

# The Problem With Derivatives In Valuing Securities

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## ABSTRACT

*This paper concludes that we have auditors who, in general, do not understand derivatives but who are stipulating to the accuracy of the financial reports of companies that make extensive use of derivatives. We have financial analysts, many of which do not have an in depth understanding of derivatives, or accounting standards that govern them or their effect on company valuation. Even if the security analysts are knowledgeable about Derivatives it is doubtful that they have enough, or the correct, information to do a thorough analysis. We have many government regulators, most of whom even in the securities industry, generally have little or no knowledge relating to derivatives. And we have the general public, many of whom invest in the securities of these companies, but are not able to assess the effect of derivatives usage on their prospective investments.*

## INTRODUCTION

It is a major premise of this paper that most accountants, financial, or security, analysts, bankers and certainly stock brokers do not have a thorough knowledge of Derivatives and the effect of their use on the value of corporate securities. Because there are standards for reporting the use of derivatives that have been developed and promulgated by the FASB (Financial Accounting Standards Board), notably SAS92 and FASB statements 133, 138, and 149, it is therefore necessary to have an in depth understanding of the accounting treatment, including assumptions used in valuing derivative contracts. In addition you must have a detailed knowledge of a multitude of derivative instruments and the related theory and speculation, or hedging, relationships to understand and interpret even the existing accounting guidelines and related disclosure information. This is a problem because most financial institution executives and other evaluators or analysts have little or no formal, or informal, education in these instruments. The results of this deficiency can be easily demonstrated by referring to numerous examples like the "unauthorized" derivatives trading which brought down the very large and prestigious Barings Bank (1994, \$1.4 Billion) in England a few years ago, The Orange County debacle, Proctor and Gamble's experience with Banker's Trust, Long Term Capital Management (1998, \$3.5 Billion) which had to be bailed out by the Federal Reserve, and the more recent problems, all during 2004, at National Australia Bank, Citigroup, China Aviation and also at Fannie Mae documented in (Barron's, 2004). Each of those derivatives experiences resulted in losses of hundreds of millions or billions of dollars. In the Barings case Nicolas Leeson's derivatives trading cost Baring's over a billion dollars and caused the bank's demise. Later, in October 2005 Refco, one of the world's largest derivatives brokers was forced to suspend trading. In January 2006, a London based derivatives trader was suspended and subsequently dismissed at Deutsche Bank for allegedly overstating trading profits by 30 million British pounds. These are only a few historical examples of derivatives related losses. For a derivatives trader's perspective of the significant risk involved in trading derivatives see Partnoy, 2003.

Therefore, to evaluate, or value, corporate securities in terms of their equities (stocks), their debt instruments (bonds), or short term lending prospects the security analyst or bank officer is at a disadvantage and the possible related consequences are significant. This paper proposes some solutions for this problem in terms of education, consultants with expertise, and other possibilities. Part of the problem is a lack of knowledge about the basics of Derivatives. Another part of the problem is that there is such a broad array of specialized derivatives and the complexity of valuing and evaluating the multiplicity of derivative instruments in existence and use that even people with expertise in this area may be potentially misled. Further, there is the consideration of derivative usage in a portfolio context and the possibility of default by one of the parties to the contract. This paper will organize

derivatives in a limited number of categories with common attributes for ease of analysis, describe the accounting guidelines for derivatives in financial statements, and suggest how to interpret financial information relating to the use of derivative instruments. Without widespread education and knowledge about derivatives potentially disastrous consequences related to misuse and misunderstanding of derivatives is inevitable.

Let's begin with some basic Definitions:

- A derivative is generally a leveraged financial instrument that "derives" its value and its changes in value from the value and changes in value of an underlying asset. The most common types of derivatives are options, futures, and swaps. There are, of course, many other kinds of derivatives but this paper will utilize examples for these basic three.
- A Speculation in derivatives implies a single position that projects that the value of the derivative in the future will go up (a long position), or down (a short position).
- A Hedge in its most simple form implies two opposite, or somewhat offsetting, positions with one typically short position and one long position.
- Derivatives under FAS 133 are assets or liabilities and therefore must be accounted for in the balance sheet. Likewise profits or losses on derivatives are recognized in current income or shareholder's equity.

### **TYPES OF HEDGES UNDER FAS 133**

There are three different types of hedges, with different accounting treatment, recognized under 133. First, there is a fair value hedge. Second, there is a cash flow hedge. Third, there is a foreign currency hedge. Related to that in 133 is the requirement to provide information on hedge effectiveness. That is, the company must provide documentation that explains the relationship between the hedges utilized and the firm's risk management objectives. For a detailed discussion of the development of FAS 133 the three types of hedges and their implementation see (Anson, 1997).

The major objectives of this paper include (1) describing, organizing and evaluating the most common types of Derivative instruments currently used by corporations and the extent to which they are used, (2) Explaining the impact of existing accounting standards as they apply to financial reporting of Derivative usage, (3) Analyzing the problems of valuing companies that have substantial Derivative positions, (4) Making suggestions for evaluating the usage and impact of Derivatives as it relates to security analysis.

### **Methodology**

This study collects data on the use of derivatives and the related disclosure information required by accounting standards in the financial statements for a small sample of major U.S. corporations. The information is then utilized to indicate how to organize and evaluate the disclosures. There was a small pilot study completed about a year ago utilizing data from 2003 annual and related 10-K reports for 8 publicly traded companies. (Christner, 2004). This study updates the earlier one adding data from 2005 annual and 10-K reports from 13 additional publicly traded companies to evaluate whether the reporting of Derivatives usage has changed. For instance, it was noted that there was little detail provided by the companies in the earlier study about their derivative positions or hedging strategies, philosophy or objectives for a majority of the 2003 sample. Also, this study will attempt to provide meaningful categories to distinguish the level and usefulness of the company's derivative disclosure information. The results expected relate to providing a methodology for financial executives and investors with limited knowledge of Derivatives to interpret and evaluate the potential impact of derivatives usage on the value of a corporation and its debt and equity securities.

### **RATIONALE OF THIS STUDY**

We could ask whether the analysis of derivatives usage and understanding of these admittedly complex financial instruments is important. Allow me to cite some reasons other than the above examples of companies that suffered substantial losses. First, there is a tremendous body of literature on this and related topics some of which will

be enumerated below. Secondly, FASB has not only promulgated at least four major sets of accounting standards over the past few years but they have also created the Derivatives Implementation Group (DIG), which has already provided guidance on FASB 133 on more than 200 related issues. Thirdly, the International Accounting Standards Board (IASB), in their Accounting Standard 39, although less restrictive than U.S. standards, deals with similar Derivative related issues. However, all European companies, for the first time, are supposed to follow similar accounting rules mandated under the IASB standards.(Norris(Herald Tribune), 2004), (4) Included in CFA Exam topics are swaps, hedging, and Derivatives strategy (5) Multiple pronouncements by the Federal Reserve Board and other regulators(Whalen,2004) related to Derivatives and their usage and effects.(6) However, the bottom line reason is that the widespread use of derivatives by a large number of companies effects the risk, return and valuation characteristics of those companies in a material way.

## **RECENT LITERATURE**

There have been many recent articles relating to the corporate use and financial reporting of Derivative usage for hedging in the U.S. (Pollock, 2004), and Europe (Norris, 2004). The Pollock article documents the effects of FAS 133 on Fannie Mae, and Freddie Mac and points out some of the weaknesses associated with applying the current accounting standards for reporting the utilization of Derivative contracts. Specifically the article suggests that investors in these debt and equity securities may be more baffled than informed in regard to the application and information garnered from the application of FAS 133. The Norris article suggests that the IASB, the European equivalent of FASB is in the U.S., significantly "watered down" the income statement related volatility effects of their Derivatives accounting standard (39). The Whalen article partially titled "How the Feds are seeking to make the world safe for Derivatives" (Whalen, 2004), posits that small banks that are encouraged to use derivatives, but do not have the necessary expertise to understand them, can cause major disruptions in the U.S. financial system. A general theme of recent articles is the criticism of the effects of FAS 133 on earnings volatility, equity valuation, and the problem of valuing only one side of a two-sided hedging position. Both the Pollock article and (Bodurtha & Thornton, 2002) suggest alternate methods of presenting the information currently furnished and methods currently utilized under the current derivative accounting standards (133, etc.) in order to show a more accurate financial picture. From a security analysts perspective (Will, 2002) says that analysts and rating agencies (Standard & Poor's, Moody's, and Fitch) have said that they focus on operating income which is adjusted to exclude the impact of FAS 133, instead of the net income figure which can be significantly modified by 133. Further, he states that the rating agencies also focus on common equity and qualifying preferred stock values instead of analysis of comprehensive income which can be significantly impacted by FAS 133 but that they (the rating agencies) do also evaluate a company's ability to manage, understand and properly value their derivatives positions. However, (Will, 2002) concludes that FAS 133 is useful in that it requires the company to state their objectives for the use of each derivative, and to disclose the quality, type, and effectiveness of their hedges. These three papers all suggest that the application of FAS 133 obscures the true economic situation and that a separate set of figures excluding the effects of FAS 133 would be very helpful. Indeed, (Aggarwal and Simkins, 2004) study found that firms with higher quality disclosures have higher market/book value ratios, thus enhancing shareholder value and/or thereby lowering the risk related cost of capital. A good discussion of the analysts viewpoint of Accounting for Derivatives is found in (Kawaller, 2004). He suggests that for an analyst to evaluate a company and its derivatives positions they need to know what price exposure exists, how much of it is hedged with derivatives and how much is not, and how hedged positions are managed. FAS 133 only provides information on the portion of the perceived risk exposure is hedged and therefore may not provide information on what may be a very large risk that may not be hedged. Further, Kawaller suggests that how well a company's risk managers anticipate price changes and adjust hedge coverage may be much more critical to a company's securities valuations than the profit and loss results from static hedge positions. (Kawaller, 2000) also discusses the differential impact of FAS 133 on Futures vs. Forward positions. For example he points out that gains and losses on futures contracts are realized under 133 immediately after they occur but losses on forward contracts, a potential alternative hedging instrument, are not realized until the end of the contract. Thus the choice of a future or forward under FAS 133 could have vastly different financial, timing based, implications. However, this problem was recognized, but not necessarily correctly solved (see Kawaller, 2002) by amending FAS 133 with FAS 138 which excluded forward contracts under the redefined "normal purchases and sales" exception to being defined as a derivative under 133. As (Kawaller, 2002) points out, excluding forward contracts from 133 requirements may cloud the true financial picture analysts interpret. A related problem to understanding the implications of FAS 133 is the likely widespread lack of

knowledge regarding derivatives in the accounting profession. As (Baskett, 2004) documents, accountants who provide audited financial statement verification are generally not trained to understand derivatives. Therefore, when an auditor and their firm attest to the accuracy of what is contained in a firm's financial statements, especially if the firm utilizes derivatives for hedging purposes, there are significant risks involved for the accounting firm and the end users such as financial analysts. This is because most accountants, including auditors, are not experts in the very complex area of derivatives. Therefore, they must either develop the competency or rely on an outside expert. In either case the auditor is at a disadvantage and therefore so is the securities analyst when relying upon the FAS 133 generated information.

**A SAMPLE OF DERIVATIVES REPORTING FOR EIGHT FIRMS**

The original study examined recent annual financial reports of eight companies to evaluate how they implemented FAS 133 in their financial reporting. The eight companies were randomly chosen and represent varying industries and company sizes that utilize derivatives to various extents. They are Intel, American Express, Merck, Harsco, Delta Airlines, Corning, Annheuser Busch and Tootsie Roll. The original study utilized the companies 2003 Financial statements. It is informative to review how some typical companies report Derivatives positions in their financial statements to see how much uniformity of information is provided. If the information provided under 133 and later amendments is not comparable then analysis by comparison, and thereby analyzing similar companies, will be difficult.

**REPORTING STANDARDS AND METHODS UNDER FASB 133**

The standard statement of accounting treatment and definitions of FASB 133 and related standards found in all of the companies financial statements is shown in Table 1 (Below).

**Table1: Variance in Financial Statement Disclosures for Derivatives (2003) \***

<b>Company Annual Reports or 10K</b>	<b>Types of Derivatives Utilized</b>	<b>Disclosure Standards Cited (FAS)</b>	<b>Tables or Other Specifics</b>	<b>Risks Hedged</b>
1. Intel (p.57-59)	Currency forward contracts currency options, currency in trade swaps ≤ 24 months –some ≤ 12 Months-some ≥ years-some	133 to 149	Detailed derivative information table	Currency, interest rates, some equity market
2. American Express (p. 93-95)	Interest rate swaps variable in future cash flows ≤ 15 years foreign currency forwards ≤ 36 months	Not mentioned	None, except swaps balance, and limited maturity data besides “various” under debt, not derivatives, section	Interest rates, FX
3. Corning (p.84-85; 58-59)	Forwards, FX option and interest rate swaps for currency debt issue	133, 137, 138, 149	January Fair values-total FX contracts-forward FX contracts-options	Interest rate, FX
4. Delta Airlines (p. F-14)	Fuel (heating and crude oil) contracts, interest rate swaps, equity warrants, FX options and forwards options and forwards ≤ 36 months	133 to 149	Summary, good impact table on financial statement state of operations, specifics given on interest rates on amount and time	Fuel, interest rates, equities
5. Tootsie Roll	Futures contracts-raw material primarily sugar	149	No amount and value not specified –not expected to be materials	Sugar

6. Merck (pp. 37-39)	1. Local Currency put options 2. Forward contracts in country currencies 3. Interest rate and currency swap contracts	133	A specific, single large transaction is discussed in specific terms, amount, time, type table included showing all three in amounts	Currency, FX, interest rate
7. Harsco (pp. 78-80; 56)	FX forwards ≤ 6 months	133 to 149	3-amount and maturity and type and fair values 2002-2003 specified in detail table	
8. Annheuser-Busch	Futures - commodities	133	Detailed table showing positions and amount, fair, value, gains and losses for three years 2001-2003	Interest rate, FX, commodity

\* Annual Report or 10-K, FAS – Financial Accounting Standards, FX – Foreign exchange = currency.

This section of the paper will summarize the differences in reporting for these companies. It will be organized by the type(s) of derivatives used, how they are used, and what information is reported.

**Intel**

Intel utilizes currency forward contracts, currency options, and currency swaps in three time period categories less than 24 months, less than 12 months and less than 5 years. They reference being in compliance with FASB 133 and 149. There is no detailed information, such as a table, showing the positions, term of the positions or their cash or fair values.

**American Express**

American Express utilizes interest rate swaps to hedge variation in future cash flows for period of up to 15 years. They also use foreign currency forward contracts for periods up to 36 months. They say they have adopted FASB 133 and 149. There is no detailed discussion, or table showing the actual derivative positions by type, amount, term, or values. They do have limited information on swap balances and swap maturity, which is generally described as "various", under the debt but not the derivative disclosure information section.

**Corning**

Corning utilizes Forward contracts (henceforth called Forwards) and options to hedge Foreign Exchange (FX) risk, interest rate swaps, and foreign currency debt issues as hedging vehicles. They reference adopting FASB standards 133, 137, 138, and 149. They break down their hedges in summary form by category, type, such as option or forward contract, and also provide summary type information on their fair value.

**Delta**

Delta utilizes and hedges future Jet Fuel price risk using the proxies of heating and crude oil forwards and options. They also utilize equity warrants, interest rate swaps, and FX options and forwards with terms up to 36 months. Delta references their adoption of FASB 133 and 149. They have summary tables that specify amounts and terms and gain and loss information on their fuel hedge and equity options for 2001, 2002, and 2003. They also describe their interest rate swaps in terms of amounts, maturities, yields, and fair values.

### **Merck**

Merck utilizes local currency put options, forward currency contracts, and interest rate and currency swap contracts. Merck references their adoption of FASB 133. Merck shows a table indicating the amount and fair value for their currency options, FX forwards, currency swaps and interest rate swaps for 2002 and 2003. Maturities of derivative positions were not generally indicated except for a large (\$500 million), 10 year, interest rate swap position initiated in 2003, and a 7 year currency swap position expiring in 2004.

### **Harsco**

Harsco utilizes FX Forwards for up to 6 months. They reference their adoption of FASB 133 and 149. They indicate and specify their derivatives positions in terms of type, amount, maturity, fair value and recognized gains or losses for years 2002 and 2003.

### **Annheuser Busch**

Annheuser utilizes Commodity futures price hedges, interest rate and FX hedges all with maturities of a maximum of 5 years. They reference their adoption of FASB 133. They have a detailed table showing gains and losses on their positions as well as a table showing a breakdown of the type of positions, and their fair values for the three years 2001-2003. There is however, no maturity breakdown.

### **Tootsie Roll**

Tootsie Roll utilizes Futures contracts to hedge raw materials prices, primarily sugar. They cite their adoption of FASB 149. There is no detailed breakdown on their positions by amount, value, or maturity. They state that they believe that there will be no material effect from their hedging activities.

A 9th company, Rohm-Haas, is used for a very limited comparison.

### **Rohm-Haas**

Because the 2001 financial statements from Rohm Haas were available and they were reviewed solely to compare or contrast any differences in reporting of accounting standards shortly after FASB 133 first went into effect.

Rohm-Haas state in their 2001 financial report that they have adopted SFAS 133 amended by 137 and 138 and DIG issue G-20, Assessing and Measuring the Effectiveness of a Purchased Option used in a Cash Flow Hedge. It is interesting that this was the only company where it was observed that the DIG issue reports were mentioned.

As is evident from the above discussion of the financial reporting of derivative positions by these varied types of companies, there is little uniformity, or comparability, in these reports. In other words there is not sufficient information to make comparative valuation decisions or projections across companies even within the same industry or sector classification. They vary by type of derivative instrument, by type of asset hedged and the type and level of detail provided in what is hedged, when and for how long. Specifically, there was no uniformity of information on how long the hedges typically, or actually, last, how much of the total asset position is unhedged, the specific amounts that are hedged, and how the decision is made to initiate or terminate the hedge. Further, no comparison of what the financial results would have been without the impact of FASB 133 and related reporting standards is given. Under these circumstances and the fact that the standards have been and will continue to be revised (for example the numerous DIG's issued and modifications to 133 like 149) it is obvious that comparing, or evaluating results even for a single company over time will yield analytical results that are likely to be of questionable value.

**THE 2005 SAMPLE**

There were three duplicated companies studied in both 2003 and 2005. They are Intel, Harsco, and Rohm-Haas.

**Intel**

Again it hedged currency and interest rate risk currency forward contracts, currency options, and interest rate swaps. They provided a two-year comparison of year-end values, but if anything there was less detailed information on derivatives usage in the 2005 data than in the 2003 reports.

**Harsco**

Similar to 2003 report.

**Rohm-Haas**

More detailed information in 2005 than in 2003 on notational and fair values and net gains and losses for three years.

Table 2, below, summarizes the Derivatives information provided for the other ten companies in the new 2005 report sample. Again, or still, there is little information that is comparable among the firms.

**Table 2: Variance In Financial Statement Disclosures For Derivatives (2005) \***

<b>Company Annual Reports or 10K</b>	<b>Types of Derivatives Utilized</b>	<b>Disclosure Standards (FAS)</b>	<b>Tables or Other Specifics</b>	<b>Risks Hedged</b>
1. Walmart (p.38)	Swaps	Not mentioned (NM)	2004-2005 - Two-year comparison of amounts when initiated, notational and fair value. Change in fair value past three years 2003-2005	Interest rates, FX rates
2. Hilton (p. 49)	Call options	NM	Derivative assets and liability carrying amount and fair value two years 2004-2005	Cash flow hedge of a foreign currency and oil – 2.5 mill barrels
3. General Motors (p.132, 133)	Uses forward contracts, swaps, and options up to three years in the future	NM	No table, but specifies gains and losses for 2004-2005	FX, interest rates, certain commodity prices
4. Loews (LTR) (p. 153-157)	Options, swaps, futures and collars (also uses short sales for portfolio management strategy)	NM	Carrying amounts and fair values 2004, 2005 and detailed explanations of hedging philosophy and tables, 2003-2005 of notational and fair value and gains/losses Extensive discussion and detail on extensive use of derivatives	Interest rate, credit, FX and equity stock price, group annuity contracts
5. Lance (p. 37, 43)	Interest rate swap	133, 149	No table, but amount, interest rate and expiration noted	Interest rate

6. J.P. Morgan Chase (pp. 94, 123)	Interest rate swaps Futures and forwards	133, 138, 149	Fair value and cash flow gains and losses 2004, 2005	Interest rate risk, FX risk also uses derivatives for trading not hedging purposes in interest rate, FX, credit, equity, commodity
7. Rohm-Haas (p. 75)	Options and forwards, collars, swaps	133	Net gains/losses specified for 2005 notational value noted net gain or loss for 2003-2005 specified Fair value specified for 2004, 2005	FX, raw material (commodity), interest rate
8. Harsco (p.91)	Forwards	133	Table specifying maturity, amount and gain/losses, maturity, through December 31, 2004 and December 31, 2005	FX
9. Intel (p. 55)	Interest rate swaps, forward contracts, currency options	NM	Only derivative total value (asset and liability) as of year end 2004, 2005	Currency, interest rate, FX and equity exposure
10. Ford Motor (p.84, 85, 86)	Forwards and options interest rate and currency swaps, maturity generally 3-5 years	NM	Overall year end gain or loss and fair and notational value for 2003, 2004, 2005 in cash flow, fair value and net investment hedges specified	FX, commodity
11. Washington Mutual (pp. 103, 123, 154-157)	Swaps, options, futures and forwards	133	Summary of gains or losses from overall derivatives 2003-2005. (p. 123) detailed discussion of use of derivatives	Interest rate, credit
12. Southwest Airlines (C-42, C-43, C-44)	Options, collars, swaps	133	Percentage hedged for 2006 and 2007 Overall gains and losses for 2003-2005 specified	Jet fuel (oil based), interest rate
13. Exxon-Mobil (A-38)	Not specified, derivatives did not have material effect		Limited use of derivatives, net overall gain/losses specified 2003-2005	Gas sales and purchase contracts

\* Annual Report or 10-K, FAS - Financial Accounting Standards, FX - Foreign exchange = currency.

**SUMMARY AND CONCLUSIONS**

So, to summarize, we have auditors who, in general, do not understand derivatives but who are stipulating to the accuracy of the financial reports of companies that make extensive use of derivatives. We have financial analysts, many of which do not have an in depth understanding of derivatives, or accounting standards that govern them or their effect on company valuation. Even if the security analysts are knowledgeable about Derivatives it is doubtful that they have enough, or the correct, information to do a thorough analysis. We have many government regulators, most of whom even in the securities industry, generally have little or no knowledge relating to derivatives. And we have the general public, many of whom invest in the securities of these companies, but are not able to assess the effect of



derivatives usage on their prospective investments. Can we quickly educate all or many of these groups? Obviously not! One solution for the general investing public and even for professional investors who do not understand derivatives well is simply to avoid the companies involved with them. However, derivative, investment, and portfolio theory tell us that derivatives when properly utilized can reduce the risk for a company and its securities relative to expected return. Because many companies have substantial risk exposure to large variation in things like interest rates, currencies and commodity prices, hedging against those risk factors is a prudent thing to do. A good example is Southwest airlines hedges against rising jet fuel prices that allowed them to remain profitable when most other major carriers were reporting losses. So avoiding the risk is not a very good solution for the company or individual investor. Next is the solution of understanding the risk. One way already suggested is to provide more information and more understandable, and comparable, information. Detailed comparable information should be provided about the type, size, maturity, current value, fair value and accrued gains and losses on derivative positions for at least the current year as compared to the previous two years. Also, financial results that provide information of results with, and what they would have been without, hedging and the provision of information on the size of unhedged portion of the risk vs. the hedged portion over time should be mandatory. Defining hedging rationales and any changes in hedging philosophy in regard to size and timing of positions over time should also be included. In this way even security market evaluators and participants could at least understand the philosophy and objectives underlying the hedging even if they did not have an in depth knowledge of the hedges and derivative instruments and their relationships. Also, anything that provides detailed information on the various hedge positions held currently and historically and in comparison to the entire company in a portfolio risk/return framework along with a verbal explanation would be useful.

To clarify, it can be misleading to look at derivative based hedging as static. A corporate hedging philosophy develops and changes over time. If that dynamic is not understood because you only see a one quarter or even one year set of standard financial statements and disclosures without further clarification of the hedging dynamics and philosophy, then you are examining a very small, and inadequate, piece of a much larger picture.

Further, mandatory, and specific, initial and continuing education requirements at a minimum for auditors, security analysts and CFA candidates in the areas of Derivatives, hedging concepts and related topics is also suggested. For example, the New York Institute of Finance offers a course in "Accounting for Derivatives" which covers the necessary topics. Mandatory utilization of recognized experts on derivatives as consultants to auditors and security analysts, with insufficient derivatives backgrounds, is also a suggested possibility. Under the risk management precepts of ways to manage risk which include avoid, minimize, shift, or absorb potential risk, derivative related education minimizes or at least lessens the risk of error. As (Baskett, 2004) suggests there is the risk taken by the firm in conjunction with their derivatives positions and the risk taken by the observers like security analysts, auditors and their firms in not understanding or correctly interpreting the risk the firm is taking, which may relate to the very survival of the financial firms doing the evaluating.

Until more and better and more comparable information is available and mandated to be provided what else can be done? Because Derivatives are widely used by corporations, ostensibly solely to manage risk and because their usage can significantly affect financial results it is still necessary for analysts to evaluate or at least be aware of the extent to which a firm uses derivatives.

First, it makes a difference whether options, forwards, futures, or swaps are utilized. Each has different consequences associated with their characteristics. For example options have a sunk, and therefore, recurring cost. Futures contracts do not have a sunk cost, but usage and price variation can result in frequent and costly margin calls. Forwards, unlike standardized exchange traded futures contracts have the potential for default and so on.

Secondly, the extent to which derivatives are used should be evaluated. We could establish three general categories.

- Little or no significant usage and/or impact of derivatives usage. Tootsie Roll would be a good example of a very conservative company in the sample that only hedges raw material costs, sugar, and the hedging results generally have no material effect on financial results. In general then there would be minimal valuation and analysis problems associated with derivatives.
- Moderate use of derivatives and/or impact of derivatives usage. For this and the next category we would evaluate whether the disclosure information was little and insufficient, moderate and typical, or detailed and helpful. The information needed and evaluated would include quantities and types of hedges, fair values, amount of the asset not hedged, gains, losses and positions held for 3 years, and a detailed discussion of hedging timing, philosophy, purpose and the results of current and past hedging results.
- Extensive use or financial impact of derivatives usage. This category would have the same requirements as the previous category, moderate use, but the implications of not having substantial information would be more detrimental to an evaluation of the company's value and financial position.

## RECOMMENDATIONS

It is our belief that without the disclosure information suggested above anyone who invests in or lends to a company with a moderate or extensive exposure to derivatives has a significant risk exposure related to possible losses in derivatives position. As seen from the sample companies the amount of information provided varies widely and is often insufficient. An alternative way to evaluate the likely relative, or at least potential, risk in this case is to measure the historic (average?) size of the derivatives position as a percentage of the company's total assets and total liabilities. A second alternative is to evaluate the historic range of annual gains and losses as a percentage of the companies net worth and overall cash flow or cash flow from operations. In this way at least the size of a potential problem can be assessed.

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