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Special Report

## Hedge Accounting and Derivatives Study for Corporates

### Disclosure, Hedge Accounting, and Restatement Risk

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#### ■ Summary

Fitch Ratings has completed its first study of derivatives accounting and disclosure among corporate entities, excluding financial institutions. Derivatives have become an integral part of the risk management framework for major corporate issuers of debt, allowing active management of interest rate, foreign exchange, commodity price, and equity exposures. Moreover, the growing use of derivatives coincides with rapid developments in the derivatives market, including the availability of a broader range of derivative products.

Concurrently, accounting for derivatives has undergone a revolution since the implementation of Statement of Financial Accounting Standards (SFAS) No. 133, Accounting for Derivative Instruments and Hedging Activities, in 2001. Outside the U.S. market, the most controversial aspect of the pending implementation of International Financial Reporting Standards (IFRS) in the European Union has been the requirement to account for derivatives under International Accounting Standard (IAS) 39. What exactly one can expect from European corporate derivative accounting is really an open question currently, although most of the European companies in Fitch's study either report under IFRS already or reconcile to U.S. generally accepted accounting principles (GAAP) for Securities and Exchange Commission (SEC) filing purposes, giving some idea of what is coming.

Highlights of the study include:

- Hedge accounting can alter important debt and equity ratios, making period-to-period and company-to-company comparisons tricky. While hedge accounting may dampen income statement volatility, there are balance sheet consequences that should be recognized by investors and analysts. Moreover, there may be wide disparities in the income effects. Fitch believes it is often appropriate, for analytical purposes, to consider the core ratios it uses in its analysis with and without the effects of hedge accounting adjustments if the adjustments are material and provided there is adequate disclosure. Additionally, the financial reporting consequences of hedge accounting make earnings before interest, taxes, depreciation, and amortization (EBITDA) less viable as a cash flow measure.
- Fitch found wide disparities in disclosure across companies and industries. This is true for even the most generic instruments, such as interest rate and currency hedges. Similarly, lack of any requirements to disclose valuation adjustments, much less the sources from which they were derived, raises concerns of possible

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November 9, 2004

## Overview of Representative Survey Results

Fitch surveyed 57 global corporations representing more than US\$1 trillion of debt to assess the types of derivatives used, accounting and financial reporting implications, and disclosure quality. This survey was intended to generate representative data only and is not necessarily reflective of the market as a whole.

The companies surveyed had a total notional amount of derivatives positions nearing US\$500 billion. On a fair value basis, these companies in the aggregate reported US\$39 billion of derivative assets, arising from in-the-money derivative positions and nearly US\$6 billion of deferred derivative gains reported as hedge accounting adjustments to equity (accumulated other comprehensive income) or debt. On a notional basis, interest rate swaps accounted for the largest portion of derivatives, followed by currency and commodity derivatives. On a fair value basis, the largest amount was in currency derivatives, perhaps reflecting the recent volatility of the U.S. dollar against other currencies.

The financial statements of all but one of the companies surveyed were affected by derivatives. More than 95% of survey respondents satisfied the requirements and elected to apply hedge accounting with respect to at least a portion of their derivatives portfolio. Despite this, there were significant profit and loss consequences for many companies in the survey. For example, Ford Motor Co. reported US\$3.5 billion of derivatives gains in income resulting from hedge ineffectiveness and derivatives not in hedging relationships.

inconsistency and lack of comparability. For example, there is no requirement for disclosure of income derived from mark-to-market or mark-to-model valuation adjustments.

- Fitch is concerned with the potential for reporting and restatement risk across corporate sectors due to difficulties associated with hedge accounting. Allegations regarding Fannie Mae and other companies underscore the difficulties in correctly applying hedge accounting. Fitch's study found a lack of consensus among companies with respect to disclosure and application of SFAS 133 and IAS 39, and this in turn may indicate an absence of uniformity or misapplication of hedge accounting rules. This does not bode well for the pending implementation of IFRS for most large European

companies. Consistency will be achieved only if auditors insist on applying the rules rigorously and consistently.

- Based on the results of the study, it does not appear that participating companies are engaging in widespread speculation using derivatives. That said, a number of companies in certain industries appear to have taken positions with respect to future changes in the prices of commodities and equities in certain industries. Also, a number of companies appear to have used interest rate swaps to convert fixed-rate term debt into floating-rate debt. While this is not surprising at a time when interest rates have been at historical lows, sharp changes in interest rates, exchange rates, or commodity prices could cause unanticipated earnings volatility and/or skewing of key credit ratios, even in cases where hedge accounting rules are properly applied. This is especially relevant in light of Fitch's current forecast that the U.S. federal funds rate will rise to 4% by 2006.
- Of the study participants, 11% had derivative positions in their own shares. Positions such as forward purchases or written puts on a company's own shares have led to unexpected losses in the past. Further, equity derivatives can have unexpected effects on reported debt.
- There was limited use of credit derivatives among the surveyed companies. Concerns about self-referenced credit-linked notes and other forms of exotic derivatives were heightened following the collapse of Parmalat S.p.A. Investors and analysts should be alert to the presence of these types of instruments outside the survey, particularly among European corporations.
- Counterparty disclosure was also weak, with only 26% of survey respondents providing detailed information regarding counterparty credit risk. Additionally, 46% of companies surveyed have derivatives agreements containing rating-related triggers.

## ■ Study Overview

Derivatives have become an integral part of the risk management framework for many major corporations throughout the world. Corporate entities use derivatives to manage risks related to interest rates, foreign currency exchange rates, equities, and commodity prices. Recently, according to surveys conducted by the Bank for International Settlements and the International Swaps and Derivatives Association, the notional amount of over-the-counter derivatives was nearly US\$170 trillion, with more than 90% of the

largest corporations worldwide using derivatives to hedge their risk.

Concurrent with this spectacular rise in derivatives usage, accounting and financial reporting for derivatives have gone through a revolution with the advent of fair value reporting and hedge accounting in the U.S. and soon in the European Union. SFAS 133 became effective in the U.S. for the year ended Dec. 31, 2001. As a result, there are now three full years of data available from which to gauge results. Further, two of the 15 non-U.S. corporate entities included in Fitch's study have adopted IFRS, which has similar requirements for derivatives and hedge accounting.

Market indicators seem to point toward the potential for increased volatility in the near to intermediate term with respect to interest rates, currency exchange rates, and commodities prices. This type of volatility in the past has resulted in isolated cases of "surprise" losses. While bringing derivative instruments onto the financial statements greatly mitigates this risk, the complexity of current derivative accounting standards and the low level of transparency create a new set of anxieties for investors and analysts. Further, any income statement volatility that has been smoothed out through hedge accounting now appears on the balance sheet, potentially skewing important credit ratios.

With these facts in mind, Fitch determined it is an appropriate time to take a fresh look at corporate derivatives accounting and usage. In conducting the study, Fitch sought to: ascertain the degree to which current disclosure practices provide insight into how corporate entities are using derivatives and for what purpose; assess the progress that corporations have made in successfully implementing SFAS 133 or its equivalent under IFRS, IAS 39; determine the effect of derivatives on the financial statements of surveyed entities; and compare disclosures across companies and industries to see if, with three full years of experience behind them in the case of those reporting under U.S. GAAP, corporate entities have achieved transparency, consistency, and comparability in disclosures related to derivatives.

Fitch surveyed 57 companies from a range of industries representing nearly US\$1 trillion in aggregate debt. The survey focused on the types of derivatives used, hedge accounting, financial reporting, valuation and disclosure practices, and counterparty risk. Fitch accounting analysts reviewed the survey responses and reconciled them to the financial statements and related disclosures in the companies' annual reports. A

database of more than 50 separate derivative measures was created, containing all available derivative information from the surveys and financial statements. The compiled data were examined in conjunction with company-level qualitative data in the survey responses to characterize financial statement impact, disclosure practices, and valuation of derivatives.

### ■ Accounting for Derivatives: A Hedge Accounting Primer

Before discussing results from the study, a brief review of hedge accounting is needed. This is highly relevant to the study, as 96% of participants met the accounting requirements to achieve hedge accounting for at least a portion of their derivatives portfolio. Both SFAS 133 and current IFRS rules (IAS 39) require all derivative instruments to be fair value accounted (essentially marked to market; the terms *fair value* and *mark-to-market* are used interchangeably in this report). Absent hedge accounting, this can cause volatility in income because small changes in underlying economic factors — interest rates, exchange rates, and commodity prices — can have a large effect on the fair values of derivative instruments. Despite the fact that short-term volatility can obscure the true economics of derivatives usage over the duration of a hedging transaction, the standards allow no exception to the mark-to-market rule.

Derivatives are commonly used to hedge against specific risks, such as the effects of rising interest rates on a variable-rate debt instrument. When derivatives are used in this manner, both U.S. GAAP and IFRS allow the use of hedge accounting. Hedge accounting is a procedure under which the change in the value of the derivative, or hedging instrument, is counteracted with an equal and offsetting adjustment to the asset, liability, or future cash flow being hedged, or hedged item. By marking to market both the derivative and the hedged item, the net effect on income is zero, assuming a perfectly effective hedging relationship. By requiring the marking to market of derivatives through income but allowing hedge accounting for "effective" hedges, SFAS 133 and IAS 39 discourage companies from speculating in derivatives and provide full recognition of the financial impact of derivative positions.

Effectiveness is simply the extent to which gains and losses on the derivative offset changes in the fair value of the hedged item. SFAS 133 and IAS 39 require that hedge effectiveness be documented at the inception of the hedge and then monitored on a

quarterly basis. Effectiveness is often demonstrated through modeling. For SFAS 133, in the case of plain-vanilla interest rate swaps, perfect effectiveness can be assumed if certain restrictive requirements are met (the so-called shortcut method). For hedges with terms matching those of the hedged item, certain assumptions may be made about effectiveness, but again there are severe restrictions and a requirement to monitor the effectiveness of the hedge through quarterly assessment. The shortcut method is not permitted under IAS 39.

All other hedges generally require mathematical modeling, such as regression analysis or Monte Carlo simulation. Again, all hedging relationships, other than plain-vanilla swaps, must be monitored for effectiveness. Further, the derivative must be within the range of 80%–125% in terms of effectively offsetting the changes in value of the hedged item (i.e. the increase/decrease in the fair value of the derivative must offset 80%–125% of the increase/decrease in the hedged item). Any portion of the hedge mark-to-market value that is deemed to be “ineffective” must be recognized immediately in income.

As recent events related to Fannie Mae and other companies whose hedge accounting has been challenged underscore, demonstrating effectiveness is probably the most challenging aspect of achieving hedge accounting and may present the highest level of restatement risk. This being the case, Fitch believes there is a significant amount of accounting

## Aggregate Notional and Fair Value of Derivatives\*

(US\$000, As of Dec. 31, 2003)

	Notional Value	Fair Value
Interest Rate Derivatives	213,186,192	7,227,829
Currency Derivatives	122,916,199	9,308,366
Commodity Derivatives	121,920,209	2,372,582
Rate Caps	17,548,500	57,640
Equity Derivatives	13,229,347	443,000
Other	4,931,780	67,986
Credit Derivatives	45,000	—
Total	493,777,228	19,477,402

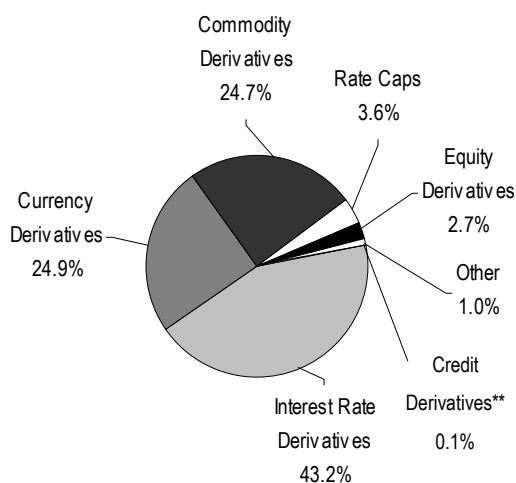
\*For companies in representative survey. Note: Numbers may not add due to rounding.

risk in this area. Also noteworthy is the fact that while hedge accounting may eliminate income volatility associated with marking derivatives to market, at the same time it creates volatility in certain balance sheet accounts. This volatility can have important consequences for credit analysis.

## ■ Aggregate Financial Statement Effects

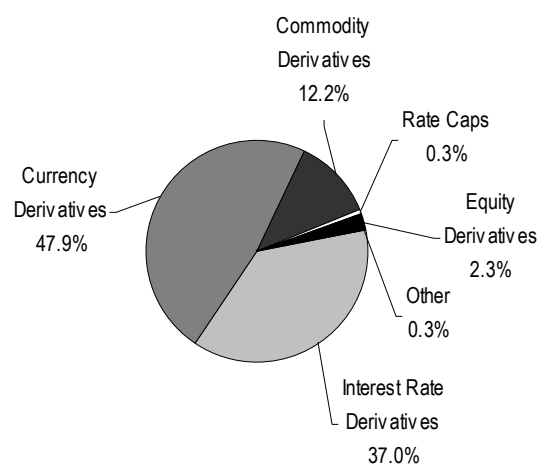
Perhaps as expected, most derivatives used by the companies included in Fitch’s representative survey, in terms of both notional and fair value, are interest rate swaps, commodity derivatives, or currency derivatives (see table above and charts below). The commodity hedges are concentrated in the energy and oil sectors, but both interest rate and currency derivatives are spread relatively evenly across sectors.

**Derivative Instruments by Notional Value\***  
(As of Dec. 31, 2003)



\*For companies in representative survey. \*\*Represents less than 0.1%. Note: Numbers may not add to 100% due to rounding.

**Derivative Instruments by Fair Value\***  
(As of Dec. 31, 2003)



\* For companies in representative survey.

## Aggregate Balance Sheet Effects of Marking Derivatives to Market\*

(As of Dec. 31, 2003)

Item	Amount on Balance Sheet (US\$000)
Derivative Asset	36,906,850
Derivative Liability	17,622,741
AOCl for Cash Flow Hedges	3,454,383
SFAS 133 Fair Value Adjustment	2,392,847

\*For companies in representative survey. AOCl – Accumulated other comprehensive income. SFAS 133 – Statement of Financial Accounting Standards No. 133.

Aggregate balance sheet and income statement amounts are presented in the tables on page 5.

### Balance Sheet

The table above shows the aggregate balance sheet effects of derivatives mark-to-market adjustments for the 57 participating companies. The derivative asset and liability amounts are simply the amounts by which the fair values of derivatives are in either gain or loss positions, respectively, at Dec. 31, 2003.

Accumulated other comprehensive income (AOCl) for cash flow hedges is the net amount of derivative gains that have been deferred in equity through hedge accounting. These gains will be reclassified into earnings as the hedged cash flows occur. For example, in the case of a manufacturer using a cash flow hedge against increases in future commodities prices, gains associated with an effective hedge would be offset by adverse prices of commodities as the company purchases materials for production, ultimately neutralizing the profit and loss (P&L) effect in cost of sales. Fitch notes that most of the cash flow hedges in the survey are pay-fixed swaps, which tend to be underwater in the current low rate environment. However, two large auto companies had deferred gains on cash flow hedges of nearly US\$5 billion.

The SFAS 133 fair value adjustment is the net amount of derivative gains that have been offset to the assets, liabilities, or firm commitments they are hedging, again through the magic of hedge accounting. In this survey, the SFAS 133 adjustment was predominantly to hedged debt; because this debt is generally fixed rate and rates have fallen, the amount shown is the aggregate increase in balance sheet debt. The majority of the fair value hedges included in the study consist of receive-fixed swaps, which have the effect of converting fixed-rate debt to floating-rate debt. The mark-to-market value of the hedging

derivative is an asset effectively matching the increase in value recorded on the debt. This is significant considering the low interest rate environment of 2003. If interest rates were to increase sharply as Fitch has predicted, the SFAS 133 fair value adjustment could reverse, possibly leading to a downward adjustment in reported debt. *(For Fitch's forecast of interest rate movements over the next two years, see Fitch Research on "Sovereign Review: Autumn 2004," dated Sept. 15, 2004, available on Fitch's web site at [www.fitchratings.com](http://www.fitchratings.com).)*

SFAS 133 also contains a provision for hedges of the foreign exchange risk associated with net investments in foreign subsidiaries. This is similar to older provisions of U.S. GAAP relating to accounting for net investments in foreign subsidiaries that have been carried over largely unchanged. Gains and losses as a result of these "portfolio" hedges and the translation adjustment on the underlying investment are recorded in equity until the investment in the subsidiary is sold, at which point the cash gains or losses pass through the P&L.

### Income Statement

The effect of hedge ineffectiveness on income is one of the few disclosures required by SFAS 133. IAS 32, on the other hand, calls for much more extensive disclosure. Disclosure of the P&L effect for derivatives not designated as hedges (i.e. nondesignated) is not required and is not routinely provided. Fitch obtained this information from survey responses. The table below shows the income statement effects of marking to market derivatives of the participating companies. The total P&L effect for nondesignated instruments is a net amount, as some derivatives that were not in hedge accounting relationships were out of the money. Fitch noted that in no case did companies provide roll-forward information for their derivatives balance sheet positions. Therefore, it is difficult to determine with certainty from current disclosure the effect of derivatives mark-to-market adjustments on income.

## Aggregate Profit and Loss Effects of Marking Derivatives to Market\*

(Year Ended Dec. 31, 2003)

Item	Amount Included in Income (US\$000)
Hedge Ineffectiveness	439,794
P&L Effect of Nondesignated Derivatives	1,242,935

\*For companies in representative survey. P&L – Profit and loss.

The largest P&L impact was that of Ford Motor Co., which had gains of US\$2.9 billion from nondesignated derivatives. Fitch noted that this amount included results from Ford's finance subsidiary. Ford included this disclosure in its annual report. Also notable was Liberty Media Corp.'s US\$650 million loss from derivatives. Ford also had the largest P&L gain for hedge ineffectiveness: nearly US\$600 million. Ford's total P&L from derivatives mark-to-market adjustments was US\$3.5 billion, or approximately 14% of EBITDA.

## ■ Hedge Accounting Impact on Ratios

Accounting principles for derivatives can lead to poor comparability, both between periods and across companies. This is not solely attributable to P&L volatility arising from mark-to-market valuation adjustments for nondesignated derivatives and hedge ineffectiveness. In addition, financial ratios can be distorted by the effects of hedge accounting due to the potential balance sheet volatility alluded to previously. Aware of these potential distortions, Fitch analysts try to ensure that they have sufficient information to consider whether it is appropriate to remove the effects of hedge accounting from balance sheet accounts. The examples that follow highlight some of the ways in which hedge accounting can affect credit analysis.

### Fair Value Hedge of Fixed-Rate Debt

Fair value hedges on fixed-rate debt are the most common type of hedge in the study and are typically accomplished through receive-fixed, pay-variable interest rate swaps. Proceeds from the receive portion of the swap are passed through to the bondholder, converting the debt to variable rate. While this allows the company to benefit from falling interest rates, it also implicitly means there is a willingness to assume greater exposure to rising interest rates at a time when rates are at or near historical lows. Many observers, including Fitch, are predicting relatively sharp interest rate rises over the next two years.

Because interest rates generally fell over the period from Jan. 1, 2001–Dec. 31, 2003, receive-fixed swaps identified in the survey tended to have positive fair values. Fair value hedges also affect reported debt. The offset to the fair value gain on these derivative contracts is an upward adjustment to reported debt (the FAS 133/IAS 39 adjustment). As shown in table at the top of page 5, at Dec. 31, 2003, the SFAS 133 adjustment for fair value hedges was a positive US\$2.4 billion, having the effect of increasing the aggregate debt by US\$2.4 billion on the balance sheets

### Example 1 — Fair Value Hedge Effect on Debt Ratios

The total amortized cost of IBM Corp.'s debt at Dec. 31, 2003 was US\$22.826 billion. The Statement of Financial Accounting Standards (SFAS) No. 133 adjustment had the effect of increasing debt on the balance sheet by US\$806 million. The ratio of total debt to earnings before interest, taxes, depreciation, and amortization (EBITDA), including the SFAS 133 adjustment, is (rounded to one decimal place):

$$\text{US\$23,632,000,000} / \text{US\$15,967,000,000} = 1.5$$

However, when the effect of hedge accounting is removed, the ratio is:

$$\text{US\$22,826,000,000} / \text{US\$15,967,000,000} = 1.4$$

Including the effect of hedge accounting for IBM in the form of the SFAS 133 adjustment results in a higher leverage ratio solely due to the market value of the fair value hedges. However, if, hypothetically, the SFAS 133 adjustment were to reverse due to rising interest rates, the SFAS 133 adjustment could rapidly shift from having the effect of increasing debt to that of decreasing debt. In the latter scenario, the effect would be to artificially improve unadjusted debt ratios.

of companies in the representative survey. The example in the box above demonstrates the effect of the SFAS 133 adjustment for fair value hedges on debt ratios.

### Cash Flow Hedges for Commodities

Survey participant Amerada Hess Corp. uses forward-settled commodity contracts and commodity swaps to hedge future cash flows. When these out-of-the-money derivative positions are marked to market, the offsetting debit or credit is booked to AOCI, a component of equity, rather than to expenses (*see Example 2 on page 7*).

The examples in the boxes above and at the top left of page 7 demonstrate the somewhat counterintuitive nature of the interaction between hedge accounting and credit analysis. In the case of Example 1, IBM Corp. has benefited from low interest rates, which have put its receive-fixed swaps in the money. However, the hedge accounting procedure has created phantom debt, which makes it appear as if IBM has more leverage. In Example 2, Amerada Hess has entered into derivatives contracts that are out of the money, making it appear to be more highly leveraged

## **Example 2 — Cash Flow Hedge Effect on Equity Ratios**

This example shows a company in a cumulative loss position with respect to its cash flow hedges. Amerada Hess Corp. had shareholder's equity of US\$5.34 billion at Dec. 31, 2003. However, accumulated other comprehensive income (AOCI) from cash flow hedges showed a loss of US\$357 million, or 7% of total equity. Amerada Hess's ratio of total debt to book equity, including the effects of hedge accounting, is:

$$\text{US\$3,941,000,000} / \text{US\$5,340,000,000} = 0.74$$

However, when the effect of hedge accounting is removed, the ratio is:

$$\text{US\$3,941,000,000} / \text{US\$5,697,000,000} = 0.69$$

Removing the hedge accounting adjustment causes debt to equity to fall by 7%. In contrast to Example 1, debt is not affected at all, but total equity decreases. The impact on financial ratios can be substantial — when the effects of hedge accounting are included, IBM Corp.'s reported debt is higher, whereas Amerada Hess's debt is unchanged but its leverage as measured by the ratio of debt to equity is higher.

as well. In fact, Amerada Hess has lowered its risk by locking in future costs. In summary, hedge accounting effectively neutralizes artificial income statement volatility that would otherwise be caused by marking the derivatives to market, but does so by shifting that volatility onto the balance sheet. The effects of this shift on credit ratios must be analyzed carefully.

## **Mark-to-Market Accounting Affects Certain Equity Derivatives**

In another example of how mark-to-market accounting can affect financial statements, certain companies use equity derivatives to hedge and monetize equity positions they hold in publicly traded companies. This is particularly prevalent in the cable and media sector, where companies have received publicly traded shares as part of strategic mergers and acquisitions. Marking to market of equity derivatives under SFAS 133 can create large swings in reported debt, as well as income, as shown in Example 3 above right.

## **The Case for Removing the Effect of Material Hedge Accounting Adjustments**

Examples 1, 2, and 3 focus on the effects of mark-to-market derivatives adjustments. In the case of hedge

## **Example 3 — Embedded Equity Derivatives Without Hedge Accounting**

In 2002, Cox Communications, Inc. disclosed in its derivative footnote that “cumulative derivative adjustments ... which are classified as components of debt ... reduced reported indebtedness by approximately USD1.4 billion.” This adjustment, which resulted from a mark-to-market gain on its embedded put option positions on the shares of another company, corresponded to a 17% reduction in reported debt. Conversely, in 2003, Liberty Media Corp.'s reported debt actually increased by about US\$900 million as embedded equity derivatives incurred a mark-to-market loss.

The effect of swings in the fair value of the embedded put options on income and debt is not due to hedge accounting, which is not applied to these equity forward contracts. Instead, it is the result of the bifurcation and netting of the embedded put options. The effect is unlike that of the fair value hedge example given for IBM Corp., where a mark-to-market gain on the hedge resulted in an increase in balance sheet debt. Moreover, there can be wide disparities in the income effect, with some companies offsetting in the income statement the mark-to-market loss on the derivative with a gain in the equity holdings. Others may only recognize in income the gain or loss related to the derivative, while the equity position is classified as available for sale (meaning that the gain/loss goes to equity).

accounting adjustments, as illustrated in Examples 1 and 2, it may be appropriate to remove the adjustments when calculating ratios. This is because the mark-to-market adjustments have no real effect on the amount of debt or equity, but are merely accounting entries to offset movements in the fair value of the derivative hedge. As the derivative and the hedged item move toward maturity, cash settlements, combined with time decay, will reduce the value of the derivative to zero as the fair value of the hedged item converges with its amortized cost. Fitch analysts assess the effects of derivative settlements on income and cash flows.

In situations like those described in Example 3, where hedge accounting does not apply, it is generally appropriate to consider the debt net of the embedded derivative, provided there are no restrictions on the shares in question.

Accounting standard-setters continue to layer accruals onto the income recognition model, with hedge accounting another example. While this may be entirely appropriate for purposes of income determination, it has made the use of EBITDA as a cash flow proxy unwieldy. This is certainly the case when SFAS 133 and IFRS are applied, which may create unrealized mark-to-market gains and losses that should be adjusted out of EBITDA to obtain a closer approximation of cash flow. However, in many cases this may be impossible, as the amounts are not disclosed. For these reasons, cash flow from operations measures are generally preferable.

In summary, analysts should deconstruct the often complicated effects of derivative accounting to normalize the impact on reported financial results and ratios. In order to make necessary adjustments to remove the effects of hedge accounting, it is necessary that companies provide adequate disclosure of derivative positions (notional and mark-to-market value), realized and unrealized gains and losses taken through income, and gains and losses offset through hedge accounting. As further discussed in the following section, disclosure of key derivative and hedge accounting measures in publicly filed financial statements is inconsistent and often incomplete.

## ■ Disclosure: In Search of Consistency

As noted, disclosures in publicly available financial statements are varied. The table above right gives the percentages of survey participants that presented derivatives on the face of their financial statements and reported the P&L effects of hedge ineffectiveness. Fitch was able to obtain much of the data in this report only from survey responses. The level and quality of current disclosure often make it impossible to obtain even basic information from publicly available documents.

## Key Disclosures in Publicly Filed Financial Statements

The items that follow are not required disclosures, but as is apparent from the survey, many of these items are disclosed on a more or less random basis:

- **Use of the shortcut method** — All but one of the study participants made some general reference to hedge effectiveness testing, usually in their accounting policy footnotes. However, only 18, or 32%, specifically disclosed that they used the shortcut method for plain-vanilla interest rate swaps. Given that more than 60% use some form

## Financial Statement Presentation\*

(%)

	Yes	No
Derivatives Presented on Balance Sheet	8	92
Derivatives Presented on Income Statement	2	98
Hedge Ineffectiveness Reported	63	37

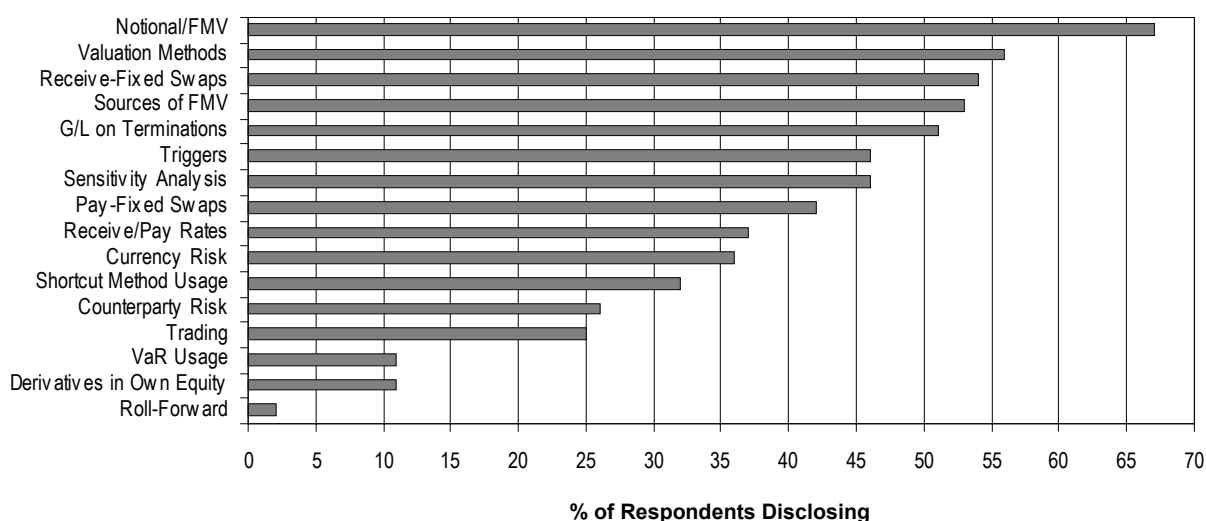
\*For companies in representative survey.

of plain-vanilla swap, use of the shortcut method would appear to be underreported. This can be a high-risk area, if material, as evidenced by the situation at Fannie Mae and others. Companies should disclose their methods for determining effectiveness and the specific types of derivatives to which each method is applied.

- **Receive-fixed swaps** — Of the participants, 54% disclosed the use of receive-fixed swaps to manage interest rate risk. Total notional amount of these swaps was US\$65.7 billion. Interestingly, not all of the companies that disclosed receive-fixed swaps also disclosed SFAS 133 adjustments (e.g. upward or downward adjustments to reported debt). Given that the receive-fixed swaps were used almost exclusively as fair value hedges of fixed-rate debt, it would appear that there are undisclosed SFAS 133 adjustments. As seen in Example 1 on page 6, this can be an important disclosure.
- **Pay-fixed swaps** — Of the participants, 42% disclosed the use of pay-fixed swaps. Total notional amount was US\$71 billion. In all but two cases, these swaps were used as cash flow hedges. Two aerospace/defense companies used pay-fixed swaps as fair value hedges of notes receivable. Given that all but one company in the survey reported AOCI related to cash flow hedges, it is likely that the use of pay-fixed swaps is also underreported.
- **Receive/pay rates** — Of the participants, 37% disclosed receive and pay rates on swaps. This disclosure allows the financial statement user to determine the differential, or spread, that determines the mark-to-market valuations and settlement amounts due or payable.
- **Notional/fair market value** — Fitch believes it is important for companies that use derivatives to disclose both the notional and fair values of all derivatives. Of the study participants, 67% made these disclosures.
- **Gain/loss on derivatives terminations** — Of the study participants, 51% disclosed the amounts related to gain and/or loss on early termination of



## Key Disclosures in Publicly Filed Financial Statements\*



\*For companies in representative survey. FMV – Fair market value. G/L – Gain/loss. VaR – Value at risk.

derivatives contracts, as well as which line items were affected on the income statement.

- **Disclosure of risk related to specific currencies** — Of the participants, 36% disclosed risk to specific currencies and 47% reported using foreign currency derivatives but did not disclose specific exposures. The remaining 17% had no currency risk.
- **Disclosure of methods and sources of derivatives valuation** — On the critical issue of valuation, only 56% of participants disclosed information regarding their methods of determining values. All but two of the companies that disclosed valuation methods also gave the sources of those values and the percentage of fair value derived from each source (i.e. active market quotations or models with or without market inputs).
- **Usage of value at risk (VaR) or another portfolio risk measurement tool** — Of the participants, 11% disclosed that they use VaR or another tool and 7% told Fitch they use VaR but do not disclose it.
- **Sensitivity analysis** — Of the participants, 46% included some type of sensitivity analysis for the effects of changes in interest rates, currency rates, and/or commodities prices on the fair value of derivatives. Typically, however, these analyses were selective and did not give a complete picture of risk tolerances and sensitivity to changing economic factors.
- **Roll-forward of derivatives fair values** — Fitch believes this would be a valuable disclosure for

all companies that have derivative positions (*see table on page 10 for suggested disclosure*). However, only one survey participant had any such disclosure, KeySpan Corp., a utility.

- **Derivative positions in own equity** — Of the study participants, 11% disclosed that they have derivatives in their own equity, in the form of forward-purchase or sale agreements. Also, as discussed in Example 3 on page 7, several of the cable and media companies surveyed have embedded derivatives, typically a combination of put and call options embedded in their own debt instruments, on the equity of other companies.
- **Derivatives trading books** — Of the companies in the study, 25% had some level of derivatives trading activity. However, virtually all of these companies were in either the power industry (71% of these companies have trading books) or the oil industry (80% of these participants have trading books).
- **Counterparty credit risk** — Only 26% of participants gave detailed information regarding counterparty credit risk. This information was typically expressed as the amount of fair value of derivatives by rating category.
- **Triggers** — Rating triggers in derivatives agreements were generally in the form of material adverse change clauses, which would become effective upon one of the parties falling below investment grade. Fitch determined from survey responses that 46% of participating companies have such triggers, but very few companies

## Example of Derivatives Roll-Forward\*

	Beginning Balance	Additions	Maturities/ Terminations	Mark to Market**	Settlements†	Ending Balance
<b>Fair Value Hedges</b>						
Receive-Fixed Swaps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Pay-Fixed Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Swaptions	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Rate Caps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Basis Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Other	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
<b>Cash Flow Hedges</b>						
Receive-Fixed Swaps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Pay-Fixed Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Swaptions	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Rate Caps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Basis Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Other	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
<b>Nondesignated Derivatives</b>						
Receive-Fixed Swaps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Pay-Fixed Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Swaptions	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Rate Caps	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
Basis Swaps	xxx,xxx	xx	(xxx)	(xxx)	(x,xxx)	xx,xxx
Other	xxx,xxx	xx	(xxx)	xxx	(x,xxx)	xx,xxx
<b>Total</b>	<b>xx,xxx,xxx,xxx</b>	<b>x,xxx,xxx</b>	<b>(xx,xxx)</b>	<b>xx,xxx</b>	<b>(x,xxx,xxx)</b>	<b>xx,xxx,xxx</b>

\*x's represent hypothetical amounts. \*\*Marking to market is the effect of changing market values during the period; this should agree with the income statement. †Settlements are actual cash receipts or payments per derivatives contracts; this should agree with the cash flow statement.

disclosed the existence of these triggers in their publicly filed financial statements or the potential liquidity impact.

Fitch believes that disclosure of derivatives must be improved substantially in order to achieve an acceptable level of transparency on which to base meaningful credit analysis. Without this, analysts and other market participants will face a daunting task in understanding the risks associated with derivatives and their effects on financial statements. Companies should move beyond current, bare-bones disclosure requirements and incorporate the disclosures described in this section.

Fitch suggests a roll-forward of the fair value balance sheet amounts for derivative positions. This roll-forward could be presented in a fashion similar to the table above, by product type (the example shows only interest rate derivatives, but similar disclosure could be provided for other types of derivatives). In addition, the mark-to-market effects for fair value hedges, cash flow hedges, and nondesignated derivatives should be quantified with respect to quoted market prices, models with market inputs, and pure estimates. This would give the user much higher

quality information about the objectivity of both hedge accounting deferrals and mark-to-market/mark-to-model amounts included in P&L. Further, a similar roll-forward could also be provided for notional amounts. Recommended disclosures for derivatives based on the survey are summarized in the box on page 11.

### ■ IFRS versus U.S. GAAP Disclosure Requirements

If derivatives disclosure is currently unclear for U.S. companies, it is close to opaque for many companies outside the U.S., reporting under GAAP regimes that have not yet attempted to implement hedge accounting requirements. Almost all the non-U.S. companies in Fitch's survey either report under U.S. GAAP or reconcile to U.S. GAAP for SEC reporting. Fitch will produce a report early in 2005 that looks at how derivatives have been reported by European companies under local GAAP to date and the agency's expectations of the additional transparency and potential volatility that the switch to IFRS will bring.

While the measurement requirements for derivatives under IAS 39 effectively mirror those in U.S. GAAP,

## Recommended Disclosures for Derivatives

### Risk Management

- Risk management philosophy and risk limits.
- Counterparty exposures and limits.
- Clear relationship of hedges to underlying exposures.
- Sensitivity to economic variables — before and after hedges.
- Key valuation methods and assumptions.
- Tenor of hedges.
- Impact on reported financial results — realized versus unrealized gains.

### Interest Rate Hedges

- Notional and market-to-market amounts.
- Breakdown of pay- versus receive-fixed swaps.
- Average rates paid and received.
- Impact of debt repricing profile.
- Runoff schedule.
- Sensitivity or scenario analysis.

### Foreign Currency

- Primary sources and amounts of foreign exchange exposure.
- Major currencies.
- Percentage of exposure hedged.
- Tenor of hedge.
- Sensitivity or scenario analysis.

### Equity Hedges and Forward Positions

- Breakdown of equity exposures.
- Hedge notional and mark-to-market amounts.
- Unhedged components.
- Size of forward/put positions on own shares.
- Scenario analysis.

### Commodities

- Notional and fair value amounts.
- Projected runoff.
- Effects on reported balance sheet and income statement amounts.

there are two important differences with regard to hedge accounting. The shortcut method is not permitted under IFRS, so that hedge effectiveness has to be demonstrated for even the simplest hedging transactions, and IFRS allows portfolio (or macro) hedging, provided effectiveness can be demonstrated, which U.S. GAAP does not.

Disclosure and presentation requirements for financial instruments under IFRS, currently included in IAS 32, are more comprehensive than those under SFAS 133, which will likely mean that the disclosure provided by European companies and others reporting under IFRS in the future will be more helpful than that currently given under U.S. GAAP. This is, of course, assuming that the standards are appropriately applied. Furthermore, the International Accounting Standards Board is currently reviewing an exposure draft on disclosure of financial instruments that will go even further in providing users of the accounts with the information they need to assess the derivatives risk a company is taking, both from a quantitative and a qualitative perspective.

## ■ Reporting Risk Associated with Hedge Accounting

Allegations of improper hedge accounting have generated headlines recently. Perhaps this should not

be surprising in the wake of the implementation of SFAS 133 in 2001 — arguably the most difficult transition to a new accounting standard in history (at least prior to the impending conversion of European companies to IFRS). Several large organizations that are major derivatives users have been accused of running afoul of the requirements for establishing and documenting hedge effectiveness. These allegations have targeted some large corporations and financial institutions, including:

- **Fannie Mae** — A recent report by the Office of Federal Housing Enterprise Oversight accused Fannie Mae of improperly applying the shortcut method for plain-vanilla interest rate swaps to derivatives other than plain-vanilla interest rate swaps. Further, the report cited misuse of the “matched-terms” method in SFAS 133, which requires periodic monitoring. If correct, Fannie Mae could have to reclassify a substantial portion of its US\$12 billion in liabilities associated with cash flow hedges from AOCI to retained earnings. This would have a material effect on Fannie Mae’s capital, as AOCI for cash flow hedges is not included in regulatory capital calculations. Fannie Mae has agreed to increase its capital substantially. Due to Fannie Mae’s previously unforeseen short-term capital requirements, Fitch recently downgraded Fannie Mae’s non-government-sponsored enterprise debt.

- **El Paso Corp.** — The company discovered during 2004 that certain of its cash flow hedges related to pipeline capacity and anticipated production of natural gas did not qualify for hedge accounting. In these transactions, certain El Paso pipeline and production subsidiaries entered into derivative hedging transactions with El Paso's merchant energy segment, which then entered into hedging transactions with third parties. This would have been acceptable, except that the merchant energy segment then entered into separate, offsetting transactions that were accounted for separately. El Paso determined that the third-party hedging transactions and the offsetting transactions should not have been accounted for separately, and as a result, it was not able to apply hedge accounting. The result was a total adjustment to net income of US\$700 million.
- **Freddie Mac** — In its implementation of SFAS 133, Freddie Mac initiated a series of complex transactions designed to defer a large transition gain. Freddie Mac restated its earnings by more than US\$5 billion.
- **Shurgard Storage Centers, Inc.** — In May 2003, Shurgard announced it would restate its income for 2001 and 2002. Shurgard entered into interest rate swaps in 2001 to reduce its exposure to interest rate volatility and hedge its tax retention operating leases. According to Shurgard press releases, the company had worked with derivatives experts in designing the transactions and reviewed the transactions with derivatives experts from its audit firm prior to executing the swaps. During 2003, the company's auditors changed their position with respect to the propriety of hedge accounting. This case demonstrates that even if advice is obtained from experts, hedge accounting risk is difficult to eliminate.

What is especially worrisome about these restatements is that, with the possible exception of El Paso's, the entirety of the hedge accounting issues had apparently been blessed by the companies' auditors. This raises the question as to whether these types of problems are more widespread, as accounting firms' interpretations of principles are usually highly consistent, at least within each firm. This could be a problem for certain organizations, causing them to restate financial results. However, erroneous hedge accounting by corporate entities should not, in and of itself, give rise to major credit events, because the effects of hedge accounting should have been removed in the analytical process. In contrast, failed hedge accounting at financial institutions could lead to rating actions, because it

often affects regulatory capital, and restatement could give rise to the need for additional capital.

### ■ **Speculation Not Widespread, but ...**

Fitch did not find indications that study participants are surreptitiously speculating on interest rates, foreign currencies, or commodities prices. From that perspective, SFAS 133 seems to have been effective at curbing some abuses. That said, some participants are actively involved in trading derivatives.

### **Commodities Trading and Price Risk Management in the Power Industry**

Power companies have had extensive experience in the use of derivatives over the past several decades. With deregulation and the development of active energy trading markets, many power companies developed proprietary trading operations that allowed them to speculate on derivatives above and beyond what was necessary to hedge their own production and purchasing. However, since the Enron debacle and the resulting changes to accounting rules governing energy contracts, many of these companies have either disbanded or sold their trading functions. In some cases, a runoff book remains of energy trading contracts that are in the process of winding down.

Utilities traditionally have used derivatives to hedge pricing exposures within regulated business lines. In these cases, associated gains and losses are recorded as regulatory assets and liabilities, as required by SFAS 71, Accounting for the Effects of Certain Types of Regulation. Many power companies continue to trade energy derivatives, but this trading has been reduced substantially and is often restricted to that necessary to support generating activities through asset optimization and risk management. Only three of the 14 power companies in Fitch's survey disclosed the proportion of their energy derivatives related to regulated businesses. However, for those three, the average proportion of energy derivatives included in regulatory assets and liabilities was 93%.

As noted, power companies engaged in energy contract trading extensively in the past. However, these activities have been curtailed heavily since the Financial Accounting Standards Board's Emerging Issues Task Force (EITF) issued EITF 02-3, which prohibits mark-to-market accounting on nonderivative energy contracts. Formerly, nonderivative energy trading contracts were marked to market pursuant to EITF 98-10. The upshot of this is that, while speculation in energy contracts is reduced, many contracts formerly marked

to market are now carried at historical cost, which may make it more difficult to assess risk with respect to these contracts. Of the 14 utilities that participated in the survey, 10 are still involved in some level of proprietary energy trading activity.

## **Commodities Trading and Price Risk Management in the Oil Industry**

Similar to power companies, the oil industry has had extensive experience in the use of derivatives over the past several decades. The four U.S. domiciled companies (of five total) surveyed had trading operations in addition to using derivatives for risk management. Nontrading activities typically include hedging of crude oil and natural gas production.

Oil companies actively market natural gas, crude oil, and other products to customers at competitive prices. Their knowledge of the market gained through this marketing effort is useful for speculating on the prices of their own commodities. As a result, oil companies may engage in trading activities for the purpose of generating profit from exposure to changes in the market prices of these products. Typically, an oil company's trading risk position will be net short the commodity, offset by the company's natural long position as a producer.

The speculation on and trading of commodities create mark-to-market income for these oil companies, which can cause short-term volatility in their income statements. In addition, these companies are exposed to counterparty credit risk. However, for the four companies actively trading commodities for profit,

most strategies are described as "small-scale," and gains and losses are small or immaterial to overall results. Analysts should continue to monitor the trading activities and the overall risk management strategies of oil companies to ensure that risk is properly assessed and monitored.

## **■ Conclusion**

SFAS 133 has been effective only since 2001, a period in which interest rates have been relatively flat. As of the end of 2003, gross assets and liabilities resulting from derivative mark-to-market adjustments for companies included in the study were significant. Fitch believes that significant volatility in interest rates, currency exchange rates, and/or commodity prices could result in significant shifts in derivative valuations, which in turn could create income volatility and affect certain key credit ratios. Fitch has forecast that the U.S. federal funds rate will increase to 4% by 2006, an increase of 167% over roughly the next 12–24 months.

Even in cases where hedge accounting has been properly applied and there is no risk of restatement, effective hedges can affect key credit ratios, as shown in the examples in this report. The magnitude of these distortions will likely increase with an uptick in market volatility. Further, if certain companies choose not to designate derivative hedges due to these difficulties, it will be more difficult to ascertain whether derivatives are being used for risk management or speculation.

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