



1996

Accounting For Derivatives

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Accounting For Derivatives

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Fall Semester, 1995

December 8, 1995

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Introduction

With the advances in technology the world continues to move at a quicker pace and the financial world is no exception. Financial markets are quickly becoming more intertwined as governments cooperate on many economic issues and currencies flow across the globe in increasing amounts as businesses continue to expand into new foreign markets. These and other factors equate into a situation where a change in interest rates in Europe, for example, has major consequences in America in minutes. At the same time, technology also has enabled the creation of new financial instruments called derivatives to manage these new risks that companies face. Derivatives are financial instruments whose value is derived from an underlying asset (stocks), indicator (interest rates), or index (S&P 500).

Also because of advances in technology, the collection of information has become more cost efficient, and investors and creditors are demanding more timely information while government regulators are requiring more accuracy about the activities of corporations. This is especially true where new financial instruments are involved. In the past the current disclosure expectations of financial statement users would not have been realistic and probably would not have met cost-benefit tests. However, the information technology now available has made investors' and regulators' desires possible and cost efficient.

The most important issue, then, is when generally accepted accounting principles (GAAP) will close the gap between what companies currently disclose and what investors, creditors, and regulators need to make informed decisions. In a speech at the beginning of the year, acting SEC commissioner Steven Wallman addressed this issue when he said, "I am concerned...financial accounting and disclosure may be falling further behind, instead of catching up to, the rapid changes in the business world" (Wallman 1995).

Others in the accounting and financial world also are wondering about the adequacy and usefulness of current disclosure requirements in financial

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statements. In a recent study published in The Ohio CPA Journal, 1300
Chartered Financial Analysts in the United States were asked to evaluate the
adequacy of the information disclosed in annual reports for investment
decisions (Streuly 1994). A large percentage, 44%, of the respondents said
that annual reports should have more information disclosed.

Another report, this time from the Jenkins Committee, an American
Institute for Certified Public Accountants (AICPA) Special Committee on
Financial Reporting, addressed the issue of usefulness. As reported in a
recent issue of the Financial Accounting Standards Board's (FASB) Status
Report, "One of the Jenkins Report's recommendations states that 'standard
setters and regulators should expand their efforts to eliminate disclosures
that are less useful' (Hepp 1995)." Ironically, when the committee went
looking for specific examples of "less useful" disclosures, it couldn't name
even one. However, the Jenkins Committee suggested six areas where more or
improved information should be included. Two of those areas mentioned were
Innovative Financial Instruments and Off-Balance-Sheet Financing, both of
which incorporate the area of derivatives.

This paper will address the issue of disclosure concerning the deriva-
tive acitivities of publicly traded companies. The paper will begin by
explaining the basics of derivatives and proceed to explain the current
requirements in place to date. It will also detail the current developments
of proposed new regulations for derivative activities. Then, the paper will
present the results of how a sample of publicly traded companies currently
account for and report their derivative positions in the financial statements.
Finally, I will propose new requirements to account for and report derivatives
in the financial statements. These requirements will combine ideas already
proposed by some in the accounting profession, some current practices, and
some original ideas to form a new set of standards in this area of accounting.

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Origins of Growth in the Derivatives Market

As explained earlier, derivatives are financial instruments whose value is derived from an underlying asset, indicator, or index. The three basic types of derivative are options, futures, and swaps. All derivatives created fall under one of those categories or a combination of them. Derivatives have grabbed attention because of their unique nature in that, unlike most financial instruments, derivatives are usually off-balance sheet in nature. Also, users of derivatives can be classified into one of three categories - dealers who trade for revenue, hedgers who trade for stability, and speculators who trade for profit.

The creation of these instruments resulted from the increased price volatility of commodities, interest rates, and currency rates starting in the early 1970's. In 1973 President Nixon dissolved the international fixed-exchange-rate system known as the Bretton Woods agreement which priced the world's currencies in terms of the U.S. dollar and the price of gold. As one author states, "The price rules of Bretton Woods, which once dictated monetary policy for the world's major countries, were eliminated, leaving governments free to pursue divergent monetary policies" (Smith 1990).

These divergent monetary policies caused wild fluctuations in exchange rates and created risks never encountered in the currency markets. A few years later interest rates also became less stable. The change in interest rate volatility can be traced to a dramatic shift in monetary policy of the Federal Reserve Board. In October 1979 the new chairman, Paul Volker, established money supply targeting instead of interest rate targeting which was pursued by the previous chairman (Smith 1990). This strategy effectively attacked the high inflation problem in the U.S. while producing the greatest interest rate volatility in the nation's history.

The financial community responded to these new business risks by creating instruments that transfer these risks to third parties willing to assume them. At their most simplistic level, then, derivatives are tools for

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managing financial risk. At the same time, they allow speculators, who are willing to assume the risk others seek to transfer, to have highly leveraged positions in a wide variety of markets, providing potential rates of return usually unavailable with traditional investments such as stocks and bonds.

Examples of Derivative Usage

Options

An option provides the best example of a derivative that gives an investor the opportunity to realize a higher rate of return than simply investing in the underlying asset. An option gives the holder the right, but not the obligation, to buy or sell an underlying asset such as a stock. By purchasing a call option (the right to buy), the holder has limited the risk of adverse price changes in the underlying asset to the cost of the option. At the same time, the holder has the opportunity to experience unlimited profits from positive movements in the price of the underlying at a fraction of the price.

A business may purchase options for a variety of reasons. A company may purchase them to optimize the benefit of the cash available for the treasury department to invest. With options, a relatively small investment can produce huge profits. A company may also purchase options to hedge certain business risks such as the value of its stock portfolio dropping in value. By buying a put option (the right to sell) on an index such as the S&P 500, a company can protect its portfolio if the stock market drops unexpectedly. If the stock market falls, the company would simply sell the put option before it expires and realize a gain which offsets the unrealized loss on its stock portfolio.

Futures

Derivative instruments can also be employed by a company to manage a known price risk. Suppose there is a company that is a growing firm with operations in many foreign countries. It has a plant in Ohio which purchases

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raw materials from Mexico for the production of goods to be sold domestically. The company anticipates needing more raw materials in about 3 months. Furthermore, the company must pay for the raw materials in pesos. Under current conditions the dollar is relatively strong compared to the peso, so the materials are relatively cheap.

If the company purchases the materials now, it will receive a good deal. However, the company does not want to tie up a great deal of cash in inventory that will be sitting for months. On the other hand, management believes the Mexican economy will begin to pick up next quarter. This means the dollar will lose some of its value and make the raw materials more expensive if purchased three months later. To solve this problem the company can buy a currency forward (future) that 'locks in' the current price while only requiring a fraction of the cash. This derivative contract effectively transfers the exchange rate risk from the company and some third party who is willing to accept the risk.

Swaps

The final basic derivative instrument is a swap. Companies use swaps primarily to manage interest rate risk associated with their debt instruments. By using an interest rate swap, a company can change the nature of its debt. If a company mainly borrows through variable-rate debt, it is subject to the risk that interest rates could rise which in turn would increase the company's interest expense. To protect itself against this possibility, the company could engage in an interest rate swap agreement with another party willing to accept the risk that interest rates might rise. In the arrangement the company would agree to pay a fixed rate on some notional amount (usually the amount of the company's actual debt) and receive a floating rate, based on the same notional amount, from the counterparty.

While all of these strategies allow a company to reduce the risk from adverse changes in stock, bond, or currency markets, each has a potential downside if the markets move in opposite directions than assumed in the previous examples. For options the potential loss is limited to the cost of

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the option. (For simplicity, assume companies do not use options for trading purposes in which case potential losses may not be limited.)

Unlike options, futures obligate a company to engage in a financial transaction, so the potential downside of this risk management strategy is different. The potential loss is that a company forgoes any profit from a positive move in the price of the hedged item. A hedged item is the object that exposes a company to a risk which it does not want to assume. A more detailed explanation of hedging and the terms associated with hedging will follow later.

Of all the risk management tools, swaps present the greatest risk of loss if interest rates move in the opposite direction a company anticipates. If, for example, a company effectively exchanges fixed payments for variable payments with a swap, the company exposes itself to the risk that interest rates could rise. In that situation the company would pay more in interest cost than if it had never entered into a swap agreement. If interest rates move dramatically in a relatively short amount of time, a company can experience huge losses. To help avoid this risk, companies can buy interest rate caps or floors which confine a company's liability within a predetermined range of interest rates. Of course these types of derivatives have much higher premiums than a basic swap. If interest rates remain stable over the life of an interest rate floor, cap, or collar (a combinations of a cap and a floor), the company spent unnecessary amounts of money.

While the terminology and the complexity of these instruments can get more exotic, the basics never change. By firmly understanding them and gradually proceeding in degree of difficulty, one can be confident when confronted with the flood of derivative jargon and news disseminating from all sources in and out of the financial world.

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The Mainstream Media's Point of View

Besides attracting the attention of the accounting profession, derivatives have also been the focus of the mainstream press. The complexities that this issue sometimes offers can make the topic difficult for even the best reporters, let alone their readers to grasp. At the same time, the high-profile dealers and end-users involved in these highly leveraged financial instruments provide stories that are too good not to be reported. The challenge is to balance the exotic nature of this area in finance with the pertinent information necessary to report the story. Since most of the public does not subscribe to accounting journals, the mainstream press has had a major influence on the public's discourse about derivatives. Unfortunately, most articles have often confused and scared the public more than educated it.

The public only first began to hear of these financial instruments when a few corporations reported losing tens of millions in the derivatives market. Events at companies like Procter & Gamble and Gibson Greetings have become synonymous with the public's impression of the results a company sees when it uses derivatives. Likewise, with the recent developments reported by Business Week in the lawsuit between Procter & Gamble and Bankers Trust, the entire securities industry is seen as nothing more than a predator looking to devour its next victim.

In the latest turn of events in this lawsuit, Procter & Gamble has added RICO (racketeer-influenced and corrupt organization) charges to the list of allegations against Bankers Trust (Holland 1995). The initial charges in the lawsuit claimed Bankers Trust misled P&G about the risks of the derivatives the company was using. In 1994 the company lost a total of \$157 million due to trading losses in leveraged currency swaps (Pare 1994). Now the company has evidence that it is not the only company that was a victim of fraud by Bankers Trust. In excerpts published by Business Week, the evidence reveals a dark side in the derivatives trading division of Bankers Trust.

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Equally troubling, for those who have seen and know the positive impacts derivatives have had for so many companies, is the lack of effort most of the media have displayed in explaining what derivatives really are and what they do for a company. The best example of this ineptness by the media was demonstrated on a March 1995 show of "60 Minutes" where the reporter covering the story said, "No matter how hard we try to explain it or who we bring in to do it, chances are you will never understand these things" (Knecht 1995).

Other articles such as a Fortune article entitled "The Risk That Won't Go Away" strike more fear than understanding of derivatives in the reader. At one point in the article, the author details a scenario where a "major dealer (presumably in the U.S.) must default on all its contracts which in turn starts a chain reaction that brings down other financial institutions and sends fear throughout the financial markets" (Loomis 1994). While this scenario is highly improbable, the article successfully sent fear into many people, including a number of Congressmen who used the article as proof that more regulation is necessary and derivatives are inherently bad (Loomis 5/95).

In fairness, one must concede that there will be dealers who are involved in fraud and who will lead some corporations down the wrong path, but that is a risk involved in any transaction and not solely relegated to derivatives trading. Our courts have the responsibility to handle those issues. Also, some articles have shed positive light on derivatives and have expounded their usefulness. Other articles have pointed out the real culprits usually behind the massive derivative losses - poor management. One article addressed the growing trend of stockholders suing management when heavy losses are incurred using derivatives. In an ironic twist, it is the comments by executives who claim "they weren't sophisticated enough to buy Wall Street's latest products which invite stockholder lawsuits. In the lawsuits stockholders are arguing management violated its fiduciary responsibility to holders by using financial instruments that they did not understand" (Knecht

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1994). More balanced discussions and analyses like these are needed to educated the public about the true positive and negative aspects of derivatives.

Regulation of Derivative Activities

As briefly mentioned earlier, there has been a major push for more regulation and disclosure for these complicated financial instruments. At the end of 1993, the SEC's commissioner at the time, J. Beese, identified derivative risk as an area of "critical SEC concern" (Everdam 1993). At that time he was calling for marked-to-market accounting and "reporting those changes with normal financial reporting cycles rather than reporting it as a footnote annually" (Everdam 1995). Marked-to-market accounting is a method of accounting for assets and liabilities where unrealized gains and losses are recognized in current income. In the same speech the commissioner also placed the burden of responsibility for derivative activities with a corporation's board of directors.

The cry for more regulation continued to gain strength with a General Accounting Office report on derivatives in 1994. The report strongly urged Congress to "strengthen regulatory oversight of derivatives" and require "more transparent data-disclosure procedures" ("GAO Release..." 1994). While this report mainly concerned the activities of securities firms and insurance companies, it had ramifications throughout the world of derivatives.

By the beginning of 1995, traders, dealers, and end-users of derivatives were receiving mixed signals. In a hearing before the Senate Banking Committee, the heads of all the major government regulators, including the SEC, the CFTC and the Federal Reserve Board, agreed that new laws from Congress were not necessary to properly regulate and monitor the derivatives market. Senator Phil Gramm (R, Texas) stated, "It's important that we don't blame financial markets for the bad judgments of individual participants" ("Regulators Urge..." 1995).

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However, other members of Congress were calling for new laws to address this issue. According to an article in Business Week, the Chairman of the House Banking Committee, James Leach (R, Iowa) wanted to "introduce legislation requiring more disclosure by derivative dealers and buyers" (Barrett 1995). Senator Alfonse D'Amato (R, N.Y.) also hinted at the possibility of new legislation in this area. At the same time the SEC was considering more disclosure requirements in the area of hedge accounting to supplement new FASB requirements (Berton 1995). The SEC was dismayed that the FASB only encourages but does not require firms using derivatives as hedges to quantify the risks of holding these instruments.

In an attempt to head off new Federal legislation, the securities industry worked with the SEC to develop new disclosure requirements. On March 9, 1995, the results of this ad hoc committee composed of representatives of the securities industry and the SEC were released. The top six security firms, which account for 90% of all derivative activity, called for a volunteer system to disclose aspects of their derivative operations to which the SEC currently did not have access ("Derivatives Regulation..." 1995). Their efforts seem to have paid off because the talk on Capitol Hill has quieted concerning this issue over the past few months.

Accounting for Derivatives

Based upon the activities of the Congress and the SEC and the comments by many in the accounting community, there definitely seems to be the need for better accounting standards. The task of the accounting community is to develop standards which require companies to provide accurate and relevant information for users of financial statements. Concerning the issue of derivative financial instruments, the FASB added this project to its agenda in 1986 to address the inconsistencies and lack of accounting guidance among the minimal guidance in place at that time.

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History of Accounting Statements on Derivatives

At the point FASB added this new project, it only had two statements of financial accounting standards (SFAS) that dealt with derivatives and in each case the Standard addressed only a narrow area of new financial instruments. In 1981 the FASB issued SFAS no. 52 which deals with foreign currency translation. The only derivative instrument addressed by this Statement is the methods allowed for classification of forward/future exchange contracts. Still, this was the first statement to set guidelines for hedge accounting, an important yet poorly defined concept in authoritative accounting literature on recognition and measurement of financial instruments.

The second Standard to be issued by the FASB in this area was SFAS no. 80 in 1984 which addressed the issue of futures contracts, except those governed by SFAS no. 52. While Standard no. 80 did address an important area of accounting, it had two major shortcomings. First, the fact that SFAS no. 80 only addressed futures meant it lacks the authoritative guidance necessary to adequately meet the needs of both internal accountants preparing the financial statements and auditors of the financial statements. Managers and auditors still are without authoritative guidance about how to treat options and swaps.

The other major flaw is the fact that this standard approaches the area of hedge accounting differently than SFAS no. 52. When accountants are using the two statements for direction on how to account for an option, for example, they must choose the method which seems to work the best. This case-by-case method and the lack of comprehensive guidance has allowed for considerable inconsistencies in the recognition of gains and losses. The FASB recognized this problem concerning the unjustifiable deferral of losses and the premature recognition of gains by some companies when they added the project on financial instruments and off-balance sheet financing to its agenda in 1986. ("FASB Discussion" 1991).

Of major concern to this project's committee is the issue of hedge accounting for derivatives. Using the definition given in a research report

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published by the FASB, hedging is "the process in which an entity protects itself against exposure to risk by acquiring or creating instruments that establish positions that counterbalance those exposures" ("FASB Research" 1991). Besides the fact that current hedge accounting is incomplete and sometimes conflicting, new hedge accounting rules are important and needed because such a high percentage of companies are involved in using derivatives as risk management tools. The work of this project is discussed in detail in a subsequent section.

Details of SFAS no. 52 and no. 80

Since hedge accounting is such an important topic, it is important to discuss the current rules as set forth in SFAS no. 52 and SFAS no. 80, both the similarities and the differences. Both statements concede that financial instruments should follow special accounting rules if they are used as hedges (hedging instruments). The basic concept behind each statement asserts that gains or losses on hedging instruments be recorded at the same time and in the same manner as the losses or gains on the hedged item.

In substance the hedged instrument and the hedged item are treated as one transaction. Under this current system if gains on an item being hedged are deferred, then the losses on the hedging instrument are deferred as well. If the financial instrument does not meet the specific criteria for hedge accounting in the two statements (reduction of risk, effectiveness, and designation by management), then it is treated as a separate transaction with gains or losses recorded currently in income.

While the underlying concept of hedge accounting is similar in both statements, there are five major differences which cause problems when accountants try to use analogies of the two statements for recording derivatives other than futures and forwards. The first major difference concerns risk reduction which is the criterion that requires a hedging instrument to reduce a company's exposure to risk. Statement no. 80 requires a futures contract to reduce the *overall* exposure to risk. Statement no. 52, on the other hand, takes a *transaction approach*. To qualify as a hedge, a foreign

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currency future/forward must offset a risk of a particular transaction even if that risk is already offset by some other position such as a natural hedge. A natural hedge would occur if a company had both a payable and a receivable due in another currency. In effect the payable is a hedge for the receivable and vice versa because the change in value of the payable from a change in currency rates would result in the exact opposite change in value of the receivable. Statement no. 80 recognizes this occurrence while Statement no. 52 does not.

The second difference is the approach taken to account for hedges of anticipated transactions. While Statement no. 80 allow companies to hedge these types of transactions, Statement no. 52 prohibits a company from doing so. A transaction must be a firm commitment in order for a foreign currency forward/future to be accounted for as a hedge.

The third difference involves cross hedging. Cross hedging is a strategy where a company uses a financial instrument to hedge an exposure whose underlying basis is different from the item being hedged. Statement no. 80 allows cross hedging if "a clear economic relationship exists and high correlation is probable" ("FASB Statement No. 80" 1984). Statement no. 52 usually does not allow using one currency to hedge another.

Another difference concerns an issue called split accounting which recognizes differences between the forward/futures contract and the premium or discount embodied in the contract. Statement no. 80 defines the premium or discount on a futures contract as the difference between the contracted price and the fair value of the hedged item ("FASB Statement No. 80" 1984). It forbids separate accounting for the premium or discount while Statement no. 52 requires the premium or discount be accounted for separately from the changes in the value of the futures/forward contract.

The final difference between the two statements relates to speculative futures/forward contracts. Statement no. 80 requires futures positions that do not meet hedge criteria to be marked to market. Statement no. 52 allows

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this method but does not require it. Instead, the statement provides a formula to value a speculative position.

Results of the FASB's Financial Instruments Project

Even though hedging plays a vital role in managing risk and there are a number of differences between the two statements that address the issue of hedging, accounting for hedges has yet to be the focal point of an official statement. So, even though the financial instruments and off-balance sheet financing project committee's overall goal was to establish "broad standards to resolve financial accounting and reporting issues about financial instruments," hedge accounting would be one of the main focal points of this project. (Li 1995). The requirements resulting from this project will encompass all aspects of derivatives, including management's intentions for using derivatives, control procedures in place to monitor a company's activities, and standard accounting rules for derivatives. Standard accounting rules would include the areas of recognition (when is an option considered an asset), classification (speculation or hedging), and measurement (historical cost or marked-to-market).

Currently, the FASB has issued only three authoritative standards in relation to this project. All three concentrate in the area of disclosure of an entity's derivative activities. The disclosures outlined in the three standards are required to be included in the notes to the financial statements to provide some information for financial statement users until the complex issues of recognition and measurement are resolved. The three disclosures required are discussed in the following statements: SFAS no. 105 entitled "Disclosure of Information about Financial Instruments with Off-Balance Sheet Risk and Financial Instruments with Concentrations of Credit Risk" which was issued in 1991; SFAS no. 107 entitled "Disclosures about Fair Value of

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Financial Instruments" which was issued in 1990; and SFAS no. 119 entitled "Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments" which was issued in 1994.

Statement no. 105 imposes two requirements on companies. First, it requires companies to disclose information about financial instruments that have off-balance sheet risk. Second, this statement requires disclosure about financial instruments with concentrations of credit risk.

In regards to the first requirement, a company must disclose the following information:

- The face, contract, or notional principal amount
- The nature and terms of the instruments and a discussion of their credit and market risk, cash requirements, and related accounting policies
- The accounting loss the entity would incur if any party failed to perform completely in accordance with the terms of the contract and the collateral or other security for the amount proved to be valueless to the entity
- The entity's policy for collateral or other security on financial instruments and a description of collateral on instruments held presently

The second statement to be issued by the FASB was SFAS no. 107. It requires a company to disclose the fair value of financial instruments when it is "practicable" to estimate fair value. As defined in this statement, fair value of a financial instrument is "the amount that would be obtained between two willing parties, instead of a forced or liquidation sale" (SFAS no. 107 1991). For this statement "practicable" is obtaining fair value without incurring excessive costs.

The last statement to be issued to date is Statement no. 119. This statement takes SFAS no. 105 and 107 one step further. While SFAS no. 105 only covered financial instruments having off-balance sheet risk of accounting

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loss, SFAS no. 119 covers all derivatives. In contrast to SFAS no. 107, Statement no. 119 requires a company to make the distinction between derivatives for trading purposes and those for other than trading purposes.

For derivatives classified as trading, companies must disclose the following in the notes to the financial statements:

- The average and ending fair value of the derivatives
- The net gains or losses resulting from trading activities which must be disaggregated by class, business activity, or risk

For derivatives classified as other than trading, companies are required to disclose the following:

- A description of the objectives for the instruments, the context needed to understand those objectives, and the strategies for achieving the objectives
- A description of how each class of derivative is reported in the financial statements

In addition to these requirements, SFAS no. 119 encourages, but does not require, companies to disclose quantitative information about market risk of derivatives. Also, this statement amended SFAS no. 107 to require fair value of derivatives be presented separate from the fair value of non-derivatives.

Current Developments in the Financial Instruments Project

At the same time the Board was also was working on substantive, all-encompassing standards for recognition and measurement of derivatives and hedge accounting. In the Summer of 1993 the Board issued a report which included its first tentative conclusions on this subject. The report provided a basis for a number of discussion with experts in the field of finance through the rest of the year and into 1994. From those meetings and other comments sent to the FASB, the Board made a list of ideas as objectives for an approach to this project ("Discussion of.." 1995).

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As reported by several accounting journals, the FASB tentatively agreed on an approach that would classify all derivatives instruments as either trading or other-than-trading. Derivatives classified as trading would be measured at fair value with both realized and unrealized changes in values recognized in current earnings. Derivatives which are classified as other-than-trading would also be measured at fair value with unrealized changes in value excluded from earnings and reported in a separate component of equity until realized. Realized gains or losses would be recognized in current earnings ("Discussion of..." 1995).

This tentative approach received many comments in the following months. There were both supporters and those strongly opposed to this approach. Those who opposed the proposal believed it would "create volatility and a possible distortion of equity that would result from the asymmetric treatment of on and off-balance sheet items" (Tate 1995). They were shocked that this asymmetry would require a company to mark-to-market the hedging instrument and not the hedged item (Millman 1995). For example, a company that uses an interest rate swap to hedge its debt will mark-to-market the swap but not the debt. This is important because a loss on its swap obligation will not be counterbalanced by a gain on its debt. According to a financial risk manager, "It's like opening the newspaper to a story that says the San Diego Chargers scored 26 points, but tells you nothing about how the other team did" (Millman 1995).

Supporters argued the proposal was better than any alternatives and was a "significant improvement over the current accounting" (Tate 1995). In response to critics, proponents argued that the FASB did offer a model for reporting derivatives that reflected both the changes in market value of the hedging instrument and the hedged item, but that model was rejected. Critics of that proposal said companies don't really hedge market value. Rather, they hedge cash flow (Millman 1995).

By June of 1995 the FASB still had not resolved the issues of recognition and measurement with many on the Board opposed to some of the conclusions in the tentative proposal. The Board decided to have its staff

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examine alternative approaches. Some possible exceptions to marked-to-market accounting include accounting for commodities under traditional deferral accounting and allowing hedges of forecasted transactions by permitting unrealized gains and losses on financial instruments to be recorded in equity versus earnings until realized ("Discussion of.." 1995). Presently, the FASB is continuing to discuss approaches to this issue.

Current Proposals for Hedge Accounting

In a Research Report published by the FASB in 1991, the authors listed three possible approaches for the special accounting treatment of hedges. The three approaches are deferral, marked-to-market, and a hybrid method for hedge accounting (FASB Research). As mentioned earlier, the current method of accounting for hedges is the deferral method. Under this method, gains (or losses) are not recognized (deferred) until losses (or gains) on the hedged item are recognized. With marked-to-market hedge accounting, the hedging instrument is measured at current market values with both unrealized and realized gains or losses recognized in current income.

Under the hybrid method, one of two approaches could be taken. Under the first option, the measurement of the hedging instrument is determined by the measurement of the hedged item. The second option provides that the measurement of the hedged item be dependent on the recognition of the hedging instrument. So, if the hedged item is accounted for at historical cost, then the hedging instrument would be accounted for at historical cost and any unrealized gains or losses would be deferred. Likewise, if the hedged item is accounted for at fair value, then the hedging instrument would also be accounted for at fair value with all gains and losses recognized in current income.

Financial Statements Research

Because there is limited and often inconsistent authoritative guidance concerning the accounting treatment for derivatives, I wanted to examine the

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financial statements, in particular the notes to the financial statements, and find out the methods that are used to account for them. I also wanted to determine the extent to which they are used and the reason why they are used. Based upon this research of current practices, the rules already in place, and other ideas brought forth in this discussssion, I will propose new guidelines for the accounting of financial derivatives that will attempt to be all-encompassing in their scope.

For my sample I chose the financial statements of publicly traded companies that are primarily service or manufacturing companies. I did this for two reasons. First, I chose publicly traded companies because they are subject to the FASB's Standards on reporting requirements. Second, I limited my sample to include only service and manufacturing companies because they are not subject to special rules and requirements for reporting derivative positions that banks and brokerage firms are.

To make my selection as representative of the market as possible, I decided to use the companies which make up the Dow Jones Industrial Average. There are a total of 28 companies which comprise the Dow Jones Industrial Average that are not financial companies. The two companies excluded from this research project are American Express and J.P. Morgan. The list of companies whose financial statements were examined are as follows:

AT&T	Eastman Kodak	Philip Morris
Allied Signal	General Electric	Procter & Gamble
ALCOA	General Motors	Sears
Boeing	Goodyear	Texaco
Caterpillar	IBM	Union Carbide
Chevron	International Paper	United Technology
Coca-Cola	McDonalds	Westinghouse
Disney	Merck	Woolworth
Dupont	Exxon	3M
Bethlehem Steel		

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The Reasons for and Extent to Which Derivatives Are Used

Every company examined in the sample uses at least one category of derivative - option, swap, or future/forward - with most companies using every type of derivative. The most common reason, stated by management in the notes to the financial statements, for using derivatives is as a risk management tool (hedging some type of price risk). Every company listed hedging a risk exposure as the primary purpose for holding derivatives. Only a few companies mentioned they use derivatives for speculative (trading) purposes. In fact, most companies explicitly say in the notes to the financial statements that they don't use derivatives for speculation reasons.

This evidence points to the change in how derivatives are utilized by management. While derivatives were originally created to help manage risk, they became viewed by many in corporate America as a means through which the treasury department of a corporation could generate income for the company. It was not until huge losses were reported by many high-profile companies that the managements of many companies returned to using derivatives solely to manage risk. The fact that only five companies mentioned they engage in some trading activities with derivative instruments, demonstrates this change in thinking.

Concerning the types of risks most commonly managed by derivatives, every company listed interest rate risk and foreign exchange risk as risk management priorities. One of the reasons for this result is the fact that every company examined is a large, international company with operations in many countries. It should follow, then, that they would have high exposure to each of these risks. The fact that every company examined uses derivatives to manage both of these risks points to importance that derivatives now have in the overall success of a company. It also shows how important it is to have exhaustive and consistent accounting guidelines for these risk management tools.

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Current Practices of Accounting for Derivatives

Since the FASB has Standards which address the issue of measurement of all types of futures/forwards, I will not focus on how the companies in my research account for them since the procedures used will be the same for every company. Instead, I will focus on the methods used to account for gains and losses resulting from the use of swaps. Since there is very little specific guidance for how to account for interest rate swaps, I expected there would be a variety of methods used to account for gains and losses resulting from changes in interest rates.

Of all the companies examined, only one, Eastman Kodak, does not use interest rate swaps. It does state that it uses currency swaps but discloses inadequate information on how it accounts for the resulting gains or losses. General Electric also discloses inadequate information about the methods it uses to recognize gains and losses from interest rate swap agreements. The remaining 26 companies do state their methods of accounting for the net amount received or paid on swap agreements.

In every case but one the amount realized or unrealized is recognized in *Interest Expense*. In the one exception, the company defers the gain or loss and amortizes it over the life of the swap agreement in *Income*. The remaining 25 companies, who do recognize the gain or loss in *Interest Expense*, vary on the timing of the recognition. The majority, 15 companies, defer the gain or loss. Of those 15 companies, nine amortize the gain or loss over the life of the swap agreement while six amortize it over the life of the related debt. Three of the companies stated they recognize gains or losses due to interest rate swap agreements when they occur. The remaining seven companies were not clear on the method they use to recognize gains or losses in *Interest Expense*.

The other area where companies differ concerns the recognition of gains or losses resulting from the early termination or settlement of a swap agreement. Surprisingly, 20 of the 28 companies examined did not adequately disclose the method used. Out of the remaining eight companies, there emerged

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three methods that are all very similar in nature. Each company reported that any gains or losses realized from the termination of swap agreements are deferred and amortized to interest expense. The difference between the companies concerns the length of the amortization. Four companies stated they amortize gains or losses over the life of the related, outstanding debt while one company stated they amortize gains or losses over the period of the original swap. The final three companies combine the preceding two methods by amortizing gains or losses over the shorter of the original swap agreement or the length of the related debt.

Proposal for Accounting Treatment of Derivatives

Special Accounting for Hedges of Qualified Risk

The first question to answer is, "Is there a justification for hedge accounting?" Based upon the balanced presentation of arguments for and against special accounting treatment for hedges in the FASB's Research Report on Hedging, I believe there are instances where special accounting treatment should be afforded for two basic reasons. First, as presented in the Research Report, completeness is an essential part of relevance, and relevance is a part of the FASB's conceptual framework. The conceptual framework is the foundation on which all generally accepted accounting principles are based. By viewing the hedged item and hedging derivative instrument as one transaction, users of financial statements would receive a more complete picture of the situation. Therefore, hedge accounting makes the financial statements relevant for creditors, investors, and regulators.

Secondly, there is the issue of economic loss versus accounting loss. If hedge accounting is not allowed under some circumstances, management will be reluctant to engage in hedging activities because accounting income may be adversely affected ("FASB Research" 1991). Ultimately, a company's economic health would suffer because of decisions made by management to avoid hedging

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activities that cause instability in current income but create stability over the long-run. Therefore, hedge accounting makes a company more economically stable in the long-run.

Since there is justification for hedge accounting, it must then be determined in what circumstances derivative financial instruments should qualify for special accounting treatment. What types of risk exposure protection should qualify for hedging? Before proceeding any further, it is important to understand what a hedge exactly is. According to *Kohler's Dictionary for Accountants*, 6th editions (1983), a hedge is any purchase or sale transaction having as its purpose the elimination of profit or loss arising from price fluctuations. Therefore, a hedge should limit the downside effect of a price change along with limiting positive changes in price.

This is important to the discussion of qualifying risks because it introduces the concepts of unilateral and bilateral risks and hedges. A unilateral hedge provides only one-sided protection against exposure to downside risk associated with the hedged item. Bilateral hedges, on the other hand, provide counterbalances to downside risk and upside potential.

An example of a unilateral risk hedge is an option. If a company purchases an option, it is effectively limiting the downside risks associated with the hedged item but not the upside potential. If prices do not move adversely, the option is not exercised and the company profits from positive movements in price.

An example of a bilateral risk hedge is a futures contract. By purchasing a futures contract, the company locks in a price which effectively prohibits it from benefiting from a positive price move or suffering from a negative price move. The other major derivative that would fall under this risk category is a swap.

By understanding the fundamental aspects of a hedge, I believe only derivatives that hedge bilateral risk should qualify for special hedge accounting. Because options do not hedge bilateral risk, all options should be classified as trading and listed with marketable securities. Looking at

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the fundamental aspects of an option, it is clear they operate in much the same way that insurance does. Therefore, recognition of the option as an asset should be made upon purchase, and the value of the option should be the purchase price which is similar to the way companies account for insurance. Also, since the asset is classified as trading and it is assumed the option will not be exercised, no payable is recorded and the possible liability is not included in the value of the asset. The only exception to this rule is when the possibility exists that the company will exercise the option. If this situation arises, then the company must follow the procedures required by the FASB concerning contingent liabilities.

The company should also treat written options as investments not as hedges. If the company writes an option (the obligation but not the right to sell something), the company would debit *Cash* for the amount received and credit *Written Option Liability* for the same amount. If, for example, the option contract is for six months, the company would debit the liability for half the amount and record a credit to *Non-Operating Income* after three months. If the option is not exercised by the other party, the same procedure is done to take the liability off the books. If the other party does exercise the option, then the company would credit *Cash* for the amount to purchase the underlying asset (or *Marketable Securities* if the written option is covered). The corresponding debit would be to the *Written Option Liability* and to *Loss on Written Options* for the difference. Also, the company would be required to disclose in the notes to the financial statements the maximum loss the company would face if all written options were exercised by the other parties. Therefore, since options can never qualify for special accounting treatment, they will be excluded from further discussion of hedge accounting.

Another risk issue which must be addressed is the nature of risk being hedged. There are many types of risks which companies face including but not limited to interest rate, commodity, foreign exchange, price, competitive, credit, and business cycle risk. Besides the typical swaps and futures which

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hedge risks associated with interest rates and currencies, financial institutions have now created derivatives to hedge such risks as changes in inflation. Such 'inflation derivatives' are structures which provide a payout linked to an inflation index such as the Consumer Price Index (Lamont 1995). However, the largest amount of hedging activity still are directed toward reducing exposure to interest rate, foreign exchange, and price risk.

Current accounting limits hedges of these risks for special treatment. The reason for this requirement is that there must be an identifiable asset or liability for a hedging instrument to qualify for special hedge accounting treatment. In the case of an inflation derivative, there is no corresponding asset or liability that the hedging instrument can be combined with to create in substance one transaction. Therefore, I agree with current practices and limit hedge designations for instruments which are used to manage interest rate, foreign exchange rate, and price risks.

There are two exceptions to this rule. The first is for hedges of firm commitments and the second is for hedge of anticipatory transactions. In the case of a firm commitment, there is, in-substance, an identifiable asset or liability even though it has not been technically recognized in the accounting records. This is because a firm commitment is a legally enforceable agreement where large disincentives exist for nonperformance.

There is also precedence for special accounting treatment for in-substance transactions. Presently, the accounting profession allows for the early extinguishment of debt through a process called In-Substance Defeasance. This became a generally accepted accounting principle with the issuance in 1983 of SFAS no. 76, "Extinguishment of Debt." Under this method of debt extinguishment, a company provides for the future payment of long-term debt by placing risk-free securities (U.S. Treasury Bonds) in an irrevocable trust. If this condition is met and there is only a remote possibility that the company will be required to make any future payments on that particular debt, the company can remove the debt from the balance sheet. However, in substance

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the company has not been legally released from debt obligation. For both of the reasons, hedges of firm commitments should qualify for special accounting treatment.

A different issue arises concerning anticipatory transactions. These are transactions which may occur in the future but for which no legal agreement exists. Under my proposal, hedges of anticipatory transactions would receive special accounting treatment if the anticipatory transaction meets the same criteria that contingent liabilities do. For a loss contingency to be accrued as an expense and recognized as a liability, it must be probable that a liability has been incurred and the amount of the loss must be reasonably estimated (FASB Statement No. 5 19). According to this standard, anticipatory transactions must be probable and the amount of the transaction must be reasonably estimated. If both of these conditions are met, then the hedging instrument of the future transaction will qualify for special accounting treatment. In addition to the two requirements, no time limit shall be placed on when the future transaction must be consummated (recognized in the accounting records).

Recognition of Gains and Losses on Hedges

I propose a hybrid method of hedge accounting where derivative financial instruments are classified as trading or hedging instruments. For those derivatives designated as trading by management, gains (losses) on realized and unrealized changes in value will be recognized in current earnings as Non-Operating Income. This classification in the financial statements would be consistent with the classification of profits (losses) on securities specified by the SEC in section 210.5-03.7 of Regulation S-K. Also, this method of recognizing unrealized gains and losses is consistent with SFAS no. 115, "Accounting for Certain Investments in Debt and Equity Securities," which was issued by the FASB in May of 1993.

For derivative instruments which are designated by management as hedges to price risk (this includes interest rate and foreign exchange rate risks), a hybrid method of deferral accounting will be allowed. Both realized and

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unrealized gains and losses will qualify for this special treatment. Under my hybrid deferral method, gains and losses can only be deferred to the extent the hedged item has changed in value. Any gains or losses on hedging instruments which exceed the change in value of the hedged item shall be recognized in current income pursuant to the guidelines for gains and losses on derivatives designated as trading.

Thus, if a change in exchange rates causes the value of a receivable to decrease by \$10 million, the maximum amount which can be deferred on the gain of the corresponding hedging instrument is \$10 million. If, using the same example, the value of the hedging instrument increases in value by \$12 million, \$10 million can be deferred and \$2 million must be recognized in current income pursuant to the requirements for derivatives classified as trading.

Criteria for Hedge Designation

The next issue to address is possibility that the change in the hedging instrument is less than the change in value of the hedged item. Continuing with the same example, assume that the receivable still decreases in value by \$10 million, but the designated hedging instrument only increases in value by \$5 million. Under my proposal, a financial instrument must satisfy three criteria to qualify as a hedge. First, management must designate the instrument as a hedge upon inception of the transaction. This requirement will help prevent management from manipulating income by selectively choosing certain investments as hedges after the fact in order to defer gains or losses which would normally be recognized if they were not designated as hedges of a qualified risk. For instance, if a company initially invests in an equity security with no intention of using it to hedge a risk, it would be advantageous for management to later designate the security as a hedge of some risk if it has significantly appreciated over the year in order to avoid additional taxes in the current year or to avoid the negative market effects from a huge loss.

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Second, to prevent management from abusing this rule and designating all securities and derivatives as hedges, there must be economic plausibility between the hedged item and the hedging instrument. Auditors of financial statements should have the right to determine whether a designated hedge makes economic sense. If the designation does not meet the economic plausibility test, then the hedging instrument must be reclassified as trading. As with any area where management has discretion about the classification of a transaction, auditors should have the right to determine if management's claims are valid.

Third, the instrument must meet a correlation test in order to qualify as a hedge. A correlation test would reveal the extent of the relationship between the change in the hedged item and the hedging instrument. To meet the correlation requirement, a company would have to prove statistically there is a relationship between the changes in value of the two hedging components. As well, the correlation test would be relatively high. For example, a gain on a hedged item by \$10 million and only a \$2 million loss on the hedging instrument would not meet the correlation test whereas a \$5 to \$6 million loss on the hedging instrument would satisfy. (At this point it should be mentioned that any reference to a high correlation means a high negative correlation since true hedging components move in opposite directions by definition.)

In order to satisfy this requirement, I would require the relationship between hedging components to be assessed on a weekly basis. However, only the final value calculated at the reporting date (annual or quarterly) will determine if the designated hedging instrument qualifies for special accounting treatment. Thus, if the test reveals only a low correlation between the two variables after one month but rises to an acceptable level by the next reporting date, then the hedging instrument will qualify for special accounting treatment. However, if the test shows a high correlation in the beginning but drops below the minimum requirements by the next reporting date, then the gains or losses associated with the instrument must be recognize in current income. The instrument can continue to be designated as a hedge (without

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special accounting treatment) and will be reassessed for significant correlation at the next reporting date.

Up to this point, it has been assumed that the hedged item is either an off-balance sheet item in which case no gain or loss can be recognized or the hedged item measured at historical cost where any unrealized gain or loss is not recognized until the item is removed from the balance sheet. In situations where the hedged item is marked-to-market with unrealized gains (losses) recognized currently, any gains (losses) associated with the hedging instrument must also be recognized in current income to provide a more complete picture of the situation.

Early Termination of Hedging Instruments

In many cases the situation arises where a company, for a number of reasons, terminates a contract before the termination date stated in the contract. A company can terminate a contract, such as an interest rate swap agreement, by either selling the contract to a third party or effectively terminating the contract by purchasing another contract with exactly the opposite features. The Emerging Issues Task Force (EITF), the technical-interpretive branch of the FASB, addressed this topic with Issue no. 84-7 in 1984. The EITF agreed that gains (losses) of an effective hedge must continue to be deferred and recognized when the offsetting loss (gain) is recognized on the hedged transaction.

I agree with this conclusion up to a point. A company should be allowed to defer the amount of a gain or loss on the early termination of a derivative contract up to the offsetting gain or loss of the hedged item at the time the contract is terminated. Any amount over that must be recognized in current income. Also, the same correlation requirements apply as mentioned earlier. So, if a company terminates an interest rate swap contract early because of unrealized losses to date of \$20 million with only a \$10 million corresponding gain on the hedged debt, the company can defer recognition of \$10 million in losses and must recognize the remaining \$10 million currently.

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Individual versus Collective Risk Exposure

As mentioned earlier, there are currently two methods of assessing risk. SFAS no. 52 uses the transaction approach where the effectiveness of a hedge is determined by whether or not the hedging instrument protects a company from a risk exposure that results from an individual transaction. The primary advantage of this method is the feasibility of measuring the effectiveness of a hedge.

The major problem with this method is that it ignores the possibility of a natural hedge. If a company has both payables and receivables which are denominated in another currency, they may act as hedges against each other. This would eliminate the need to purchase currency derivatives. If a company did purchase a currency forward to hedge the risk that the receivable could lose value with an adverse change in exchange rates, management would actually increase the overall risk exposure because the forward would duplicate the hedge already in effect - the payable denominated in the same currency.

The other method of assessing risk is the collective method which is required by SFAS no. 80. Under this method, hedges are considered effective if they protect a company from a risk exposure that arises on a business unit basis. This basis of measuring risk is less broad than an entity-wide basis while broader than the transaction approach of SFAS no. 52. The problem with this method is the difficulty of determining overall risk, especially for complex and diverse companies who have a large number of transactions within a given period of time. There is also the issue of how risk exposures should be grouped. Should only risk exposures resulting from similar transactions or positions be aggregated or should dissimilar ones also be aggregated?

Under my proposal, an effective hedge would be determined using a limited-collective approach. First of all, a designated hedging instrument cannot increase the risk exposure of a company. If it is determined the hedge has actually increased a company's exposure to risk, then any gains or losses are not eligible for special deferral treatment. But to determine if a hedging instrument has actually increased the exposure to risk, a company must

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identify the initial risk exposure. It must also identify the initial risk exposure in order to determine the statistical correlation between the hedging components that is required for classification as a qualified hedge.

I would require a company to aggregate and compare transactions or positions that are similar in nature to determine the extent of risk exposure. Therefore, if a company has both payables and receivables denominated in the same foreign currency, the company must aggregate them to determine if there is a need for additional hedging instruments to effectively hedge the exposure to a change in exchange rates. Similarly, companies are also allow to aggregate hedging instruments to hedge a risk exposure. For example a company may enter into three interest rate swap agreements in order to collectively hedge its interest rate exposure on its long-term debt.

Additionally, a company is only required to aggregate similar positions or transactions on a business unit basis. This requirement is in agreement with SFAS no. 80. This method is allowed because there are many instances where risk management activities of a company are done on a decentralized basis, and an entity-wide approach would place an unreasonable burden on the company.

Complex Derivatives

To complicate the hedging issue, there are now many derivatives available to corporations which have multiple features such as a swaption which is a derivative which gives the holder the right but not the obligation to enter into a swap agreement. Since options are not given special accounting treatment but swaps are, how is a swaption which is designated by management as a hedge of a qualified risk accounted for?

I propose classifying any complex derivative with the characteristic of an option as an option until the option part of the derivative is exercised and effectively becomes another instrument with characteristics other than an option. To continue with the above example, at the inception of the swaption contract, it predominately has the features of an option. If the company experiences unrealized gains or losses while holding the swaption, the gains

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or losses must be recognized in current income. If the company terminates the swaption early, any gains or losses also must be recognized in current income. However, if the swaption is exercised and the company has entered into a swap agreement, any subsequent gains or losses can be deferred pursuant to the requirements of a qualified hedge.

Measurement of Derivatives in the Financial Statements

The final issue to address is the method for measuring futures/forwards and swaps to give users of financial statements the most accurate and complete information. As already mentioned, the measurement of futures/forwards are governed by SFAS no. 52 and no. 80. Even though they do differ in some minor respects, I believe the rules set forth for the recognition and measurement of futures/forwards on the balance sheet are sufficient and provide end-users with a clear picture of a company's future/forward position. Concerning swaps, however, there is not a FASB Standard which fully addresses the issue of measurement. The only information required concerning the activities of a company's involvement with swaps is outlined in SFAS no. 105, no. 107, and no. 119.

For swaps which are not classified as trading, there are three basic disclosure requirements for companies, and two of them are only qualitative in nature. SFAS no. 105 requires companies to disclose the face, contract, or notional principal amount of the swap contract, and SFAS no. 119 requires the two qualitative disclosure requirements. (For the specific requirements promulgated by these Statements for both trading and other than trading, refer back to pages 13 through 16 of this report.) Since most companies state they use swaps for risk management purposes only, financial statement users receive insufficient information about the effects or potential effects a company's position in swaps could have on the balance sheet and income statement.

A swap is basically a combination of a receivable (asset) and a payable (liability). The problem with trying to measure a swap's value results from the uncertainty of the future payments which are determined by future changes in market price. This fact eliminates the option of measuring and recognizing

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on the balance sheet a swap by discounting the future net payments over the life of the contract. In order to do that, a company would have to know the interest rate at each payment date over the life of the contract. This amount of estimation does not meet the principle of conservatism.

Another problem with valuing and recognizing a swap upon inception of the contract is the absence of an exchange of money by the parties involved. The first exchange of money by both parties does not occur until the first payment date specified in the agreement. However, the company has entered into a legally binding agreement which will result in either the receipt of money or the payment of money sometime in the future.

In order to acknowledge that a swap transaction took place, I propose a swap be recognized as an asset equal to the cost of the transaction such as the cost for a third party to structure the deal. If there is not a third party involved, then the swap's value as an asset will be the company's internal costs such as the legal department's labor costs to write contract, costs to find a willing party, and other such costs. Instead of expensing the cost to acquire a swap in the current period, a company who enters into a swap transaction will capitalize the cost and recognize it as an asset on the balance sheet. Because there is not a liquid, secondary market for swaps, companies would not be required to adjust the value of the swap after the initial recognition if the swap meets the requirements for a hedge.

However, this information does not provide users with the company's potential liability. As just mentioned, the problem lies in the fact that the company's potential liability is determined by future price changes. To address these two inescapable facts, I propose company's present in the notes to the financial statements the potential liability or asset the company assumes if the underlying market price (at the reporting date) changes by 20%. For example, if a company has an interest rate swap that requires it to make fixed payments and to receive variable payments and the relevant interest rate (the base interest rate on which the variable rate is determined) is 10%, then the company must show the net effect of a drop in interest rates by 2% (20% of

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10% is 2%). This will provide users with a reasonable estimate of the possible exposure the swaps present. As well, companies must continue to abide by the disclosure requirements of SFAS no. 105, 107, and 119.

Conclusion

In conclusion, I believe the requirements proposed in this paper will give the users of financial statements a more accurate picture of the true economic health of a company. Because of the unavailability of information, I cannot reasonably determine the exact effect these changes would have on the balance sheets and income statements of the companies examined if the changes I propose in this report were implemented. As well, the companies examined in this report are some of the largest in the world, so these changes may not be as material for them as they would be for smaller companies.

Besides a more accurate picture, this proposal creates a consistent and comprehensive model for accounting practitioners to use for the entire spectrum of derivatives. It provides a common set of guidelines for accountants to make analogies to if the situation arises where this proposal lacks sufficient guidance to account for a unique situation. This proposal also eliminates the many inconsistencies under the current authoritative literature.

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