

What Analysts Need to Know about Accounting for Derivatives

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Because (1) most derivative contracts had been off-balance-sheet items, lacking in transparency, and (2) the accounting treatment of derivatives had been applied inconsistently from company to company, the Financial Accounting Standards Board (FASB) embarked on an ambitious project in the early 1990s to tame the derivatives beast. Financial Accounting Statement (FAS) No. 133, *Accounting for Derivative Instruments and Hedging Activities*, was the result.¹ Now, more than a decade later, this standard is notorious for being the most complex of any of the FASB's pronouncements. It has left many reporting entities hard-pressed to apply it correctly or consistently. Moreover, the difficulty is not confined to corporate financial professionals. Analogous problems plague investors and analysts who must interpret the resulting financial statements and make intelligent assessments about companies that use derivatives. Whether by accident or by design, FAS No. 133 has done a poor job of creating greater accounting consistency in terms of how hedges are reported, because "special hedge accounting" is applied—or not applied—in different ways among the population of derivative users.

On a positive note, FAS No. 133 just may be a necessary first step toward fair value accounting, under which (at least in theory) much of the current lack of consistency would be eliminated. Until we get there, however, in order for the investment and analyst communities to make reasonable valuations, the implications of the current regime need to be understood.

My objective is to explain how and why FAS No. 133 results in such inconsistent accounting treatment and to suggest how analysts may untangle financial statements so that they can accurately compare companies' performances. This discussion should also be relevant to managers and financial reporters who want to convey information to analysts and investors in a way that is most useful.

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Concerns about Hedge Accounting

Under FAS No. 133, derivative contracts must be marked to market values and recorded as assets or liabilities on the balance sheet. Exactly how changes in value are treated, however, depends on whether the derivative instrument in question is used for hedging purposes or not. If it is not used for hedging, the gains or losses from the instrument simply flow through earnings. If it is used for hedging, and under the assumption that certain qualifying criteria are satisfied, special hedge accounting generally is applied to gains and losses. This treatment assures that the income effects from both components of the hedge relationship (i.e., the hedged item and the hedging derivative) affect earnings in a common accounting period, thereby minimizing income volatility.

Depending on the nature of the risk being hedged, one of three hedge accounting methods is appropriate. *Fair value* hedge accounting alters the treatment of an asset, a liability, or the firm commitment that is designated as the hedged item, allowing the changes in the value of the hedged item resulting from the risk being hedged to flow through current income coincidentally with the hedge's gain or loss. Accounting for *cash flow* hedges of forecasted exposures divides the hedge results between those that are "effective" and those that are "ineffective." Ineffective hedge results are recorded in current income, while effective results are initially posted to "other comprehensive income" (OCI) and are later reclassified as income in the same time frame in which the forecasted cash flow affected earnings. Finally, accounting for *hedges of net investments in foreign operations* maintains the spirit of FASB Statement No. 52, modified to incorporate FAS No. 133 sensibilities: Effective hedge results are consolidated with the translation adjustment in OCI (which is an equity account), but differences between total hedge results and the translation adjustment being hedged (i.e., ineffective hedge results) flow through earnings.

Because hedge accounting unambiguously dampens the volatility of reported income, most reporting entities would like to apply this treatment. Qualifying for this treatment, however, may require satisfying some onerous conditions.² Thus, some companies apply the special hedge accounting and others do not.³

Given this variety of reporting methods, a reasonable question is: Which presentation is the more meaningful? On one side, some argue that hedge accounting actually distorts reality. They believe that derivative instruments are truly cash substitutes, so their gains and losses should be assessed in an identical manner as realized gains or losses.⁴ If the “normal” (i.e., nonhedge) accounting fosters a higher level of income volatility, so be it. This higher volatility is viewed as the real truth. On the other side are those who believe that when derivatives serve as hedges, normal accounting is the distortion. For those with this perspective, any measure of income that records the derivatives’ results but fails to reflect the offsets from the associated hedged items is revealing only half of the story.

Assessing Hedge Performance

Perhaps the easiest way to evaluate companies that use different accounting treatments is to assess derivatives results in isolation (i.e., as they would be if no hedge accounting were permitted). Unfortunately, this solution has some critical shortcomings. When derivatives are used strictly for trading purposes (i.e., to generate profits rather than to offset losses or gains that might arise in connection with the companies’ normal business activities), assessing the impact of a derivative is fairly straightforward: Gains are good, and the more the better; conversely, losses are bad.⁵ When derivatives are used for hedging purposes, however, this same level of clarity does not exist.

For hedgers, generating a gain on a derivative position is often not the preferred outcome. One could argue that when a derivative is designed to offset a loss (or a gain) on the hedged item, the analyst should be indifferent to the outcome. That is, for any given consolidated result, what difference does it make whether the derivative was responsible for the gain and the hedged item generated the loss or the other way around? In fact, however, it does matter if the exposure under consideration is being hedged in part or completely. Anecdotally, a good proportion of hedgers tend to hedge partially, which allows considerable discretion in terms of how and when to hedge. Readers of financial statements should also appreciate that even seemingly fully hedged positions may be

deemed partial hedges if they cover only finite time horizons. That is, suppose the company hedges 100 percent of a particular price exposure but only for a limited time. The hedge is expected to generate the intended offset to cover an adverse price move during the hedge period, but subsequent to the hedge period, the company will ultimately have to transact at the new, less-attractive price. In effect, in this situation, the hedge might better be thought of as postponing the effect of the price change rather than eliminating it.

The Microsoft Corporation annual report of 2003 offers an interesting case study. Although explicit about hedging only a part of its exposure, the company offers no quantitative measures or parameters to help the reader discern whether the amount being hedged represents the preponderance of the risk or only a small part of the risk—or what the considerations might be that would cause the amount being hedged to be altered:

We are exposed to foreign currency, interest rate, and fixed income and equity price risks. A portion of these risks is hedged, but fluctuations could impact our results of operations and financial position. We hedge a portion of anticipated revenue and accounts receivable exposure to foreign currency fluctuations, primarily with option contracts. . . . We routinely use options to hedge a portion of our exposure to interest rate risk in the event of a catastrophic increase in interest rates. (Item 7A, “Quantitative and Qualitative Disclosures about Market Risk,” p. 18)

Given the clarity of the statement that Microsoft hedges only a portion of its risk, a reasonable inference is that at least some portion of its exposure is typically *unhedged*; therefore, the preferred *ex post* result for Microsoft would be to have its hedges generate losses. In this circumstance, the overall effect (i.e., the hedge loss and the even larger gain associated with the exposure—both that which is designated as the hedged item and that which is not) would be beneficial.⁶ This result has the perverse implication that companies that hedge a portion of their exposures should generally trumpet the news when hedge positions are unprofitable and whisper the results when hedge gains are generated.

In one situation, the “preference” to realize losses on hedges may not hold. Specifically, this exception applies to those entities for which hedging is a discretionary activity undertaken with the intention of benefiting the bottom line, where hedges are initiated and terminated on the basis of perceptions about coming changes in market conditions. The idea is to initiate and maintain a hedge only as long as the prospect of an adverse price effect on the

exposure is deemed to be likely. In this approach, the hedger allows for the prospect of generating derivative results that, over time, may not correspond to the changes in the associated risk variable.

For an illustration, consider a company exposed to the currency risk of a forecasted currency transaction scheduled to occur in, say, six months. Suppose the currency strengthens and then weakens (or vice versa) within that horizon—perhaps multiple times—but on the date of the scheduled transaction, it has returned to its original level. If the hedger correctly anticipated the cyclical changes and imposed hedges only when the exchange rate changes were adverse, the hedge will generate a gain but no compensating loss will be recorded for the hedged item.

Whether such an approach is true hedging may be a semantic question. The idea that any specific derivative position counters a prevailing exposure suggests that the derivative is, in fact, serving as a hedge. But when derivatives' results end up being entirely unrelated to the gains or losses associated with the hedged items over time, many may object to characterizing this use of derivatives as a "hedge." This controversy notwithstanding, FAS No. 133 hedge accounting is appropriate and allowable to companies with this approach.

Beyond Hedge Accounting

To evaluate a company's hedging results properly, analysts need a clear understanding of hedging practices and objectives. Gains or losses on derivatives should be assessed not only with reference to their designated hedged items but also with reference to the entire associated exposure—whether designated as hedges or not. This information should be presented in the U.S. SEC-mandated risk disclosures in financial statements.⁷

One approach for how this information may be presented is provided by Archer Daniels Midland in its 2003 10-K/A report, "Market Risk Sensitive Instruments and Positions":

A sensitivity analysis has been prepared to estimate the Company's exposure to market risk of its commodity position. The Company's daily net commodity position consists of inventories, related purchase and sale contracts, and exchange-traded futures contracts, including those to hedge portions of production requirements. The fair value of such position is a summation of the fair values calculated for each commodity by valuing each net position at quoted futures prices. Market risk is estimated as the potential loss in fair value resulting from a hypothetical 10 percent adverse change in such prices. Actual results may differ. [See

Table 1.] The decrease in fair value of the average position for 2003 compared to 2002 was principally a result of a decrease in the daily net commodity position partially offset by an increase in quoted futures prices. (p. 11)

This presentation offers the reader some sense of the typical magnitude of the company's exposures and how they have changed over time. At the time this information was released, however, the prevailing exposure of the company may have been considerably different from the impression given by these historical indications.

Table 1. Archer Daniels Midland Hedge Disclosures

	2003		2002	
	Fair Value	Market Risk	Fair Value	Market Risk
Highest long position	\$611	\$61	\$373	\$37
Highest short position	485	49	315	32
Average position long (short)	51	5	128	13

Source: Archer Daniels Midland 2003 10-K/A report:25.

Interpreting Disclosures

Typically, disclosures are found in the notes to the financial statements, and generally, if an index or table of contents is provided for the notes section, the relevant section will refer either to FAS No. 133 or to "derivative instruments and hedging activities."

Assuming that hedge accounting is permitted and elected by a company, comparisons of hedge results with the results for associated hedged items are explicitly required by FAS No. 133. Any ineffectiveness of the hedges must be specifically disclosed. Comparisons of the hedge results with the effects associated with entire exposures, however, are neither highlighted nor referred to by FAS No. 133. The comparison happens to be transparent for cash flow hedges and hedges of net investments of foreign operations, but only after the fact (i.e., when gains or losses on the hedging derivative and gains or losses resulting from the entire forecasted transaction flow through earnings). For fair value hedges, the degree to which the associated exposure remains unhedged is not at all transparent.

Consider, for example, the case in which a U.S. importer expects to buy €10 million worth of widgets in some forthcoming accounting period. The company is at risk to the dollar weakening (the euro

strengthening) and elects to hedge only a portion of this exposure. Assuming a perfectly designed hedge with no resulting ineffectiveness, all of the gains or losses on the derivative will initially be recorded in OCI. Results will later be reclassified to earnings coincidentally with the earnings impact of the hedged item. Critically, this earnings impact happens concurrently for the entire exposure, irrespective of the fact that only a portion of the exposure is designated as a hedge. Thus, with the reclassification, the income statement will reflect the consolidation of the hedge and the entire exposure—not just the hedge and the designated hedged item. An analogous outcome arises with a partial hedge of a net investment in foreign operations.

This same perspective is not maintained when we cross to fair value hedges. For example, suppose the company elects to use an interest rate swap to hedge a portion of its fixed-rate debt. And, again, for simplicity, presume perfect effectiveness. In this case, all of the derivative's gains or losses are reported in earnings. On the exposure side, however, the income impact related to the hedged item is restricted to the value changes resulting from the risk being hedged—but only for the designated hedged item. In short, the economic effect of the rate change on the unhedged portion of the debt is not apparent—at least in the income statement.

Aside from the question of how much of an exposure is designated as the hedged item, for many entities, the derivatives used to hedge are perfect hedges. This situation would be the case when all of the critical features of the exposure match those of the derivative used as a hedge. As long as this matching continues and is revalidated, hedges should perform perfectly, with no unanticipated income effects. In other cases—in particular, for hedges related to commodity exposures—perfect hedges are somewhat harder to come by. In those cases, the hedges are likely to involve some cross-market or spread risk because the price being hedged is not precisely the same as the underlying price of the derivative. This spread risk would probably arise because of differences in quality or location or because of some difference between value dates or settlement dates for the derivative versus the analogous dates pertaining to the hedged item. In any case, under these conditions, some difference in performance between the hedged item and the derivative should be expected.

“Hedge ineffectiveness” is defined by the FASB to be the excess gain or loss of a derivative beyond that which would be required for the perfect intended offset. This amount may be calculated for disclosure purposes either on a period-by-period basis or cumulatively, at the discretion of the

reporting entity. How useful this information is, however, is not immediately obvious—especially because, regardless, the gains or losses on the derivative are completely transparent.

Because it is not symmetrical, ineffectiveness reflected in the income statement—at least for cash flow hedges—is not really a correct measure of how well the hedge performed. That is, ineffectiveness measures hedge overperformance rather than hedge misperformance. For example, if an ideal hedge would have generated a gain of \$100 but the actual derivative generated \$110, \$10 must be disclosed as ineffective. If the actual hedge generated only a \$90 gain, the disclosure would state that there was no ineffectiveness, giving the impression that the hedge performed perfectly. To the extent that a mismatch is relevant, it seems to me that the analyst should be equally interested in whether the hedge is overperforming or underperforming.

Even if the analyst ignores this consideration, how should reported ineffective hedge results be interpreted? Suppose, for example, a company records income that is deemed to be ineffective (i.e., hedge gains exceeded the designated hedged item's loss over the same period). What if a loss resulted? Should these outcomes be deemed good or bad, or is the information simply noise? Ultimately, any interpretation of hedge ineffectiveness requires additional information. The key concern should be whether (1) the recorded ineffectiveness is a reflection of a temporary deviation from a normal relationship that is expected to reassert itself (in this case, the “errors” are expected to mean reverting or self-canceling over time) or (2) it is a reflection of a structural change whereby the old relationship can no longer be expected to hold. Clearly, the numbers alone, without any qualitative explanation, leave the analyst with insufficient information to make a credible assessment.

As an illustration of a presentation involving effectiveness, consider the table from the J.P. Morgan Chase and Company 2002 annual report that is shown in **Table 2**. Because we are dealing with a bank, where exposures may be connected to both assets and liabilities, it is difficult to draw meaningful implications from this presentation. Nevertheless, the sign of the effectiveness figure may provide some information. Specifically, we may be able to infer, given that the fair value ineffectiveness contributed positively to earnings, that in the aggregate, fair value hedging generated gains for both of the years shown. And conversely, because the ineffectiveness of the cash flow hedge was negative (irrespective of the magnitude), the cash flow hedge results were losses.⁸ Unfortunately, without the additional information about the total gains or

Table 2. J.P. Morgan Chase Hedge Disclosures

	2002	2003
	Millions of Dollars	
Fair value hedge ineffective net gains ^a	\$441	\$386
Cash flow hedge ineffective net losses ^a	(1)	(7)
Cash flow hedging gains on forecasted transactions that failed to occur	—	40 ^b
Expected reclassifications from OCI to earnings ^c	317	(177)

^aIncludes ineffectiveness and the components of hedging instruments that have been excluded from the assessment of hedge effectiveness.

^bRepresents recognized gains in net interest income for cash flow hedges of AFS [available for sale] security purchases that were discontinued because the forecasted transaction failed to occur.

^cRepresents the reclassification of net after-tax gains (losses) on derivative instruments from OCI to earnings that are expected to occur over the next 12 months. The maximum length of time over which forecasted transactions are hedged is 10 years, related to core lending and borrowing activities.

Source: J.P. Morgan Chase 2002 Annual Report:102.

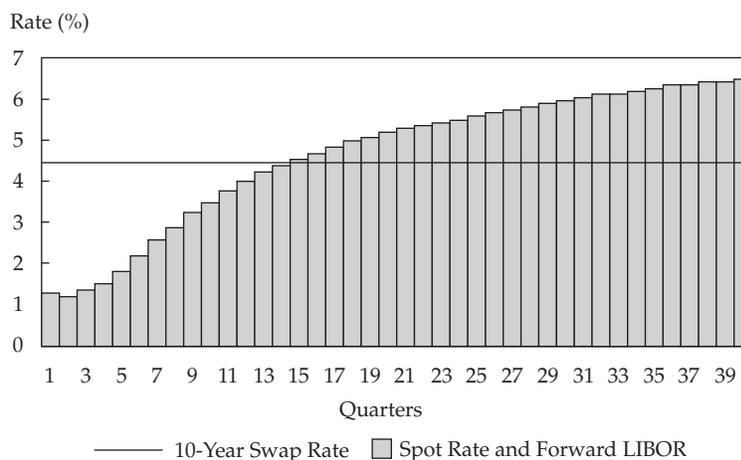
losses of these derivatives or the degree of the exposures being hedged, even this information may offer little of value.

Table 2 refers to another disclosure requirement—namely, companies must disclose the amount of OCI they expect to reclassify to earnings in the coming 12 months.⁹ Recall that for cash flow hedges, effective results are initially posted to OCI and later reclassified as earnings at the same time the income effect of the associated hedged item is realized in earnings. Thus, at any time, the accumulated OCI will reflect the gains or losses of the derivatives that have thus far not been recorded in earnings and will ultimately have to be reclassified—assuming no further value changes occur. The pernicious issue is that the reported

value of this OCI reclassification will likely be misleading. Whether the reclassification will generate a positive or negative impact on earnings in the coming 12 months and which of the two alternatives should be preferred is no different from the original concern about whether hedge gains should be preferred to hedge losses. Again, if analysts see the hedge as only a partial offset to a larger exposure, they would prefer seeing a disclosure that indicates that the reclassification will generate an expense. If the entity is fully hedged, it should not matter.

Also, the near-term (coming 12 months') impact is sometimes contrary to the longer-term reclassification effects. This kind of situation frequently arises when the derivative covers risks over multiple accounting periods. Swap contracts of all types fall into this category, as do caps and floors that relate to multiple transactions. Consider the case of a company that enters into a pay fixed/receive variable interest rate swap. Assume the hedge is initiated on the last day of the accounting period, with the prevailing rate conditions. Given the array of spot and forward three-month LIBOR rates shown in **Figure 1**, the at-the-market fixed rate on the swap (shown as the horizontal line) is approximately 4.5 percent. Nonetheless, on the issue date, given this configuration of forward interest rates, this hedger would have a nonzero value to disclose for the amount expected to be reclassified into earnings in the coming 12 months. With the rates shown in Figure 1, the hedger should be anticipating having to make cash outlays for the first 14 quarters, to be followed by cash inflows for the remaining 26 quarters. In this case, the company would have to disclose that the reclassification will result in the recording of an expense equal to somewhat more than 3 percent of the notional

Figure 1. Swap Rate Data at Inception



value of the swap over the coming 12 months.¹⁰ Is this information meaningful, given that (1) the swap has generated no gain or loss to date, (2) the projected reclassification effect is purely a reflection of consensus expectations that may or may not be realized, and (3) if the consensus expectations are realized, the effect will be reversed over time?

Conclusions

Despite the added transparency afforded by FAS No. 133's requirement that derivatives be recorded on the balance sheet as assets or liabilities, the job of interpreting financial statements continues to provide challenges when derivatives play a material role in the way a company is managed. Special hedge accounting causes the effects of the hedge and the effects of the hedged item to be realized in a common accounting period, which is generally considered to be an appropriate way to assess hedge performance. But the presentation may be muddled because hedge accounting may not be used across the board for all hedges and because the extent of the exposure that remains unhedged may not be immediately apparent. For equity valuation purposes, knowing how much of an exposure remains unprotected may be more relevant than knowing how much a derivative might gain or lose—particularly because the derivative effect will typically be offset by a compensating value change associated with the hedged item. Put another way, FAS No. 133's dedication to pairing the derivative's gain or loss strictly to the gain or loss of the designated hedged item—rather than to the overall associated market exposure—may pro-

vide useful information to the risk manager, but this information may be insufficient for the analyst. This problem particularly afflicts fair value hedges.

For an analyst to evaluate any company—whether it uses derivatives or not—the analyst needs to know what price exposure exists, how much of this exposure is covered, and how hedges are managed. Company managers may be hesitant to be fully transparent about some portion of this information for fear that it could be used by the company's competitors, but at a minimum, analysts should doggedly try to discern the magnitudes of the more critical exposures and how these risks are managed. Uncovering this process might be as important as—or even more important than—results.

Analysts' assessments should also be influenced by their views as to the future course of prices associated with the exposures. Clearly, these forecasts may be highly subjective, so they justify different valuations made by different analysts. Still, the company that is perceived to be able to anticipate changes in critical prices (or interest rates or exchange rates) and adjust hedge coverage accordingly should be valued more highly than the company that does not have this capability. Unfortunately, making a reliable assessment of the company's skill by assessing a static picture of a derivatives position (i.e., a balance sheet value) and/or hedge results over a limited number of accounting periods is next to impossible. Therefore, the analyst's knowledge of the talents and capabilities of a company's risk management team is critical information.

Notes

1. FAS No. 133 was subsequently amended by FAS Nos. 138 and 149.
2. Perhaps the most arduous requirement is that hedgers demonstrate that their intended hedges will be "highly effective." See Kawaller and Koch (2000) for a more complete discussion.
3. According to a survey performed by the Association for Financial Professionals (see AFP 2002), almost a quarter of the respondents reported that their company chose not to apply hedge accounting to "significant portions" of their derivative positions, despite the use of these positions as hedges.
4. The characterization of derivatives as a cash substitute is explicit in the definition of a derivative under FAS No. 133. Specifically, in Paragraph 6c, derivatives must require or permit net settlement. Any contract that can be readily converted to cash satisfies this condition.
5. Success in one period may be largely, if not wholly, independent of success in subsequent periods, so the present value of prospective trading activities may be hard to determine. Perhaps, over time, analysts may be in a position to make some judgments about expected returns and their associated distributions and thereby ascribe a price (value) to the expectations, but these estimates should be recognized as being based on a small sample of observations; thus, low confidence should be placed on virtually any such estimate that is offered.
6. Designated hedged items are often a portion or percentage of the entirety of an exposure. Thus, even though hedged items are expected to be fully hedged, their exposures may be only partially hedged.
7. Such disclosures may be found in a separate section or in the "management discussion and analysis" section. For additional guidance related to these disclosure rules, see SEC (1997), www.sec.gov/divisions/corpfin/guidance/derivfaq.htm#comp, and Hodder and McAnally (2001).

8. The tentativeness of this conclusion arises because J.P. Morgan Chase's measure of ineffectiveness includes amounts that are actually excluded from considerations of hedge effectiveness (e.g., changes in spot/forward differentials or changes in option time values). Conceivably, the signs of the excluded items may be opposite to those of the pure ineffectiveness results, and the excluded items' effects may override those of pure ineffectiveness.
9. FASB (2001), Paragraph 45.b.(2). The methodology for calculating the valuation of the expected reclassification amount is not explicitly described; Derivatives Implementation Group Issue I2 requires only that the methodology be applied consistently.
10. Over the first four quarters, the variable rate is somewhat less than 1.5 percent whereas the fixed rate is 4.5 percent.

References

- AFP. 2002. "The Impact of FAS 133 on the Risk Management Practices of End Users of Derivatives—2002 Survey Results." Association for Financial Professionals (September).
- FASB. 2001. Statement of Financial Accounting Standards No. 133: *Accounting for Derivative Instruments and Hedging Activities*. Financial Accounting Standards Board (10 December).
- Hodder, Leslie, and Mary Lea McAnally. 2001. "SEC Market-Risk Disclosures: Enhancing Comparability." *Financial Analysts Journal*, vol. 57, no. 2 (March/April):62–78.
- Kawaller, Ira G., and Paul Koch. 2000. "Meeting the 'Highly Effective Expectation' Criterion for Hedge Accounting." *Journal of Derivatives*, vol. 7, no. 4 (Summer):79–87.
- SEC. 1997. *Disclosure of Accounting Policies for Derivative Financial Instruments, and Derivative Commodity Instruments* (Release No. 33-7386) and *Disclosure of Quantitative and Qualitative Information about Market Risk Inherent in Derivative Financial Instruments, Other Financial Instruments and Derivative Commodity Instruments* (Release No. 34-38223). IC-22487, FRR48, International Series No. 1047, File No. 27-35-95. Washington, DC: SEC.

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