accounting period.

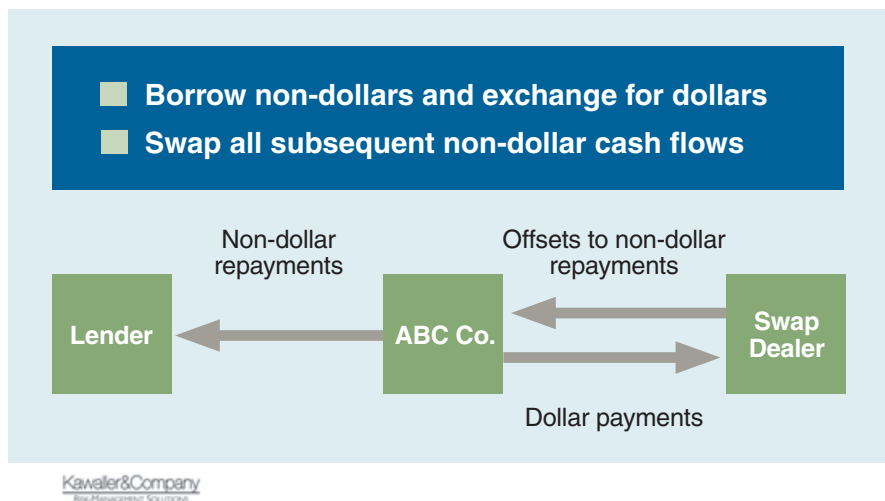
Thus, these carrying values will rise or fall with changing exchange rates; and, generally, these changes in values are reported in current earnings as currency transactions gains or losses. Higher asset values and lower liability values *augment* earnings, while lower asset values and higher liability values *depress* earnings.

Assuming a desire to hedge such exposures, the firm can choose from a number of hedging instruments and strategies. In discussing these alternatives, though, it is useful to distinguish between exposures associated with single settlements versus those with multiple settlements. Standard payables or receivables are examples of the former, while securities, loans and debt instruments are examples of the latter.

Popular choices

The most popular choice for hedging payables or receivables involves buying or selling *forward contracts* on nonfunctional currency units, with the size of the contract corresponding to the number of currency units the company cares to hedge. For example, with the desire to hedge a EUR10 million payable (which might be the entirety or only a portion of a payable position), the hedger would buy EUR10 million forward, with a *forward value* date set to the date at which the payable is expected to be settled. (The company would need to buy euros to settle the payable. The forward purchase locks in this purchase price.) For a similarly sized receivable, the hedge would *sell* up to EUR10 million forward. (Upon receipt of the euros in satisfaction of the receivable, the company would

Figure 1: Cross-Currency Swap



convert these euros to dollars by *selling* the euros. The forward sale locks in this sales price.)

As an alternative to using forward contracts, entities could also hedge by buying currency options—calls on the nonfunctional currency to protect against the risk of that currency strengthening (relevant to foreign-denominated liabilities) or puts on the nonfunctional currency to protect against that currency weakening (relevant to foreign-denominated assets). In these hedges, the option buyers pay a premium to buy their options. For that payment, they would be protected from any exchange rate move beyond the boundary set by the option strike price. For example, the purchase of a *call option* on euros with a strike price (or exercise price) of \$1.35 per euro covers the risk of the EURUSD exchange rate rising above \$1.35. Similarly the purchase of a *put option* on euros with a strike price of \$1.35 per euro covers the risk of the EURUSD exchange rate falling below \$1.35.

Yet another alternative for hedging is the use of currency collars. Collars serve to constrain the effective exchange rate

within upper and lower boundaries, thus allowing some currency exposure when the exchange rate remains within those respective boundary parameters. Usually, collars are structured so they don't require any initial payment between the parties (i.e., zero-cost collars), but this convention is not mandatory. That is, counterparties are free to design these contracts with literally any upper/lower boundary combination, where the collar price will reflect the respective probabilities for violating those prescribed boundaries. A zero-cost collar would suggest equal probability of violating the upper bound as there is for violating the lower bound.

Loans, securities and debt exposures

Turning to the loans, securities and debt exposures (i.e., exposures involving multiple settlements), hedging is somewhat more complicated. Besides the fair-value exposure analogous to the exposures of payables and receivables discussed above, loans, securities and debt also have exposures relating to the periodic distributions that each of these instruments generates.

For illustrative purposes, consider the case of the company that entered into a debt denominated in some currency other than its functional currency. If that nonfunctional currency were to strengthen, value of the debt in functional currency units would increase, and the interest payments would also involve larger functional currency settlements. A cross *currency interest rate swap* addresses both of these concerns in a single transaction. This contract is illustrated in figure 1.

Subsequent to entering into the non-dollar debt, ABC Co.—a dollar-function currency company—is obligated to repay principal and interest to the lender in non-dollars. As an overlay to this repayment obligation, ABC Co. enters into a cross currency swap with a swap dealer. One leg of the swap perfectly offsets that cash-flow obligation to the lender, and the other imposes a dollar denominated exposure from ABC Co., to the dealer. The essential feature of this swap to make it a fairly constructed contract is that the two legs of the swap should have equal present values.

Note that this conceptual treatment allows the non-dollar payments to be either fixed or variable, and interest could be paid either on a recurring basis or in one lump sum. Similarly, the dollar payments can be set with analogous flexibility. In any case, the cross currency interest-rate swap serves as a convenient way to address all of the currency and interest-rate exposures inherent in the debt with a single contract. This same outcome could be achieved, however, by treating each of the component cash flows of the debt's repayments as a stand-alone payable, and addressing each with one of the three alternative strategies previously discussed.

Determining realized earnings

When currency risk arises within a component of a consolidated group of related companies, the focus of attention might reasonably shift from the parochial concerns of one particular component of the group to the consolidated entity as a whole. With that orientation, it's critical to determine whether the earnings realized at the unit level are obviated in the course of consolidation.

For purposes of illustration, consider an intercompany loan where a USD-functional parent lends US dollars to its EUR-functional subsidiary. As noted above, the subsidiary bears an interest expense on the loan (i.e., principal \times rate \times time), as well as a re-measurement gain or loss on the debt. A cross-currency interest-rate swap would address both of these exposures. In consolidation, however, the USD interest expenses paid by the subsidiary are equal and opposite to the USD interest revenues (again, principal \times rate \times time) received by the parent. Thus, these two interest components to earnings self-cancel, leaving the re-measurement effect as the only currency-related earnings impact that “survives” in consolidation. Thus, from the perspective of the consolidated entity, the standard forward contract (as opposed to a cross-currency interest-rate swap) would likely be the preferred hedge.

Before committing to a particular hedging strategy, it should be understood that some of these income effects that have been discussed might not be true economic exposures. This would be the case whenever the earnings impacts arise concurrently with an equal and

opposite effect recorded in Other Comprehensive Income (OCI), such that Comprehensive Income remains unchanged. In fact, this situation arises in connection with intercompany loans. Here, we have a seemingly perverse situation where the transaction fosters an earnings impact that is purely an artifact of accounting rules. That is, the earnings impact arises concurrently with an equal and opposite posting to the currency translation account (CTA), which is a component of equity. When the earnings effect is closed out to equity, the two respective allocations cancel.

One might argue that the accounting model would be improved if, when assets and liabilities are eliminated, all related earnings impacts would be purged from reported earnings as well. However, that's not the case. In any case, it should be understood that if a firm decides to hedge this earnings exposure, it would be reducing earnings volatility at the expense of introducing a new and very real economic exposure.

Deciding what should be hedged at the subsidiary level thus requires understanding of both how that exposure impacts the entity that bears the risk as well as how that exposure manifests itself in consolidation. Failure to take these considerations into account would likely lead to suboptimal hedging decisions that could very well augment—as opposed to mitigate—the economic exposure of the consolidated entity under the guise of hedging. That happens more frequently than you might think.

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