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Mythbusters

Debunking the myths about derivatives

The world nicely divides into two camps: companies that use derivatives to manage their various price risks and those that don't. Derivatives aren't available for every risk source, but they do cover many categories affecting the concerns of large numbers of commercial enterprises. These include interest rate risk, currency exchange rate risk, and risks associated with a wide array of prices of basic commodities and raw materials such as energy products, assorted metals and agricultural produce and livestock.

Given this wide coverage, it's reasonable to question why some firms bearing these exposures use derivatives while others don't. Ultimately, the underlying issue is knowledge and understanding—or possibly misunderstanding.

Understanding derivatives

Derivative contracts are often portrayed as the bad boys of the financial marketplace, but this characterization misrepresents most derivatives and their uses. In fact, most derivatives are plain vanilla, capable of achieving very understandable and reasonable objectives. Typically, these (or very similar) economic outcomes could be arranged without derivatives, but derivatives often offer a more efficient and cost-effective way to realize desired results, particularly when an adjustment is desired after an initial transaction has already occurred.

All derivatives are contractual arrangements that generate payoffs that depend on changes of some external reference price or index. And while these contracts can be used by a wide variety of institutional actors, they are generally used for one of two purposes: either as hedging instruments, where the contracts balance off some preexisting risk, or to speculate on a coming price change for some asset or portfolio of assets.

Generally, corporate finance applications would fall under the hedging category, where commercial enterprises with exposure to interest rates or foreign currency exchange rates or price risk would mitigate

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these risks by entering into related derivative positions, arranging the contracts to pay off when that preexisting risk contingency is realized. A corollary to this rule, however, is that if the risk doesn't come to fruition and instead, the underlying exposure benefits the enterprise, the hedging derivative would be expected to generate a corresponding loss.

In contrast to these corporate applications, when derivatives are used for trading purposes or for investment purposes, for the most part, the derivative contracts would be used to take on risk. These uses would be speculative transactions, and like virtually any other speculation, if you're right you win and if you're wrong you lose. The vast majority of the bad press on derivatives relates to these speculative applications, where the culprit was really poor business controls rather than the derivatives, per se. Headline losses attributed to the use of derivatives weren't the fault of derivatives. Rather, they were the fault of the traders making bigger bets than they could afford and putting the viability of their organizations in jeopardy.

Returning to the commercial hedging transactions, the most typical hedge objective is locking in forthcoming prices that would otherwise be uncertain. Clearly, in retrospect, once you do lock in a price, you may end up regretting that decision if the feared adverse price change fails to develop. In this situation, the loss on the derivative obviously would have been avoided if you hadn't hedged in the first place. This possibility is part of the calculus that should be understood prior to making the decision to hedge. You have to be willing to bear this cost in order to achieve the intended protection if the market had moved the other way. In other words, the decision as to whether or not to hedge, or how much to hedge, should reflect management's sensibilities as to the probabilities associated with beneficial versus adverse market developments.

Derivative instruments

For corporate financial managers, the most widely used derivative instrument is the interest rate swap contract, relating to interest rate exposures. These days, commercial bankers often require commercial customers to borrow on a variable rate basis, thereby forcing these customers to bear the risk of rising interest rates. When these borrowers pair these exposures with an interest rate swap contract, the derivative serves to swap those variable cash flows for fixed cash flows.

The borrowing company still pays the bank a variable interest payment, but the terms of the swap contract—which might be transacted with that same bank or some other swap dealer—impose two additional cash flow obligations—a variable receipt cash flow designed to offset the original variable exposure paid to the bank, and a fixed payment cash flow. Combining the cash flow obligations of the swap with the original variable payment to the bank effectively transforms the variable rate debt into a synthetic fixed-rate debt.

Importantly, swap contracts don't require any upfront cash payments. Instead, these contracts are entered into as handshakes, reflecting a promise and obligation to make future settlements in the prescribed manner that serve to achieve the intended outcome.

Structuring synthetic fixed-rate loans in this way allows the bank to manage its balance sheet exposures more efficiently because shorter-term bank deposits typically provide the wherewithal for banks to loan to their customers. Thus, having shorter-term loans—or loans that reset their rates with relatively short term reset frequencies—tends to harmonize a bank's sources of funds with its uses of funds, thereby mitigating the bank's interest rate risk exposures. On a one-off basis, this approach would seem to benefit the bank at the expense of the customer; but in the

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aggregate, when banks on the whole operate in this way, they are able to offer cheaper funding to their customers than would be the case otherwise.

Put another way, if the borrower insisted on borrowing with a traditional fixed-rate loan, presumably that firm should be able to shop around and find some bank that would offer fixed-rate financing at some fixed interest rate. The prevalence of the use of swaps in coordination with variable rate funding is testimony to the fact that customers generally find the synthetic solution to be the cheaper funding alternative.

Besides locking in prices, derivatives can also be used to establish worst case price outcomes. This objective can be realized by buying caps or floors in connection with repetitive pricing exposures (e.g., a series of purchases or sales at yet-to-be determined market prices) or option contracts for individual price exposures. A purchased call option giving the right to buy a currency or commodity serves to ensure some worst-case, maximum purchase price, while a purchased put option giving the right to sell ensures a worst-case minimum sales price. These kinds of derivatives require an upfront cost—i.e., option premiums—where the cost would be different at different times, as market conditions varied.

Outcomes

Probably the most typical adverse outcome for derivatives has to do with the fact that, with derivative positions, the losing party has to pay up, in cash. Large market moves can and do stress the financial system, but to a large degree, this systemic risk has been addressed by the Dodd-Frank Act and evolving practices relating to the use of collateral adjustments in connection with derivative positions. These refinements generally serve to alleviate this concern by forcing many derivative users to settle derivative losses in cash before they have a chance to fully metastasize. Bearing this feature of derivatives in mind, derivative users need to be mindful of derivatives' cash flow obligations and constrain their use to manageable volumes.

It's also important to appreciate that when used for hedging purposes, focusing strictly on whether the derivative wins or loses likely would give a false impression as to how well the derivative has performed. When hedging, the relevant assessment should consider the combined effect of the derivative and the exposure being hedged. Measuring losses or gains on derivatives in isolation tells only half the story. The better question is whether the effective price that results from hedging conforms to the expectations dictated by the hedge objective.

In fact, derivatives reliably achieve this end. That is, regardless of which derivative tool you choose, the selected contact has a particular associated hedge objective (e.g., to lock in a price or prices or to constrain prices within specific boundaries). The ultimate effective prices that can be realized from hedging are predictable within reasonable tolerances at the onset of hedging transactions, and hedgers should have high confidence that those outcomes would be realized. Put another way, derivatives do what they're supposed to do!

Inevitably, market conditions will arise whereby using derivatives will be an appropriate and rationale response, but you have to be ready. Accessing these markets requires making a preliminary effort to reach the requisite understanding of how these tools work, how they can be accessed, what they can be expected to deliver, and how to account for them. For the uninitiated, this learning curve may appear daunting, but it's really not. Moreover, the advantages of taking these steps are compelling. Having a facility with derivatives gives companies the wherewithal to react to changing market conditions and adjust outstanding exposures accordingly—quickly and efficiently. Otherwise, without having these tools in your arsenal, you'd be subject to uncertainties of the marketplace, without adequate recourse.

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