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Erwin De Deyn
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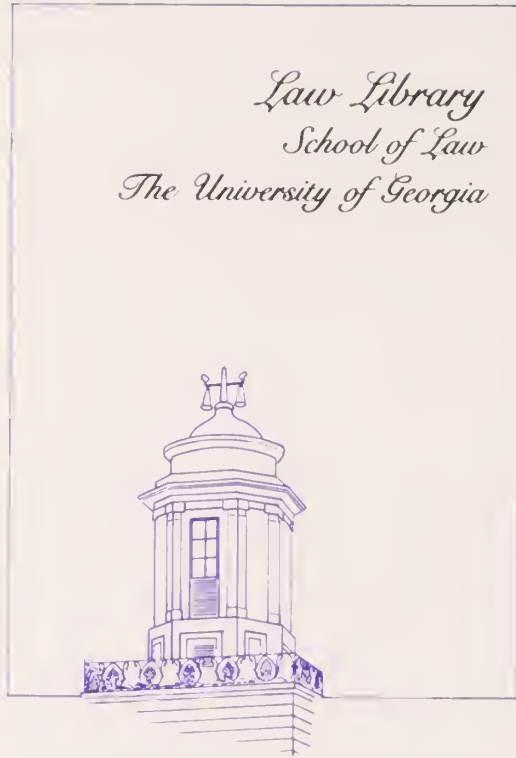
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ANALYSIS OF THE U.S. REGULATIONS OF DERIVATIVES:
DOES THE USE OF SUCH COMPLICATED INSTRUMENTS
POSE A SERIOUS THREAT TO THE SAFETY AND
SOUNDNESS OF THE U.S. BANKING SYSTEM?

Erwin De Deyn

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by

ERWIN DE DEYN

A Thesis Submitted to the Graduate Faculty
of the University of Georgia in Partial Fulfillment
of the
Requirements for the Degree

MASTER OF LAWS

ATHENS, GEORGIA

1996

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CHAPTER I:
INTRODUCTION

A. ADDRESSING THE ISSUE

In the last fifteen years, a penetrating and irreversible revolution has occurred in the world's financial markets. The globalization of financial markets and institutions along with innovative investments strategies are two of the hallmarks featuring this change. Investors and managers can now use new instruments, such as derivatives involving new strategies, for guarding against the always omnipresent financial risks. Derivatives are financial instruments whose returns are derived from other assets or variables. Futures and options are among the best known. Although derivative markets have been around in different forms for centuries, their growth has accelerated rapidly in the last ten years. Financial experts advocate that thanks to these instruments, financial markets in the United States and throughout the world are more efficient which in turn contribute to economic welfare. During the last decade, more complex, more sophisticated derivatives were introduced and the last years disasters due to

derivatives pepper the financial press. In October 1993, for example, the Financial Times reported that the Bundesbank warned that the growth of derivatives markets could endanger the stability of the world financial system¹. The German Central bank argued that "the increase in the use of options, futures and other complex derivative instruments has led to an interlinking of the world's financial markets that makes them more vulnerable to crisis²." On February 25-26, 1995, the oldest British merchant bank Baring Brothers collapsed. A 28 year-old employee based in Singapore, trading futures and options contracts, had accumulated losses exceeding £860 million. Baring's capital was £540 million. A rescue effort by the Bank of England failed. Other banks would not lend to Barings because with derivatives contracts still open the full extent of Barings' losses could not be fixed. This crisis, among many others, raises important issues concerning the use and regulation of derivatives, particularly in the futures and options markets. The financial markets are growing in new directions. More sophisticated, more complex, products are introduced primarily to meet the individual financial needs of bank customers. Derivatives become highly successful risk management tools but the dramatic growth in the use of derivatives has prompted expressions of concern from U.S.

financial regulators and Congress. For the most part, the concerns that have been raised have focused on the difficulty of assessing the various risks associated with derivative products. For example, the Office of the Comptroller of the Currency must ensure that national banks engaging in derivative transactions, either as dealers or as end-users, have the ability to accurately assess the risks associated with financial derivative activities and have sound risk management systems. To what extent is the regulatory framework sufficient to protect the financial system? Are other safeguards needed? Is greater coordination between regulators and regulated parties needed? What are the implications of derivative actions for deposit-taking institutions? These are the main issues that I am addressing and analyzing in this thesis. The main concern is that bank managers who make large bets on price movements use private clients money. This is what derivatives are all about. Therefore, the regulators must ensure that banks that engage in derivative contracts have the ability to accurately assess the risks associated with these products and have sound risk management systems in order to prevent insolvencies. The delicate task and, may be dilemma, that regulators face is to allow innovation in a safe and sound manner without smothering new activities with superfluous burdensome restrictions. Bank Regulators

have two main concerns about derivatives. The first is that poor management or lack of understanding of these complicated instruments could cause companies and banks to incur heavy losses. For example, in late 1993, a trading subsidiary of Metallgesellschaft, the German oil and metals company, faced final losses of one billion on dealings in the oil derivative markets³. The second concern is the broader impact on other financial markets, particularly whether derivatives have a destabilising influence. Additionally, the regulators agree that the poor existing regulation is outdated and possibly ineffective. New regulation is needed.

B. SCOPE OF THE THESIS

While the thesis focuses on the analysis of the legal aspects of the derivative instruments regulation, it is not addressing and analyzing the economical and pure financial aspects of these markets. Nevertheless, the reader will notice the important implication of some technical jargon which inevitably needs to be used for our purpose.

This thesis examines the legal issues involved in the trade of derivatives. It centers primarily on the most common derivative instruments such as futures and options but there are, of course, numerous other financial products

available and many other types of futures and options exist. The thesis sketches and analyses the risks users encounter in trading these products and the tools available to governments and agencies to manage and reduce these risks in the United States.

C. ORGANIZATION

Chapter I provides a general introduction to the subject and describes the reasons why derivatives are considered to be a hot topic. Chapter II presents a brief statement of the basic concepts of banking regulation in the United States and summarizes the role played by the different regulatory agencies. Chapter III then turns to the analysis of the origin, growth of derivative markets and informs the reader about the integration and globalization of financial markets. Chapter IV deals with the definition and examination of futures and options, two of the most common derivative products used in the financial markets. It further discusses and illustrates their functioning and establishes the rational principles that should be mastered to understand the dynamics associated with derivatives and the way they work. Chapter V covers the study and examination of the omnipresent risks associated with the use of derivatives. Chapter VI focuses

on recent litigation cases and analyzes the existing regulation. It then highlights the needs for more regulatory actions.

Chapter VII explores the U.S. bank supervisory initiatives and proposed regulation of banks' derivative activities by the regulatory agencies and the Self-Regulatory Organizations. Chapter VIII surveys the latest federal legislative initiatives for the supervision and regulation of derivatives of banks and is followed by my final comments and conclusions.

CHAPTER II:
BANKING REGULATION IN THE UNITED STATES -
BASIC FEATURES

A. RATIONALES FOR BANKING REGULATION

Banks are among the most regulated industries of all, not only in the United States but worldwide. Over the years a blend of customs, understandings, administrative practice and formal law has given rise to an affluence of rules that bind and govern banks as well as the regulatory agencies charged with their oversight. The goals that must be achieved by a regulatory system for the financial services industry are efficiency of regulation, flexibility, fair dealing, safety and soundness, avoidance of concentration, and efficient implementation of monetary policy⁴.

Efficiency of regulation is achieved when financial regulators and regulations distort the behavior of market participants only to the extent required to achieve valid public policy goals⁵. Flexibility in regulation is the ability of a regulatory system to adapt to changes in the regulated industry without distorting the regulatory

system, the industry, or the marketplace generally⁶. The lack of flexibility is one of the major problems in financial regulation today. From the perspective of financial institutions, safety and soundness considerations mean that a regulatory system should prevent institutional failures when harm to the financial marketplace would result⁷. This type of regulation is intended to prevent banks from failing through controlling risks and ensuring adequate capital⁸. Preventing failure avoids deposit-insurance pay-outs and systemic risk (i.e., a chain reaction of bank failures through interbank deposit linkage or payment settlement systems⁹). In theory, that goal is achieved by protecting small depositors with deposit insurance. In practice, however, large banks have become so dependent upon uninsured deposits that the "confidence" of the uninsured, institutional investor has provided the link between deposits at an individual bank and the stability of the financial system as a whole¹⁰. The banking regulators and lawmakers have always been concerned by concentration of financial power, possible conflicts of interest and the appropriate scope of risks banks could incur. Banks are in some way special and should therefore be distinguished from other financial or nonfinancial institutions. Why are they special? These financial firms have a special role to play in a modern economy. Financial institutions help households

and firms to save; they also facilitate the complex payments among many elements of the economy and in the case of commercial banks they serve as conduits for the government's monetary policy¹¹. More specifically they are special for three reasons. First, because they offer transaction accounts¹². The liquidity, the mobility and acceptability of the these accounts permit our economic and financial system to work with relative ease and efficiency¹³. On the other hand, banks can also create, through their lending activities, transaction deposits¹⁴.

Banks are indeed, the primary source of liquidity for all others classes and sizes of institutions, both financial and nonfinancial. Finally, banks are the transmission belt for the monetary policy¹⁵. The fact that banks are subject to reserve requirements place the banking system in the unique position of being the transmission belt through which the actions and policies of the central bank have their effect on financial market conditions¹⁶. These are the main reasons why banks have been strictly regulated.

B. DUAL BANKING SYSTEM IN THE UNITED STATES - BANK RUNS AND SYSTEMIC RISK

1. The Dual Banking System

Ever since the Civil war, the American banking industry has operated under a system of overlapping state and federal regulation¹⁷. The dual banking system comes out of a federalist tradition: unwillingness to concentrate too much power in the national government¹⁸. Under this system, a bank is chartered, examined and regulated as either a national bank, under the National Bank Act¹⁹ or as a state chartered bank under any one of the fifty-two different state banking laws²⁰. A bank that obtains a state charter is referred to as a state bank while a bank that obtains a federal charter is known as a national bank. By selecting one chartering authority rather than another, banks can determine the nature of the regulations to which they will be subject as well as the identity of the government agency that exercises the regulatory function.

2. Bank Runs and Systemic Risk

The principle of fractional reserves states that banks will never have more than a small portion of depositors' funds on hand in the form of cash²¹. As a result, if a run starts and many depositors demand withdrawal, the bank will

not be able to satisfy its customers. The bank's depositors have the right to withdraw on demand. If they hear rumors, they can take their funds out in a matter of minutes²². For example, speculation in the security business during the 1920s by banks and their affiliates resulted in tremendous losses when the securities markets soured. These losses undermined depositor confidence and caused a rash of bank runs, which led in turn to many bank insolvencies and an unstable money supply. Bank runs and panics are frightening events and today when they occur it is largely in the form of electronic or mail withdrawals placed from remote locations rather than by means of panicky mobs²³. However, bank runs and panics are rare today thanks to federal deposit insurance which covers accounts at insured banks up to \$100,000 per depositor per institution²⁴. A bank run is in no one's best interest. Even if the bank has become insolvent, everyone would be better off if closure occurred through an orderly process in which the bank could maximize the value of its assets rather than selling them at "fire sale" prices in order to satisfy depositor demands²⁵. In considering bank runs and panics, it is necessary to distinguish commercial banks and open-end mutual funds. These two institutions might be involved in the derivative markets but mutual funds are not subject to runs in the same way as banks are. Indeed, the liabilities of open-end

funds are in the form of demand equity rather than demand debt²⁶. Because the fund pays out investors based on net asset value, there is virtually no chance that the fund will become economically insolvent as a result of investor withdrawals²⁷. It remains theoretically possible that an open-end fund would suffer a temporary or "liquidity" insolvency if depositors demanded withdrawal more quickly than the fund could liquidate its assets to pay them²⁸. This possibility, however, is virtually eliminated by the fact that the assets of an open-end fund are typically devoted almost entirely to short-term securities with ready markets²⁹ and these assets can be converted to cash in a matter of hours. For these reasons, runs on open-end funds are virtually nonexistent despite the fact that they do not carry federal deposit insurance. More frequent and more frightening on a greater scale than bank runs is Systemic risk. Systemic risk is the risk that the failure of one bank will lead to the failure of other banks³⁰. Even with the best supervisory control system, a chain reaction can result from the linkage of interbank deposits³¹. One bank can hold sizable deposits of other banks and if that bank fails, the other banks could fail as well. Another chain reaction can arise through payment system linkage³². If one bank fails to settle its position in a net settlement system for large value payments (for example, the Clearing

House Interbank Payments System (CHIPS) in the United States) other banks, which do not get paid, may in turn fail. Finally, a chain reaction can happen through imitative runs³³. When one bank fails, depositors in other banks may assume that their banks may also fail and so withdraw their funds, exposing these banks to a liquidity crisis and ultimately to failure. We now turn away from the industry itself to look briefly to its regulators.

C. BANK REGULATORY AGENCIES

Made possible largely by new technology, the integration of financial markets and services has broadened the scope of the financial industry. But globalization and integration raise important legal issues relating both to the regulatory and supervisory function of governments and to the mutual rights and obligations of the participating parties. It also emphasizes, in this context of transnational activities, the need for uniform rules and for internationally accepted methods for the application of those rules and the settlement of disputes. These developments and their inevitable conflicting undertones have strongly influenced the actions of public institutions interested in the banking industry in each country. The diversity of such institutions within the same national

jurisdiction is not to be underestimated. In the United States alone the wide range of regulators demanding the attention of banks includes the Federal Reserve, the US Treasury, the Comptroller of the Currency, the Department of Labor, the Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation (FSLIC), the Federal Home Loan Bank Board (FHLBB), the state bank supervisors, the Securities and Exchange Commission (SEC), the state Securities Commissioners, the state insurance departments, and the Self-Regulatory Organizations (SROs), such as the stock, options and commodity exchanges, and the National Association of Securities Dealers (NASD)³⁴.

In addition to national authorities, international institutions and groups are deeply concerned with the regulation of international banking. These include, in addition to the Bretton Woods Institutions, the Bank of International Settlements, its standing Committee on Bank Regulations and Supervisory Practices (the Basle Committee), the Contact Group of the European Economic Community, the Institute for International Finance and a host of regional and subregional supervisory groups³⁵.

With so many agencies and different statutes it is no wonder that disparities in regulation exist. While the scope of this thesis does not include the analysis of all the regulatory agencies and their disparities, it will

highlight and examine those who play an important role in the regulation of derivative activities. In this regard, the primary federal commercial bank regulators are the Federal Reserve Board, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation.

1. The Board of Governors of the Federal Reserve System

Under the Federal Reserve Act³⁶, Congress empowered the Federal Reserve Board to manage the nation's money supply and to supervise State Banks which are members of the federal reserve system³⁷, National Banks, and bank holding companies³⁸. State Members banks are subject to examination by both federal and state bank examiners³⁹.

2. The Office of the Comptroller of the Currency

National Banks are chartered⁴⁰, examined⁴¹ and regulated⁴² by the Comptroller of the Currency. A National Bank must obtain the express consent of the OCC before it may engage in activities not expressly provided for in either statute or regulation⁴³. State banks are regulated by their respective state agencies. Each of the fifty states, the District of Columbia, and Puerto Rico, has its own particular banking act providing for the authorization,

chartering, regulation, and examination of its State Banks⁴⁴.

3. The Federal Deposit Insurance Corporation

The FDIC exercises residential supervisory authority over National Banks and State Member Banks⁴⁵. The FDIC also directs supervisory authority over State Banks which elect to obtain federal deposit insurance, even if they are not members of the Federal Reserve System ("State Nonmember Banks")⁴⁶. The FDIC has claimed the authority to regulate the scope of powers that a State Nonmember Bank may exercise under section 6 of the Federal Deposit Insurance Act⁴⁷. Section 6 requires the FDIC to determine, before approving deposit insurance, "whether or not the applying bank's corporate powers are consistent with the purpose of the FDIC Act."⁴⁸ The FDIC is also able to exercise regulatory authority over State Banks for which it ensures deposits ("Insured State Banks") by virtue of its power to terminate deposit insurance⁴⁹. Justifications for the FDIC terminating deposit insurance may include, for example, determining that the bank has engaged in unsafe or unsound practices⁵⁰. Finally, the FDIC handles failures of insured institutions and has authority to act as conservator of institutions that are in danger of default and as receiver of failed institutions⁵¹.

4. State Regulators

State-chartered banks, savings and loans, savings banks are supervised and regulated by a variety of state agencies⁵².

5. Complexity of the System

National banks are regulated by the Comptroller of the Currency and state banks are regulated by their respective state agency. Banks that are members of the Federal Reserve are regulated by the Federal Reserve. Banks that are insured by the FDIC are also regulated by the FDIC. Because all national banks must be members of the Federal Reserve and all Federal Reserve member banks must hold FDIC insurance, national banks are regulated by the Comptroller, the Federal Reserve and FDIC. State banks are regulated by their respective state agency, the Federal Reserve if they are members of the Federal Reserve and the FDIC if they carry insurance from FDIC. The development of the dual banking system has created a banking regulatory scheme that is not only complex but is also non-uniform between National and State Banks.

D. BANKING AND SECURITIES ACTIVITIES: THE GLASS-STEAGALL ACT

1. The Glass -Steagall Wall

Responding to political charges that the Depression of 1933 had been caused by bank speculation in securities, the Glass-Steagall Act separated commercial banking from investment banking. The separation of investment banking activities from commercial banking activities fosters public confidence in the banking system because it protects banks against the risks inherent in the securities business⁵³. Securities firms were not allowed to accept deposits or affiliate with deposit-taking institutions and commercial bank members of the Federal Reserve System were barred from participating, either directly or indirectly, in many aspects of the securities business. Banks have limited securities powers. They can only underwrite government debt, but they can be involved in brokerage activities⁵⁴. Banking affiliates- non bank subsidiaries of Bank Holding Companies- can do more. They can underwrite corporate debt and equity securities through so called § 32 20 subsidiaries, so long as they are not "engaged principally" (more than 10% of Gross Revenue) in these activities⁵⁵. The separation of securities activities from banking activities is justified by the potential

conflicts of interest that could result⁵⁶. For example, if a bank was allowed to underwrite securities, it could advise its corporate customers to purchase these securities and could threaten to cut off future loans if the customers did not oblige⁵⁷.

2. The Breakdown of the Glass-Steagall Wall

The separation wall between investment and commercial banking is crumbling and is about to fall. Competition and market forces pushed nonbanks to invade the commercial banking field by offering money market funds with checking privileges⁵⁸. Securities firms also invaded the banking market of making commercial loans by means of commercial paper market⁵⁹. Banks have counterattacked by invading the securities business. They now serve as investment advisors to mutual funds, act as stock brokers and compete with securities firms in the market for placing commercial paper with buyers⁶⁰. Even more significantly, securities subsidiaries of bank holding companies have been allowed to engage in the full range of traditional securities activities, including the underwriting of corporate debt and equity issues⁶¹. Furthermore, there have been discussions and debates in Congress to repeal the Glass Steagall Act. U.S. House Banking Committee Chairman Jim Leach introduced the Financial Services Competitiveness Act

of 1995 in the Congress that would repeal Section 20 of the Glass-Steagall Act and would create a new Section of the Bank Holding Company Act to authorize an adequately capitalized bank holding company to own a securities affiliate engaged in the dealing and underwriting of securities⁶². It would also permit a securities firm to acquire banks by becoming a bank holding company or to become an "investment bank holding company" (IBHC) and to acquire a "wholesale financial institution", an institution taking uninsured deposits of \$100,000 or more⁶³.

E. CAPITAL ADEQUACY REGULATION

The efficient performing of financial markets requires that members of the financial community have confidence in each other's ability to transact business. This premise means that each member of the financial community must have, among other things, adequate capital. In general, capital standards are designed to protect customers and to ensure a viable financial system by diminishing the chance of a series of interrelated defaults because of risks in securities markets⁶⁴. The purpose of capital adequacy rules is to protect against excessive riskiness in banking⁶⁵. A bank's capital - that is roughly speaking the excess of its assets over its liabilities - is its cushion against

insolvency⁶⁶. Capital adequacy regulation requires that banks maintain sufficient levels of capital against their assets. There are a variety of bases for mandating minimum capital. First, capital may be utilized to provide a cushion against future losses⁶⁷. Further, the greater a bank's equity, the smaller the cost to the FDIC in a liquidation proceeding⁶⁸. Also, minimum capital requirements may be used to curb potentially risky or unprofitable interstate and product expansion⁶⁹. There are currently two separate capital adequacy rules for banks:

- 1. Leverage ratios : this is simply a gross ratio of capital to assets without any adjustment for risk⁷⁰. It does not take into account the Risk Profile of the bank. For example, Capital/assets equals 3% for high rated institutions and with higher ratios for lower rated institutions⁷¹. This method became problematic because of international competition.
- 2. Risk adjusted capital ratios that stems from the Basle Agreement in 1988⁷² . The underlying rationale behind the use of a risk-based capital approach is based on a system assigning assets and off-balance sheet items, such as derivatives, to risk categories. The Capital Adequacy rules establish minimum ratios of capital to weighted risk assets, but banks and bank holding companies are generally expected to operate well above the minimum risk-based

ratios at a level corresponding to the degree of risk to which they are exposed⁷³. Banks must hold capital against counterparty credit risks exposures, including the credit risk exposure from their derivative activities. In light of these considerations the banking regulatory agencies expect that banking organizations will, as a general matter, operate with capital levels well above the minimum risk-based levels⁷⁴.

F. THE SUPERVISORY SYSTEM - ENFORCEMENT ACTION

Banking institutions are among the most closely scrutinized businesses in the United States⁷⁵. In order to prevent banks from engaging in illegal behavior or unsound practices and to maintain public confidence in the integrity of the banking system, banks are subjected to vigorous and ever-increasing regulatory review⁷⁶. Federal Reserve bank regulators have access to a broad range of sanctions. Banks are required to report massive amounts of information to their respective supervisory agencies. They must disclose the results of their operations, the shape of their balance sheets, the general makeup of their assets, their capital structure and much more⁷⁷. The most intimate details of their operations are subject to probing analysis by bank examiners whose sole responsibility is to detect

illegality and unsafe practices⁷⁸. If the regulators become convinced that an institution is engaged in illegal behavior or unsound practices, they may threaten a cease-and-desist action against the institution or its officers and directors⁷⁹. The officers and directors may be sued for civil damages and they may even be removed - fired - from the institution and barred from all federally insured institutions⁸⁰. For example, an agency may issue an order against a bank officer who has violated any law, regulation or order, participated in "unsafe or unsound practice," or breached a fiduciary duty, and, as a result of any such actions, has caused or may cause an institution to suffer a financial loss, may prejudice the interest of depositors, or has realized a pecuniary gain⁸¹. The institution itself may suffer onerous penalties, including suspension or termination of Federal Reserve deposit insurance⁸². The most important enforcement procedures are: informal agreements and conditions; cease-and-desist orders; suspension or removal of bank officers; civil monetary penalties; suspension or termination of Federal Reserve deposit insurance; civil litigation and criminal prosecutions⁸³. As a general rule, courts defer to the enforcement actions of Federal Reserve banking agencies⁸⁴. The agencies enjoy very broad powers to impose sanctions. The examination process can help prevent problem situations

from remaining uncorrected and deteriorating to the point where costly financial assistance by the FDIC becomes unavoidable⁸⁵. Also, the examination supplies the supervisor with an understanding of the nature, relative seriousness and ultimate cause of bank's problems, and thus provides a factual foundation to soundly base correctives measures, recommendations and instructions⁸⁶. One would suspect that given these impressive powers, the supervision system would be remarkably effective at preventing unsound practices. As will be noted in the next chapters, the staggering losses incurred by the banking industry during the last five years due to the use of derivatives could probably have been avoided in every instance had the institution in question been prevented from further trading in those volatile products or been required to stop trading these instruments prior to or to the point of economic insolvency. Why does the system not work as it should? What accounts for the apparent regulatory inefficiency? First, it may well be that bank examiners do not possess a fully adequate methodology for assessing the safety and soundness of the financial institutions they supervise⁸⁷, especially those heavily engaged in derivatives trade. Furthermore, bank examinations may have become less effective as a result of profound structural changes in the banking and finance industry⁸⁸. As some institutions have become

nationwide and even worldwide in scope, conducting broad range of complex activities such as derivatives, it is getting more difficult for the agencies to reveal a full and accurate picture of the institution's overall financial status⁸⁹. It is virtually impossible to conduct a reliable audit at the bank from a single location and by the time you have gathered all relevant information in order to assess the institution's current condition and make judgments about compliances, it might be that the information is already outdated or at least does not reflect accurately the financial status of the institution. Even consolidation records of a bank cannot be fully up to date because derivative positions change all the time and balance sheets do not give a proper picture of what is going on. For anyone on the outside to keep track is virtually impossible. Additionally, it is even more difficult to monitor and supervise an industry in crisis.

CHAPTER III:

DEFINITION -

ORIGIN AND DEVELOPMENT OF DERIVATIVE INSTRUMENTS

A. THE DEFINITION OF DERIVATIVE INSTRUMENTS

1. Introduction

It might be worthwhile to introduce this subchapter by giving first an illustration of one kind of investment strategy that characterize the dynamics associated with some kind of derivative instruments. Let us take the property owner with a mortgage as an example. A person buys a house for \$100,000; he or she puts up \$10,000 and borrows \$90,000 from the bank. He or she has no intention to live in that house nor would he or she be the owner. His or her intention is to sell the house at the most appropriate time. Six months later, the house is sold for \$150,000. He or she pays back \$90,000 to the bank (for our purpose we ignore interest payments) and keeps \$60,000 which seems not too bad for an original investment of just \$10,000. As will be noted in the course of subsequent chapters, the principle is exactly the same in many derivative

investments: leverage or the use of debt to magnify investement returns.

2. Definition : What Are Derivatives?

The usual textbook definition given for derivatives is something like "instruments derived from securities or physical markets."⁹⁰ The problem is that the term "derivatives" has become a catch-all generic term that has been used to include all types of new (and some old) financial instruments. The most common types of derivatives that investors are likely to come across are futures, options, forwards, swaps, warrants and convertible bonds.

Beyond this, the derivative range is only limited by the imagination of investment bankers and it is likely that any person who has funds invested or placed in an insurance policy or pension fund, is already, wittingly or unwittingly, involved in derivative activities⁹¹. More specifically, financial derivatives are defined as "financial instruments which derive their value from the performance of assets, interest or currency exchange rates, or indexes."⁹² Derivative transactions include a wide assortment of financial contracts, including structured debt obligations, deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations thereof.⁹³ They are widely used to speculate on future

expectations or to reduce a security portfolio's risk. Despite the variety and complexity of these instruments, all derivatives basically require two parties to take opposite positions as to the future value of the underlying asset. One party to the contract assumes the risk that the underlying asset will increase in value while the other party assumes the risk of a decrease in value. The underlying asset can be anything from stocks to interest rates⁹⁴. There are also derivative instruments involving commodities and precious metals and the range of terms and conditions attached to derivative contracts are as broad as the imagination of the contracting parties. Finally, derivatives should not be confused with shares. The subtle, but crucial, difference lies in the fact that, while shares are assets, derivatives are usually contracts (the major exception to this are warrants and convertible bonds, which are similar to shares in that they are assets). Financial assets (e.g. shares, bonds) can be defined as claims on another person or corporation; they will usually be fairly standardized and governed by the property or securities laws in an given jurisdiction. On the other hand, a contract is merely an agreement between two parties, where the contract details may not be standardized. Possibly because it is thought that investors may be wary of the woolly definition of derivatives, one frequently comes

across references to "derivatives securities" "derivatives products". These "securities" and "products" sound fairly solid, tangible things. But in many cases these terms are rather inappropriately applied to what are really contracts.

B. ORIGIN AND GROWTH OF DERIVATIVES

1. The Development of Derivative Markets

The derivative markets have a long pedigree. Historians have traced transactions in derivative instruments to 2000 B.C.⁹⁵ In the U.S., it was not until the middle of the eighteenth century that a fully functioning futures market was established in Chicago⁹⁶. Chicago was rapidly becoming the transportation and distribution center of the Midwest. Farmers shipped their grain from the farm belt to Chicago for sale and subsequent distribution eastward along rail lines and the Great Lakes⁹⁷. However, due to the seasonal nature of grain production, large quantities of grain were shipped to Chicago in the later summer and fall⁹⁸. The city's storage facilities were inadequate for accommodating this temporary increase in supply. Prices fell drastically at harvest time as supplies increased and then, rose steadily as supplies were consumed⁹⁹. In 1848, a group of businessmen took the

first step toward alleviating this problem by forming the Chicago Board of Trade (CBOT)¹⁰⁰. The CBOT initially was organized for the purpose of standardizing the quantities and qualities of the grains¹⁰¹.

A few years later, the first forward contract was developed. Called a "to-arrive" contract, it provided that a farmer could agree to deliver the grain at a future date at a price determined in advance¹⁰². This meant that the farmer would not ship the grain to Chicago at harvest time but could fix the price and date at which the grain subsequently would be sold¹⁰³. Speculators soon found that rather than buy and sell the grain itself they could buy and sell the contracts¹⁰⁴. In that way, they could speculate on the price of grain to be delivered at a future date and not have to worry about taking delivery of and storing the grain¹⁰⁵. Soon thereafter, the exchange established a set of rules and regulations for governing these transactions. In 1874, the Chicago Produce Exchange was formed and in 1898 it was reorganized as the Chicago Mercantile Exchange, which is now the world's second largest futures exchange¹⁰⁶. One of the America's first financial scandals, involved futures trading in securities¹⁰⁷. William Duer, a prominent financier and Revolutionary War figure, was bankrupted in 1792 after he engaged in massive speculations in the debt of the United States and stock of the Bank of the United

States and the Bank of New York¹⁰⁸. He and an accomplice, Alexander Macomb, entered into contracts for the future delivery of those securities, which triggered a speculative frenzy¹⁰⁹. The speculation eventually failed, resulting in America's first financial panic¹¹⁰. Trading in "privileges", "puts and calls", and "price differences" also accompanied the speculation during the Civil war¹¹¹. For a fee, the purchaser was given the "privilege" or option to buy or sell grain at a specified price¹¹². In 1865, the Board of Trade prohibited such transactions because they were viewed to be gambling contracts but that bar was ineffective in stopping such trading as were later the efforts of the exchange¹¹³. Difference trading on price changes also became commonplace in the over-the-counter market and again the states attempted to stop this trading through legislation that prohibited such contracts or made them unenforceable as gambling contracts¹¹⁴. The Commodity Exchange Act of 1936 prohibited domestic futures transactions that did not take place on a licensed contract market such as the Chicago Board of Trade¹¹⁵. By the early 1970s, however, there were numerous unregulated exchanges that were trading futures contracts on several commodities including precious metals, currencies, and the so-called "world" commodities, e.g., coffee, sugar, and cocoa¹¹⁶. Another more serious flaw in the Commodity Exchange Act involved its prohibition against

commodity options trading, which had been banned because of the many abuses associated with those instruments¹¹⁷. The same gap in the Commodity Exchange Act that allowed some futures exchanges to operate in an unregulated environment also allowed options trading on such commodities leading to millions of dollars in customer losses¹¹⁸. Congress reacted to these problems by enacting new legislation, the Commodity Futures Trading Commission Act¹¹⁹ (CFTCA) of 1974, which created a commission similar to the Securities and Exchange Commission and this commission was given expanded regulatory powers and enforcement sanctions¹²⁰. The new act subjected all commodities of whatever kind to regulation under the Commodity Exchange Act¹²¹. The new Commission, the Commodity Futures Trading Commission (CFTC), was also given plenary authority to regulate commodity options¹²². Before the 1980s, generally speaking, bank uses of derivatives were expected to be limited to the management of interest rate and exchange rate risks associated with banking operations, and were limited to instruments where the underlying asset was an asset that was permissible for direct purchase by the depository-institution¹²³. During the course of the 1980s, however, the nature and extent of financial institution participation in the derivative markets changed dramatically. Banks became increasingly involved in trading activities that were not necessarily

related to the management of risk, and expanded the purchase and sale of products to include instruments where the underlying asset was not necessarily one that the financial institution could buy or sell¹²⁴. In addition, the explosive growth of the swap markets contributed significantly to bank involvement in the OTC derivative markets, as financial institutions discovered that their ability to control interest rate, exchange rate and other risks associated with their general banking activities was significantly enhanced by the ability to exchange (or swap) cash flows and payment streams¹²⁵. As more new derivative products, such as swaps and certain interest rate contracts, began to multiply, at the same time, confusion grew as to whether this new products had to be regulated by the CFTC. Recognizing the uncertainty that lay in the area of these developing derivative financial instruments, Congress enacted the Futures Trading Practices Act of 1992¹²⁶. That legislation amended the Commodity Exchange Act to provide the CFTC with some exemptive power for institutional traders¹²⁷. This was needed, not only to remove the legal uncertainties of swaps and over-the-counter derivatives, but also because the derivative products traded by institutions were individually negotiated and would not fit within the standardized format required for exchange trading¹²⁸. The Futures Trading

Practices Act of 1992 allowed the CFTC to exempt any transaction by "appropriate persons" from the exchange trading requirement¹²⁹. Appropriate persons include institutional participants such as banks, insurance companies, investment companies, commodity pools, broker-dealers, corporations of a specific size and "other persons."¹³⁰ The CFTC has adopted regulations to implement that legislation by, among other things, exempting swaps transactions by institutions¹³¹.

2. The Development of Financial Futures

For the first 120 years, futures exchanges offered trading in contracts on commodities such as agricultural goods and metals¹³². Then, in 1971, the major Western economies began to allow their currency exchange rates to fluctuate and this opened the way for the formation in 1972 of the International Monetary Market (IMM), a subsidiary of the Chicago Mercantile Exchange that specializes in the trading of futures contracts on foreign currencies¹³³. These were the first futures contracts that could be called financial futures¹³⁴. In 1976, the International Monetary Market introduced the first futures contract on a government security and short-term financial instrument: the 90 day U.S. Treasury bills¹³⁵. This contract was actively traded for many years, but its popularity has

declined somewhat, at least partly due to the remarkable success of a competing contract, the Eurodollar futures, which was launched in 1981¹³⁶. In 1977, the Chicago Board of Trade started what became the most successful contract of all time: the U.S. Treasury bond futures¹³⁷. The 1980s brought the highly successful stock index futures contract¹³⁸. The ensuing years saw a tremendous degree of competition between the futures exchanges to introduce new contracts that would generate significant trading volume¹³⁹. Barely a month passed without at least one new futures contract being introduced¹⁴⁰. Today financial futures and options markets span over the globe. The underlying asset may be a deposit in a major currency, a bond issued by a major government, equity in a firm or an index in a leading stock.

3. The Growth of Derivative Markets and The Integration of Financial Markets

An important phenomenon of recent years has been the tremendous growth in international markets¹⁴¹. Fueled by advances in communications technology and the breakdown of communism, we have seen economic systems change and new financial markets develop in nearly all countries of the world¹⁴². Indeed, Eastern Europe develops its market economies, Western Europe moves toward a unified economic

system and Japan already represents an enormous economic and financial power. The continued growth of large multinational corporations and financial institutions, has brought down barriers among countries, making it much easier to trade financial assets across country lines¹⁴³.

This phenomenon whereby markets in various countries behave in a competitive and unified manner is called international market integration¹⁴⁴ or the globalization of financial markets. Three factors have led to this integration. First, the deregulation of markets in key financial centers of the world has played an important role¹⁴⁵. Global competition has forced governments to deregulate various aspects of their financial markets so that their financial enterprises can compete effectively around the world¹⁴⁶. Second, technological advances for monitoring world markets, executing orders and analyzing financial opportunities have brought radical changes in the financial markets¹⁴⁷.

Advances in telecommunications systems, such as Internet or America Online, link market participants throughout the world with the result that an order can be executed within seconds. Further, advances in computer technology along with advanced telecommunication networks allow the transmission of real-time information on security prices and other key information to many participants in

many places¹⁴⁸. As a result, many investors can monitor global markets and simultaneously assess how this information will effect the risk/return profile of their portfolios¹⁴⁹.

Third, the US financial markets have shifted from domination by retail investors to domination by financial institutions¹⁵⁰. The shifting from dominance by retail investors to institutional investors is referred to as the institutionalization of financial markets¹⁵¹. Retail investors mean individuals. For example, when you and I buy a share of common stock, we are retail investors. Examples of financial institutions are pension funds, insurances companies, commercial banks, savings and loans associations. As a result, unlike the retail investor, institutional investors have been more willing to transfer funds across national borders to improve portfolio diversification and/or take advantage of perceived mispricing of financial assets in foreign countries¹⁵². This new environment creates challenges and opportunities for today's financial and investment managers but also entails new threats. As will be examined in next chapters, this integration of markets involves enhanced risk, especially the so-called systemic risk (see *infra*). Indeed, there has been a fear expressed by certain regulators and commentators that the failure of a major derivatives

participant could send shock waves throughout the financial system as a whole. This is referred to as the "ripple effect". This new threat of single systemic risk has been raised by some like a banner in the battle for more laws and more regulation. Anyway, thanks to the dismantling of regulatory barriers and improvement in the infrastructure of financial markets, investors have gained access to a wider range of products¹⁵³. Derivatives have heightened that trend. Because transaction costs are lower and derivatives are often more actively traded than conventional instruments, it is easier for example, to switch from German to the Japanese stock market by using futures rather than by selling a portfolio of individual stocks¹⁵⁴.

Derivatives have created much greater linkage between markets and the leverage involved means that positions can turn much quicker¹⁵⁵. For in the last ten years, the ties that have been binding the financial world closer together have themselves become more complex. For example, futures trading takes place on 11 futures exchanges in the United States and on an electronic system called GLOBEX¹⁵⁶. Today, almost every large country (and even a few small ones¹⁵⁷) has a futures exchange. One benefit of such global futures trading, particularly when it is fully automated, is the potential it offers for linkages among exchanges¹⁵⁸. For example, the Chicago Mercantile Exchange and the Singapore

International Monetary Exchange (SIMEX) are linked so that a trader opening a position in Eurodollars or certain foreign currencies on one exchange can close the position on the other¹⁵⁹. The trading of futures on foreign products and the opportunities to open a contract in one market and offset it in another move the markets toward near 24-hour trading¹⁶⁰. Derivative instruments play and will continue to play a critical role in global financial markets. The unprecedented expansion in the use of derivatives can be seen as the business world's response to the financial risks posed by increasingly globalized financial markets¹⁶¹. Without derivative instruments and the markets in which they trade, the financial systems throughout the world would not be as integrated as they are today¹⁶².

CHAPTER IV:
WHO USES DERIVATIVES AND WHY -
THE PURPOSE AND ROLE OF DERIVATIVES

A. PARTICIPANTS IN DERIVATIVES

The participants in derivatives can be divided into two groups: end-users and dealers. End-users are firms engaged primarily in industrial or commercial enterprises (for example, investment management firms, energy concerns, export/import companies, corporations, governmental entities, institutional investors, and financial institutions¹⁶³. Dealers consist mainly of banks and securities firms with a few insurances companies and highly rated corporations (mainly energy firms) having recently joined the ranks¹⁶⁴. An institution may participate in derivatives activity both as an end-user and a dealer. For example, a money-center bank acts as an end-user when it uses derivatives to take positions as part of its proprietary trading or for hedging as part of its asset and liability management¹⁶⁵. It acts as a dealer when it quotes bids and offers and commits capital to satisfying

customers' demands for derivatives¹⁶⁶. Banks earn revenues from derivative activities through "transaction fees, bid-offer spreads, and their own trading positions."¹⁶⁷ Banks may also earn fees by offering customers risk management tools through the use of financial derivatives¹⁶⁸. In addition, banks may use financial derivatives to lower their cost of funding and to reduce undesirable exposure to interest rate changes or currency fluctuations¹⁶⁹. Banks control approximately seventy percent of the off-exchange derivative activities¹⁷⁰. Although National Banks have been authorized for several years to engage in financial derivative activities¹⁷¹, with exception of New York¹⁷², there appears to be little published guidance for State Banks. Ten banks, or their affiliates, accounted for approximately ninety percent of bank derivative activity with respect to interest rate contracts as of September 1992¹⁷³. Six of these ten banks were National Banks, and the remaining four were New York State Banks¹⁷⁴.

B. THE PURPOSE OF DERIVATIVES

Derivative contracts provide issuers and investors an inexpensive way of controlling some major risks¹⁷⁵ (see *infra*). The primary risks are associated with unpredictable (volatile) movements in foreign exchange and interest

rates, as well as in the prices of equities and commodities¹⁷⁶. The four examples below illustrate the needs for using derivative transactions in the business and financial world.

1. Suppose that a particular company - we call it the Prudential Investor - plans to obtain a bank loan for \$100 million two months from now. The key risk here is that two months from now the interest rate will be higher than it is today. If the interest rate is only one percent higher, Prudential Investor would have to pay \$1 million more in annual interest. So clearly, issuers/borrowers need a way to protect against the rise in interest rates.

2. Presume that Prudential Investor Pension Fund owns a portfolio consisting of common stock of a large number of companies. In order to fulfill its obligations the pension fund must make periodic payments to the beneficiaries of the plan. Suppose the pension fund knows that two months from now it must sell stock in its portfolio to pay off beneficiaries \$20 million. The risk that Prudential Pension Fund faces is that two months from now when the stocks are sold, the price of most or all stocks may be lower than they are today. If, indeed, stock prices do decline, the pension fund will have to sell off more shares to realize \$20 million. Thus, investors such as the Prudential Fund, may want to protect against this kind of risk. The pension

fund managers can hedge by selling in the futures markets and lock in a selling price.

3. Suppose that another company the Prudential Trust plans to issue a bond in Switzerland and the periodic payments that the company must make to the bondholders are denominated in the Swiss Currency, the franc. The amount of U.S. dollars that Prudential Trust must pay to receive the amount of Swiss francs it has contracted to pay depends upon the exchange rate at the time the payment must be made. For example, suppose that at the time Prudential Trust plans to issue the bonds, the exchange rate is such that one U.S. dollar is equal to 1.5 Swiss francs. So, for each 7.5 million Swiss francs that Prudential must pay to the bondholders, it must pay \$5 million. If at any time that a payment must be made in Swiss francs, the value of the U.S. dollar declines to the Swiss franc, Prudential Trust will have to pay more U.S. dollars to satisfy its contractual obligation. If, for example, one U.S. dollar at the time of a payment changes to 1.25 Swiss francs, Prudential would have to pay \$ 6 million to make a payment of 7.5 million Swiss francs. This is \$1 million more than when it issued the bonds. All Issuers/borrowers who raise funds in currency that is not their local currency face this kind of risk. To illustrate another example, consider an ordinary commodities future contract for gold selling at

\$400 per ounce. Party A believes the price of gold will rise while party B believes the price of gold will fall. A and B might enter into a contract in which A will buy from B, and B will sell to A, 100 ounces of gold at \$400 per ounce on a specified date in the future ("expiration date"). If the price of gold falls to \$380 per ounce on the expiration date, B can buy gold at the market price and sell it to A at a profit of \$20 an ounce. Hence, A will have bought the gold at \$20 per ounce more than the spot market price at the expiration date. If, however, the price of gold rises to \$420 per ounce, A can buy gold from B at \$400 per ounce and sell it at the market price for a profit of \$20 per ounce. So, derivatives permit end-users and dealers to identify, isolate, and manage separately the fundamental risks and other characteristics that are bound together in traditional financial instruments¹⁷⁷.

Derivatives are a means by which elements of risk can be stripped away from a transaction, providing the user with cost effective protection from the market volatility¹⁷⁸.

Desired combinations of cash flow, interest rate, currency, liquidity, and market source characteristics can be achieved largely by separate choices, each independent of the underlying cash market instrument¹⁷⁹. As a result, management is able to think and act in terms of fundamental risks. Derivatives are used by thousands of entities

worldwide, typically in the pursuit of one or more of the three following goals¹⁸⁰: (1) hedging, (2) reducing funding costs, and (3) speculation.

CHAPTER V:

TYPES OF DERIVATIVE INSTRUMENTS AND KEY FEATURES

A. FUTURES MARKETS

1. Definition

A future contract is a legal agreement between a buyer and a seller in which:

- the buyer agrees to take delivery of something at a specified price at the end of a designated period of time;
- the seller agrees to make delivery of something at a specified price at the end of a designated period of time¹⁸¹. Of course, no one buys or sells anything when entering into a futures contract. Rather, the parties to the contract agree to buy or sell a specific amount of a specific item at a specified future date¹⁸². Let us consider the key elements of this contract. The price at which parties agree to transact in the future is called the futures price¹⁸³. The designated date at which the parties must transact is called the settlement date or delivery date¹⁸⁴. The "something" that the parties agree to exchange is called the underlying¹⁸⁵. The buyer of a futures

contract, who has the obligation to buy the good at the later date, can sell the contract in the futures market, which relieves him or her of the obligation to purchase the good¹⁸⁶. Likewise, the seller of the futures contract, who is obligated to sell the good at a later date, can buy the contract back in the futures market, relieving him or her of the obligation to sell the good¹⁸⁷.

2. Illustration : A Simple Numerical Example

Assume that there is a futures contract traded on an exchange where the underlying asset to be bought or sold is asset ABC and the settlement date is three months from now. Assume further that party one called Bruce buys this future contracts and that party two called Sally sells this futures contract and that the price at which they agree to transact in the future is \$100. \$100 is the futures price. So, at the settlement date Sally will deliver asset ABC to Bruce and Bruce will give Sally \$100 the futures price. Suppose that one month after the deal, the futures price the asset increases to \$120; Bruce - the buyer - of the futures contract, could then sell the futures contract and realize a profit of \$20. Indeed, he has agreed to buy, at the settlement date asset ABC for \$100 but it is worth \$120. Suppose that the future price falls to \$40, Sally realizes a profit of \$60 because she agreed to sell asset

ABC for \$100 and now can buy it on the market for \$40. In this case, Bruce would realize a loss of \$60. Thus, if the futures price decreases the buyer of the futures contract realizes a loss while the seller of the future contract realizes a profit¹⁸⁸. When an investor takes a position in the market by buying a futures contract (or agreeing to buy at the future date), the investor is said to be in a long position or to be long futures¹⁸⁹. Conversely, if the investor's opening position is the sale of a futures contract (which means the contractual obligation to sell something in the future), the investor is said to be in a short position or to be short futures¹⁹⁰.

3. Creation of a Futures Contract

Futures contracts are products created by exchanges¹⁹¹. To create a particular future contract, an exchange must obtain approval from the Commodity Futures Trading Commission¹⁹². In its application to the CFTC, the exchange must demonstrate that there is an economic purpose for that contract¹⁹³. While numerous futures contracts obtain approval for trading, only those contracts that spark investor interest and serve investor needs ultimately succeed¹⁹⁴. The basic economic function of the future markets is to provide an opportunity for market participants to hedge against the risk of adverse price

movements. In the United States, the development of the markets for futures and options on stock indexes and debt obligations was a response to the need for an efficient risk-transference mechanism as stock price and interest rate volatility in the United States increased¹⁹⁵. Prior to 1972, only futures contracts involving traditional agricultural commodities (such as grain and livestock), imported foodstuffs (such as coffee, cocoa and sugar) or industrial commodities were traded¹⁹⁶. Collectively, such contracts are known as commodities futures. Futures contracts based on financial instruments or financial index are known as financial futures¹⁹⁷.

4. Liquidating a Position

Most financial futures contracts have settlements dates in March, June, September or December¹⁹⁸. This means that, at a predetermined time, the contract settlement month, the contract stops trading and a price is determined by the exchange for settlement¹⁹⁹. A party to a futures contract has two choices on liquidation of the position.

First, the position can be liquidated prior to the settlement date: the party must take an offsetting position in the same contract²⁰⁰. For the buyer of a futures contract, this means selling the same number of identical futures contracts; for the seller of a futures contract,

this means buying the same number of identical futures contracts²⁰¹. Second, the alternative is to wait until the settlement date: at that time, the purchaser of a futures contract accepts delivery of the asset; the party that sells a futures contract liquidates the position by delivering the underlying asset at the agreed upon price²⁰².

5. The Role of the Clearinghouse

Associated with every futures exchange is a clearinghouse, which performs several functions. One function is to guarantee that the two parties to the transaction will perform²⁰³. For each transaction, obviously, there is a buyer, usually called the long, and a seller called the short²⁰⁴. In the absence of the clearinghouse, each party would be responsible to the other. If one party defaults, the other would be left with a worthless claim. The clearinghouse exists to meet this problem. When someone takes a position in the futures market the clearinghouse takes the opposite position and agrees to satisfy the terms set forth in the contract²⁰⁵.

The clearinghouse interposes itself as the buyer for every sale and the seller for every purchase²⁰⁶. So, the two parties are then free to liquidate their positions without involving the other party in the original contract, and without worry that the other party may default²⁰⁷. This is

called the guarantee function of the clearinghouse. Besides, the clearinghouse makes it simple for the parties to a futures contract to unwind their positions prior to the settlement date²⁰⁸. Suppose that one party wants to get out of his futures position. He or she will not have to seek out the other party and work out an agreement with him or her to terminate the original agreement. Instead, he or she can unwind his or her position by selling an identical futures contract²⁰⁹. At the settlement date, the seller will not deliver the asset to the original buyer but will be instructed by the clearinghouse to deliver to someone who bought and still has an open futures position²¹⁰. In the case of options contracts the Clearinghouse is known as the Options Clearing Corporation (OCC) which is also an independent corporation that guarantees the writer's performance²¹¹.

6. Margin Requirements

When a position is first taken in a futures contract, the investor must deposit a minimum dollar amount per contract as specified by the exchange²¹². This amount, called initial margin, is required as a deposit for the contract²¹³.

At the end of each trading day, the exchange determines the "settlement price" for the futures

contract²¹⁴. The exchange uses the settlement price to mark to market the investor's position, so that any gain or loss from the position is quickly reflected in the investor's equity account²¹⁵.

Additionally, we have the maintenance margin which is the minimum level to which an investor's equity position may fall as a result of an unfavorable price movement before the investor is requirement to deposit additional margin²¹⁶.

The additional margin deposited is called variation margin, and it is the amount necessary to bring the equity in the account back to its initial margin level²¹⁷. If a party to a futures contract who is required to deposit variation margin fails to do so within 24 hours, the exchange closes the futures position out²¹⁸. To illustrate the Mark-To-Market procedure, let us assume the following requirements for asset ABC: Initial margin \$7 per contract and maintenance margin \$4 per contract. Let us assume that Bruce buys 500 contracts at futures prices of \$100 and Sandra sells the same number of contracts at the same price. Initial margin for Bruce and Sandra is \$3,500 which is determined by multiplying the initial margin of \$7 by numbers of contracts which is 500. Bruce and Sandra must put up \$3,500 in cash. The maintenance margin for the 2 positions is \$2,000 (500 x 4) which means that the equity

in the account may not fall below \$2,000. If it does, the party whose equity falls below the maintenance margin must put up additional margins²¹⁹. When the investor decide to trade futures, he has to make daily cash payments to the stock exchange in the event the trades go against him²²⁰.

These cash payments are called "variation margin payments" or " market-to-market payments."²²¹ Each day the Stock Exchange makes a running calculation on the value of the futures the trader has bought or sold and if the current price has moved too far away from his traded price, the dealer has to pay up and the cash he pays is passed on by the stock exchange to the clearinghouses²²². Conversely, if the price goes with the trader, he will receive cash payments via the stock exchange. The Stock Exchange thus works as a transparent financial house which matches all the buyers and sellers and passes the money back and forth each day. The reason for these payments is to avoid problems being caused to the market or to other users by anyone defaulting on their contractual obligations²²³. Futures and options are so volatile that if no payments were made until they expired, the loser could face an enormous liability and end up collapsing without being able to fulfill his obligations. This, in turn, could lead to a domino sequence where all the brokers collapse. By demanding payment each day the Stock Exchange ensures that

everybody in the market knows exactly what their position is.

7. The Leveraging Aspect of the Futures

One major aspect of derivatives is that, for a small down payment, the purchaser can control a larger portion of the market. For example, \$10,000 could buy a contract to purchase \$100,000 worth of bonds later. Such leverage means potential gains or losses are magnified. A party taking a position in a futures contract need not to put up the entire amount of the investment. Instead, the exchange or clearinghouse requires only the initial margin to be put up. To see the crucial consequences of this aspect, suppose Bruce has \$100 and wants to invest in asset ABC because he believes its price will increase. If asset ABC is selling for 100 he can buy one unit of the asset. His payoff will be based on the price action of one unit asset ABC. Suppose further that the exchange where the futures contract for asset ABC is traded requires an initial margin of only 5% which in this case would be \$5. This means that Bruce can buy 20 contracts with his \$100 investment. His payoff will then depend on the price action of 20 unites of asset ABC. Thus, he can leverage the use of his funds.

8. Daily Price Limits

The exchange has the right to impose a limit on the daily price movement of a futures contract from the previous day's closing price²²⁴. A daily price limit sets the minimum and maximum price at which the futures contract may trade that day²²⁵. The rationale offered for the imposition of this rule is that it provides stability to the market at times when new information may cause the futures price to exhibit extreme fluctuations and stability, in turn, puts greater confidence in the market²²⁶.

9. Futures versus Forward Contracts

A forward contract, just like a futures contract, is an agreement for the future delivery of something at a specified price at the end of a designated period of time²²⁷. Forward contracts, sometimes called forward commitments²²⁸, are very common in everyday life²²⁹. For example, an apartment lease is a series of forward contracts²³⁰. The current month's use of the apartment is a spot transaction, but the two parties also have agreed to usage of the apartment for future months at a rent agreed upon today. A forward contract is usually nonstandardized because the terms of each contract are negotiated individually between the buyer and seller²³¹. Unlike futures

contract, which is an exchanged-traded product, a forward contract is an over-the-counter instrument²³² (see infra).

Although both futures and forward contracts set forth terms of delivery, futures contracts are not intended to be settled by delivery²³³. Forward contracts, in contrast, are intended for delivery²³⁴. Most of what we say about futures contracts applies equally to forward contracts.

10. The Role of Futures in Financial Markets and Applications of Futures Contracts

a. The Role of Futures Markets

Without financial futures, investors would have only one trading location to alter portfolio positions when they get new information that is expected to influence the value of the assets: the cash market²³⁵. If investors hear economic news that is expected to impact the value of an asset adversely, they want to reduce their price risk exposure to that asset²³⁶. The opposite would be true if the new information is expected to impact the value of an asset favorably; an investor would increase price risk exposure to that asset²³⁷. There are, of course, transactions costs associated with altering exposure to an asset: explicit costs (commissions), execution costs²³⁸. The futures markets is an alternative market that investors can use to alter their risk exposure to an asset when new information is

acquired²³⁹. But which market - cash or futures- should the investor employ to alter a position quickly on the receipt of new information ? The answer is simple: the one that most efficiently achieves the objective. The factors to consider are liquidity, transactions costs, taxes, and leverages advantages of the futures contracts²⁴⁰. Financial futures are traded to either speculate on prices of securities for example, or hedge (i.e., a transaction in which an investor seeks to protect a position or anticipated position in the spot market by using an opposite position in derivatives) existing exposure to security price movements. The speculators in financial futures markets take positions to profit from expected changes in price of futures contracts over time. Other participants, hedgers, take positions to reduce their exposure to future movements in interest rates or stock prices. The key role of futures contracts is that, in a well functioning futures market, these contracts provide a more efficient means for investors to alter their risk exposure to an asset. Futures contract present benefits: liquidity, transaction costs, taxes and leverage. The major function of futures markets is to transfer price risk from hedgers to speculators²⁴¹, i.e, risk is transferred from those willing to pay to avoid risk to those wanting to assume risk in the hope of gain.

a.1) Hedging

The term "hedging" refers to the risk management activities investors engage in to reduce their exposure to unpredictable changes in the market²⁴². Used as a risk management tool, derivatives allow end-users to reduce inherent market risks, creating a more stable and predictable cash flow that is insulated from market swings²⁴³. This goal is attainable because derivatives provide a means by which end-users can shift the risks presented by market fluctuations to a player who is willing to bear such risks²⁴⁴. The term short hedge and long hedge distinguish hedges that involve short and long positions in the futures contract, respectively²⁴⁵. For example, a hedger who holds the commodity and is concerned about a decrease in its price might consider hedging it with a short position. If the spot price decreases, the futures price also will decrease. As the hedger is short the futures contract, the futures transaction produces a profit that at least partially offsets the loss on the spot position. Hedging is the employment of a futures transaction as a temporary substitute for a transaction in the cash market²⁴⁶. As long as cash and futures prices move together, any loss realized on one position (whether cash or futures) will be offset by a profit on the other position²⁴⁷. When the profit and loss are equal, the hedge is called a

perfect hedge²⁴⁸. In a market where the futures contract is correctly priced, a perfect hedge is risk-free and, therefore, should provide a return equal to the risk-free rate²⁴⁹.

a.2) Why Do Firms Hedge?

Assuming that shareholders of a company cannot assess all of the financial risks themselves, hedging may be desired by the shareholders simply because they want to find a more acceptable combination of risk and return²⁵⁰. In addition there may be other reasons why firms hedge, such as tax advantages²⁵¹. Low-income firms, for example those who are below the highest corporate tax rate, can particularly benefit from the interaction between hedging and the progressive corporate income tax structure²⁵². Hedging also reduces the risk of bankruptcy and may send a signal to potential creditors that the firm is making a concerted effort to protect the value of the underlying assets²⁵³. This can result in more favorable credit terms and less costly, restrictive covenants²⁵⁴.

a.3) Hedging :It Is the Law

Rarely does a firm have to worry about whether failing to hedge is breaking the law. In Indiana, it just might be. In *Brane v. Roth*²⁵⁵, a farmers cooperative is engaged in the

business of buying, storing and selling grain and the profits had been declining steadily over the period of 1977-1979. In 1979, its accountant recommended to its Board of Directors that the cooperative begin hedging in the futures market. The Board did authorize the financial manager to begin hedging. But a total of only about \$20,000 of grain was hedged, during a period in which its grain sales were over \$7 million²⁵⁶. Subsequently, the cooperative experienced substantial operating losses. Shareholders determined that a hedge would have saved the cooperative and sued the Board of Directors. The plaintiffs argued that the Board breached its duty by using a manager inexperienced in hedging and by failing to supervise the manager²⁵⁷. The plaintiffs also argued that the Board members failed to learn enough about hedging to protect shareholders' interests. The Superior Court of Miami County, Indiana agreed and ordered the directors to pay over \$400,000 to the plaintiffs²⁵⁸. The case was appealed to the Indiana Court of Appeals, which upheld the judgment in April 1992²⁵⁹, endorsing the argument that the losses were caused by a failure to hedge and that the directors had made no effort to learn about hedging. It seems that, in this case, where the directors erred was in failing to be properly informed about the advantages and disadvantages of hedging while authorizing, but not supervising, a modest

hedging program. Had they made the effort to learn about the futures market, they might well have easily justified the small hedging program as experimental. So, is failing to hedge illegal? Probably not, at least not yet. But it is clear that Board of Directors, and management, are vulnerable to the charge that they failed to learn how derivative markets can help them run a business and avoid losses. Hedging or failing to hedge is a decision that should be taken by the Board of Directors and is protected by the Business Judgement rule. On the other hand, it is also true that failing to disclose that the company is not hedging might be considered as such important information that it should be made public so that it would be properly reflected in the stock price. Anyway, the question might be asked if the shareholders may not be able to lay off these risk more cheaply by holding a diversified portfolio of shares in a variety of companies.

a.4) Risks Associated with Hedging

In practice hedging is not simple. The amount of the loss or profit on a hedge will depend upon the relationship between the cash price and the futures price at two points in time, when a hedge is placed and when it is lifted²⁶⁰. If a futures contract is priced according to its theoretical value, the difference between the cash price and the

futures price should be equal to the cost of carry²⁶¹. The risk that the hedger takes on is that the basis will change for some reason. Therefore, hedging involves the substitution of basis risk for price risk, i.e., the substitution of the risk that the basis will change for the risk that the cash price will change²⁶². In some cases, the price of the commodity being hedged and that of the futures contract move in opposite directions²⁶³. Then, a hedge will produce either a profit or a loss on both the spot and the futures positions. Hedging also entails another form of risk called quantity risk²⁶⁴. Suppose a farmer wants to lock in the price at which an as yet unharvested crop will be sold²⁶⁵. The farmer might sell a futures contract and thereby establish the future selling price of the crop. Yet what the farmer does not know and cannot hedge is the uncertainty over the size of the crop²⁶⁶. The farmer's total revenue is the product of the crop's price and its size²⁶⁷. This risk is not restricted to farming. Many corporations and financial institutions do not know the size of future hedge positions and thus must contend with quantity risk.

b. Applications of Futures Contracts

b.1) Common Applications

Investors can use different strategies. They can use stock index futures, interest rates futures for distinct purposes such as:

- speculating on the movement of the stock market;
- controlling the risk of stock portfolio;
- hedging against adverse stock price or interest rate movements;
- engaging in index arbitrage.

A stock index futures contract allows for the buying and selling of a stock index for a specified price at a specified date²⁶⁸. For example, there is a futures contract on the S&P 500 Index which represents a composite of 500 large corporations. Participants who expect the stock market to perform well before the settlement date may consider purchasing S&P 500 Index Futures. Conversely, participants who expect the stock market to perform poorly before the settlement date may consider selling the S&P 500 Index Futures. Investment banking firms can use hedging strategies to protect against adverse interest rate movements. Presume, for example, an investment banker called Prudential Brothers underwriting \$1 billion of ABC bonds. To protect itself against a rise in interest rates, which would reduce the value of the bonds, Prudential

Brothers sell (short) Treasury Futures. Let us further assume that interest rates rise upon an announcement by the Federal Reserve Board. The value of the ABC bonds held by Prudential Brothers are declining in value but so do the Treasury Bond Futures contracts. Because Prudential Brothers has sold the futures, it realized a gain which reduced the loss on the bonds it underwrote. Another strategy, Stock index arbitrage, is the purchase or sale of a portfolio of stock that replicates a stock index and the sale or purchase of a futures contract on the index²⁶⁹.

Derivatives can be used to arbitrage price discrepancies in financial markets. Arbitrage is a type of transaction in which an investor seeks to profit when the same good sells for two different prices²⁷⁰. The individual engaging in the arbitrage, called the arbitrageur, buys the good at the lower price and immediately sells it at the higher price²⁷¹. If a stock sells on one exchange at one price and on another at a different price, arbitrageurs will go to work buying at the low price and selling at the high price. The low price will be driven up and the high price driven down until the two prices are equal²⁷². Arbitrage thus, keeps prices in line. Another type of arbitrage can be used to take advantage of differences in the cost of capital. For example, suppose a multinational firm needs to borrow dollars but could receive a

preferential loan rate from a lender in Germany. This firm might borrow German marks (DM) at the more favorable interest rate and convert the DM to dollars in the currency market. Then, to hedge the exchange rate risk of the future loan payments, the firm might enter into a dollar/DM currency swap (i.e. pay dollars/ receive DM). In effect, in this case, the multinational firms borrows dollars at the lower German interest rate.

b.2) Circuit Breakers On Stock Index Futures

The 1987 stock market crash led to recommendations by a presidential task force to recommend circuit breakers to prevent further crashes²⁷³. Circuit breakers are trading restrictions imposed on specific stock or stock indexes²⁷⁴. For example, if the Dow Jones Industrial Average Stock Index declines by 250 points below the previous day's closing price, the New York Stock Exchange prohibits trading for one hour. The purpose is to allow investors to determine whether any previous rumors were true and to work out credit arrangements if they received a margin call²⁷⁵.

b.3) Currency Derivative Markets: Another possible Application of Futures

Since the downfall of the Bretton Woods system , the currencies of all countries have been fluctuating freely

which means that all exchanges rates of free countries fluctuate with market conditions. The volatility of exchanges rates should be viewed as a source of risk for companies doing business in more than one country.

The parties can enter into a currency futures contract which is an agreement between two parties in which one party agrees to buy the currency from the other party at a later date at an exchange rate agreed upon today²⁷⁶. It trades on a futures exchange and works essentially the same as any other type of futures contract. As noted earlier, a long hedge with futures involves the purchase of a futures contract. In the case of foreign currencies, for example, a long hedger is concerned that the value of the foreign currency will rise. Consider an American car dealer who plans to buy 20 British sports cars and each car costs £35,000 which, of course, will have to be paid in British currency. Let us assume that based on the current forward rate of the pound, the dealers' expected cost is \$914,200. If the pound increases in value, the cars will end up costing more. Therefore, the dealer wants to hedge by buying futures on the pound and as long as the pound spot and futures rates move in the same direction, the hedge will be successful in reducing some of the loss in the spot market²⁷⁷. We have talked about currency futures and options. However, there a number of other related ways to

manage foreign exchange risk. It is common, for example, for firms doing business internationally to use currency swaps²⁷⁸ for hedging purposes.

B. OPTIONS MARKETS

1. Definition and Key Elements

a. Definition

There are two parties to an option contract: the buyer and the writer or seller. The writer (seller) of the option grants the buyer of the option the right but not the obligation, to buy from or sell to the writer something at a specified price within a specified period of time or at a specified date²⁷⁹. The writer grants this right to the buyer in exchange for a certain sum of money which is called the option price or option premium²⁸⁰. The price at which the underlying asset or commodity may be bought or sold is called the exercise price or strike price²⁸¹. When an option grants the buyer the right to purchase the underlying asset from the writer(seller) - it is referred to as a call option or simply a call²⁸². When the option buyer has the right to sell the underlying asset to the writer - it is referred to as a put option or simply a put²⁸³. The timing of the possible exercise of an option is an important characteristic of the contract. There are options that may

be exercised at any time up to including the expiration date²⁸⁴. Such options are referred to as American options²⁸⁵.

Other options may be exercised only at the expiration date; these are called European options²⁸⁶.

b. Illustrations

b.1) Call Options

Consider the following illustration: on June 21, 1996, the Chicago Board of Options Exchange offered Options on the stock of Prudential Investor. One particular call option had an exercise price of \$80 and an expiration date of July 15. The Prudential Investor stock had a price of \$77.625. The buyer of this option received the right to buy the stock any time up through July 15 at \$80 per share. The writer of that option therefore was obligated to sell the stock at \$80 per share through July 15 whenever the buyer wanted it. For this privilege, the buyer paid the writer the premium, or price, of \$1.375. The buyer anticipates that the stock's price would rise above \$80 before the option expires. Conversely, the writer expects that the stock price would not get above \$80 before the option expires.

b.2) Put options

Consider the put option on Prudential Investor stock on June 21, 1996, with an exercise price of \$80 per share and an expiration date of July 15. It allows the put holder to sell the stock at \$80 per share any time up through July 15. The stock currently is selling for \$77.625. Therefore, the put holder can elect to exercise the option, selling the stock to the writer for \$80 per share. However, the put holder may prefer to wait and see if the stock price falls further below the exercise price. The put buyer expects the stock price to fall, while the writer expects it to remain the same or rise. The buyer and the writer negotiated a premium of \$3.75, which the buyer paid to the writer.

2. Difference Between Option and Futures Contracts

In an option contract, the option buyer has the right, but not the obligation, to exercise the option. On the other hand, the writer does have the obligation to perform. In the case of a futures contract both buyer and seller are constrained to perform. The relation risk/rewards features are also different. In a futures contract, the buyer of the contract realizes a dollar for dollar gain when the price of the futures contract increases, and suffers a dollar for dollar loss when the price drops²⁸⁷. The opposite occurs for the seller of a futures contract²⁸⁸. In an option contract,

the most that the buyer can lose is the option price. The maximum profit that the writer may realize is the option price. There are no margin requirements for the buyer of an option once the option price has been paid in full²⁸⁹.

Because the option price is the maximum amount that the investor can lose, no matter how adverse the price movement of the underlying asset, no margin is needed²⁹⁰. Because the writer (seller) of an option has agreed to accept all of the risk (and none of the reward) of the position in the underlying asset, the writer is generally required to put up the option price received as margin²⁹¹.

In addition, as price changes occur that adversely affect the writer's position, the writer is required to deposit additional margin (with some exceptions) as the position is marked-to-market²⁹². Options may be traded either on an organized exchange or in the over-the-counter market.

3. Futures Options

An option on a futures contract, referred to as a futures option, gives the buyer the right to buy from or sell to the writer a designated futures contract at a designated price at any time during the life of the option²⁹³. If the futures option is a call option, the buyer has the right to purchase one designated futures contract

at the exercise price²⁹⁴, i.e., the buyer has the right to acquire a long futures position in the designated futures contract. If the buyer exercises the call option, the writer (seller) acquires a corresponding short position in the futures contract²⁹⁵. A put option futures contract grants the buyer the right to sell one designated futures contract to the writer at the exercise price²⁹⁶.

4. Applications of Options Markets

a. Stock Options and Stock Index Options

Stock Options can be used to take advantage of the anticipated price movement of individual stocks. Alternatively they can help protect current or anticipated positions in individual stocks²⁹⁷.

b. Interest Rate Options

An institutional investor can use interest rate options or options on interest rate futures to speculate on fixed-income security price movements based on expectations of interest rates changes²⁹⁸.

C. REGULATION OF FUTURES AND OPTIONS MARKETS

1. Commodity Futures Trading Commission (CFTC) and Stock Exchange Commission (SEC) Regulate Trading in Options and Futures

Two agencies share responsibility for the Federal regulation of trading in futures and options. The Commodity Futures Trading Commission licenses futures exchanges and monitors trading in them²⁹⁹. It authorizes firms to operate the exchanges and provide services to the public³⁰⁰.

The CFTC also approves individual futures contracts which must serve the economic purpose for being useful for hedging³⁰¹. Approval is not an endorsement of a contract, investors trade these securities at their own risk³⁰². The SEC has responsibility for oversight of most options markets and it performs many of the functions the CFTC performs with futures markets³⁰³. An exchange that wants to create an options contract must obtain approval from either the CFTC or the Securities and Exchange Commission.

a. Regulation of Options

The exchange-traded options industry is regulated at several levels. While Federal and state regulations predominate, the industry also regulates itself according to rules and standards established by the exchanges and the

Options Clearing Corporation³⁰⁴. The Securities and Exchange Commission (SEC) is the primary regulator of the options market³⁰⁵. The SEC's general purpose is to ensure full disclosure of all pertinent information on publicly offered investments³⁰⁶. It has the authority to establish certain rules and procedures and to investigate possible violation of Federal securities laws³⁰⁷. If the SEC observes a violation it may seek injunctive relief, recommend that the Justice Department press charges, or impose some sanctions itself³⁰⁸.

b. Regulation of Futures

While forward markets are largely unregulated and traded over-the-counter, futures markets are heavily regulated³⁰⁹. Many regulators and legislators have taken a dim view of futures trading, likening it to gambling³¹⁰. In the nineteenth century, there were numerous attempts to outlaw futures trading³¹¹. In 1974 Congress passed the Commodity Futures Trading Commission Act which created the Commodity Futures Trading Commission, a Federal Reserve agency that regulates futures markets³¹².

D. TRADING LOCATIONS

1. Stock Exchanges

An exchange is a legal corporate entity organized for the trading of securities, options or futures³¹³. It provides a physical facility and stipulates rules and regulations governing the transactions in the instruments trading thereon³¹⁴. One of the exchange's important ongoing activities is identifying new and useful futures contracts.

When the exchange determines that a contract is likely to be successful, it writes a proposal specifying the terms and conditions and applies to the CFTC, the regulatory activity, for permission to initiate trading³¹⁵. Whether the contract will be actively traded will depend on whether it fills the needs of hedgers and whether speculators are interested enough to take risks in it³¹⁶. Organized exchanges filled the need for standardized option contracts wherein the exchange would specify the contracts' terms and conditions³¹⁷. As a result, a secondary market for the contracts was made possible. By providing a physical trading floor, specifying rules and regulations, and standardizing contracts, options became as marketable as stocks³¹⁸. The New York Stock Exchange and American Stock Exchange are for example two organized exchanges for secondary stock market transactions.

2. Over-the-Counter Market (OTC)

A large amount of option trading is conducted privately between two parties who find that contracting with each other may be preferable to public transactions on the exchange. The Over-the-Counter market is basically a telecommunications network³¹⁹. Most of the options created on the over-the-counter market are options on bonds, interest rates, commodities, swaps, foreign currencies and include many variations that combine options with other instruments³²⁰. The scope of this market, dominated by institutional investors is world-wide³²¹. These private contracts are entered into by large corporations, financial institutions, and sometimes even governments in which the option buyer is either familiar with the creditworthiness of the writer or has had the credit risk reduced by some type of collateral guarantee or other credit enhancement³²². OTC intermediaries may act as brokers, matching parties with offsetting needs. More typically, intermediaries act as counterparties, taking the other side of the contracts with their customers. Without intermediaries, it would be difficult for firms particularly nonfinancial firms, to find willing counterparties in a timely fashion. Thus, intermediaries increase the liquidity of the OTC derivatives market and, thereby, make OTC derivatives more useful to end-users. Although there is always some credit

risk involved, these types of OTC contracts do have several advantages. The first advantage is that the terms and conditions of these contracts, which are entered into privately, can be tailored to the specific needs of the two parties³²³, avoiding thereby the mandatory rules and regulations of the exchanges. The second benefit is that the over-the-counter market is a private market in which neither the general public nor other investors, including competitors, need know that the transactions were completed³²⁴. A third advantage for investors is that this market is essentially unregulated: its rules are those of common sense business honesty and courtesy³²⁵. This largely unregulated environment means that government approval is not needed to offer new types of options³²⁶. An inevitable drawback omnipresent in this market is that credit risk exists, excluding many customers who are unable to establish their creditworthiness in this market³²⁷.

This is also one of the reasons why banks have played such a large role in the growth of the OTC market. Banks' creditworthiness is well known to other investors, so money center banks are readily accepted as counterparties in OTC trades. In addition, banks already lend to many of the investors in OTC derivatives, thus they already know more than other market participants about the creditworthiness of these investors. And in cases where a bank is not

already familiar with a particular investor, the bank possesses the expertise to make an informed judgment of creditworthiness. Nonetheless, because of the private nature of the transactions that take place in this market, it is difficult to measure its size³²⁸. The over-the-counter market is an unregulated market, dominated by customs and accepted procedures. The participating firms, however, are often regulated by the National Association of Securities Dealers (NASD) and many participants are banks who are overseen by various regulatory authorities but neither the SEC nor the CFTC has direct regulatory authority over the OTC options market³²⁹. On the other hand, exchange-traded instruments present also advantages over the over-the-counter market. The first is the standardization of the exercise price, the quantity of the underlying asset, and the expiration date of the contract³³⁰. Second, as in the case of futures contracts, the direct link between buyer and seller is severed after the order is executed because of the interchange ability of exchange-traded options³³¹. The clearinghouse associated with the exchange where the option trades performs the same function (a guarantee function) in the options market that it does in the futures market³³². Finally, the transaction costs are lower for exchange-traded options than for OTC options³³³. The higher cost of an OTC option reflects the cost of customizing the

option for the common situation where an institutional investor needs to have a tailor-made option because the standardized exchange-traded option does not satisfy its investment objectives³³⁴.

a. Swaps Considered To Be The Quintessential OTC Derivative Swaps, considered to be the quintessential OTC derivative³³⁵, are a type of forward contract in which two parties agree to exchange a series of payments according to agreed-upon terms over a set period of time³³⁶. The amount of the payments involved is determined with reference to an agreed-upon notional amount which, aside from currency swap transactions, is seldom actually exchanged³³⁷. Because the terms of a swap must be carefully tailored to benefit the parties' needs, this type of derivative instrument is a privately negotiated, OTC transaction. These periodic payments may be fixed³³⁸ or floating³³⁹, and the exchange is made because each party seeks the form of payment held by the other party³⁴⁰. To illustrate how a swap works, imagine two mortgagors holding mortgages with a current interest rate of ten percent. Mortgagor A's mortgage has a floating interest rate, and A believes that interest rates will rise. Mortgagor B holds a fixed rate mortgage, and he is convinced that interest rates will go down. In this case, each mortgagor believes his position would be enhanced if

only his mortgage carried the form of interest rate (a type of periodic payment) held by the other. A common swap agreement, known as an "interest rate swap"³⁴¹, would allow each mortgagor to get his wish by, in effect, contractually agreeing to take the other's interest position. At the end of a period of time specified in the contract, the mortgagors would "settle up" between themselves based on the actual movement of interest rates³⁴². These payments would normally be calculated and made on the same day, allowing the parties simply to net their payments; the party who, at the end of the given period, holds the higher of the two interest obligations simply pays the other the net difference³⁴³. If, in our example, interest rates increased during the period, mortgagor B would owe mortgagor A an amount equal to the net difference in the amount due under each rate. Had interest rates decreased during the given period, the same obligations would exist, except that it would then be mortgagor A who owed mortgagor B the net amount. It is important to note that, even after mortgagors entered into the swap contract, each still held, and was bound by the terms of his original mortgage agreement. The swap arrangement, however, effectively converted the interest component of mortgagor A's debt from a floating to a fixed rate, and mortgagor B's interest component from a fixed to a floating rate³⁴⁴. Swaps are

commonly used as hedging devices by corporations, banks, and other financial institutions. End-users of swaps are often hesitant to deal directly with one another (usually because each party feels it cannot adequately assess the other party's creditworthiness), creating an opportunity for banks and other financial institutions to act as intermediaries³⁴⁵. As intermediary, a bank enters into a swap arrangement with both parties and accepts the risks associated with both transactions³⁴⁶. Bearing this risk allows the intermediary to command a higher fixed or floating rate on a swap than it pays on another, the spread between the rates amounting to income³⁴⁷. As another illustration of how swaps can provide such protection, consider the case of a hypothetical bank. The nature of the bank's business makes it an interest rate sensitive entity. The bank has an extensive portfolio of floating rate loans, but is also obliged to pay interest on deposits to attract customers and capital³⁴⁸. While the floating rate on the loan is adjusted often, the rate of interest paid on deposits is adjusted less frequently - say biannually³⁴⁹. Because of the time lag in the frequency with which these rates are adjusted, a downturn in market interest rates would expose the bank to potential losses; interest collected on outstanding loans would be adjusted downward to reflect the market fluctuation, but the rate the bank

pays on its deposits would not be reduced for some time³⁵⁰. The bank's potential for loss, which in this case would be from what is known as "interest rate risk", could be hedged with a swap contract. Under the terms of such an agreement, the bank would make payments based on some floating interest rate, and in return would receive payments based on a fixed interest rate from a counterparty, each rate being determined with respect to some agreed-upon (though usually hypothetical) notional amount³⁵¹. Because of the swap, the bank's position is protected whether interest rates rise or fall: if rates go up, the bank's earnings from its floating rate loans increase, offsetting the higher amounts it would then pay on the floating rate obligations acquired in the swap. If, on the other hand, interest rates decline, the bank's fixed-rate payouts will be offset by the fixed-rate stream of income it receives under the swap agreement. The downside of the agreement and of hedge transactions in general, is that when an entity transfers risk, the opportunity for gain is transferred as well. A firm that hedges all its risks is protected from losses but is equally prevented from realizing a gain. The key for a bank in the derivatives market is to achieve a balance between hedged positions and acceptable risks³⁵².

E. THE BENEFITS OF DERIVATIVE MARKETS

Due to their great flexibility, derivatives are used by many different type of investors. A good toolbox of derivatives allows the modern investor the full range of investment strategy: speculation, hedging, arbitrage and all combinations thereof. Derivatives have numerous benefits over the corresponding cash (spot) market for the same financial asset.

1. Risk management

Because derivatives are related to the prices of the underlying spot market goods, they can be used to reduce or increase the risk of investing in the spot items³⁵³.

In general, rational investors want to keep their investments at an acceptable risk level. Derivative markets enable those wishing to reduce their risk to transfer it to those wishing to increase it³⁵⁴. As a result, investors are willing to supply more funds to the financial markets, which in turn, benefits the economy because it enables more firms to raise capital and keeps the cost of capital as low as possible³⁵⁵. An additional benefit realized by derivative end-users is an enhancement of creditworthiness. An entity that has reduced its exposure to market risks by hedging³⁵⁶

with derivatives is generally able to obtain more preferable financial terms.

2. Price Discovery

It has been said that futures and forward markets for example, are an important means of obtaining information about investor's expectations of futures prices³⁵⁷. Consequently, these markets can be used as an indicator and contain information about future spot prices.

3. Operational Advantages

Depending on the derivative instrument, it may cost less to execute a transaction in the derivatives market in order to adjust the risk exposure of an investor's portfolio to new economic information than it would cost to make that adjustment in the cash market³⁵⁸. Derivatives entail lower transaction costs³⁵⁹ (commissions and other trading costs are lower for traders in these markets).

4. Market Efficiency

Market efficiency is the characteristic of a market in which the prices of the instruments trading therein reflect their true economic values to investors³⁶⁰. As noted earlier, we know that there is a linkage between spot and derivative markets. The ease and low cost of trading in the

derivative markets, facilitate the arbitrage trading and rapid price adjustments that quickly eliminate these profit opportunities³⁶¹. Consequently, society benefits because the prices of the underlying goods more accurately reflect the goods' true economic values³⁶².

5. Reduce Cost of Portfolio

Derivatives are also used as a tool by which end-users reduce funding costs. In many cases, investing in a derivative is considerably less costly than purchasing the underlying asset itself because of reduced transaction costs and the leverage the instrument provides³⁶³ reduce the cost of administering a portfolio and enable managers to buy and sell big positions without distorting prices.

6. Speculation

The derivatives market provide the opportunity for speculation. The term speculation refers to the taking of calculated risks in an attempt to profit by anticipating (for speculating on) changes in the market³⁶⁴.

Where hedgers seek to protect themselves by transferring risk, speculators take risks by betting on fluctuations in the market value of derivatives or underlying assets. Just as derivatives provide the hedger

with an affordable means of protecting his position, a speculator may likewise utilize derivatives to reap the benefits (or incur the losses) of a market movement without having to actually buy or sell the underlying asset³⁶⁵. In general, the participation of speculators enhances the market by providing an outlet onto which dealers can shift the risks they have acquired from hedging end-users, thereby adding liquidity to the market and ensuring that participants cannot only take a position but get rid of it as well³⁶⁶.

So, speculators play an important role in the market by providing the liquidity that makes hedging possible and assuming the risk that hedgers are trying to eliminate³⁶⁷. Nonetheless, speculation is arguable and derivative markets have taken much criticism from experts and outsiders for this kind of activity. Speculators include locals as well as the thousands of individuals and institutions off the exchange floor³⁶⁸.

7. Derivatives Market Is Faster and More Liquid

Due to the smaller amount of capital required for participation in derivative markets, these markets, especially futures and options exchanges, have greater liquidity than the spot markets³⁶⁹. Since little capital is required to trade them, these markets can absorb more

transactions. Some derivative markets can absorb a greater dollar transaction without an adverse effect on price of the derivative instrument, i.e., the derivative market may be more liquid than the cash market³⁷⁰. In addition, transactions typically can be accomplished faster in the derivative markets³⁷¹. However, one of the major attraction of derivatives, the feature that gets people excited, is gearing (or leverage in the U.S.). Gearing means simply the ability for derivatives to soar 100% in a few days, when the underlying asset, a security for example, has only risen by 10%. Anyone who has a mortgage is geared to the property market. The problem is that many derivatives allow investors to make huge market bets without paying the full price. Indeed, no money at all changes hands in some derivative trades. That is one way derivatives reduce investors' costs but it also means that they create a lot of leverage in the system.

CHAPTER VI:

DANGERS AND RISKS OF DERIVATIVE ACTIVITIES

A. RISKS ASSOCIATED WITH THE USE OF DERIVATIVES

With the promise of increased rewards come increased risks³⁷². Derivatives carry risks similar to those traditionally assumed by banks, especially banks dealing with securities³⁷³. More specifically, derivatives pose six risks: credit risk, market risk, liquidity risk, operational risk, systemic risk and legal risk. Credit risk, also called "counterparty risk" or "settlement risk", is the risk that the bank's trading partner will be either unwilling or unable to meet its contractual obligation³⁷⁴.

The buyer may be exposed to the risk that the seller may default and not deliver the security. In fact, most derivative transactions begin with no risk at all. In most cases, credit risk develops only gradually, as market prices change, and all of the risk is borne by that party in whose favor the prices have changed. This risk, measured by the replacement cost of the deal, is comparable to classic credit exposure. Market risk, also called "position

risk", is the risk that the value of the asset underlying a derivative moves in a direction that reduces the value of the derivative³⁷⁵. Two elements are at work: the volatility of the underlying asset's value and the sensitivity of the futures or options contract to changes in the underlying asset value³⁷⁶. For example, the market value of an underlying security purchased by a firm may fall before it can be resold. In the case of an equity security, or stock, concerns about the financial performance of the corporate issuer may lead to a decline in the price of the security³⁷⁷. In the case of a debt security, or bond, the nonpayment of principal or interest by the issuer, or a change in interest rates, may lead to a subsequent decline in the value of the security³⁷⁸. Liquidity risk is the risk that fluctuations in the price of derivatives will cause unexpected changes in the cash flow of a bank rendering it unable to meet its obligation³⁷⁹. Liquidity also includes situations in which a market participant cannot execute a transaction at a fair price because of wide bid-ask spreads, meaning that a bank would have less certainty about the true value of the instrument³⁸⁰. This risk is particularly important in highly structured or customized transactions because it may be difficult to locate a counterparty to enter into a transaction in a timely manner. Exchange-traded activities are less subject to

market liquidity risks than are OTC traded derivatives because of their use of standardized contracts and the settlement role of the clearinghouse. Generally, the liquidity of these instruments is impaired only in times of financial stress. Operational risk is the risk associated with human error, system failures or procedural failures³⁸¹ (e.g., database management, trade entry, trade processing, trade confirmation, payment, delivery, collateral management, valuation and related information systems³⁸²). A big fear is that inadequate internal controls, error, system failure or fraud lead to unexpected losses and the bank may not even know it exceeds its position limits³⁸³. In some cases, derivative transactions are so intricate that they can be developed and priced only through sophisticated mathematical models. Given that complexity, the internal risk management and control systems of banks engaged in these transactions must exhibit a high level of sophistication. It is also essential that effective lines of communication be established between senior management and the management and staff of the operating and trading departments that execute, value, record, and monitor derivative product transactions. Systemic risk can be defined as the risk that the financial difficulties of one institution will cause financial harm to other institutions and eventually cause a complete

breakdown in the financial system³⁸⁴. For example, the collapse of securities prices could lead to the default of one or more large banks or securities firms. Because of financial interrelationships, this could lead to further defaults of banks³⁸⁵. As noted earlier, technological advances have increased the integration and efficiency of the global financial market. Due to the linkage among the markets, a series of defaults in one market could swiftly extend into the banking system and cause a disruption in the flow of payments and settlements of financial transactions throughout the world³⁸⁶. Shocks could be transmitted from one domestic market to other domestic markets. Such a breakdown in capital markets could disrupt the process of saving and investment, undermine the long-term confidence of private investors, and disrupt the normal course of economic transactions³⁸⁷. Finally, legal risk is the risk that a derivatives contract is invalid or unenforceable³⁸⁸. The contract might be unenforceable when the other party does not have the authority to contract or trade the transaction. Over-the-counter derivative instruments, rather than exchanged-traded instruments, have generally been the focus of this risk. In addition, reputation risk might sometimes also be involved. The risk might exist that a bank might lose a client, or its ability to compete effectively for new clients, due to

perceptions that the bank does not deal fairly with clients or that it does not know how to properly manage its derivatives business³⁸⁹.

Finally, another potential risk stemmed from the fact that derivative instruments were "off balance-sheet" items that were only mentioned in footnotes to the financial statements of firms dealing in derivatives³⁹⁰. The footnote material provided very little data as to the amount of risk or profits and losses from those instruments. It was at the urging of the SEC that firms engaging in derivative transactions have disclosed their profits and losses from that activity³⁹¹. However, this still presents a limited window, because not all institutions are disclosing complete information³⁹². The above risks, although defined individually, are often realized simultaneously (i.e., risk may be interconnected. This is particularly true when there is a structural realignment of market prices in a given marketplace (e.g., the September 1992 currency crisis in the European Exchange Rate Management (ERM) system)³⁹³. During such periods, there can often be a concurrent increase in market risk, a reduction in market liquidity, and an increase in credit risk, all of which increase systemic risk.

B. SPECIAL RISKS ASSOCIATED WITH THE USE OF DERIVATIVES

Derivatives, however, pose other dangers based on the magnitude and uncertainty of the repercussions. Derivatives create the ability to realize the full profit or loss of "owing" an asset for a fraction of the price of the asset³⁹⁴. As derivatives are high leveraged instruments, both buyers and sellers face substantial risks. Recall the gold example used previously in chapter IV B (3), in order to enter into a contract, each party would have to put very little money, perhaps \$2,000 collateral on a contract initially valued at \$40,000. As noted in that example, a change of \$20 per ounce in the value of the underlying asset, a mere 5% change, would result in a \$2,000 profit for one party and a \$2,000 loss for the other. Assuming the parties need only \$2,000 in order to enter a contract, one party has made a 100% return on the investment and the other has suffered a 100% loss. If, in contrast, the parties were required to buy 100 ounces of gold at \$400 per ounce, they would need \$40,000 in capital and a \$20 change would only result in a 5% gain or loss for each party. As mentioned earlier, derivatives may also be used to speculate and generate large profits. Recently, derivatives have been packaged in increasingly sophisticated forms and

sold to and by banks, mutual funds and large corporations as speculative instruments and not insurance tools³⁹⁵. Thus, instead of using derivatives as a hedge to lessen risks, banks began to invest in derivatives as a highly leveraged play on interest rates or any other asset in order to make a profit. Another threat that could menace the stability of the financial system are the so-called Hedges funds. Hedges funds are investment partnerships with fewer than 100 limited partners and are completely unregulated³⁹⁶. Wealthy individuals invest a minimum of \$1 million each, which the fund leverages by borrowing primarily from banks³⁹⁷. Without hard numbers, observers estimate leveraging ranges from 2 to 20 times, with an average of about 10³⁹⁸. Hedges funds came under attack in 1992 for betting big against the European Monetary Union and the narrow Exchange Rate Mechanism, and winning³⁹⁹.

Additionally, failure in risk monitoring, the function that identifies, measures, monitors and reports on the market, credit and liquidity risks incurred by the firm⁴⁰⁰, and deficiencies in risk management, the process within a firm by which risk guidelines are established, allocated and managed⁴⁰¹, have been leading some banks to a complete collapse as will be illustrated in the next chapters with the Barings PLC case. In this context, it is not surprising to note, that while the regulators are slowly awakening

that derivative instruments are now posing several threats to the financial system, if for no other reason than their size alone, derivatives have taken much criticism by the financial press and financial specialists. Indeed, some investors and the popular press consider that the introduction of a futures market for a financial asset will increase the price volatility of that financial asset in the cash market⁴⁰². Some market observers advocate that, as a result of speculative trading of futures contract, the cash market instrument does not reflect its fundamental economic value⁴⁰³. The implication here is that the price of the financial asset would better reflect its true economic value in the absence of a futures market for that financial asset⁴⁰⁴. Furthermore, critics assert that futures contracts in which the underlying asset is a stock market index has created greater volatility for stock market prices⁴⁰⁵. While empirical evidence has not supported this view, the key point is that increased volatility of stock market prices may be due to the greater quantity and frequency of information released by the government about important economic indicators that affect the value of the common stock of all companies⁴⁰⁶. That information itself is subject to a great deal of variability⁴⁰⁷. So, if there is any observed increase in the volatility of stock prices, that volatility may be due to the substantial variability

of economic information, not to the presence of a futures contract on a stock market index⁴⁰⁸. According to some financial industry regulators, two "worst derivative nightmare"⁴⁰⁹ scenarios are of particular concern. In the first scenario, a localized financial disaster is fomented when bankers, using derivatives without fully understanding their risks, deplete the capital reserves of a major bank, thereby causing it to fail⁴¹⁰. The second scenario suggest a more devastating, potentially system-wide disaster. Here, the interconnections created by the use of derivatives generates a chain of obligations between financial institutions worldwide, and a seemingly isolated failure to meet interbank payment obligations produces a domino effect among market dealers and participants, precipitating a major systemic financial crisis⁴¹¹. The fear that activity in the derivatives market could lead to a destabilization of the U.S. (or even global market) financial system is based on a series of factors, all of which contribute to the potential for a large scale crisis. One important element is the sheer size of the derivatives market⁴¹². The multi-trillion dollar notional value of outstanding derivative contracts is so large that the derivative activities of the ten largest American commercial banks alone amount to more than double the gross domestic product in the United States, which in turn is "more money than all

money in the world⁴¹³." Of even greater concern is the fact that the bulk of derivative dealing activity is concentrated among a relatively small number of firms⁴¹⁴. According to the International Swaps and Derivatives Association (ISDA), only 150 firms were derivatives dealers worldwide as of December 1992⁴¹⁵. Furthermore, dealing activities were concentrated among a small percentage of these institutions⁴¹⁶. The potential problem brought on by this concentration of dealing activities is clear to both regulators and market participants: the abrupt failure or withdrawal from the market of even one major dealer could seriously degrade market liquidity, undermining the stability of numerous markets simultaneously⁴¹⁷. In addition to these concerns, the financial linkage that derivatives create among user institutions and the markets in which the instruments are traded also contributes to the potential for a major market meltdown⁴¹⁸. Regulators feel that the linkage element would make a financial crisis difficult to contain if one major dealer failed to meet its obligation⁴¹⁹.

C. REGULATORS VIEW RISKS DIFFERENTLY FOR BANKS AND SECURITIES FIRMS

Because bank asset turnover is slow and securities firm asset turnover is relatively high, bank risk changes more slowly than securities risk⁴²⁰. Banks have traditionally invested most of their funds in long-term illiquid assets, such as loans to customers⁴²¹. These funds come from highly liquid customer deposits as well as borrowings and the banks' own capital⁴²². Banks have traditionally kept these assets until maturity. As a result, bank regulators focus on credit risk as the most important and predominant risk. Conversely, because of their high asset turnover, securities firms must be able to absorb the effect of changing market values of their portfolios as they occur⁴²³. Consequently, securities regulators emphasize valuing securities positions at market prices to provide a margin of safety against potential losses that can be incurred as a result of market fluctuations⁴²⁴.

CHAPTER VII:
NEED FOR REGULATORY ACTIONS

A. DERIVATIVE THREATS PROVE TO BE ALL TOO REAL

Experience proved all too soon that concerns with the dangers presented by derivative instruments were not entirely unwarranted⁴²⁵. To cite some examples, Macy's defaulted on a swap contract that involved some \$83 million in interest payments⁴²⁶; Gibson Greetings Inc. lost \$19 million dollars from derivative trading⁴²⁷; Procter & Gamble lost over \$150 million from derivative trading⁴²⁸; Orange County in California lost \$140 million⁴²⁹; A unit of Metallgesellschaft A.G. (The German Metal and Oil company) lost 1.37 billion dollars from mismatched derivative transactions⁴³⁰; Dell Computer lost 26 million dollars⁴³¹; City College of Chicago has sued claiming that it was misled in the purchase of \$100 million in derivative obligations⁴³². The three biggest players in derivatives today are New York banks: Chemical Bank, Bankers Trust and Citicorp⁴³³. Together these three banks are into this market for over 6 trillion dollars, Chemical Bank alone for 2.5

trillion dollars⁴³⁴. Following highly publicized losses at major corporations, derivatives have come under increasing scrutiny over the past few years.

B. INCREASED SCRUTINY OVER THE PAST FEW YEARS

The amounts of these losses are impressive and they have not passed unnoticed by regulators, Congress and the industry itself⁴³⁵. A number of often voluminous reports have been published on financial derivatives and the dangers they pose⁴³⁶. The losses incurred by some derivative dealers have intensified congressional efforts to regulate the rapidly growing and increasingly sophisticated derivatives market. Banking regulators have admitted that they do not fully understand the risks to individual banks and the systemic risks that derivatives pose⁴³⁷. The constant change in the value of a derivative that arises as a result of the constant change in the value of the underlying asset makes it very difficult for banking regulators to determine which institutions are holding risky derivatives⁴³⁸. Some members of the Congress believe that, in the case of many market innovations, regulations will not be promulgated until a crisis comes⁴³⁹. Congress held several hearings on derivatives in 1994. Members of the House Banking Committee expressed skepticism about the

ability of federal agencies to regulate the fast-growing derivatives market and suggested in 1993 that new laws may be necessary⁴⁴⁰. The Comptroller of the Currency, Eugene Ludwig, agreed that current reporting requirements are not adequate⁴⁴¹. He argued that regulators are looking at ways to require banks to reveal more information about the impact of their activities on their earnings. The Comptroller of the Currency directed banks under his regulatory supervision to adopt comprehensive risk management systems for their derivative trading⁴⁴². He also required banks to ensure that the derivative products they are selling are appropriate for their customers⁴⁴³. The Comptroller of the Currency requires banks to make sure that they understand and can monitor and control derivative risks⁴⁴⁴. The Federal Reserve Board advised its supervisory officials that banks examinations should include a determination of the bank maintains written policies and procedures concerning the institution's risk management procedures for derivative activities⁴⁴⁵. Bank examiners have also been directed to review internal control and audit procedures for derivatives, to determine whether senior management of the bank is evaluating regularly the procedures to manage risk of derivative instruments and whether management control is independent of those conducting trading activities⁴⁴⁶. In addition, banks

supervised by the Federal Reserve Board are to conduct stress tests on their derivatives, risk taking guidelines should be implemented, reporting systems should be in place, credit risks should be assessed, credit limits imposed, liquidity risks should be managed and internal controls and audits should be in place⁴⁴⁷. The SEC has also been placing pressure on firms it regulates to present more financial information about their derivative trading activities⁴⁴⁸. Members of Congress repeatedly mentioned the complexity and size of the derivatives market. Mr. Gonzalez said the theoretical risk of loss that some big banks face exceeds their capital several times over⁴⁴⁹. A massive report was prepared by the minority staff of the House Committee on Banking, Finance and Urban affairs that contained recommendations for the imposition of strengthened regulatory standards⁴⁵⁰. Among other things, these recommendations sought a strong capital requirement to guard against risks posed by derivative instruments, greater coordination among regulatory authorities to assure comparable regulatory standards, enhancement of disclosure standards for firms using derivative instruments, and requirements for specific written policies on risk standards that would be approved by the boards of directors of these firms⁴⁵¹. The financial industry is generally united behind the position that the current combination of

self-regulation and government supervision provides enough protection against widespread losses from derivatives⁴⁵². However, there is a fear, in the financial industry, that legislation would slow the development of products that are marketed primarily as ways to hedge and reduce risk rather than speculation⁴⁵³. The FDIC is of the view that the combination of sound institution management, market forces and proper regulatory supervision under existing guidelines, sharply reduces the potential of serious damage to the banking industry⁴⁵⁴.

Another study was also conducted by a Steering Committee of the Group of Thirty, a private group of major financial institutions, and expressed the view that "derivatives by their nature do not introduce risk of a fundamental difference or of greater scale than those already present in the financial market⁴⁵⁵." The study asserted that "supervisory concerns can be addressed within the present regulatory structures and approaches⁴⁵⁶. The Group is of the view that "there is a danger in imposing regulatory formulas that inhibit new product innovation or discourage firms from developing the individualized, robust risk management systems on which they should rely⁴⁵⁷." Also the Group did note: "Because over-the-counter derivatives are customized transactions, they often assemble risks in complex ways. This can make the measurement and control of

these risks more difficult and create the possibility of unexpected loss⁴⁵⁸." The Group of Thirty study sought to "define a set of sound risk management practices for dealers and end-users of derivatives and instruments⁴⁵⁹." The Group also addressed the many problems encountered in the over-the-counter market. In this regard, it made recommendations to help those using over-the-counter derivatives to manage their activity. These recommendations included the following: (1) establishment of risk management policies at the highest levels of firms on the firms use of derivatives; (2) marking of derivatives at their market price for risk management purposes; (3) quantification of market risks by stimulations and forecasting; (4) assessment of credit risks from counterparties; (5) reduction of credit risk by master agreements that have netting provisions; (6) establishment of market and credit risk management functions; (7) employment of professionals to manage derivative risks; (8) establishment of management information systems; and (9) adoption of accounting and disclosure practices with greater transparency⁴⁶⁰. Unfortunately, no consensus has yet been reached among the industry and regulators as to what is the appropriate regulatory model that should be applied.

Nonetheless, the number of reports on derivative instruments along with regulatory proposals continue to

surface because the risks posed by derivatives have been and will continue to be substantial⁴⁶¹.

C. EXISTING REGULATION

1. Guidelines of the Regulatory Banking Agencies

Financial derivatives did not begin to gain widespread use until the early 1980s⁴⁶². Before then, banks did not have specific guidance from regulators with respect to their derivative activities⁴⁶³. As a practical matter, therefore banks' ability to engage in these activities was subject to the general principle that those activities be based on principles of safety and soundness⁴⁶⁴. As noted earlier, Federal and State bank supervision regulators have authority over banks' activities in derivatives as well as traditional banks products. As derivative activity has increased, however, regulators, both formally and informally, have been providing guidance with respect to the procedures banks should follow as they deal in or use financial derivatives. The OCC published its Banking Circular No.79 which for several years was treated by many banks as the principal regulatory pronouncement concerning bank participation in derivative activities⁴⁶⁵. More recent guidance was provided in late 1993 and early 1994 by the OCC, the Federal Reserve, and the FDIC. The guidelines

start with the premise that each bank is ultimately responsible for understanding the risks arising from its own derivative activities. At the same time, they include requirements for banks trading in derivatives to confirm the legal authority of counterparties to enter into derivative transactions, make certain disclosures to counterparties, and assess the appropriateness of the derivative instruments to counterparties⁴⁶⁶. The ultimate rationale for this guidance is to ensure that banks engage in derivative activities safely and soundly by protecting themselves from attendant credit, legal, and reputational risks. Although the guidelines address issues of appropriateness, they do so in the context of risk management at the bank and do not establish suitability standards for the protection of unsophisticated customers⁴⁶⁷. They are prudential supervision examiner guidelines, not customer protection rules. Through these guidelines, federal agencies require banks under their jurisdiction to establish and maintain written supervisory policies for all derivative activities, which must be approved by their respective boards of directors⁴⁶⁸. In addition, board approval is required before any new derivative activities may be undertaken⁴⁶⁹. Banking regulators also have identified numerous areas of fundamental risk inherent in financial derivatives. These

include market, credit, systemic, liquidity, legal and operational risk - all of which may be associated with non-derivative financial instruments as well. Regulators require banks to establish procedures to identify any other risk associated with financial derivatives through managerial oversight and responsibilities, risk measurements and limits, reporting processes and operational controls⁴⁷⁰. Concurrently, the regulators have made it clear, in their recent statements, that they recognize the benefits that financial derivatives can confer on banks and other users, and that their regulations are not intended to discourage the use of such products⁴⁷¹.

2.Circular No.277 of the OCC and The Federal Reserve's Supervisory Issuance SR93-69

The Federal Reserve issued examiner guidelines for derivatives trading activities of State member banks⁴⁷², which parallels provisions of the Capital Markets and Trading Activities Manual, as well as complementary guidelines directed at State member bank's use of off-balance-sheet derivative instruments as end-users⁴⁷³.

The Board's guidance instructs State member banks engaging in derivatives trading activities, in their evaluation of the counterparty's creditworthiness, to consider both the counterparty's "overall financial

strength... and the ability to perform on its obligation" and its "ability to understand and manage the risks inherent in a derivative product⁴⁷⁴." Thus, banks must take steps to "ascertain the character and financial sophistication of counterparties", including efforts to ensure counterparties "understand the nature and the risks" involved in each transaction. The Board's guidance for State member banks acting as end-users of derivatives highlights that the end-user is responsible for understanding and managing the risks involved in its derivative positions, regardless of any duties the dealer assumes. Failure to do so, through lack of internal expertise or inadequate outside advice, constitutes an unsafe and unsound banking practice⁴⁷⁵. For example, in actively overseeing the bank's derivative activities, directors should understand credit, market, and liquidity risks facing the bank as a whole and its derivative positions in particular. Further, senior management should fully understand the bank's risk profile, even when information and risk analyses are obtained from outside sources, and only under specified conditions should the bank use risk analyses supplied by their counterparties⁴⁷⁶.

The OCC and the Federal Reserve guidelines are substantively similar in their emphasis on the use of derivative products as an appropriate risk-management

tool⁴⁷⁷. One of the most telling features of the regulatory guidelines is the recognition that derivative activities can be beneficial to participating banking institutions in their overall risk-management activities⁴⁷⁸. The OCC has permitted National Banks to engage in financial derivative activities in accordance with "safe and sound practices,"⁴⁷⁹ and has put into place substantial regulations dealing with the use of derivatives. The OCC permits a National Bank to use derivatives for the following purposes⁴⁸⁰: (1) to manage financial risk for its own account; (2) to lower its cost of funding; (3) to exploit arbitrage opportunities across financial markets; and (4) to engage in the trading of, and dealing in, derivatives on behalf of customers. Financial derivatives not only include transactions involving interest rates, but also include transactions linked to commodity prices, equity prices, or indexes in which all or a portion of the return is linked to either such prices or an index of such prices⁴⁸¹. OCC Banking Circular 277 prescribes extensive guidelines covering derivative activities, including rules regarding senior management and board oversight of derivative activities, credit risk management, liquidity risk management, and operations and systems risk management⁴⁸². The OCC bases its guidelines on a bank's level of activity, taking into account whether the bank is a dealer, an active position taker, or a limited

end-user⁴⁸³. Among the highlights of the agency guidelines are the following⁴⁸⁴:

1. A primary emphasis on the responsibility of a banking institution's board of directors and senior management to exercise adequate supervision;

2. An emphasis upon the adequacy of the institution's internal control and reporting systems with respect to derivative activities, and the need to identify and measure financial risks on an individual and consolidated basis, i.e. the need to capture a bank's consolidated risk exposures created by derivative activities in conjunction with other banking activities and exposures;

3. The bank's responsibility to take steps necessary to ensure the legal enforceability of derivative contracts with counterparties, and the advisability of using master agreements and netting provisions to reduce, to the maximum extent possible, net counterparty credit and other risks;

4. The obligation for the bank to maintain adequate regulatory capital to protect against the risks associated with these activities. Finally, insured banks also must comply with the FDIC's guidance which focuses on end-users derivatives⁴⁸⁵. It emphasizes that, regardless of the counterparty's duties, end-users are responsible for fully understanding a transaction's derivative instrument and attendant risks and have the duty to determine the

suitability and appropriateness of their derivative transactions. For the most part, the regulatory perspective on bank derivative activities was that if these instruments were used for risk-management (as opposed to speculation) purposes, and if these activities in these instruments were adequately supervised, they could be useful in financial institutions' management of their funding, operational and other banking risks⁴⁸⁶. The bank regulatory agencies were principally concerned with issues such as whether such derivative activities were permissible for the bank (in other words, was the underlying asset a permissible acquisition for a bank); whether appropriate position limits were established; whether there existed a system for periodic reporting to senior management on derivative activities; whether there existed internal monitoring systems; and whether the bank had implemented appropriate accounting policies and procedures with respect to derivative activities⁴⁸⁷. It seems that, for the regulators, the issue today is not whether a bank may take the risk of an activity but whether the bank manages it acceptably.

3. Regulatory Issues When New Products Are Created

Regulation has always been a major concern when new products are created. It is often unclear whether a product

comes under existing regulations, and which agency should regulate it⁴⁸⁸. If the product does not fall under current regulations, concerns are raised about whether an unregulated product should be permitted⁴⁸⁹. For many years the over-the-counter market, which largely consisted of the interbank market for foreign currency, was unregulated at the Federal level⁴⁹⁰. Most of the participants were banks, whose activities were monitored by the appropriate bank regulatory agency. As more over-the-counter products were created, concerns were raised, especially by exchanges⁴⁹¹. They argued that since these unregulated over-the-counter products competed with their products, it gave an unfair advantage to the over-the-counter products⁴⁹². Indeed, an unregulated market has more flexibility to respond to changing conditions and does not incur the same level of legal and administrative costs⁴⁹³. As noted earlier, banks who are dealing derivatives are subject to regulation by the appropriate bank regulatory authority who will pay considerable attention to the derivative activities. Banks are required to maintain capital in proportion to the risk of their activities. The regulation that applies to new products depends on the type of derivative instrument and counterparty involved. In general, the Securities Act of 1933 and the Securities Exchange Act of 1934 apply to derivatives that have securities as underlying asset⁴⁹⁴. The

Securities and Exchange Commission regulates the trades and the brokers⁴⁹⁵. Other levels of regulation are imposed by the Federal Reserve System, which regulates the extension of margin credit⁴⁹⁶; the Securities Investor Protection Corporation, which provides insurance against the failure of brokerage firms⁴⁹⁷; and the National Association of Securities Dealers (NASD), of which most firms involved in options trading are members⁴⁹⁸. Many new exchange-traded option products were introduced in the 1980s, including options on stock indexes, options on foreign currencies, and options on futures⁴⁹⁹. These products created some confusion as to whether the Securities and Exchange Commission or the Commodity Futures Trading Commission had regulatory purview. The options on futures instrument caused the greatest confusion because it is like an option and a futures. In an important step in resolving the matter, the SEC and CFTC reached an agreement whereby the SEC would regulate options on stocks, stock indexes, and foreign currencies while the CFTC would govern options on all futures contracts⁵⁰⁰. According to the agreement, a CFTC regulated contract cannot permit delivery of instruments regulated by the SEC⁵⁰¹. Although this agreement was a turning point in regulatory cooperation, continued disputes between the SEC and CFTC characterized the regulatory environment of the early 1990s⁵⁰². The Commodities Exchange

Act of 1936 applies to derivatives that are commodities and the CFTC(Commodity Futures Trading Commission) regulates futures commissions merchants, floor brokers and traders. Futures and commodity options, including options on government securities, futures, and stock indices, are within the jurisdiction of the CFTC⁵⁰³. Options on securities, including on common stock and government debt, options on foreign currency when traded on exchanges, and stock indices, are within the SEC's jurisdiction⁵⁰⁴.

4. Regulation in the OTC Market

One of the difficulties in analyzing the regulatory treatment of OTC derivatives is that the term itself is not defined in any of the securities laws, including the governing statute, the Investment Company Act of 1940⁵⁰⁵. The Over-the-Counter derivatives have presented challenges in defining the legal relationship between the counterparties, which is presumed to be arm's-length, and respective duties of the financial intermediary and end-user. While all futures and many option contracts are standardized and traded on exchanges subject to the SEC's or CFTC's jurisdiction, swaps, forwards, many options contracts and other derivatives that are individually negotiated and traded in the OTC market are not subject to Federal securities or commodities laws, including their

anti-fraud provisions⁵⁰⁶. Banks engaging in OTC derivative transactions are not subject to "know your customer" or suitability rules of self-regulatory organizations ("SROs") under the SEC's jurisdiction nor to the CFTC's disclosure rules⁵⁰⁷. The General Accounting Office ("GAO") has identified three major types of OTC derivatives: forwards, options and swaps⁵⁰⁸. In the U.S., one principal regulation of OTC derivatives arises out of bank capital adequacy regulation⁵⁰⁹. In addition however, state insurance company regulators and Federal securities and commodities regulatory agencies have issued statements and regulations that affect derivative market participants⁵¹⁰. Over the past few years, investment companies incurred serious losses arising from investments in OTC derivatives⁵¹¹. Some of the most notable losses involved swaps and structured notes that lost value as interest rates moved sharply upward in 1994⁵¹².

Market data demonstrate that derivative instruments represent a limited portion of investment companies' total assets and that investment companies have been only marginal players in the derivative markets⁵¹³.

a. The Regulatory Policy Underlying the Investment Company Act

Investment companies are financial intermediaries that sell shares to the public and invest the proceeds in a diversified portfolio of securities⁵¹⁴. Each share sold represents a proportionate interest in the portfolio of securities managed by the investment company on behalf of the companies' shareholders⁵¹⁵. There are different types of investment companies such as mutual funds and close-end funds. A mutual fund is an open-end investment company that is subject to a continuing obligation to redeem its shares on demand at a price equal to an appropriate share of the value of its portfolio, which is computed daily at the close of the market⁵¹⁶. Unlike mutual funds, close-end funds sell shares like any other corporation but usually do not redeem their shares⁵¹⁷. All investment companies are regulated at the federal level according to the Investment Company Act of 1940 and subsequent amendments to that legislation⁵¹⁸. The securities they issue must be registered with the SEC⁵¹⁹. The regulatory policy underlying the Investment Company Act has been that investment companies generally should be free to fashion their own investment strategies and objectives with a few restrictions, as long as they provide full and accurate disclosure to investors⁵²⁰. This regulatory approach allows professional

investment managers to offer their clients a wide choice of collective investment vehicles (e.g., money market funds, long-term bond funds, equity funds, growth funds, index funds, asset allocation funds) covering the spectrum of risk and price volatility⁵²¹.

b. The Treatment of Derivatives under the Investment Company Act

The ICI requires every investment company to recite in its registration statement, which contains the prospectus, its fundamental investment policies⁵²². The prospectus must contain language clearly indicating that the investment company may utilize particular types of derivatives⁵²³. The Securities and Exchange Commission also requires a firm to disclose in its prospectus the risks of derivative trading⁵²⁴. The SEC has required, for example, that investment companies disclose that options and futures may fail as hedging transactions if there is basis risk between the underlying position and the derivative position⁵²⁵.

Additional risk disclosure requirements focus on revealing the unpredictability of stock prices, interest rates, and other economic factors, and the risk that a fund may not be able to close out its position if a liquid secondary market does not exist for a given derivative⁵²⁶.

The SEC stated that "if more than five percent of an investment company's assets are at risk from its involvement in derivative instruments and derivative-based transactions", the company's prospectus should address, (i) the types of derivative transactions in which the company might engage, (ii) the characteristics of those transactions, (iii) the purposes for which derivatives will be used, and (iv) the risks posed by such transactions⁵²⁷.

In keeping with the ICI disclosure philosophy, the SEC endorsed the idea that funds should be required to quantify the level of risk in their portfolios⁵²⁸. Improved disclosure related to derivatives must focus on the distinct risks that particular types of derivatives might pose⁵²⁹. The SEC did not impose restrictions on the use of derivatives by investment companies, concluding that derivatives are not inherently risky and may actually reduce portfolio risk in certain circumstances. The ICA regulation, however, imposes restrictions on leverage. Section 18(a) of the ICA prohibits a close-end fund from issuing any class of "senior security" unless immediately thereafter the fund has an asset coverage of at least 300%⁵³⁰. The SEC considers leverage to be present in any transaction that may cause a fund to have future payment obligations or risk of loss exceeding its initial investment⁵³¹. The SEC has taken the view that the leverage

restrictions apply to certain derivative transactions that expose a fund to future contingent payment or delivery obligations (e.g. swaps, futures and short options positions)⁵³². Derivatives, under this view, are clearly within the scope of the ICA's senior security restrictions.

The reason is that these types of derivative instruments in effect subordinate the shareholders' claims to the fund's assets to the claims of the fund's counterparties in the derivative transactions⁵³³. Finally, under the SEC guidelines, mutual funds may not invest more than 15% of their net assets in "illiquid assets."⁵³⁴ The SEC views an illiquid asset as "any asset which may not be sold or disposed of in the ordinary course of business within seven days at approximately the value at which the mutual fund has valued the investment."⁵³⁵ This restriction is designed to ensure that mutual funds maintain sufficient liquidity to meet their obligations to redeem fund shares on demand⁵³⁶. Thus, funds investing in OTC derivatives must factor these investments into their calculation of overall portfolio liquidity. Investment companies should generally assume that OTC derivatives are illiquid, given their privately negotiated character and their customized terms⁵³⁷.

D. THE FAILURE OF BARINGS BANK

1. The Facts

The oldest British Merchant Bank, Baring Brothers, collapsed over the weekend of February 25-26, 1995. A 28 year-old employee based in Singapore and trading futures and options contracts for the Barings group (he traded futures on the SIMEX - Singapore International Monetary Exchange) had accumulated losses exceeding £860 million⁵³⁸. Barings' capital was £540 million. A rescue effort by the Bank of England failed: other banks would not lend to Barings because with derivative contracts still open, the full extent of Barings' losses could not be fixed⁵³⁹. On March 5, the Dutch "Bank Internationale Nederlanden Groep NV" (ING Bank) won the bid to acquire Barings' securities for £1, it being understood that ING had to assume most debts, evaluated at that time around £660 million⁵⁴⁰. On March 8, the acquisition was approved by the U.K. High Court and by the Court in the Cayman Islands, where Barings was incorporated⁵⁴¹.

2. The Cause of the Collapse

What Barings' broker did was holding many billions of dollars in unhedged positions in futures and options on the Nikkei 225 stock index (which is an index based on a

portfolio of 225 stocks listed on the Tokyo Stock Exchange), interest rate futures on Japanese Government bonds and Futures on TOPIX, the index of all equities traded on the Tokyo Stock Exchange⁵⁴². Leeson got into trouble buying and selling "straddle" futures tied to the level of Japan's Nikkei 225 stock index, "betting", in effect, that the market level would stay within a certain trading range. But on January 17, 1995, an earthquake struck the city of Kobe, causing the Nikkei to tumble and Leeson's losses to mount⁵⁴³. In spite of the falling index, Leeson was confident the market would soon stabilize, buying thousands of additional derivative contracts in a desperate "double-or-nothing" style bet⁵⁴⁴. While, on January 1995 he was trading 2,187 contracts, he reported trading 16,937 contracts one month later⁵⁴⁵. The Singapore Authorities asked the Barings bank to justify the large mushrooming positions. Why so many contracts in a short period of time? Leeson told the Barings' group that it was for customers who had called him. But, in reality, it was not. Barings headquarters thought Leeson was arbitraging⁵⁴⁶. SIMEX seemed to have not limited Barings to some maximum number of contracts because of Barings reputation and because it kept meeting the margin calls⁵⁴⁷. To cover up his positions within Barings, Leeson represented some as being for customers and the other as fully hedged⁵⁴⁸. In early

March 1995, the Singapore government reported evidence that Barings' broker forged letters to indicate some positions were for customers⁵⁴⁹. For fictitious customers, he had to meet margin calls and to pay commissions. To do so, he used an account he had set up in 1992 for his own undisclosed personal trading⁵⁵⁰. In early 1995, he funded this account with receipts from selling options, but the account ran out of money on January 22⁵⁵¹. Leeson then, asked Barings London for margin money. By this point, Barings must have known of large proprietary positions, which its senior management said they thought were hedged⁵⁵². To fund as much as \$900 million in margin calls, Barings turn to banks in the UK, US and Japan⁵⁵³. According to one Singapore trader: "Ultimately, if you want to cover up something, it is not that difficult... Derivative positions change all the time and balance sheets do not give a proper picture of what is going on. For anyone on the outside to keep track is virtually impossible."⁵⁵⁴ Others appalled that Barings allowed Leeson both to trade and to manage settlement⁵⁵⁵. Thanks to the take-over by ING bank the systemic risk and ripple effect beyond Barings was minor.

3. The Legitimate Questions

Everyone associated with banking had to have been stunned by this failure. How could Leeson's exposure have

gone undiscovered for so long? How were the massive losses incurred? And why was the true position not noticed earlier? The losses were incurred by reason of unauthorized and concealed trading activities within BFS (Baring Futures Singapore)⁵⁵⁶. The true position was not noticed earlier by reason of a serious failure of controls and managerial confusion within Barings, nor had it been detected by the external auditors, supervisors or regulators of Barings⁵⁵⁷. How concerned should bank regulators be about the role of Barings bank in the events leading to the crisis? Is this a matter of better prudential regulation or does it suggest that deposit-taking institutions should be separated from securities and derivative activities? Debate rages between those worried about the systemic dangers posed by derivative markets and those who ridicule the worriers.

Many people, including the US congressmen, believe the problem is big⁵⁵⁸. The complexity eludes the senior managers who are supposed to evaluate the systems and the risks, but must instead rely on traders themselves, exposing the firm to possible fraud⁵⁵⁹. On Friday, December 1, 1995, Nick Leeson pleaded guilty to two offenses of deceiving the auditors of Barings in a way likely to cause harm to their reputation and to cheating SIMEX⁵⁶⁰. The following day, Saturday December 2, Nick Leeson was sentenced to six and a half years in prison⁵⁶¹. He is currently serving his

sentence in Changi, Singapore. The collapse of Barings is one of the most spectacular debacles in modern financial history. If a kid, playing on the other side of the world, could destroy a 240 year-old bank that had financed the Napoleonic Wars and that counted the Queen among its current clients, how safe are investors and depositors anywhere? The Barings broker dealt with losses and avoided detection. The story reveals an amazing chain of human errors. This crisis raises important issues concerning the regulation of futures and options markets. Not only derivatives were the cause of the collapse but also mismanagement, fraud or conspiracy were involved in this case. Right or wrong, one conclusion that could be drawn without any doubt is that those who sat on the board of Barings emerge from this story as sublime incompetents for not having exercised the minimum duty of care that they should have exercised.

This story points certainly to the core issue in an age of derivatives and Electronic finance or "cyberbanking", i.e, the ability of banks and non-bank entities to gather, transfer, store money through mechanisms outside of the bank regulatory framework. Can the bank regulatory structure rely for the protection of the system on internal controls and the conscientiousness of bankers to control these risks, incurred at these

speeds? And what if it cannot? And can it rely on them for the protection of the federal deposit insurance funds?

Unfortunately, Barings' case is not the only one. This year, a Japanese company, the Sumitomo Corp., a top general trade house, reported losses totaling \$1.8 billion from its top traders' trading of physical copper and copper-related derivative instruments over ten years⁵⁶².

E. RECENT LITIGATION CASES - ON TRIAL FOR DANGEROUS DEALING

1. Introduction

While there have been numerous reports of losses, which illustrate problems with internal control and risk management, the most significant litigation so far has raised suitability questions. Additionally, in numerous cases, the excessive losses occurred when investment strategies utilized derivatives to "bet" that interest rates would stay low. When interest rates began to rise, these strategies failed. Since the dealers of derivatives is, in most instances, the more sophisticated party with respect to the function of risks associated with derivatives, it is the investor who is often left out of the loop when it comes to understanding derivative transactions⁵⁶³. It is for this reason - the lack of

sophistication of the consumer - that disclosure of derivatives related risks by dealers is so important. At present, there are no mandatory regulatory or industry standards requiring dealers to evaluate their customer's capacity to understand the risks inherent in the use of derivatives in an investment portfolio⁵⁶⁴. As a result, many customers invest funds with little understanding of what derivatives are and how they work. Moreover, in the case of the individual putting private money in a purportedly safe investment, such as money market or mutual fund, there may be no knowledge that fund managers are even using derivatives⁵⁶⁵.

2. Suitability duties imposed on broker-dealers

In general, a broker-dealer may recommend a security to a retail customer only if the broker-dealer obtains information regarding the customer's financial circumstances and investment objectives and, on the basis of this information, determines that the security is suitable for the customer⁵⁶⁶. Suitability rules are enforceable against members of Self Regulatory Organizations through censure, fines, suspension, expulsion, and other disciplinary sanctions available under rules of Self Regulatory Organizations⁵⁶⁷. A broker-dealer's violation of the NYSE's "Know your customer" rule or the

NASD's suitability rule generally will not entitle the customer to bring a civil claim for damages against that broker-dealer⁵⁶⁸. However, violations of the NASD and NYSE rules may be actionable under the anti-fraud provisions of Federal or State securities laws⁵⁶⁹. For instance, under section 10(b) of the Exchange Act⁵⁷⁰, implemented through the SEC's Rule 10b-5⁵⁷¹, a customer may recover damages of the broker-dealer engaged in fraudulent sales practices in connection with the unsuitable transaction, such as making a material misrepresentation or omission with respect to a security that the broker-dealer knew or, but for his or her reckless conduct, would have known, was unsuitable for the customer⁵⁷². There is no common law cause of action for a broker-dealer's failure to make a suitability determination absent an advisory agreement or assumption by the broker-dealer of duties to the customer other than merely taking orders⁵⁷³. Without an advisory agreement as a basis for a breach of contract claim, when a special relationship of trust and confidence exists between the broker-dealer and the customer, the broker's investment in unsuitable securities for the customer may constitute a breach of fiduciary duty or negligence⁵⁷⁴.

In the banking area, banking regulators have imposed less stringent requirements on the basis that most bank derivative dealers have institutional customers that do not

need retail customer protection. The OCC require only that before entering into any derivative transaction with a customer, a bank determine whether the proposed transaction is consistent with the customer's policies and procedures with respect to derivative activities, as they are known to the bank. An examination of some of the more prominent derivatives-related debacles follows.

a. The Bankers Trust Case

The Bankers Trust settlements arose from a series of leveraged interest rate swaps that BT entered into with Gibson Greetings Inc. and Procter & Gamble from 1991 to 1993. An interest rate swap is an agreement by two "counterparties" to pay each other the amount of interest each owes on a specified amount, called the "notional amount"⁵⁷⁵. Typically, one counterparty must make floating interest rate payments, while the other is required to make fixed payments. In the Procter & Gamble case, one contract was a so called 5-30 swap, under which Procter & Gamble was to pay a fixed rate tied to the five-year US Treasury note and the 30-year Treasury bond and receive a floating rate tied to the commercial paper rate⁵⁷⁶. The second swap, a so-called Deutschemark swap, was tied to German interest rates⁵⁷⁷. Many of the BT's swaps were leveraged so that the swaps' value changed dramatically with relatively small

changes in market interest rates. They also were over-the-counter derivatives that were customized, privately negotiated and not traded on any market. BT, like most derivative dealers, guarded its assumptions and methodologies for valuing swaps linked to interest rates and other indices as proprietary trade secrets⁵⁷⁸. When interest rates rose in 1993, Procter & Gamble's and Gibson's leveraged swaps plummeted in value and both terminated their swap agreement and separately brought suit against BT⁵⁷⁹. Both companies claimed that they lacked access to BT's computer models for predicting interest rate changes, which BT regarded as proprietary. They also claimed that they could not evaluate their derivative holdings and alleged that BT had misrepresented materially the risks attendant to investing in derivatives⁵⁸⁰.

After these suits were filed, the Federal Reserve, the CFTC and the SEC commenced separate investigations of BT. In December 1994, the Federal Reserve announced a settlement with BT, requiring the company to disclose to leveraged derivative customers, among other things, "the methodology for making valuation adjustments" and "the analytical foundation for the valuation adjustment methodology."⁵⁸¹ Two weeks later, the SEC and CFTC issued their own settlement orders with BT. BT did not admit to any fraud, but the orders stated that BT had violated

statutory reporting and anti-fraud provisions in connection with the Gibson swaps and required BT to "cease and desist" violating the commodities and securities laws⁵⁸². Until today, federal regulators have avoided establishing suitability policy for derivatives but by reciting that BT's alleged misconduct consisted of making material misrepresentations and omissions, the CFTC and SEC settlements may presage the regulators' use of a previously unrecognized theory of liability⁵⁸³. Also it has left the market somewhat concerned as to whether it acts as a precedent⁵⁸⁴. Those new rules will probably prompt all reporting companies using derivatives to disclose their current market values. Such rules could put more pressure on derivative dealers not only to perform the valuation function for their clients, but also to describe the assumptions and methodologies behind the valuations. The CFTC and SEC ordered Bankers Trust recently to pay a \$10 million fine to settle securities and commodities law violations based on misrepresentation and omissions made to Gibson Greetings⁵⁸⁵. The CFTC agreement also established that BT "became a commodity trading advisor" with a fiduciary obligation to Gibson⁵⁸⁶.

b. The Procter & Gamble Case

Procter & Gamble sued Bankers Trust because they had suffered heavy losses due to unsuitable trades in Swaps. The law suit which was filed in 1994 had asked the District Court of Ohio to declare a swap transaction void, and had sought \$130 million in compensatory damages against Bankers Trust⁵⁸⁷. Procter & Gamble had also asked for an unspecified amount of punitive damages. Procter & Gamble had charged that Bankers Trust did not fully and accurately disclose information on the terms and risks of an interest-rate swap designed for Procter & Gamble⁵⁸⁸. Bankers Trust claimed that Procter & Gamble losses came because of market risks that the company knowingly took through a transaction that it fully understood and approved⁵⁸⁹. The suit charges in part that the consumer product giant relied on BT as a fiduciary advisor for complex derivatives⁵⁹⁰. Bankers Trust and Procter & Gamble Co. reached on May 9, 1996 an agreement settling a two-year-old dispute between the two companies⁵⁹¹.

c. Orange County Case

Municipalities and other investors of public funds are also subject to investor risk when derivatives are used. Local boards are often composed of prominent citizens who, though well respected in their community, lack the

financial expertise needed to properly manage risk⁵⁹². Nor are pension fund boards or municipalities likely to have access to the sophisticated computer hardware and software dealers employ to evaluate risk⁵⁹³. Compounding these investment risks is the pressure for fund managers to show an impressive return on investment⁵⁹⁴. This pressure leads fund managers to move toward increasingly riskier and less well understood investments and the result, as witnessed recently in Orange County, may be disastrous⁵⁹⁵. In December of 1994, Orange County, California sent shock waves through the U.S. financial markets. With its \$7.4 billion investment fund facing losses of \$1.5 billion, the county filed for bankruptcy, the largest such filing ever by a municipality⁵⁹⁶. Under the supervision of County Treasurer Robert L. Citron, the County's funds were used in a highly leveraged investment strategy that attempted to use interest-sensitive derivative contracts to boost the funds yield⁵⁹⁷. In the beginning, Citron's fund, which offered a return of between seven and eight percent annually, was an attractive investment to recession-ridden local governments and public entities whose primary alternative was a conservative state-run fund paying around four percent per year⁵⁹⁸. Taking in approximately \$7.5 billion from nearly 200 local governments and agencies, Citron then borrowed aggressively, bringing the value of the investment pool to

\$20 billion⁵⁹⁹. This money was then invested in volatile structured notes issued by quasi-governmental agencies like the Federal National Mortgage Association (FNMA) and Federal Home Loan Banks, which effectively leveraged the entire pool by a factor of three⁶⁰⁰. Citron planned to earn around five percent in his base investment, and secure an enhanced yield on the leveraged portion of the fund (around \$ 14 billion) based on the difference between what the bonds paid (five percent) and the cost of financing them (three percent)⁶⁰¹. Unfortunately for Citron, his strategy relied on a bet that interest would stay low; most of the funds derivatives were inverse floaters, instruments whose yields move counter to market interest rates⁶⁰². The strategy paid well while rates remained low, but when rates climbed, Citron's portfolio began to earn below market rates, forcing Citron to pay more on the money he had borrowed than his fund could now earn⁶⁰³. When the Federal Reserve raised the discount rate, Citron's pool could no longer sustain the cost of the leveraged portion of its fund, and shortly thereafter the county filed for bankruptcy protection⁶⁰⁴. In aftermath of the collapse, some critics have blamed Citron's management strategy and lack of expertise rather than the financial instruments used⁶⁰⁵.

Other commentators have claimed that the lesson of the Orange County debacle is not that a fund manager used risky

derivatives to boost investment earnings, but rather that public funds, which were thought by most county taxpayers to be invested conservatively, were in fact being put at great risk in speculative trading⁶⁰⁶.

d. Metallgesellschaft case

One of the highest profile derivatives-induced disasters occurred at Metallgesellschaft, Germany's fourteenth-largest industrial corporation, whose subsidiary MG Corp. had estimated losses for 1993 of at least \$500 million⁶⁰⁷. Over the course of several years, MG entered into a series of long-term, fixed-price contracts, agreeing to supply petroleum products to various counterparties⁶⁰⁸. The subsidiary failed, however, to negotiate agreements to buy oil products in an amount sufficient to fulfill the supply contracts, leaving the subsidiary vulnerable to fluctuations in the price of oil for at least some portion of the amount of product it had contracted to supply to its counterparties⁶⁰⁹. MG then purchased oil derivatives contracts both on the OTC market and through organized exchanges, the strategy being that an expected rise in the price of oil would create profits through the derivatives which would offset the losses MG would take buying high-priced oil to fulfill its supply contract obligations⁶¹⁰.

Unfortunately, the attempted hedge was improperly planned, and the derivatives MG purchased were suitable hedges only for short-term oil price fluctuations⁶¹¹. When the spread between the long and short-term price of oil increased, the derivatives MG purchased as protection ended up costing the company a very big loss⁶¹².

CHAPTER VIII:

CURRENT U.S. BANK SUPERVISORY INITIATIVES:

HOW TO LASSO THE DERIVATIVE BEAST?

A. CHANGING FINANCIAL ENVIRONMENT

The events of the past several years, have qualitatively changed the level of regulatory interest in derivative activities, as commercial banks have become primarily (if not principal) participants in the domestic and international swaps, futures, options and other derivatives markets⁶¹³. This increase in participation, coupled with the fact that there is no organized regulatory structure for many of the most active derivative markets, have led to calls by Congress and some of the regulatory agencies, including the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC), for assurances that bank involvement in these markets is prudent and consistent with the interests of other market participants, and does not unduly jeopardize bank depositors interests⁶¹⁴. Because derivative activities are not subject to consolidated supervision and regulation, and

because they take place in a variety of exchange and OTC market environments, the concerns over the potential risks associated with these markets has been tempered by the recognition that any attempt to regulate these markets in a consolidated fashion may interfere with their efficient functioning and deprive participants of their important risk-management benefits⁶¹⁵.

B. PROPOSED REGULATION OF BANKS' DERIVATIVE ACTIVITIES

1. New Requirements Adopted by the Federal Reserve, the OCC and the FDIC

Although banking regulators are aware that additional regulation is required in order to reduce risk exposure in derivatives, they have urged Congress not to further regulate derivative activities⁶¹⁶. Indeed, regulators fear that increased regulation "could be more hurtful than helpful."⁶¹⁷ The regulatory response to the increased use of derivatives by banks has been moderate. Instead of prohibiting or restricting banks' use of derivatives, banking regulators have responded by amending their risk based capital standards to ensure that banks engaging in derivative activities have sufficient capital⁶¹⁸. The new requirements are based upon the July 15, 1994 proposed revisions to the Agreement on International Convergence of

Capital Measurement and Capital Standards of July 1988 ("Basle Accord")⁶¹⁹ and have been adopted by the Federal Reserve Board⁶²⁰, the Office of the Comptroller of the Currency⁶²¹, the Office of Thrift Supervision⁶²² and the Federal Deposit Insurance Corporation⁶²³. Thus, national banks, state member banks, state non-member banks and bank holding companies will all be subject to essentially the same regulations⁶²⁴. The changes will be twofold: they will amend risk based capital standards to account for off-balance-sheet items such as derivatives and they will recognize bilateral agreements for purposes of such accounting⁶²⁵.

a. Proposed Changes to Risk Based Capital Standards

As mentioned earlier, risk based capital standards prescribe the amount of capital that banks must hold depending upon the risks embodied in their assets and off-balance-sheet items⁶²⁶. The proposed rules account for derivatives by converting them into credit equivalent amounts, multiplying the credit equivalent amount by a weighting factor (which presumably would depend on the creditworthiness of the obligor), and increasing the bank's capital requirements by the product⁶²⁷. The credit equivalent of an off-balance-sheet derivative is the sum of two components: a bank's current exposure and its potential

exposure⁶²⁸. The current exposure is closely related to the market value of a derivative⁶²⁹. For example, if Bank A enters into a derivative agreement with Bank B in which Bank B owes Bank A \$100,000, Bank A's current exposure is \$100,000 because it is the amount that Bank A would lose if Bank B defaulted. Bank B, on the other, would not have any current exposure because it loses nothing if Bank A defaults. Potential exposure is calculated by multiplying the notional principal amount of the underlying contract by a conversion factor⁶³⁰. The conversion factor derives its value from two components: the type of contract and duration of the contract⁶³¹. The first component of the conversion factors is the asset underlying a derivative contract⁶³². The new regulations create five categories of derivative contracts⁶³³. There are, in order of increasing conversion factors: (1) interest rate; (2) foreign exchange rate; (3) gold; (4) equity precious metal and (5) other commodities⁶³⁴. Interest rate derivatives have been assigned to the lowest conversion factors, and thus, are subject to the lower capital requirements; derivatives based on "other commodities" have been assigned the highest conversion factors and thus, are subject to the highest capital requirements⁶³⁵. The second component of the conversion factor is the length of the derivative contract⁶³⁶. Longer contracts are subject to higher conversion factors⁶³⁷. Thus,

a derivative contract with a remaining maturity of one year will be subject to lower conversion factors than a corresponding contract with a maturity over five years⁶³⁸.

After determining the appropriate conversion factor, the bank or regulator may calculate the potential exposure of a derivative contract by multiplying the notional value of the contract by the conversion factor⁶³⁹. The credit equivalent amount of a derivative contract is the sum of its current exposure and its potential exposure⁶⁴⁰. Once the credit equivalent amount is calculated, capital adequacy requirements are derived by multiplying the credit equivalent amount by the weighting factor assigned to the counterparty⁶⁴¹. The Federal Reserve, in conjunction with the OCC and FDIC adopted a rule effective September 1, 1995 that revises the risk-based capital guidelines to include explicit consideration of bank's exposure to declines in the economic value of their capital due to changes in interest-rate⁶⁴². The guidelines will now act to ensure that banks have sufficient capital on hand to cover potential losses incurred due to interest-rate risk exposure. The final rule does not establish thresholds above which a bank's interest-rate exposure is considered too high⁶⁴³.

b. Recognition of Bilateral Netting Agreements

Bilateral netting agreement is an agreement under which two parties who have entered into multiple transactions agree to satisfy their obligations to each other on an aggregated basis, netting out the respective amounts owed to each other in the various transactions⁶⁴⁴.

Although, netting typically occurs in the designated payment date, it may occur during a "close out". Market values are netted to calculate a single net termination amount⁶⁴⁵. Because the use of netting in the context of a close-out is not recognized as legally enforceable under the bankruptcy laws of all countries, there exists a risk that a counterparty may be unable to net market values at termination. As long as netting at close-out is not recognized as legally enforceable, capital adequacy based on a net position would underestimate the credit exposure of the banking organization counterparty of the derivative⁶⁴⁶. If netting is recognized as legally enforceable at close-out, then banking organization that are parties to netting agreements can maintain capital based on their net rather than gross position. The proposed rules would recognize bilateral netting agreements for purposes of risk-based capital standards, potentially reducing the current exposure of banks that have entered into multiple derivative transactions with a single

counterparty⁶⁴⁷. To illustrate, assume that Bank A and Bank B enter into five derivative contracts with each other. Bank A owes Bank B \$100,000 on contract one, \$100,000 on contract two, and \$100,000 on contract three. Bank B owes Bank A \$100,000 on contract four and \$100,000 on contract five. Before bilateral netting agreements were recognized, Bank A would have a current exposure of \$200,000 (the amount that Bank A would lose if Bank B defaulted) and Bank B would have a current exposure of \$300,000. Bilateral netting agreements allow banks to net out their differences with a counterparty⁶⁴⁸. Thus, under the proposed rule, Bank B would have a current exposure of \$100,000 and Bank A would have no current exposure. In order to qualify for special treatment, a bank must show that it has a legally enforceable bilateral netting agreement⁶⁴⁹. Under such an agreement, the market value of all derivative contracts among the parties are added together to produce one net current exposure⁶⁵⁰. This protects a party that has not defaulted against a party that has defaulted. To illustrate, suppose that Bank A files bankruptcy. Bank A would refuse to pay Bank B yet it could demand that Bank B pay it under the contracts. Under such a scenario, Bank B would have to pay Bank A \$200,000 while also suffering a total loss of \$300,000 on the other contract with Bank A.

be required to pay Bank A anything. Proof of a legally enforceable bilateral agreement would be made by obtaining a written legal opinion certifying the validity of the opinion⁶⁵¹. In addition to these changes, the regulatory agencies issued special guidelines addressing the concerns related to derivative instruments. The Federal Reserve, in conjunction with the OCC and FDIC, has recently amended its risk-based capital guidelines for State Member banks⁶⁵² and Bank Holding Companies⁶⁵³ to recognize for derivative contracts the effects of netting arrangements in the calculation of potential future risk exposure. The only netting agreement recognized by the Capital Adequacy Guidelines is netting by novation⁶⁵⁴. Netting by novation involves a contract under which all obligations between the same two parties for the same currency and value date are combined, with the result that one single net amount is legally substituted for all of the previous obligations⁶⁵⁵. Netting by novation is recognized because it is the only form of netting the Basle Supervisors' Committee determined to be legally enforceable under bankruptcy laws of all members countries. Under the amendments, institutions are required to have reasoned legal opinions concluding that bilateral netting agreements are legally enforceable in all relevant jurisdictions⁶⁵⁶. As a result, banks using eligible

derivatives are allowed to hold less capital against future credit exposure.

2. Guidelines Issued by the Federal Regulatory Agencies

a. The Board of Governors of the Federal Reserve System

The Federal Reserve issued guidelines for examiners on "Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations"⁶⁵⁷ and the Capital Markets and Trading Activities Manual⁶⁵⁸. The Trading Activities Examiner Guidelines, which parallel provisions of the Trading Activities Manual, target trading, market-making, and customer-accommodation activities in cash and derivative instruments at State member banks, branches and agencies of foreign banks, and Edge corporations⁶⁵⁹. Principles of the Trading Activities Examiner Guidelines also apply to risk management of bank holding companies on a consolidated basis and can be applied to banks' use of derivatives as end-users when appropriate. Also, the Federal Reserve issued complementary examiner guidelines, specifically applicable to these institutions' end-user derivative activities, entitled "Evaluating the Risk Management and Internal Controls of Securities and Derivative Contracts Used in Nontrading Activities,"⁶⁶⁰. Most recently, the Federal Reserve also

issued examiner guidelines entitled "Rating the Adequacy of Risk Management Processes and Internal Controls at State Member Banks and Bank Holding Companies."⁶⁶¹ The following summary is of significant provisions of both the Trading and Nontrading Activities Examiner Guidelines related to derivative activities.

a.1) Trading Activities Examiner Guidelines and Trading Activities Manual

a.1)a- Provisions on customer appropriateness: the purpose of the provisions is to protect the bank from credit risk, legal risk and risk of loss of its reputation⁶⁶². In this regard, a bank must ensure that the counterparty has sufficient authority to enter into a derivatives transaction. In order to determine whether or not a company, a municipality do have the statutory authority to enter into these transactions, the bank should look to authorizations of boards of directors or trustees⁶⁶³. Also the bank must take steps to ascertain the character and financial sophistication of the counterparty, including ensuring that the counterparty understands the nature of and the risks inherent in the agreed transaction⁶⁶⁴. If the counterparty is unsophisticated, the bank must take additional steps to ensure that the counterparty is made aware of attendant risks⁶⁶⁵. In its

evaluation of the counterparty's creditworthiness, the bank should consider, in addition to the counterparty's overall financial strength and ability to perform on its obligation, the counterparty's ability to understand and manage the risks inherent in a derivative product⁶⁶⁶.

a.1)b- Provisions on netting agreements: the banks should have guidelines and rules in place to determine enforceability of netting agreements before consummating a transaction⁶⁶⁷. Banks should determine the enforceability of netting agreements in all relevant jurisdictions, notwithstanding the counterparty's insolvency⁶⁶⁸.

a.1)c- Provisions on board of directors and management oversight: Risk-taking activities of an institution should be governed by policies approved by the board of directors. The board of directors regularly should be informed of risk exposure and risk management issues⁶⁶⁹. Further, senior management should oversee trading operations and ensure that relevant policies and procedures are adequate. In addition, in order to avoid fraud or conspiracy, management must create a risk management function that is fully independent of trading management⁶⁷⁰. The objective is to ensure that the board of directors provides the policies and guidance and exercises the overall supervision

requisite to management's operation of the bank's derivatives business effectively and in a safe and sound manner, while leaving to management responsibility for day-to-day operations and operational oversight⁶⁷¹. The risk management function should report trading risks, profits, and losses at least daily to managers who supervise but do not conduct themselves trading activities⁶⁷². The personnel staffing this function should understand the risks associated with derivatives and their compensation should not be tied too closely to the profitability of trading, in order to avoid potential incentives for excessive risk-taking⁶⁷³.

a.1)d- Provisions on risk management

- Accounting issues: Banks should have the ability to mark-to-market derivatives and all other trading position on a daily basis⁶⁷⁴. As long as reliable market value can be obtained, it is possible to simply record the transaction as either an asset or liability⁶⁷⁵. Mark-to-market accounting has long been used by banks, investment firms, and mutual funds to value their securities portfolios.

In Japan, after the Sumitomo loss in 1996, the Ministry of Finance decided to require that banks and securities companies start using the mark-to-market accounting method⁶⁷⁶. Currently, the non financial Japanese

companies can use the lower-cost accounting method which enables a company to book its asset values at the time of purchase, regardless of current or real value of such assets. With this method, the asset's value will be either what the firm paid for it or what it is currently worth on the market, whichever is lower⁶⁷⁷. The trouble with this method, which Sumitomo and other Japanese firms that suffered losses are believed to have used, is that it does not reflect real losses until the company disposes of the assets in question⁶⁷⁸. A third method, sometimes used in accounting for derivatives, is hedge accounting. This method can be used for contracts in which the derivative is specifically entered into to protect the price of another asset, which is either held or anticipated for purchase or sale⁶⁷⁹. All profits from the contract are simply recognized as being part of the purchase or sale price of the underlying hedged asset⁶⁸⁰.

- Banks should monitor credit exposures, market risk exposures, trading positions, and market movements at least daily. Banks should calculate market risk exposures at least daily using a measure such as value-at-risk⁶⁸¹. Value-at-risk measures potential gain or loss in a position, portfolio, or institution that is associated with a price movement of a given probability over a specified time horizon⁶⁸². Stress tests should be quantitative analyses,

such as contingency plans⁶⁸³. Analyses of stress situations should assess not only the probability of adverse events, but also address plausible "worst case" scenarios on an institution-wide basis, which consider the effect of unusual price changes or default of a large counterparty across both derivatives and cash trading portfolios. What is the purpose of the stress test? A stress test should demonstrate to a bank where it may have too much exposure in a particular risk dimension or, with respect to a particular counterparty, where it may be relying on assumed relationships between prices, volatility, or liquidity conditions that could break down⁶⁸⁴. The stress test should help the bank identify genuine potential threats and how banks might manage themselves in these scenarios.

Furthermore, a system of integrated, institution-wide limits and risk-taking guidelines should set boundaries for risk-taking activities and ensure that positions that exceed predetermined levels receive prompt management action⁶⁸⁵. So, there should be global limits for each types of risks. Banks with significant trading and derivative activities should internally review methods of risk measurement at least annually⁶⁸⁶. Before a new product is traded, senior management, risk management, internal control, legal accounting, auditing, and traders should understand it, develop appropriate policies and controls,

and integrate the product into risk measurement and control systems⁶⁸⁷. More recently, regarding capital requirements, the Federal Reserve announced a new approach , the so-called "pre-commitment approach", which means that each bank would state the maximum loss that its trading book will sustain over, say, the next three months⁶⁸⁸. So the bank, in effect, pre-commits to a maximum loss level. Their capital charge for market risk equals the pre-committed maximum loss level and if the bank's losses exceed this level, a significant penalty is imposed⁶⁸⁹. While pre-commitment has received mixed reviews from the banking industry it carries three advantages. First, it means that banks can choose to control risk through higher capital levels or by use of sophisticated dynamic hedging strategies⁶⁹⁰. Second, pre-commitment also gives banks an incentive to use the most sophisticated methods for assessing portfolio risk and improve their risk assessment technologies⁶⁹¹. Finally, the approach saves regulators from imposing some type of basic, one-size-fits-all model of portfolio risk on their clients for setting regulatory capital⁶⁹². Instead, they need only to verify that the bank's risk management structure is in place and is adequate. It is also less burdensome and intrusive on banks than other options.

2. Nontrading Activities Examiner Guidelines

a. Provisions on Board of Directors and Senior Management Oversight

The Nontrading Activities Examiner Guidelines also call for active oversight of end-user derivative activities by the board of directors and senior management of banks⁶⁹³. In general, the familiarity, technical knowledge, and awareness of directors and senior management should be commensurate with the level and nature of the bank's derivative positions⁶⁹⁴. Senior management should ensure that there are adequate policies and procedures for conducting nontrading derivative activities on a long-range and day-to-day basis. These policies and procedures include clear lines of authority and responsibility for acquiring instruments and managing risk, appropriate limits on risk-taking, adequate systems for measuring risk, acceptance standards for valuing positions and measuring performance, effective internal controls, and a comprehensive risk reporting and management review process⁶⁹⁵.

b. Provisions on Written Policies and Procedures

Written policies and procedures should clearly outline the bank's approach to management of end-user derivative activities. Such policies should be consistent with the

bank's broader business strategies, capital adequacy, technical expertise, and risk appetite⁶⁹⁶.

c. Provisions on Risk Measurement

Regardless of any responsibility, legal or otherwise, assumed by the dealer, a bank acting as end-user ultimately is responsible for understanding and managing risks posed by its derivative transactions⁶⁹⁷.

3. Risk Management Examiner Guidelines

In November 1995, the Federal Reserve issued the "Risk Management Examiner Guidelines". The risk management examiner guidelines are intended to assist examiners in their evaluation of risk management controls. Examiners are to give them considerable weight in their overall evaluation of an institution's management⁶⁹⁸. The management rating will be an important factor in determining an institution's CAMEL supervisory rating⁶⁹⁹. The main principles resulting from these guidelines are the following⁷⁰⁰:

- the board of directors is responsible for the level of risk taken by the bank and it should approve all strategies for risk taking activities;

- the board of directors and senior management must identify and measure all material risk exposures and tailor risk management policies and procedures to the risks taken;
- the safe and sound functioning of the institution must be established and maintained by internal controls and separation of duties.

b. The Office of the Comptroller of the Currency

A new Banking Circular⁷⁰¹ called "Risk Management of Financial Derivatives" or Bank Circular 277 from October 1993 provides guidance to national banks, and Federally licensed branches and agencies of foreign banks that engage in derivative activities. These provisions focus principally on OTC derivatives but are for the most part substantively similar to those issued by the Federal Reserve. They emphasize on the use of derivatives as an appropriate risk management tool. Circular 277 offers specific guidance on market, credit, liquidity, operations, and system risk management and measurement. The OCC believes that the best defense against sizeable individual losses or significant systemic disruptions is the implementation and use by individual banks of sound and efficient risk management processes⁷⁰². With respect to risk measurement, Circular 277 provides that a bank active in derivative transactions should have a system to determine

potential credit risk⁷⁰³. According to the Circular, a bank may engage in the hedging of physical commodity derivatives with physical commodities only under the following conditions⁷⁰⁴:

- the commodities transactions supplement and constitute a nominal percentage of the bank's risk management activities;

- the commodities transactions are used to hedge otherwise permissible, customer-driven banking activities;

- the commodities transactions are not entered into for speculative purposes and prior to entering into commodities transactions, the bank's board of directors and the OCC should have approved a detailed plan for the hedging activity. However, derivative transactions with respect to bank-eligible precious metals (gold, silver and platinum) are not subject to this latest provision⁷⁰⁵. The OCC did not adopt a suitability standard for bank derivative activities in its circular. The suitability guidelines in Circular 277 generally do not apply to a bank's transaction with other dealers or sophisticated market participants, nor do they require banks to request specific information or make a judgment about suitability before recommending a transaction⁷⁰⁶. Circular 277 presumes, consistent with safe and sound banking practices, that a bank dealer will not recommend transactions it knows, or

has reason to know, would be inappropriate for the customer on the basis of available information. Although a bank would not be prohibited from executing a transaction it believes to be inappropriate for a customer, it must advise the customer of this determination, document it, and consider the customer's ability to perform the contract in making a credit decision⁷⁰⁷. The OCC also issued a circular on May 10, 1994 that further described responsibilities of banks engaged in derivative transactions⁷⁰⁸. This circular was designed to answer questions raised by the prior circular on this subject⁷⁰⁹. Of particular concern to banks was the scope of the requirement for determining the appropriateness of derivatives for bank customers⁷¹⁰. Further, the U.S. Comptroller of the Currency has proposed many ways to strengthen the way national banks manage their derivative risks. One proposal is to have a unit, independent of the traders, that carefully monitors the trader's investments. The Comptroller acknowledges that the internal systems used by the biggest banks are more sophisticated than those it is considering⁷¹¹. On September 26, 1995 in News Release, the OCC announced plans to implement a revised system under which its examiners will evaluate risk in national banks⁷¹².

Under the new system, called "supervision by risk," the OCC examiners will use newly defined, specific

categories of risk to assess risk exposure⁷¹³. The goal of the supervision by risk is to evaluate the quantity of risk exposure and determine the quality of risk management systems in place to control that risk. The OCC will use risk as an organizing principle for all safety and soundness supervision⁷¹⁴. Supervision by risk reflects a judgment by the OCC that risk assessment must be more fully and evenly incorporated into bank supervision. Therefore, the identified nine risks will be treated the same throughout all national banks, all products, and all activities. The nine identified risks are: (1) credit risk; (2) interest rate risk; (3) liquidity risk; (4) price risk; (5) foreign exchange risk; (6) transaction risk (7) compliance risk; (8) strategic risk; and (9) reputation risk. Under supervision by risk, examiners will make and record judgments of risk exposure and the ability of the particular national bank to manage that risk exposure⁷¹⁵. Examiners will then, prepare a summary that measures the national bank's aggregate risk judgment and determines the areas of potential future risk⁷¹⁶. Examinations will no longer be focused by a transactional approach or an approach based upon product line. The OCC has already implemented part of the proposed supervision by risk⁷¹⁷.

c. The Federal Deposit Insurance Corporation

The goal of the FDIC guidelines is to ensure that appropriate capital levels, expertise and management controls are maintained by insured banks engaging in derivatives⁷¹⁸. These guidelines focus on the examination of institutions that are end-users of derivatives⁷¹⁹.

FDIC reviews mainly the risks associated with derivatives.

The Guidelines state for example, that banks are responsible for fully understanding a transaction's derivative instrument and the associated risks⁷²⁰. A end-user bank has the duty to determine the suitability and appropriateness of its involvement with an activity. The guidelines also highlight that examiners should identify and review in detail institutions that appear to be speculating by taking unhedged or unmatched positions in anticipation that future price movements will be advantageous.

3. State Agencies

No state appears to have enacted express statutory authority permitting a State Bank to engage in financial derivative transactions to the same extent as National Banks⁷²¹. The Kansas Attorney General, for example, has opined that a Kansas State Bank does not have the power to enter into financial derivative transactions⁷²². At least

two states expressly authorize derivative activities to some extent⁷²³. The bank regulatory authority for New York has authorized several different types of derivative activities⁷²⁴. Illinois appears to have recognized an incidental power for its State Banks to hedge their interest rate risk through the use of interest rate swaps and similar instruments⁷²⁵. Failure to authorize the use of financial derivatives for State Banks could deprive them of an important tool for managing interest risk or of the opportunity to generate additional revenue.

4. The Derivatives Policy Group's : Framework for Voluntary Oversight

Representatives of broker-dealers with affiliates that are major OTC derivatives market participants, with the cooperation of the SEC and CFTC, have joined under the Derivatives Policy Group in an effort to define a voluntary oversight framework for the OTC derivatives activities of unregulated securities firm affiliates of SEC-registered broker-dealers and CFTC-registered Futures Commission merchants⁷²⁶. The purpose is to define the relationship among participants in the OTC financial markets and to articulate a set of sound practices to be followed in connection with OTC financial market transactions among participants⁷²⁷. The framework and principles articulate the

basic assumption that in the OTC derivative markets, participants transact business at arm's length basis. As such, each participant is itself responsible for understanding the proposed derivative transaction and its attendant risks and obtaining the additional information or independent professional assistance required to do so⁷²⁸.

Further, it underscores that participants should act honestly and in good faith in all dealings and should always seek to clarify the precise nature of their relationships with their counterparties in writing. The Derivatives Policy Group's analytical framework consists of four interrelated components⁷²⁹:

1. Management Controls. This component consists of the implementation of internal management controls for monitoring and measuring the various risks to which a firm may be exposed as a result of dealings in OTC derivative products, and the inclusion of an external audit and verification process⁷³⁰. For example, regarding liquidity risk, procedures should be in place to measure and provide for potential funding requirements that might arise as a result of the impact of market movements on cash flows and collateral and margin requirements in light of mismatches in the timing of offsetting payment and delivery obligations⁷³¹. These controls, many of which are already in place, will be implemented individually by each firm and

are designed to effectuate prudent risk management practices.

2. Enhanced reporting. This component consists of the periodic submission to the SEC and the CFTC of a series of new quantitative reports covering credit risk exposures arising from OTC derivative activities and related information⁷³².

3. Evaluation of risk in relation to capital. This component includes the development of a framework for estimating market and credit risk exposures arising from OTC derivative activities⁷³³.

4. Counterparty relationships. This element of the framework embodies guidelines for professional intermediaries with respect to their relationships with nonprofessional counterparties in connection with OTC derivatives.

For these purposes, OTC derivative products include: interest rate, currency, equity and commodity swaps, OTC options and currency forwards⁷³⁴.

5. Bank for International Settlements ("BIS")

The G-10 central bank governors have been considering a range of issues related to derivatives activities⁷³⁵. The Committee on Banking Supervision and the International Organization of Securities Commissions each issued in July,

1994, documents providing risk management guidelines for derivatives to banks and securities firms and their supervisors⁷³⁶. The guidelines stress the importance of sound internal risk management by dealers and end-users of derivative instruments with key elements including: (i) oversight by boards of directors and senior management through timely reporting under an independent risk management function; (ii) a risk management process involving prudent risk limits, sound measurement procedures and information systems, and continuous risk monitoring and reporting; and (iii) comprehensive internal controls and audit procedures⁷³⁷. The guidelines also presents sound practices for management of credit, market, liquidity, operational, and legal risks involved in derivative activities⁷³⁸. In December 1994, the Committee issued another report, called "Prudential Supervision of Banks' Derivative Activities."⁷³⁹ This report provides an overview of the 1988 Basle Capital Accord and other past and current projects on the G-10 central banks that address derivative activities. On December 11, 1995, the Governors of the G-10 central banks endorsed a proposal by the Committee to amend the 1988 Basle Capital Accord to take into account market risk⁷⁴⁰. The capital standards which are to be implemented fully by bank supervisors by the end of 1997, would apply to market risks associated with foreign exchange,

commodities, options, and trading activities of internationally active banks. Banks would have to meet certain quantitative standards to ensure measures of market risk are sufficiently robust and consistent across institutions, as well as qualitative standards for their risk management systems, such as an independent risk control unit with active involvement of senior management in risk management⁷⁴¹.

C. REGULATION BY THE REGULATORS

1. Introduction

Organized exchanges where derivatives can be traded, establish rules and procedures that apply to all members as well as to individuals and firms participating in option transactions⁷⁴². Rule violations may be punishable by fines and/or suspensions⁷⁴³. The Options Clearing Corporation also regulates its members to help ensure that all activities in the option markets are proper and do not pose a risk to the market's viability⁷⁴⁴.

2. Margin Rules Applied by Futures and Options

Exchanges

As noted earlier, key tools to affect trading and reduce risk are the margin rules and marking-to-market

method. Futures and Options exchanges, supervised by their regulators, usually set margin rules for their brokers' transactions with them or with their clearinghouse and for the brokers' customers⁷⁴⁵.

- Margin Rules for Customers' Futures Contracts

For customer's futures contracts, long and short positions are subject to margin rules in the United States. At the time of the purchase, a customer buying a position pays an initial margin that is a share of today's cash future price⁷⁴⁶. The amount is usually a small percentage and it varies depending upon whether the position is a hedge or speculative and on the contract's variability⁷⁴⁷. The customer may give cash or securities. The maintenance margin is set daily against the current market value of the contract, which is marked-to-market daily⁷⁴⁸. Any loss in value is deducted entirely from the margin account and any gain is added. This is called the variation⁷⁴⁹. The broker passes the variation to the exchange, which in turn passes it to the broker on the other side of such a transaction, for the customer. So any shift raises one margin account and lowers the other. Whenever a customer's margin account falls below the minimum maintenance level, the broker makes a margin call and the customer must return the margin deposit to its initial level⁷⁵⁰.

- Margin Rules for Brokers' Futures Contracts

A member broker (or clearing member) has many customer accounts as well as its own proprietary accounts. Futures exchange clearinghouses set margins for member broker's futures contracts⁷⁵¹. The clearinghouse usually calculates gains or losses on each broker's total long positions and on its total short positions in each contract at the end of the trading day⁷⁵². Some net the sums, offsetting gains in short or long against losses in long or short⁷⁵³. The clearinghouse then, adjusts the broker's clearing margin account for each contract by the gain or loss and the broker tops up or withdraws funds as appropriate⁷⁵⁴. To mitigate systemic risk, it would be a good policy to calculate positions and margin requirements not by the end of the day but make also at least one intra-day assessment.

- Margin Rules for Options

When calls and puts are purchased, the option price must be paid in full. Investors are not allowed to buy options on margin. This is because options already contain substantial leverage⁷⁵⁵. Buying on margin would raise this leverage to an unacceptable level⁷⁵⁶. When an investor writes an option, he or she is required to maintain funds in a margin account. This is because the investor's broker and the exchange want to be satisfied that the investor will not default if the option is exercised⁷⁵⁷. Regulation T of the

Federal Reserve Act authorizes the Federal Reserve to regulate the extension of credit in the United States⁷⁵⁸. This authority extends to the regulation of margin credit on transactions in stocks and options⁷⁵⁹.

3. The National Futures Association (NFA)

Created in 1982, the National Futures Association is an organization of individuals and firms that participate in the futures industry⁷⁶⁰. The NFA is a self-regulatory agency which objective is to prevent fraud and manipulation as well as to protect the public interest⁷⁶¹. The NFA requires registration of its members who must meet strict requirements and pass an examination⁷⁶². No NFA member may accept a transaction from anyone other than an NFA member⁷⁶³. Like the CFTC, the NFA monitors trading and identify rule violations as well as impose disciplinary action⁷⁶⁴. Thus, it relieves the CFTC of some of this responsibility and turns the regulatory authority over to the market participants themselves. The National Futures Association ("NFA"), the industry's largest self-regulatory body, has adopted a "know your customer" rule⁷⁶⁵, which requires members to obtain specified information from customers, including income, net worth, and prior investment and futures trading experience, prior to opening an account.

4. The Commodity Futures Trading Commission (CFTC)

The CFTC is given exclusive jurisdiction over transactions in commodity futures contracts and commodity options, which generally must be traded on a board of trade or exchange and are subject to the requirements of the CFTC⁷⁶⁶. The Commodity Exchange Act⁷⁶⁷ ("CEA"), provides that all transactions in commodity futures contracts and commodity options, with certain exceptions, must occur on or be subject to the rules of contract markets subject to the supervision of the CFTC⁷⁶⁸. The Commodity Futures Trading Commission is responsible for licensing futures exchanges and contracts⁷⁶⁹. The CFTC also approves all terms and conditions of each proposed contract as well as modifications of the terms of existing contracts⁷⁷⁰. To be approved by this agency, a contract must have an economic purpose, i.e. that it can be used for hedging, and not be contrary to the "public interest"⁷⁷¹. The CFTC is responsible for ensuring that the exchanges make price information available to the public and establishes position limits, the maximum number of contracts a trader can have at any one time⁷⁷². The CFTC has the authority to require exchanges to establish and enforce disciplinary actions against members found to be in violation of the exchange's rules⁷⁷³. One of the CFTC's primary responsibilities is market surveillance⁷⁷⁴. Federal law

makes it a felony to attempt to manipulate the futures market⁷⁷⁵. The CFTC monitors trading for indications of possible manipulation⁷⁷⁶. In 1986, Congress passed the Futures Trading Act, which reauthorized the CFTC for three more years and extended the agency's powers to include regulation of any futures transaction, whether conducted on or off an exchange⁷⁷⁷. In 1992, a new reauthorization bill granted the Federal Reserve Board the authority to oversee the setting of margin requirements on stock index futures⁷⁷⁸. However, the CFTC has always been a reluctant regulator and for the most part, its views are that the markets should regulate themselves⁷⁷⁹. That argument is not without a great deal of substance, but that position exposes the financial system to a great deal of uncertainty that has not generally been tolerated for other financial instruments⁷⁸⁰. Like the SEC, the CFTC has not established a suitability rule for CFTC-regulated instruments⁷⁸¹. The Commodity Exchange Act has anti-fraud provisions applicable to the purchase or sale of futures contracts by futures commission merchants and their associates as well as to commodity trading advisors and their associates⁷⁸². The CFTC also adopted an anti-fraud rule for commodity options transactions⁷⁸³. However, the CFTC has determined that a futures commission merchant " does not violate Section 4b of the Commodity Exchange Act, merely because he fails to

determine whether a customer is suitable for commodity trading"⁷⁸⁴. As is the case with broker-dealers, a futures commission merchant's misrepresentation of an unsuitable investment is civilly actionable under the Commodity Exchange Act if it constitutes fraud⁷⁸⁵. While the CFTC has decided that futures commission merchants have the fiduciary duty to make full disclosures of material facts⁷⁸⁶, ultimately, the responsibility to judge the suitability of investments apparently is on the informed customer, given the CFTC's emphasis on risk disclosure⁷⁸⁷. The CFTC requires the futures commission merchants and CFTC-regulated firms to provide risk disclosure statements prior to opening customer accounts⁷⁸⁸. Required disclosures direct the customer to the issue of suitability, often by instructing the customer to determine whether the transaction at issue is suitable for the customer⁷⁸⁹.

5. The Securities Exchange Commission (SEC)

The SEC has responsibility for oversight of most options markets, and it performs many of the functions the CFTC performs with futures markets⁷⁹⁰.

6. The General Accounting Office (GAO)

The rapid growth in the use of derivatives by corporations has caught the accounting profession by

surprise⁷⁹¹. Derivative transactions had previously been viewed as off-balance sheet activities⁷⁹² that were only mentioned in footnotes to the financial statements of firms dealing in derivatives⁷⁹³. As noted previously, the footnote provided very little data as to the amount of risk or profits and losses from those instruments. It was at the urging of the SEC that firms engaging in derivative transactions have disclosed their profits and losses from that activity⁷⁹⁴. The GAO made recommendations to Congress, the Federal bank supervisory agencies and the SEC to strengthen the regulation and supervision of derivative activities⁷⁹⁵. The GAO report identifies boards of directors and senior management of institutions that participate in the derivatives market as primarily responsible for risk management⁷⁹⁶. The GAO report recommends that Congress require federal regulation of the safety and soundness of the fifteen major United States OTC derivative dealers. It also recommends that Federal supervisors and regulators develop initiatives with industry representatives and regulators from other countries to harmonize disclosure, capital, legal examination, and accounting standards for derivatives. The GAO report concluded that gaps in regulation threatened the integrity of the financial markets and suggested that the sudden failure of a major dealer in over-the-counter derivatives might cause market

liquidity problems which, in turn, would threaten federally insured banks and the financial system as a whole⁷⁹⁷. Such a failure, the report stated, might require government intervention and even a taxpayer bailout⁷⁹⁸. The report urged Congress to regulate currently unregulated activities of securities firms and insurance companies⁷⁹⁹. The report noted that the gaps in regulation pertained mostly to securities firms and insurance companies and not banks⁸⁰⁰. Nevertheless, House banking Committee Chairman Henry Gonzalez and Representative Jim Leach introduced a bill that would require banks to disclose more information about their derivative activities⁸⁰¹.

CHAPTER IX:
FEDERAL LEGISLATIVE INITIATIVES

A. CONGRESS' INITIATIVES - CONGRESSIONAL REGULATION

While the regulatory community is struggling to foster the development of adequate risk-control tools, Congress is nervously watching events like the Bankers Trust litigation, Orange County and the precipitous collapse of Barings PLC and considering whether more rigid controls are necessary. Banking regulators have been attempting to regulate derivative activities and have asked Congress not to interfere⁸⁰². But some members of Congress continue to feel that additional legislation is necessary⁸⁰³. A series of bills brought up during the 103rd congressional session is indicative of Congress' concern over the state of the industry and the magnitude of losses market participants have recently sustained⁸⁰⁴. Some members of the Congress believe that congressional action is necessary to bring about uniform and detailed disclosure by banks of derivative product activities⁸⁰⁵. Disclosure requirements would allow banking regulators to discern both the risks to

the banking system as a whole and to individual institutions⁸⁰⁶. Congress is also contemplating additional regulation⁸⁰⁷. In the House of Representatives, 3 bills on derivatives have been introduced.

1.- House Banking Committee Chairman Leach introduced the "Risk Management Improvement and Derivatives Oversight Act of 1995" the so-called Leach Bill. Leach proposes to set up a new Commission the FDC - Federal Derivatives Commission - comprised of the various banking regulators and new derivatives self-regulatory organizations (SRO's)⁸⁰⁸.

The members of the FDC would be: the Chairman of the Board of Governors of the Federal Reserve System; the Comptroller of the Currency; the Chairman of the Board of Directors of the Federal Deposit Insurance Corporation; the Director of the Office of Thrift Supervision; the Chairman of the Securities and Exchange Commission; the Chairman of the Commodity Futures Trading Commission; and the Secretary of the Treasury⁸⁰⁹. The FDC would be required to establish uniform regulations regarding derivative activities by banks⁸¹⁰. The FDC would have the authority to establish principles and standards related to capital, accounting, disclosure and suitability⁸¹¹. Each regulatory agency would then adopt implementing regulations. Under Representative Leach's plan, the FDC would have discretion to establish

specific disclosure requirements⁸¹² and would be expected to make recommendations to protect against systemic risk⁸¹³.

The FDC would be responsible for setting standards relating to: (1) the amount of capital a bank must hold before engaging in derivative activity; (2) the amount of disclosure a bank must make regarding derivative activity; and (3) any appropriate regulatory action needed for adequate supervision of banks engaged in derivative activity⁸¹⁴. The FDC is also required to establish uniform reporting systems for federal and state regulators⁸¹⁵. Further, the FDC must sponsor training programs for bank examiners to improve their ability to identify and assess risks posed by derivative activities⁸¹⁶. Uniform disclosure and training rules would create greater coordination and cooperation among the regulators and would ensure that derivative activities of institutions subject to different regulators are regulated similarly⁸¹⁷. The bill also requires banks to disclose the amount, nature, and terms of the derivatives that they hold⁸¹⁸. Banks must disclose: (1) the gross fair market value of any holdings they had in derivatives; (2) the revenue gains and losses from derivatives; (3) net credit exposure under a bilateral netting contract; and (4) remaining terms of maturity of any derivative held by a bank⁸¹⁹. The purpose of these disclosure requirements is to allow regulators to better

understand the derivative activities of the bank and the risks involved⁸²⁰. The bill also calls for the banking regulators to develop "emergency reporting" methods to be used in the case of banking emergencies such as adverse market conditions⁸²¹. Under this provision, regulators could obtain any information from banks deemed "necessary" to address the emergency⁸²². The bill grants banking regulators greater enforcement powers because a failure to comply with the statute would be considered an unsafe and unsound practice and the regulators could assess civil penalties⁸²³.

Finally, the bill attempts to assure that banks dealing in derivatives are skilled in such dealings. The bill bars banks from selling or buying derivatives unless a sufficient number of directors are familiar with the risks associated with the class of derivatives in which the bank deals⁸²⁴.

2. - Representative Gonzalez introduced in January of last year the "Derivatives Safety and Soundness Supervision Act of 1995" which requires the Federal Bank supervision and regulatory agencies to jointly establish principles and standards relating to Capital, Accounting, Disclosure, Risk Management and Suitability. Representative Gonzalez's bill established disclosure requirements for banks engaged in derivative activities instead of creating the FDC⁸²⁵.

3.- Representative Markey introduced the "Derivatives Dealers Act of 1995" which would amend the Securities Exchange Act of 1934 to include derivatives based on the value of a security within the definition of the security.

4.- Another Member of Congress suggested that stop-trading orders, or "circuit breakers" should be used during periods of turmoil or unusual turbulence in the derivatives market⁸²⁶. Such a move would expand the use of circuit breakers, which exchanges currently use to regulate the large OTC market for derivatives.

5.- The Senate Bill: On July 18, 1994, Senate Banking Committee Chairman, Donald Riegle, introduced a bill entitled the Derivative Supervision Act of 1994⁸²⁷. This bill forces banks to separate their derivatives activity from other activities⁸²⁸. The bill requires banks to set up separate holding company subsidiaries in order to buy and sell derivatives for a bank's own account⁸²⁹. The bill requires banks to set up a management plan stating their purpose in holding derivatives and how the holding is consistent with the overall management plan⁸³⁰.

CHAPTER X:

CONCLUSION

Banks are stepping out of their traditional role as deposit-takers and lenders, and are moving along the road toward becoming complete financial intermediaries embracing derivatives as either dealers or end-users. Fundamental economic forces have led to financial innovations that have increased competition in financial markets. Greater competition in turn has diminished the cost advantage banks have had in acquiring funds and has undercut their position in loan markets. As a result, traditional banking has lost profitability, and banks have begun to diversify into new activities, such as derivatives, that bring higher returns.

Derivative financial instruments have revolutionized the financial industry, providing both dealers and end-users with sophisticated risk-management capabilities and other benefits as well. Along with the rapid expansion of the derivatives market has come the potential for substantial disruptions, not only among individual market players but throughout the financial markets worldwide. The primary sources of the risk include the sheer volume of the

derivatives market, the interlinking of markets and market participants, the lack of regulatory supervision in the OTC market, and the concentration of derivatives activity among a relatively small number of major dealers. Investors also face serious risks arising primarily from a lack of sophistication and inadequate disclosure by dealers.

Industry players and many regulators do not want additional regulation. Conversely, members of Congress feel increased regulation is essential to the protection of the financial system and the U.S. taxpayer. All of us know that there is no greater enemy of the marketplace than a loss of confidence in the market mechanism itself. While the perceptions of the risks and challenges may differ, the objectives of supervisors, financial institutions and users are the same, i.e, maintaining a strong financial system over the long run. The challenge for regulators is to encourage financial market innovation without compromising the elements which are essential to sound and orderly markets. But one should keep in mind that there is no such a thing as "zero risk" and banking is not intended to be a risk free activity. Some view derivative activities as highly speculative endeavors that greatly jeopardize financial safety and soundness. The focus is placed on the potential for weak or ill-managed institutions to suffer large losses through derivatives trading, thereby

endangering the safety of both the banking system and the fund that backs federally insured deposits. In this regard, some have favored restricting, or even banning, derivative activities at insured commercial banks. Over the last five years, however, the banking industry and the regulators have learned a great deal about the prudential regulation of bank derivatives and have applied the lessons in their practices. Banks have actually managed the risks associated with derivatives almost better than the risks associated with their basic lending activities. Financial institutions have been known to fail due to losses from imprudent lending activities. Recent failures involve losses due to bad lending associated with real estate, the commercial sector, third world nations, and the energy and agriculture sectors. Furthermore, it is likely that derivatives have become so enmeshed in modern life that it is almost impossible to go back and remove them from the markets.

Derivatives are now an integral and still-growing part of the global financial marketplace. Many believe they are essential for enhancing global market liquidity and managing market risk. Indeed, derivative markets allow the transfer of risk from those wanting to remove or decrease it to those willing to assume or increase it. They merely allow risk to be passed from one investor to another. Derivative markets neither generate nor dismantle wealth ,

they merely relocate it. The benefits of derivatives, however, extend far beyond the market participants. The new derivatives and financial products that exchanges introduce, often make valuable and durable contributions to the development of our capital markets which, in turn, promote economic welfare. Derivatives help financial markets become more efficient and provide better opportunities for managing risks. These benefits spill over into society as a whole. The apologists who argue that "it is not derivatives that are the problem, it is how they are used" are technically correct, just like America's pro-gun lobby with its slogan "guns don't kill people, people do." On balance, the overall impact of derivatives on economic activity has been positive and is likely to remain so.

Besides, the attention directed at derivatives in the past few years has had a salutary influence on the entire market over time because it helped increase understanding among the purchasers of derivative products of their risks. The investment banks, accountants, big corporate users, financial experts and economists and others who earn their crust by working with derivatives will argue that mis-selling is so rare. Indeed, disasters have typically been caused by fraud, or by a derivative being misused or misunderstood, not by its failure to do what it was supposed to do. Moreover, in some of the best known

fiascos, such as Barings PLC, derivatives actually played a relatively small role, yet (in the popular press, at least) got much of the blame. Likewise, until today no empirical study has proved that derivatives increase volatility and some have concluded that derivatives may even reduce it.

The impact could vary according to whether they are used mainly to hedge risks or to speculate on markets. Thus, conclusive evidence that derivatives destabilise markets is yet to be shown. So far, most of the debate about derivatives has concentrated on the banking industry because that is where they have been most heavily used and because regulators fear that a disaster in a bank might have knock-on effects throughout the financial system. The different incidents due to derivative trades illustrate today, more than ever before, that it is critical that a financial institution's internal safety net - its risk management and internal control systems - keeps pace with the risks presented by this dynamic financial environment, regardless of the institution's size. To keep pace with the risks associated with the use of derivatives, several goals should be embraced by every financial institution trading derivatives. First, the development of a fully independent risk management staff and a strong internal control environment. It is essential that skilled people and personnel with high integrity, are hired not only for the

trading floors and risk management staffs, but also for back offices and internal audit functions. Indeed, when considering the importance of complex derivatives, there is another kind of risk involved: intellectual risk, which leads to the question: how well educated regarding derivatives are personnel, from the trader on the desk up to the Board of Directors? Banks should also keep in mind that risk management is a corporate management issue: the board of directors is responsible for knowing in what the institution is involved and for understanding the attendant risks. Since regulatory agencies and their supervisors must be in a position to assess the most sophisticated internal sensitivity models used by banks to simulate changes in their net worth arising from possible future changes in asset prices, they must be able to fully understand the complicated and technical systems used by the regulated banks. In that regard, would any effort at regulation not be hampered by the difficulty of obtaining highly and technically qualified people? Would it not be difficult - if not impossible - for the regulatory agencies to attract people with these scarce financial skills? Second, the development and, in some cases, further enhancement of measurement and monitoring techniques for all types of risk, including market risk and credit risk resulting from derivative activities. An information system that is

sophisticated is essential to risk management and to development of effective stress testing and contingency planning capabilities. Banks trading derivatives should be equipped with elaborate analysis computer programs that measure the potential risk of one-day price move to a specified level of probability. Upgrades in technology will be needed in order to assure integration of computer systems in a firm's dealing with derivatives on a wide-scale basis. Additionally, banks trading derivatives should set up special computer programs which would enable personnel and management staff to educate and train themselves against a financial apocalyptic scenario. Like in the aviation industry, there is no room for error in the huge derivatives industry. Third, and even more fundamental, is the critical assessment by the board of directors and senior management of an institution's tolerance for risk, ensuring that risk management and internal control systems are commensurate with that level of risk. Fourth, it is self-evident that a full appreciation of risk cannot be developed without accurate information. Thus, there is little question in my mind about the urgency of achieving dramatic progress in the areas of financial disclosure and market transparency. A striking aspect of the markets these last years has been the periodic episodes of tremendous uncertainty as to the

exact nature of market forces at work and the size of overhanging positions. This uncertainty provided a fertile ground for rumors about forced liquidation of financial groups and the financial health of individual firms, and created the potential for volatile and disorderly markets. Sixth, netting is a powerful tool for market makers. Legally binding netting of payments enables market makers to reduce significantly the enormous sums that are at risk on any given day. Seventh, the derivatives business is international. While American companies have been maintaining leadership in the industry through constant innovation, the ease with which the industry could move off-shore limits Congress and regulators' room to maneuver. Therefore, resolution of concerns should be achieved only through a high level of international cooperation and agreement. More work should be done at the G-10 central banks. Eighth, derivative activities could be conducted by separate subsidiaries. In the past, similar concerns than those experienced in the derivatives market caused the industry and the regulators to recommend that nontraditional banking activities, such as those associated with underwriting and dealing in corporate debt and equity securities, be conducted only by well-managed and well-capitalized banks in separate subsidiaries of the bank holding company. Ninth, consolidation supervision need to

be implemented. We know that derivatives are not subject to consolidated supervision and regulation. Because they take place in a variety of exchange and OTC market environments, the concerns over the potential risks associated with these markets has been tempered by the recognition that any attempt to regulate these markets in a consolidated fashion may interfere with their efficient functioning and deprive participants of their important risk-management benefits. But what is the point of periodic bank examinations and reporting requirements when the risk characteristics of a bank's proprietary trading position can be transformed almost instantaneously through the use of derivative products? Should banks not be required to report their overall positions at least daily so that supervisors can keep track of what is going on? The answer given by the industry is that such an approach would place an impossible burden on all concerned while generating more data than anyone would know what to do with. Tenth, additional regulation and guidelines do not seem to be necessary. The existing regulatory framework addresses the issues and provides adequate solutions, at least for exchange traded derivatives. It ensures that banks manage the risks posed by the use of derivatives so that they will be used safely and soundly. Key components of risk management are an independent risk management system, a strong internal

control environment, and an integrated, institution-wide system for measuring and limiting risk. This means sufficient separation of duties, complete separation of front-office (trading) and back-office operations, a daily reevaluation of trading positions independent of trading personnel and management, and an independent validation process for each step of the risk management process. Too much regulation will not be an appropriate answer because derivatives should stay innovative. Additional regulatory legislation could move the industry offshore, and out of the reach of U.S. regulatory jurisdiction and any bill that imposes further restrictions on banks will send investors to derivatives created by securities firms or other financial businesses whose activities are less well regulated than those of banks. Moreover, any effort to restrict the ability of banks to engage in derivative transactions would increase costs and burdens to the industry and the communities served by these institutions.

The middle-ground between no action and heavy-handed legislation would be more relevant and may direct us to take action by only placing the relatively unsupervised OTC dealers under the power of some existing regulatory agency, and implementing set standards with respect to accounting procedures, capital reserves, and corporate oversight within the OTC industry. The Federal Reserve, the OCC and

the FDIC guidelines require banks and other users to establish written derivative policies and identify associated fundamental risks. For banking supervisors, probably the most important issue they face concerning financial derivatives is what could go wrong to engender systemic risk, the danger that disruptions or difficulties at one institution could have a significant impact on other financial institutions and through them on the overall economy. The guidance appears to address the key safety and soundness objectives of the Congress' concerns. On the other hand, the over-the-counter market, being unregulated, has shown a tremendous propensity to innovate by developing new types of contracts such as swaps. Many would argue, and I do, that this market should be regulated. Investments in the OTC products should be controlled by the investment management firms themselves who are directly accountable to the marketplace and to investors. In this market, the role of regulation is to ensure that investment companies accurately and completely disclose both their objectives and the types of investments they contemplate. It is the role of the government to ensure that these companies provide investors with a full and fair disclosure upon which to base informed investment decisions. Despite the rapid growth of derivatives and the great risks that may accompany their use, banking regulators have not moved to

prohibit or greatly restrict the use of derivatives. This is not surprising. After all, are the risks posed by derivatives so fundamentally different from those posed by other investments that a radical and different regulatory approach is necessary? Lawmakers' concerns over banks' activity in financial derivatives stems from the potential to speculate in the derivatives market, which allows banks to bet with federally insured deposits and, ultimately, with taxpayers' funds. Although financial derivatives are fairly new, their risks are not. They reflect essentially the same basic risks that banks have always been facing. Some derivative contracts are quite complex but a complex, difficult to manage, option is embedded in every fixed-rate home mortgage. Although some derivative instruments are undoubtedly complex, exposure to derivatives risk does not seem much different from exposure to many other bank activities, such as credit risk in a loan portfolio or interest rate risk in a variety of fixed-income securities. Banks can also achieve high leverage in a number of ways other than through derivatives and can quickly change (or increase) their risk exposure in many different ways. Banks' recent push into derivative activities raises all of the questions commonly raised when banks engage in new off-balance-sheet activities. Instead of regulating bank's use of derivatives, banking regulators have chosen to amend

their capital adequacy standards to account for the risks posed by derivatives. Requiring banks to hold adequate capital promotes financial stability in two ways. First, it provides a greater cushion with which banks can absorb losses, lessening the likelihood of failure. Second, with more capital at risk, banks have less incentive to take excessive risk because they will have more to lose if their bets go wrong. Another benefit is that regulation need no longer restrict bank's activities. As long as banks must hold sufficient capital against whatever activities they engage in, taxpayers will be protected and banks will have an incentive to avoid excessive risk taking. Further, freedom to offer additional products and services will better enable banks to compete with nonbank competitors and with foreign banks. Another important component of a regulatory strategy to maintain bank soundness is supervisory monitoring. Regulation must be able to keep banks from changing their risk exposure after capital requirements are determined. As we have learned from the Barings' collapse, regulators must also ensure that adequate internal controls are in place with regard to asset quality and risk management procedures. Finally, public disclosure of bank's risk exposures would increase market efficiency and bolster market discipline. Banks should provide a meaningful depiction of the risks

associated with their trading activities in off-balance-sheet activities and of their ability to manage these risks. More public information about the risks incurred by banks will better enable stockholders, creditors and depositors to evaluate and monitor banks, and will act as a deterrent to excessive risk taking. The regulation of banks is and remains essential, because they have deposit insurance and direct access to the Federal Reserve's discount window. At the same time, however, this combination of deposit insurance and access to the Federal Reserve's discount window also can result in potential problems because it may incite the banks and their customers to inappropriately rely on such backing. Therefore, banks may be willing to run greater risks in their trading activities - in relation to their capital - than otherwise would be the case. In addition, market participants may prefer using banks for derivatives and related trading activities simply because banks are perceived to be safer counterparties. The current deposit guarantee structure does reduce the probability of large-scale bank panics but has also created new issues. Deposit insurance effectively eliminates the discipline provided by the market mechanism in encouraging banks to maintain appropriate capital levels and restrict unnecessary risk-taking. Because of the federal deposit guarantee, some

government lawmakers now propose to restrict insured banks' activities in financial derivative markets. Without federal deposit guarantees, banks' activities would be disciplined by depositors and the bank would take only calculated risks because uninsured depositors, concerned about the safety of their deposits, would provide the discipline necessary to guide financial institutions in maintaining adequate capital and limiting risk strategies. Further, the presence of deposit guarantees may encourage banks to use derivatives to pursue higher risk strategies, such as speculating on the direction of interest rates or exchange differentials, instead of using derivatives for hedging to improve their management of financial risks.

So, does the use of derivatives pose a serious threat to the safety and soundness of the U.S. banking system?

I modestly do not view banks' derivatives activities as a threat to financial stability. Properly used and regulated, derivatives can facilitate the management of risk and increase the long-term viability of banks and the financial system. On the other hand, the relative newness of this market, the fragmented regulatory responsibility, the global trading and the competitive secrecy of many transaction virtually precludes the possibility of getting a full picture of the derivative markets. But are these really central issues? Would it not be more to the point to

address the fundamental issue of whether banking groups should be allowed to operate high-risk, purely speculative non banking business at all? I believe that the primary task of banks is to act as facilitators of the money transactions on which personal, industrial, commercial and governmental activities are based. Should the bank only be the totally safe and reliable repository of our savings? Have banks strayed too far from their primary task? Perhaps the time has come to initiate a fundamental study of the current structure of the banking and financial service industries. For some time, it seems to have become fashionable to diversify into everything everywhere.

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- ¹.HAL S.SCOTT & PHILIP A.WELLONS, *INTERNATIONAL FINANCE - TRANSACTIONS, POLICY & REGULATION* 932 (1995).
- ².*Id.* at 932 (1995); *Financial Times* (October 20, 1993).
- ³.SCOTT & WELLONS, *supra* note 1, at 933, 938.
- ⁴.Stephen J. Friedman & Connie M. Friesen, *A New Paradigm For Financial Regulation: Getting From Here To There*, *Maryland Law Review*, volume 43, number 3, 1984, at 413-462, in *BANKING LAW ANTHOLOGY, VOLUME II 1984-1985* at 544.
- ⁵.*Id.* at 547.
- ⁶.*Id.*
- ⁷.*Id.* at 548.
- ⁸.SCOTT & WELLONS, *supra* note 1, at 132.
- ⁹.*Id.*
- ¹⁰.Friedman & Friesen, *supra* note 4, at 548.
- ¹¹.FRANK J.FABOZZI ET AL., *FOUNDATIONS OF FINANCIAL MARKETS AND INSTITUTIONS*, at 40 (1994).
- ¹².JONATHAN R. MACEY & GEOFFREY P. MILLER, *BANKING LAW AND REGULATION*, at 70 (1992).
- ¹³.*Id.* at 71.
- ¹⁴.*Id.*
- ¹⁵.*Id.* at 72.
- ¹⁶.*Id.*
- ¹⁷.*Id.* at 48.
- ¹⁸.SCOTT & WELLONS, *supra* note 1, at 132.
- ¹⁹.National Bank Act of 1864, ch. 106, 13 Stat. 99 (codified as amended in scattered sections of 12 U.S.C. 1988 & Suppl. V 1993) repealing the National Bank Act of 1863, ch.58, 12 Stat.665); Christian A. Johnson, *Wild Card Statutes, Parity, And National Banks--The Renaissance of State Banking Powers*, 26 *Loy. U. Chi. L.J.* 352, 352 (1995).
- ²⁰.Edward L. Symons, Jr., *The United States Banking System*, 19 *BROOK.J.INT'L*, at 9 (1993); Johnson, *supra* note 19, at 352.
- ²¹.MACEY & MILLER, *supra* note 12, at 12.
- ²².*Id.* at 48.
- ²³.*Id.* at 47.
- ²⁴.*Id.* at 48.
- ²⁵.*Id.* at 47.

²⁶. *Id.* at 49.

²⁷. *Id.*

²⁸. *Id.*

²⁹. *Id.*

³⁰. SCOTT & WELLONS, *supra* note 1, at 153.

³¹. *Id.*

³². *Id.*

³³. *Id.*

³⁴. ALLISON P. ZABRISKIE, BANKING LAW ANTHOLOGY, VOLUME II 1984-85, at x (1988).

³⁵. *Id.* at xi.

³⁶. Federal Reserve Act, ch.6, 38 Stat. 251 (1913) (codified as amended in scattered sections of 12 U.S.C. (1988 & Supp. V 1993)).

³⁷. 12 U.S.C. §321 (1988); 12 U.S.C. §248 (1988 & Supp. V 1993).

³⁸. The Federal Reserve regulates bank holding companies pursuant to the Bank Holding Company Act of 1956, 12 U.S.C. §§1841-50 (1988 & Supp. V 1993).

³⁹. 12 U.S.C. §483 (1988 & Supp. V 1993).

⁴⁰. 12 U.S.C. §27 (1988), as amended by Riegle Community Development and Regulatory Improvement Act of 1994, Pub.L. No. 103-325, 108 Stat. 2160, 2227.

⁴¹. 12 U.S.C. §26, 481 (1988 & Supp. V 1993). The OCC is expressly precluded from examining state member banks, regardless of any affiliation with a National Bank.

⁴². 12 U.S.C. §93a (1988).

⁴³. 12 U.S.C. §92a (1988); Johnson, *supra* note 19, at 356.

⁴⁴. Johnson, *supra* note 19, at 357.

⁴⁵. 12 U.S.C. §1811 (Supp. V 1993); State Member Banks are required to maintain deposit insurance. 12 U.S.C. §1814 (Supp. V 1993).

⁴⁶. Johnson, *supra* note 19, at 360; 12 U.S.C. §1815 (1988 & Supp. V 1993). There are currently more than 12,000 FDIC-insured banks in the United States. FDIC, 1990 ANNUAL REPORT 16 (1991).

⁴⁷. See FDIC, Powers Inconsistent with Purposes of Federal Deposit Insurance Law, 50 Fed.Reg. 23,964, 23,967-68 (1985) (to be codified at 12 C.F.R. pt.332) (proposed June 7, 1985); Johnson, *supra* note 19, at 360.

⁴⁸. 12 U.S.C. §1816 (Supp. V 1993).

⁴⁹. 12 U.S.C. §1818 (1988 & Supp. V 1993).

⁵⁰.12 U.S.C. §1818(a) (1988 & Supp. V 1993).

⁵¹.MACEY & MILLER, *supra* note 12, at 61-62.

⁵².*Id.* at 62.

⁵³.John S. Zieser, *Security Under The Glass-Steagall Act: Analyzing The Supreme Court's Framework For Determining Permissible Activity*, Cornell Law Review, volume 70, number 6, August 1985, at 1194-1212, in BANKING LAW ANTHOLOGY, VOLUME II 1984-1985 at 25.

⁵⁴.SCOTT & WELLONS, *supra* note 1, at 133.

⁵⁵.*Id.*

⁵⁶.JEFF MADURA, FINANCIAL MARKETS AND INSTITUTIONS, at 455 (1995).

⁵⁷.*Id.*

⁵⁸.MACEY & MILLER, *supra* note 12, at 33.

⁵⁹.*Id.*

⁶⁰.*Id.*

⁶¹.*Id.*

⁶².SCOTT & WELLONS, *supra* note 1, at 133.

⁶³.*Id.*

⁶⁴.*Id.* at 267.

⁶⁵.MACEY & MILLER, *supra* note 12, at 284.

⁶⁶.*Id.*

⁶⁷.John B. Wyne & Susan Sturges Spagnola, *The Myth of Bank Deregulation: For Every Action There is An Equal and Opposite Reaction*, Washington and Lee Law Review, volume 42, number 2, 1985, at 394, in BANKING LAW ANTHOLOGY, VOLUME II 1984-1985 at 1008.

⁶⁸.*Id.*

⁶⁹.*Id.*

⁷⁰.MACEY & MILLER, *supra* note 12, at 285.

⁷¹.*Id.*

⁷².*Id.*

⁷³.Ernest T. Patrikis & Debra W. Cook, *Swaps and Other Derivatives in 1994, Bank Regulatory Issues*, Available in Westlaw 848 PLI/Corp 497 (May 1994) (Publication page references not available).

⁷⁴.SCOTT & WELLONS, *supra* note 1, at 239.

⁷⁵.MACEY & MILLER, *supra* note 12, at 573.

⁷⁶.*Id.* at 579.

⁷⁷.*Id.* at 573.

⁷⁸.*Id.* at 574.

⁷⁹.*Id.*

⁸⁰.*Id.*

⁸¹.12 U.S.C. §§1818(e)-(g) (1982); Wyne & Spagnola, *supra* note 67, at 1009.

⁸².MACEY & MILLER, *supra* note 12, at 574.

⁸³.*Id.* at 589.

⁸⁴.Wyne & Spagnola, *supra* note 67, at 1009.

⁸⁵.MACEY & MILLER, *supra* note 12, at 579.

⁸⁶.*Id.*

⁸⁷.*Id.* at 575.

⁸⁸.*Id.*

⁸⁹.*Id.*

⁹⁰.MADURA, *supra* note 56, at 289.

⁹¹.Many Americans are far more involved in derivatives than they realize. Their pension funds, mutual funds and insurance companies are knee-deep in the market, and wading in further. See Barbara Donnelly Granito & Craig Torres, *Portfolio Surprise: Many Americans Run Hidden Financial Risk From "Derivatives"*, WALL ST.J., Aug. 10, 1993, at A1.

⁹².See Risk Management of Financial Derivatives, Banking Circular No. 277, 5 Fed. Banking L. Rep. (CCH)¶ 58,717, at 36,459 (Oct.27,1993); SCOTT & WELLONS, *supra* note 1, at 882.

⁹³.See U.S. GENERAL ACCOUNTING OFFICE, FINANCIAL DERIVATIVES: ACTIONS NEEDED TO PROTECT THE FINANCIAL SYSTEM 3 (1994); BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM ET AL., DERIVATIVE PRODUCT ACTIVITIES OF COMMERCIAL BANKS (1993); GROUP OF THIRTY, DERIVATIVES: PRACTICES AND PRINCIPLES (1993).

⁹⁴. The Comptroller of the Currency has found that more than 1200 financial derivative products are currently being offered. Albert R. Karr, *Bank Regulator Signals Move On Derivatives*, WALL ST.J., May 24, 1994, at C1.

⁹⁵.This trading occurred on Bahrain Island. Futures Industry Association, *An Introduction to the Futures Markets*, 2 (1984); EDWARD J.SWAN, *THE DEVELOPMENT OF THE LAW OF FINANCIAL SERVICES* at 1 (1993). Edward Swan at the University of London has discovered that commodity contracts with elements of future delivery were traded nearly four thousand years ago in ancient Mesopotamia.

⁹⁶. Jerry W. Markham, "Confederate Bonds," "General Custer," and the Regulation of Derivative Financial Instruments, 25 Seton. Hall. L. Rev. 1 (1994) (Publication page references not available); Modern Futures trading stems from the grain marketing problems that occurred in the Midwest during the early 1800s. Chicago Board of Trade, Commodity Trading Manual 3-4 (1982).

⁹⁷. DOM M. CHANCE, AN INTRODUCTION TO DERIVATIVES, at 227 (1995).

⁹⁸. *Id.*

⁹⁹. *Id.*

¹⁰⁰. *Id.*

¹⁰¹. *Id.*

¹⁰². *Id.*

¹⁰³. *Id.*

¹⁰⁴. *Id.*

¹⁰⁵. *Id.*

¹⁰⁶. *Id.*

¹⁰⁷. STANLEY ELKINS & ERIC MCKITRICK, THE AGE OF FEDERALISM, at 278-79 (1993).

¹⁰⁸. *Id.*

¹⁰⁹. *Id.*

¹¹⁰. *Id.*

¹¹¹. Markham, *supra* note 96.

¹¹². *Id.*

¹¹³. JERRY W. MARKHAM, THE HISTORY OF COMMODITY FUTURES TRADING AND ITS REGULATION at 8-9 (1987); JONATHAN LURIE, THE CHICAGO BOARD OF TRADE 1859-1905 at 41-44 (1979).

¹¹⁴. Markham, *supra* note 96.

¹¹⁵. 7 U.S.C. §6 (1988).

¹¹⁶. Markham, *supra* note 96.

¹¹⁷. *Id.*; 7.U.S.C. §6c (1988).

¹¹⁸. Jerry W. Markham, *Regulation of Hybrid Instruments Under the Commodity Exchange Act: A Call for Alternatives*, 1 Colum. Bus.L.Rev. 15 (1990).

¹¹⁹. Pub. L. No.93-463, 88 Stat. 1389 (1974).

¹²⁰. 7 U.S.C. §§2(a), 9 (1988).

¹²¹. 7 U.S.C. §2 (1988).

¹²².7 U.S.C. §6c (1988).

¹²³.Charles M. Horn, *Banking Agency Concerns About Derivatives: Managing The Risks*, 13 No. 6 Banking Pol'y Rep.11 (March 21, 1994) (Publication page references not available).

¹²⁴.*Id.*

¹²⁵.*Id.* Regardless of the form, the underlying principle of a swap is the agreement of each of two parties to provide the other with a series of cash flows, based on fixed or floating interest rates and in the same or different currencies. SCOTT & WELLONS, *supra* note 1, at 954. Swaps Transactions generally involve an exchange of cash flow as, for example, where one party swaps a fixed interest rate payment obligation for a floating rate or one currency for another. The parties do not exchange the underlying loan or payment obligation. Rather they swap the difference in the payments they are obligated to make. Airlines for example, have been using swap transactions in jet fuel by using fixed and floating rate price swaps in order to reduce their jet fuel bills, which constitute a substantial percentage of their operating costs; See Deborah Hargeaves, *Commodity Products, Cutting Raw Material Risks*, FIN. TIMES (survey), Oct. 20, 1993, at V; See, generally, Schulyer K. Henderson, *An Analysis of Interest Rate and Currency Swaps*, 11 N.C.J. Int'l L. & Comm. Reg. 497 (1986); Henry T.C. Hu, *Swaps, The Modern Process of Financial Innovation and the Vulnerability of the Regulatory Paradigm*, 138 U.PaL. Rev. 333 (1989).

¹²⁶.Pub.L. No. 102-546, 106 Stat. 3590.

¹²⁷.Markham, *supra* note 96.

¹²⁸.*Id.*

¹²⁹.*Id.*

¹³⁰.*Id.*

¹³¹.William T. Maitland & Jerry W. Markham, *CFTC Rules To Provide Legal Certainty for OTC Products*, *Futures Industry Mag.*, Nov./Dec. 1992, at 20, 22.

¹³².CHANCE, *supra* note 97, at 227.

¹³³.*Id.*

¹³⁴.*Id.*

¹³⁵.*Id.* at 228.

¹³⁶.*Id.*

¹³⁷.*Id.*

¹³⁸.*Id.*

¹³⁹.*Id.*

¹⁴⁰.*Id.*

¹⁴¹.*Id.* at 3.

¹⁴². *Id.*

¹⁴³. *Id.*

¹⁴⁴. *Id.*

¹⁴⁵. FABOZZI ET AL., *supra* note 11, at 8.

¹⁴⁶. *Id.* at 9.

¹⁴⁷. *Id.*

¹⁴⁸. *Id.*

¹⁴⁹. *Id.*

¹⁵⁰. *Id.*

¹⁵¹. *Id.*

¹⁵². *Id.*

¹⁵³. SCOTT & WELLONS, *supra* note 1, at 934.

¹⁵⁴. *Id.* at 935.

¹⁵⁵. *Id.*

¹⁵⁶. There are about 400 GLOBEX computer terminals in offices of firms worldwide. This means that during certain hours, a trader can sit at a terminal and make bids and offers to trade futures. If the trader is buying or sees an attractive offer to sell, he can accept that offer. If he makes a bid himself, it might be accepted immediately or later by someone at another terminal elsewhere in the world. CHANCE, *supra* note 97 at 233.

¹⁵⁷. Belgium with his Belgian Futures and Options Exchange, the Netherlands, Ireland, Finland are a few examples.

¹⁵⁸. CHANCE, *supra* note 97, at 233.

¹⁵⁹. *Id.*

¹⁶⁰. *Id.*

¹⁶¹. Joseph L. Motes III, *A Primer On The Trade And Regulation of Derivative Instruments*, 49 SMU L. Rev. 585 (Mar.- Apr. 1996).

¹⁶². FABOZZI ET AL., *supra* note 11, at 14.

¹⁶³. Eric D. Roiter, *Investment Companies' Use of OTC Derivatives: Does the Existing Regulatory Regime Work?*, 1 Stan. J.L. Bus. & Fin. 285 (1995); SCOTT & WELLONS, *supra* note 1, at 959.

¹⁶⁴. SCOTT & WELLONS, *supra* note 1, at 959.

¹⁶⁵. *Id.*

¹⁶⁶. *Id.*

¹⁶⁷.Johnson, *supra* note 19, at 380; BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM ET AL., DERIVATIVE PRODUCT ACTIVITIES OF COMMERCIAL BANKS (1993) at 6.

¹⁶⁸.*Id.*

¹⁶⁹.Johnson, *supra* note 19, at 380; Risk Management of Financial Derivatives, Banking Circular No. 277, 5 Fed. Banking L. Rep. (CCH) ¶ 58,717, at 36,459 (Oct.27,1993)[herinafter Circular No.277]

¹⁷⁰.Johnson, *supra* note 19, at 380; Jeffrey Taylor & Steven Lipin, SEC, Six Firms Work to Set Derivative Rules, WALL ST.J., July 6, 1994, at C1;

¹⁷¹.National Banks Are Advised on Participation in the Financial Futures and Forward Placement Markets, Banking Circular No.79, [1982-1983 Transfer Binder] Fed.Banking L.Rep. (CCH) ¶ 99,539 (Apr.19, 1983).

¹⁷².New York has granted such authority based upon a bank's incidental banking powers. See Letter from David T. Halvorson, First Deputy Superintendent, Banking Dep't, State of New York, to Edmund P.Rogers III, Esq., Senior Vice President and Resident Counsel, Morgan Guaranty Trust Company of New York (Aug.11, 1989)(opposing commodity linked activities); Letter from Carmine M. Tenga, Deputy Superintendent of Banks, Banking Dep't, State of New York, to Guy C. Dempsey, Vice President and Counsel, Bankers Trust Company (Nov.20,1991)(approving of commodities investements); Johnson, *supra* note 19, at 381;

¹⁷³.See BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM ET AL., *supra* note 167, at 11; Johnson, *supra* note 19, at 380.

¹⁷⁴.*Id.*; The six National Banks (or their affiliates) were Citicorp, BankAmerica, Chase Manhattan, First Chicago, Bank of Boston, and Continental Bank, N.A. *Id.* The four New York State Banks were Chemical, J.P. Morgan, Bankers Trust, and Bank of New York.

¹⁷⁵.FABOZZI ET AL., *supra* note 11, at 13.

¹⁷⁶.Government Accounting Office, Pub. No.B-257099, Financial Derivatives: Actions Needed To Protect The Financial System 24 (1994).

¹⁷⁷.SCOTT & WELLONS, *supra* note 1, at 959.

¹⁷⁸.Notes III, *supra* note 161, at 585.

¹⁷⁹.SCOTT & WELLONS, *supra* note 1, at 959.

¹⁸⁰.Notes III, *supra* note 161, at 585.

¹⁸¹.CHANCE, *supra* note 97, at 5; FABOZZI ET AL., *supra* note 11, at 503.

¹⁸².When we speak of the "buyer" or the "seller" of a contract, we are simply adopting the jargon of the futures market, which refers to parties of the contract in terms of the future obligation they are committing themselves to. FABOZZI ET AL., *supra* note 11, at 503.

¹⁸³.FABOZZI ET AL., *supra* note 11, at 504.

¹⁸⁴.*Id.*

¹⁸⁵.*Id.*

¹⁸⁶.CHANCE, *supra* note 97, at 5.

¹⁸⁷.*Id.*

¹⁸⁸.FABOZZI ET AL., *supra* note 11, at 504.

¹⁸⁹.*Id.*

¹⁹⁰.*Id.*

¹⁹¹.*Id.* at 503.

¹⁹².*Id.*

¹⁹³.*Id.*

¹⁹⁴.*Id.*

¹⁹⁵.*Id.*

¹⁹⁶.*Id.*

¹⁹⁷.*Id.* In the United States we have the Stock Indexes Futures Markets and Interest Rate Futures Markets. Stock Indexes Futures Markets are futures contracts on broadly based common stock indexes. The most actively traded contract is the S&P500 futures contract. Interest Rate Futures Markets are futures contract based on a fixed-income instrument such as Treasury Bill Futures, Eurodollar CD Futures, Treasury Bond Futures. In the case of the Treasury Bill Futures for example, it is traded on the International Monetary Market and is based on a 13 week (three-month) Treasury bill with a face value of \$1 million. The seller of a Treasury bill futures contract agrees to deliver to the buyer at the settlement date a Treasury bill with 13 weeks remaining to maturity and a face value of \$1 million. The Treasury bill that would be delivered by the terms of this contract can be newly issued or seasoned. The futures price is the price at which the Treasury bill will be sold by the short and purchased by the buyer.

¹⁹⁸.FABOZZI ET AL., *supra* note 11, at 504.

¹⁹⁹.*Id.*

²⁰⁰.*Id.*

²⁰¹.*Id.*

²⁰².*Id.* at 505.

²⁰³.*Id.*

²⁰⁴.CHANCE, *supra* note 97, at 243.

²⁰⁵.FABOZZI ET AL., *supra* note 11, at 505.

²⁰⁶.*Id.*

²⁰⁷.*Id.*

²⁰⁸.*Id.*

²⁰⁹.*Id.*

²¹⁰.*Id.* at 506.

²¹¹.CHANCE, *supra* note 97, at 38.

²¹².FABOZZI ET AL., *supra* note 11, at 506.

²¹³.The initial margin may be in the form of an interest-bearing security such as a Treasury bill; see FABOZZI ET AL., *supra* note 11, at 506.

²¹⁴.FABOZZI ET AL., *supra* note 11, at 506.

²¹⁵.*Id.*

²¹⁶.*Id.*

²¹⁷.*Id.*

²¹⁸.*Id.*

²¹⁹.*Id.* at 507.

²²⁰.NICK LEESON & EDWARD WHITLEY, ROGUE TRADER: HOW I BROUGHT DOWN BARINGS BANK AND SHOOK THE FINANCIAL WORLD at 44 (1996).

²²¹.*Id.*

²²².*Id.* at 45.

²²³.*Id.*

²²⁴.FABOZZI ET AL., *supra* note 11, at 509.

²²⁵.*Id.*

²²⁶.*Id.*

²²⁷.*Id.*

²²⁸.CHANCE, *supra* note 97, at 225.

²²⁹.Any type of contractual arrangement calling for the delivery of a good or service at a future date at a price agreed upon today is a forward contract. A magazine subscription renewed for several years locks in the rate for not only the current year but for future years. A nonrefundable airline ticket is a forward contract.

²³⁰.CHANCE, *supra* note 97, at 225.

²³¹.FABOZZI ET AL., *supra* note 11, at 510.

²³².*Id.*

²³³.*Id.*

²³⁴.*Id.* at 509.

²³⁵.*Id.* at 511.

²³⁶.*Id.*

²³⁷.*Id.*

²³⁸.*Id.*

²³⁹.*Id.*

²⁴⁰.*Id.*

²⁴¹.A short hedge is used to protect against a decline in the cash price of a financial instrument or portfolio. In this case, the hedger sells a futures contract. By establishing a short hedge, the hedger has fixed the future cash price and transferred the price risk of ownership to the buyer of the futures contract. Conversely, a long hedge is undertaken to protect against an increase in the price of a financial instrument or portfolio to be purchased in the cash market at some future time. In a long hedge, the hedger buys a futures contract; Let's illustrate the principle by using an agricultural commodity, corn. Assume that a corn farmer expects to sell 30,000 bushels of corn three months from now. Presume further that the management of a food processing company plans to purchase 30,000 bushels of corn three months from now. Both the corn farmer and the management of the food processing company want to lock in a price today, i.e., wants to eliminate the price risk associated with corn three months from now. As the corn farmer seeks to lock in the price of corn to eliminate the risk of a decline in the price, he will place a short or sell hedge. The management of the food processing company seeks to lock in the cost of corn to eliminate the risk of an increase in the price of corn and consequently will place a buy or long hedge; see FABOZZI ET AL., *supra* note 11, at 588.

²⁴².Notes III, *supra* note 161, at 585.

²⁴³.*Id.*

²⁴⁴.*Id.*; Carol J. Loomis, *The Risk That Won't Go Away*, FORTUNE, Mar.7, 1994 at 41.

²⁴⁵.CHANCE, *supra* note 97, at 352.

²⁴⁶.FABOZZI ET AL., *supra* note 11, at 588.

²⁴⁷.*Id.*

²⁴⁸.*Id.*

²⁴⁹.*Id.*

²⁵⁰.CHANCE, *supra* note 97, at 352.

²⁵¹.*Id.*

²⁵².*Id.*

²⁵³.*Id.*

²⁵⁴.*Id.*

²⁵⁵.Brane v. Roth, 590 N.E. 2nd, 587 (Ind. Ct. App. 1992).

²⁵⁶.CHANCE, *supra* note 97, at 353.

²⁵⁷.*Id.*

²⁵⁸.*Id.*

²⁵⁹.*Id.*

²⁶⁰.FABOZZI ET AL., *supra* note 11, at 588.

²⁶¹.*Id.*

²⁶².*Id.*

²⁶³.CHANCE, *supra* note 97, at 351.

²⁶⁴.*Id.* at 359.

²⁶⁵.*Id.*

²⁶⁶.*Id.*

²⁶⁷.*Id.*

²⁶⁸.MADURA, *supra* note 56, at 304.

²⁶⁹.CHANCE, *supra* note 97, at 416.

²⁷⁰.*Id.* at 10.

²⁷¹.*Id.*

²⁷².*Id.*

²⁷³.MADURA, *supra* note 56, at 307.

²⁷⁴.*Id.*

²⁷⁵.*Id.*

²⁷⁶.CHANCE, *supra* note 97, at 468.

²⁷⁷.*Id.* at 481.

²⁷⁸.A currency swap is an agreement between two parties in which one party agrees to make payments in one currency and the other party agrees to make payments in another currency. *Id.* at 490.

²⁷⁹.*Id.* at 21; FABOZZI ET AL., *supra* note 11, at 525.

²⁸⁰.FABOZZI ET AL., *supra* note 11, at 525.

²⁸¹.*Id.*; CHANCE, *supra* note 97, at 21.

²⁸².FABOZZI ET AL., *supra* note 11, at 525.

²⁸³.*Id.*

²⁸⁴.*Id.*

²⁸⁵. There are a variety of options traded in the United States. Stock Index Options, Stock Options and Interest Rate Options are the major ones. Stock Options are options on individual shares of common stock. The SEC approved the creation of a national clearing system for options, the Options Clearing Corporation (OCC), jointly established by the Chicago Board Options Exchange (CBOE) and American Stock Exchange. Since its establishment in 1974, the OCC has issued, guaranteed, registered, cleared, and settled all transactions involving listed options on all exchanges. Options are designated by the name of the underlying common stock, the expiration month, the strike price, and the type of option (put or call). Thus an IBM call option expiring in October with a strike price of 55 is referred to as the "IBM October 55 Call." Stock Index Options are options in which the underlying is a stock index such as the S&P 100 and are, as in the case of options on individual stocks, regulated by the SEC. If a stock option is exercised, a stock must be delivered. It would be complicated, to say the least, to settle a stock index option by delivering all stock that make up the index. Instead, stock index options are cash settlement contracts. This means that, if the option is exercised, the exchange-assigned option writer pays cash to the option buyer and there is no delivery of any stock. Interest rate options can be written on cash instruments or futures. In recent years, market participants have made increasingly greater use of over-the-counter options on Treasury and Mortgage-backed securities. *Id.* at 525, 540-44.

²⁸⁶. *Id.* at 525.

²⁸⁷. *Id.* at 527.

²⁸⁸. *Id.*

²⁸⁹. *Id.* at 526.

²⁹⁰. *Id.*

²⁹¹. *Id.*

²⁹². *Id.*

²⁹³. *Id.* at 545.

²⁹⁴. *Id.*

²⁹⁵. *Id.*

²⁹⁶. *Id.*

²⁹⁷. *Id.* at 585.

²⁹⁸. *Id.*

²⁹⁹. *Id.* at 42.

³⁰⁰. *Id.*

³⁰¹. *Id.*

³⁰². *Id.*

³⁰³. *Id.*

³⁰⁴.CHANCE, *supra* note 97, at 52.

³⁰⁵.*Id.*

³⁰⁶.*Id.*

³⁰⁷.*Id.*

³⁰⁸.*Id.* at 53.

³⁰⁹.*Id.* at 263.

³¹⁰.*Id.*

³¹¹.*Id.*

³¹².*Id.* at 53.

³¹³.*Id.* at 26.

³¹⁴.*Id.*

³¹⁵.The specifications for each contract are the size, quotation unit, minimum price fluctuation, grade, and trading hours. In addition, the contract specifies delivery terms and daily price limits as well as delivery procedures. *Id.*

³¹⁶.*Id.* at 231.

³¹⁷.The options exchange specifies the assets on which option trading is allowed. For stock options, the exchange's listing requirements prescribe the eligible stocks on which options can be traded. A standard exchange-traded option contract consists of 100 individual options. Thus, if an investor purchases one contract. It actually represents options to buy 100 shares of stock. On options exchanges the exercise prices are standardized and the exchange prescribes the exercise prices at which options can be written. On the options exchanges, each stock is classified into a particular expiration cycle. The expiration cycles are (1) January, April, July, and October; (2) February, May, August, and November; and (3) March, June, September, and December. The available expirations are the current month, the next month, and the next two months within the January, February, or March cycle to which the stock is assigned. *Id.* at 27-29.

³¹⁸.*Id.* at 27.

³¹⁹.MADURA, *supra* note 56, at 4.

³²⁰.CHANCE, *supra* note 97, at 26.

³²¹.*Id.* at 25.

³²².*Id.*

³²³.*Id.*

³²⁴.*Id.*

³²⁵.*Id.*

³²⁶.*Id.* at 26.

³²⁷.The credit risk problem is an important issue in the swaps market.
Id.

³²⁸.In 1993 a survey taken by the Group of Thirty's Working Group on Global Derivatives concluded that as of year-end 1991, the total face value of over-the-counter options was over 650 billion dollars. Of this total, some 66 billion are related to equities, the primary type of option traded on organized options exchanges. In comparison, as of the same time, the dollar volume of the outstanding options on the Chicago Board Options Exchange was about 50 billion. *Id.*

³²⁹.*Id.* at 54.

³³⁰.FABOZZI ET AL., *supra* note 11, at 526.

³³¹.*Id.*

³³².*Id.*

³³³.*Id.*

³³⁴.*Id.*

³³⁵.John A. Lindholm, *Note, Financial Innovation and Derivatives Regulation-- Minimizing Swap Credit Risk Under Title V of the Futures Trading Practices Act of 1992*, 1994 Colum. Bus.L.Rev.79 (1994).

³³⁶.Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 Yale L.J. 1467 (1993).

³³⁷.Government Accounting Office, Pub. No. B-257099, *Financial Derivatives: Actions Needed to Protect the Financial System* 28 (1994).

³³⁸. 'Fixed' payments, as the term implies, are payments of set amount, and do not vary with reference to any market value or rate.

³³⁹. 'Floating' payments are varibale in amount, changing with reference to market interest or currency rates or the market values of commodities or equities.

³⁴⁰.Notes III, *supra* note 161, at 590.

³⁴¹.This type of simple swap agreement (the exchange of a floating rate for a fixed interest rate) is known in the industry as "plain vanilla.". Hu, *supra* note 336.

³⁴².Loomis, *supra* note 244, at 43.

³⁴³.Lindholm, *supra* note 335.

³⁴⁴.Notes III, *supra* note 161, at 591.

³⁴⁵.*Id.*

³⁴⁶.Lindholm, *supra* note 335, at 79-80.

³⁴⁷.*Id.*

³⁴⁸.Banks use the spread between the fixed rates paid on deposits and the floating rates on outstanding loans as a source of revenue. Motes III, *supra* note 161, at 591.

³⁴⁹.An interest rate paid on deposits that is adjusted only annually or biannually is considered a "fixed" rate. *Id.* at 592.

³⁵⁰.*Id.*

³⁵¹.The term notional value or amount refers to the value of the underlying assets. *Id.*

³⁵².Andrew Freeman, *Damned Derivatives*, THE ECONOMIST, Apr. 10, 1993, at 10.

³⁵³.CHANCE, *supra* note 97, at 12.

³⁵⁴.*Id.*

³⁵⁵.*Id.*

³⁵⁶.Bernard J. Karol & Mary B. Lehman, *Equity Derivatives*, Rev. Sec.& Commodities Reg., July 1, 1994 at 121.

³⁵⁷.CHANCE, *supra* note 97, at 12.

³⁵⁸.FABOZZI ET AL., *supra* note 11, at 14.

³⁵⁹.CHANCE, *supra* note 97, at 13.

³⁶⁰.*Id.* at 8.

³⁶¹.*Id.* at 13.

³⁶².*Id.*

³⁶³.Hu, *supra* note 336.

³⁶⁴.Karol & Lehman, *supra* note 356, at 123.

³⁶⁵.Motes III, *supra* note 161, at 586.

³⁶⁶.*Id.*

³⁶⁷.CHANCE, *supra* note 97, at 238.

³⁶⁸.*Id.*

³⁶⁹.*Id.* at 13.

³⁷⁰.FABOZZI ET AL., *supra* note 11, at 14.

³⁷¹.*Id.*

³⁷².Christine M. DeSanze & Joshua Sun, *Developments in Banking Law: 1994, II. Derivatives*, 14 Ann. Rev. Banking L. at 15 (1994).

³⁷³.*Id.* at 16

³⁷⁴.SCOTT & WELLONS, *supra* note 1, at 266.

³⁷⁵.*Id.* at 936.

³⁷⁶.*Id.*

³⁷⁷.*Id.* at 266.

³⁷⁸.*Id.*

³⁷⁹.O.C.C. Bulletin 94-31, May 10, 1994 WL 194290.

³⁸⁰.Materials Submitted By Jonathan H. Rushdoony, District Council, Office of The Comptroller of the Currency, Administrator of National Banks, Available in WESTLAW 935 PLI/Corp 930 (Publication page references not available) (April 1996).

³⁸¹.O.C.C. Bulletin 94-31, *supra* note 379.

³⁸².Jordan Luke, *Recent Developments in Bank Regulation: A Little Too Good To Be True*, C995 ALI-ABA 1, 108 (May 4, 1995).

³⁸³.SCOTT & WELLONS, *supra* note 1, at 939.

³⁸⁴.*Id.* at 266; O.C.C. Bulletin 94-31, *supra* note 379.

³⁸⁵.SCOTT & WELLONS, *supra* note 1, at 267.

³⁸⁶.*Id.*

³⁸⁷.*Id.*

³⁸⁸.DeSanze & Sun, *supra* note 372; O.C.C. Bulletin 94-31, *supra* note 379.

³⁸⁹.Rushdoony, *supra* note 380.

³⁹⁰.Richard Waters, *SEC Scrutinizes Use of Derivatives*, FIN. TIMES, May 25, 1994 at 17; Michael Siconolfi, *Merrill Lynch Says Derivatives Revenue Swelled 57% to \$761 Million Last Year*, WALL ST.J., Mar. 17, 1994, at A10.

³⁹¹.*Id.*

³⁹².*Id.*

³⁹³.Rushdoony, *supra* note 380.

³⁹⁴.Randall Smith & Steven Lipin, *Beleaguered Giant: As Derivatives Losses Rise, Industry Fights to Avert Regulation*, WALL ST. J., Aug.25, 1994, at A1.; DeSanze & Sun, *supra* note 372.

³⁹⁵.Steven Lipin et al., *Portfolio Poker: Just What Firms Do With "Derivatives" Is Suddenly a Hot Issue*, WALL ST.J., Apr.4, 1994, at A1; Albert Karr, *Bank Regulator Signals Move on Derivatives: Comptroller Voices Concern Over For-Profit Trades and Internal Oversight*, WALL ST.J., Apr.21, 1994, at A3.

³⁹⁶.SCOTT & WELLONS, *supra* note 1, at 940.

³⁹⁷.*Id.*

³⁹⁸.*Id.*

³⁹⁹.*Id.*

⁴⁰⁰.Luke, *supra* note 382, at 120.

⁴⁰¹.*Id.*

⁴⁰².FABOZZI ET AL., *supra* note 11, at 511.

⁴⁰³.*Id.*

⁴⁰⁴.*Id.*

⁴⁰⁵.*Id.* at 512.

⁴⁰⁶.*Id.*

⁴⁰⁷.*Id.*

⁴⁰⁸.*Id.*

⁴⁰⁹.Saul Hansell & Kevin Muehring, *Why Derivatives Rattle the Regulators*, INSTITUTIONAL INVESTOR, Sept. 1992, at 51-52.

⁴¹⁰.*Id.*

⁴¹¹.Lindholm, *supra* note 335, at 84-85.

⁴¹².Notes III, *supra* note 161, at 603.

⁴¹³.Thomas G. Donlan, *Wolf at the Door? Fear of Derivatives May Be More Threatening Than Derivatives*, BARRON'S, Dec. 5, 1994, at 62 (quoting US Representative J.Leach (R-Iowa)).

⁴¹⁴.General Accounting Office, Pub. No. B-257099, *Financial Derivatives: Actions Needed To Protect the Financial System* 36-37 (1994).

⁴¹⁵.Smith & Lipin, *supra* note 394, at A1.

⁴¹⁶.Notes III, *supra* note 161, at 603.

⁴¹⁷.*Id.* at 604.

⁴¹⁸.*Id.*

⁴¹⁹.General Accounting Office, *supra* note 414.

⁴²⁰.SCOTT & WELLONS, *supra* note 1, at 270.

⁴²¹.*Id.*

⁴²².*Id.* at 270-271.

⁴²³.*Id.* at 271.

⁴²⁴.*Id.*

⁴²⁵.Markham, *supra* note 96.

- ⁴²⁶.Swiss Bank Corporation sued other banks for \$83 million dollars for interest payments that Macy's defaulted on under a swap contract when it went into bankruptcy proceedings. Martin Mayer, *A Bad Swap for Taxpayers*, WALL ST.J., June 16, 1993, at A18.
- ⁴²⁷.*Gibson Will Take a Charge To Cover Its Trading Losses*, N.Y. TIMES, Apr.20, 1994, at 6; Gabriella Stern, *Gibson Greetings Incurs \$3 Million Loss From Unauthorised Interest-Rate Swaps*, WALL ST.J., Mar.7, 1994, at A4.
- ⁴²⁸.Susan Antila, *P. & G. Sees Charge On Derivatives*, N.Y. TIMES, Apr. 13, 1994, at C1; Tracy Corrigan, *Finger Points at Banks After Procter's Gamble*, FIN.TIMES, Apr.15, 1994, at 19.
- ⁴²⁹.Earl C. Gottschalk, Jr., *Derivatives Roil California Political Race*, WALL ST.J., Apr.15, 1994, at C1.
- ⁴³⁰.Jeffrey Taylor & Allanna Sullivan, *German Firm Finds Hedges Can Be Thorny*, WALL ST.J., Jan. 10, 1994, at C1. The losses were suffered by MG Corp., a United States Unit of Metallgesellschaft A.G. Counter suits have been filed by the company and its traders against each other. *Metallgesellschaft to File Countersuit Over Trading Losses*, WALL ST.J., Apr. 18, 1994.
- ⁴³¹.Scott McCartney, *Dell Computer Posts 86% Surge in Net For Quarter, Will Cut Derivatives Risk*, WALL ST.J., May 25, 1994, at B3. The company had a derivatives portfolio of some \$355 million. He company's stock rose after it announced large earnings increases despite the derivatives losses and after it announced that it was curtailing its derivatives trading.
- ⁴³².G. Bruce Kecht, *Tempers Flare on Main Street Over Derivatives Vehicle*, WALL ST.J., July 14, 1994, at C1 (describing losses due to derivatives sustained by a Minnesota town whose officials invested money in a fund that appeared to invest in U.S. government securities but actually invested most of its funds in derivatives).
- ⁴³³.140 CONG.REC. S5828-04, S5837 (Statement of Re. Dorgan 1994).
- ⁴³⁴.*Id.*
- ⁴³⁵.Markham, *supra* note 96; Kenneth H. Bacon & Greg Hitt, *Derivatives Face New Regulation From Congress*, WALL ST.J., May 11, 1994, at A4. Randall Smith & Steven Lipin, *Fast-Paced Derivatives Market Is Losing Some Speed*, WALL ST.J., June 14, 1994, at C1.
- ⁴³⁶.There are a number of studies being conducted internationally risks on related to derivatives. See Hu, *supra* note 336, at 1457, 1461 n. 14.
- ⁴³⁷.DeSanze & Sun, *supra* note 372, at 22; 139 CONG. REC. H3821, H3822 (daily ed., June 18, 1993)(statement of Rep. Gonzalez).
- ⁴³⁸.DeSanze & Sun, *supra* note 372, at 22; 139 CONG.REC., *supra* note 437, at H3824.
- ⁴³⁹.DeSanze & Sun, *supra* note 372, at 22; 139 CONG.REC., *supra* note 437, at H3822.

- ⁴⁴⁰.Kenneth H. Bacon, *Lawmakers Question Agencies' Ability To Regulate the Derivatives Market*, WALL ST.J., Oct.29, 1993, at A4.
- ⁴⁴¹.*Id.*
- ⁴⁴².O.C.C., *Risk Management of Financial Derivatives*, Banking Circular No. 277 (Oct. 27, 1993).
- ⁴⁴³.Kenneth H.Bacon, *U.S. Issues Guidelines on "Derivatives" Obliging Banks to Mull Customer Needs*, WALL ST.J., Oct. 28, 1993, at A24.
- ⁴⁴⁴.*Id.*
- ⁴⁴⁵.Board of Governors of the Federal Reserve System, *Memorandum to the Officer in Charge of Supervision of Each Federal Reserve Bank, SR93-69 (FIS), Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations* (Dec. 20, 1993).
- ⁴⁴⁶.*Id.*
- ⁴⁴⁷.*Id.*
- ⁴⁴⁸.*New Disclosure Rules Sought for Derivatives*, N.Y.TIMES, May 4, 1994, at C8.
- ⁴⁴⁹.According to figures supplied by the OCC, Chemical Banking Corp.is the largest bank dealer in derivatives with \$2.11 trillion of the instruments outstanding. The bank's "worst case" exposure to loss is \$31.89 billion, or 2.68 times its capital. Bankers Trust New York Corp., the second-largest bank dealer with \$1.8 trillion of derivatives, faces a theoretical exposure that is nearly six times its capital. Bacon, *supra* note 440, at A4.
- ⁴⁵⁰.House Banking Committee Minority Staff, *Report on Financial Derivatives (Part 1)3*(Nov. 1993); Markham, *supra* note 96.
- ⁴⁵¹.Letter from James A. Leach, Ranking Member, House Committee on Banking, Finance and Urban Affairs to Banking Committee Colleagues, Nov. 22, 1993 (enclosure entitled : *Recommendations for Stronger Regulatory Standards*).
- ⁴⁵².Bacon, *supra* note 440, at A4.
- ⁴⁵³.*Id.*
- ⁴⁵⁴.*Id.*
- ⁴⁵⁵.Group of Thirty, *Derivatives: Practices and Principles 2* at (I) (July 1993); Markham, *supra* note 96.
- ⁴⁵⁶.*Id.*
- ⁴⁵⁷.Group of Thirty, *supra* note 455, at 3; Markham, *supra* note 96.
- ⁴⁵⁸.*Id.*
- ⁴⁵⁹.Group of Thirty, *supra* note 455, at (I); Markham, *supra* note 96.
- ⁴⁶⁰.Group of Thirty, *supra* note 455, at 7-8; Markham, *supra* note 96.
- ⁴⁶¹.Markham, *supra* note 96.

⁴⁶².Roger M. Zaitzeff, *Regulating Financial Derivatives, Pending Legislation Would Require Regulators To Monitor More Closely The Complex Range of Activities in the Derivatives Market*, Nat'l L.J. B9 (col.1), (August 29, 1994) (Publication page references are not available).

⁴⁶³.*Id.*

⁴⁶⁴.*Id.*

⁴⁶⁵.Horn, *supra* note 123.

⁴⁶⁶.Ernest T. Patrikis et al., *Derivatives Activities of Banking Organizations: Initiatives for Supervision and Enhanced Disclosure*, available in WESTLAW, 912 PLI/Corp 309 (publication page references are not available for this document) (Nov.- Dec. 1995).

⁴⁶⁷.*Id.*

⁴⁶⁸.Zaitzeff, *supra* note 462.

⁴⁶⁹.*Id.*

⁴⁷⁰.*Id.*

⁴⁷¹.*Id.*

⁴⁷².“Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations.” SR 93-69 (FIS) (Dec. 1993).

⁴⁷³.“Evaluating the Risk Management and Internal Controls Used in Nontrading Activities,” SR 95-17 (SUP) (Mar. 28, 1995).

⁴⁷⁴.Patrikis et al., *supra* note 466.

⁴⁷⁵.*Id.*

⁴⁷⁶.*Id.*

⁴⁷⁷.Horn, *supra* note 123.

⁴⁷⁸.*Id.*

⁴⁷⁹.Risk Management of Financial Derivatives, Banking Circular No. 277, 5 Fed. Banking L. Rep. (CCH) ¶ 58,717, at 36,460 (Oct.27, 1993) [hereinafter Circular No.277].

⁴⁸⁰.Circular No.277, *supra* note 479, at 36,459.

⁴⁸¹.See OCC Interpretative Letter, 1992 WL 125220 (Mar. 2, 1992) (allowing unmatched commodity index swaps managed on a portfolio basis); Bank to Act as Principal in Unmatched Commodity Price Index Swaps, OCC No. Objection Letter No. 90-1, [1989-1990 Transfer Binder] Fed. Banking L. Rep. (CCH) ¶ 83,095, at 71,219 (Feb. 16, 1990) (allowing banks to expand swap activities to include acting as principals in unmatched commodity index swaps); OCC Interpretative Letter, 1988 WL 282282 (Aug. 8, 1988) (permitting a certificate of deposit product which pays interest at a rate based in part upon changes in the S & P 500). The OCC has also agreed that “National Banks may engage in physical commodity transactions in order to manage risks arising out of physical commodity financial derivative transactions”; Circular

No.277, *supra* note 479, at 36,466.

⁴⁸².Circular No.277, *supra* note 479, at 36,459; The OCC provides additional guidance regarding the interpretation of Circular No.277 in OCC Bull. No. 94-31, 1994 WL 194290 (May 10, 1994). The OCC also intends to issue detailed examination procedures regarding derivative activities. Daily Report for Executives (BNA), Sept. 8, 1994, at A-1. The Federal Reserve Board has also provided similar but less comprehensive guidelines for examination of derivative activities. See Risk Management of Financial Derivatives, 5 Fed.Banking L.Rep. (CCH) No. SR 93-96 ¶ 58,717, at 36,467 (Dec. 20, 1993); Johnson, *supra* note 19, at 381.

⁴⁸³.Circular No. 277, *supra* note 477.

⁴⁸⁴.Horn, *supra* note 123.

⁴⁸⁵.FDIC Interpretive Letter, FIL-34-94 (May 18, 1994).

⁴⁸⁶.Horn, *supra* note 123.

⁴⁸⁷.*Id.*

⁴⁸⁸.CHANCE, *supra* note 97, at 531.

⁴⁸⁹.*Id.*

⁴⁹⁰.*Id.*

⁴⁹¹.*Id.* at 532.

⁴⁹².*Id.*

⁴⁹³.*Id.*

⁴⁹⁴.15 U.S.C. §§77a, 78a et seq.

⁴⁹⁵.Patrikis et al., *supra* note 466.

⁴⁹⁶.CHANCE, *supra* note 97, at 53.

⁴⁹⁷.*Id.*

⁴⁹⁸.*Id.*

⁴⁹⁹.An option on a futures is a contract that grants the holder the right, but not the obligation, to buy or sell a futures contract at a fixed price up to a specified expiration date. *Id.* at 435.

⁵⁰⁰.*Id.* at 53.

⁵⁰¹.*Id.*

⁵⁰².*Id.*

⁵⁰³.SCOTT & WELLONS, *supra* note 1, at 925.

⁵⁰⁴.*Id.*

⁵⁰⁵.Roiter, *supra* note 163, at 271.

⁵⁰⁶.Patrikis et al., *supra* note 466.

⁵⁰⁷.*Id.*

⁵⁰⁸.GENERAL ACCOUNTING OFFICE, REPORT ON FINANCIAL DERIVATIVES:ACTIONS NEEDED TO PROTECT THE FINANCIAL SYSTEM (May 1994). In the vernacular of the markets, "structured notes" are also understood to be embodied by the universe of OTC derivatives as are financial vehicles (e.g., stripped mortgage-backed securities) that are created by separating different levels of cash flows from a single security or financial instrument. According to the Investment Company Institute ("ICI"), "structured notes are debt instruments where the interest rate and/or the principal are indexed to an unrelated indicator (e.g. short-term rates in Japan or the price of oil). Sometimes the two are inversely related, as in the case of inverse floaters, where as the index goes up, the coupon rate goes down; and sometimes structured notes may fluctuate to a greater degree than the underlying index (e.g., coupon may change twice as much as the change in the index rate." INVESTMENT COMPANY INSTITUTE, MEMORANDUM TO NORTH AMERICAN SECURITIES ADMINISTRATORS ASSOCIATION: MUTUAL FUNDS AND DERIVATIVES 3 (1994). According to the ICI, " stripped mortgage-backed securities represent interests in a pool of mortgages, the cash flow of which has been separated into its interest and principal components. Interest only securities ("IOs") receive the interest portion of the cash flow, while principal only securities ("POs") receive the principal portion."

⁵⁰⁹.Daniel P.Cunningham, *U.S. Regulations of Dealers In OTC Derivatives*, available in WESTLAW 845 PLI/Corp 281 (May 12-13, 1994) (Publication page references not available).

⁵¹⁰.*Id.*

⁵¹¹.Roiter, *supra* note 163, at 273.

⁵¹².The Federal Reserve Board raised short-term interest rates six times in 1994 in order to slow down the economy. *Id.*

⁵¹³.*Id.* at 274.

⁵¹⁴.FABOZZI ET AL., *supra* note 11, at 144.

⁵¹⁵.*Id.*

⁵¹⁶.*Id.*

⁵¹⁷.*Id.* at 146.

⁵¹⁸.*Id.* at 151.

⁵¹⁹.*Id.*

⁵²⁰.Roiter, *supra* note 163, at 275.

⁵²¹.*Id.* at 275-76.

⁵²².*Id.* at 276. These policies are changeable only by shareholder vote. 15 U.S.C. §80a-8(b) (2) (1988).

⁵²³.Roiter, *supra* note 163, at 276.

⁵²⁴.*Id.*

⁵²⁵.*Id.*

⁵²⁶.*Id.* at 277.

⁵²⁷.*Id.*; Letter from Carolyn B. Lewis, Assistant Director, Office of Disclosure and Review, Division of Investment Management, to Registrants 7 (Feb. 25, 1994) (on file with the Stanford Journal of Law, Business and Finance).

⁵²⁸.Roiter, *supra* note 163, at 277.

⁵²⁹.*Id.* at 279.

⁵³⁰.15 U.S.C. §80a-18(a)(1)(A)(1988).

⁵³¹.Roiter, *supra* note 163, at 280.

⁵³².*Id.* at 281; Sandford C. Bernstein Fund, Inc., SEC No-Action Letter, [1990-1991 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 79,608, at 77,724 (June 25, 1990); Putnum Option Income Trust II, SEC No-Action Letter, [1985-86 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 78,169, at 76,721 (Sept. 23, 1995).

⁵³³.Roiter, *supra* note 163, at 282.

⁵³⁴.*Id.* at 283; See Guide 4, Guidelines for Form N-1A, ICA Release No. 18,612 [1991-92 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 84,930, at 82,477 (Mar. 12, 1992).

⁵³⁵.Roiter, *supra* note 163, at 284; See Guide 4, Guidelines for Form N-1A, ICA Release No. 18,612 [1991-92 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 84,930, at 82,477 (Mar. 12, 1992).

⁵³⁶.Roiter, *supra* note 163, at 284.

⁵³⁷.*Id.*; Investment Company Release No. 19959 [1993-1994 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 85,303 (Dec. 17, 1993).

⁵³⁸.SCOTT & WELLONS, *supra* note 1, at 941.

⁵³⁹.*Id.*

⁵⁴⁰.*Id.*

⁵⁴¹.*Id.*

⁵⁴².*Id.* at 943.

⁵⁴³.Notes III, *supra* note 161, at 611.

⁵⁴⁴.*Id.*

⁵⁴⁵.SCOTT & WELLONS, *supra* note 1, at 943.

⁵⁴⁶.*Id.* at 947.

⁵⁴⁷.*Id.*

⁵⁴⁸.*Id.*

⁵⁴⁹.*Id.*

⁵⁵⁰.*Id.* at 948.

⁵⁵¹.*Id.*

⁵⁵².*Id.*

⁵⁵³.*Id.*

⁵⁵⁴.*Id.*; Quoted in K. Cooke & G. Cramb, "Pride in Integrity Takes a Blow", FINANCIAL TIMES 2 (Feb. 27, 1995).

⁵⁵⁵.SCOTT & WELLONS, *supra* note 1, at 948.

⁵⁵⁶.LEESON & WHITLEY, *supra* note 220, at 2.

⁵⁵⁷.*Id.*

⁵⁵⁸.SCOTT & WELLONS, *supra* note 1, at 952.

⁵⁵⁹.*Id.*

⁵⁶⁰.LEESON & WHITLEY, *supra* note 220, at 265.

⁵⁶¹.*Id.*

⁵⁶².The Ministry of Finance decided to require that banks and securities companies start using the mark-to-market accounting method in the 1998. Currently, the non financial Japanese companies can use the original value method of accounting which enables a company to book its asset values at the time of purchase, regardless of current or real value of such assets. The trouble with this method, which Sumitomo and other Japanese firms that suffered losses are believed to have used, is that it does not reflect real losses until the company disposes of the assets in question. Japan To Require Non-Financial Firms To Mark-To-Market Financial Assets, BNA (June 28, 1996)(citation 6/29/96 BBD d10).

⁵⁶³.Notes III, *supra* note 161, at 606.

⁵⁶⁴.Margery Waxman, *The Lesson of Orange County: It takes a Crisis To Focus Public Policy on the Need for Adequate Disclosure of Risk*, 63 Banking Rep. (BNA) No. 943, Dec. 19, 1994.

⁵⁶⁵.Notes III, *supra* note 161, at 606.

⁵⁶⁶.Patrikis et al., *supra* note 466.

⁵⁶⁷.*Id.*

⁵⁶⁸.In a series of decisions in the late 1970's, the United States Supreme Court identified Congressional intent as the element crucial to finding implied rights of action in Federal Statutes. See *Cort v. Ash* 422 U.S. 66 (1975); *Touche Ross & Co. v. Redington*, 442 U.S. 560 (1979); *Transamerica Mortgage Advisors, Inc. v. Lewis*, 444 U.S. 11 (1979). On this reasoning, courts have denied plaintiffs a Federal cause of action for damages against broker-dealers for NASD

suitability and NYSE "know your customer" rule violations. See *Pyle v. White*, 796 F. Supp. 380, 385 (S.D.Ind. 1992).

⁵⁶⁹.Patrikis et al., *supra* note 466.

⁵⁷⁰.15 U.S.C. §78j(b).

⁵⁷¹.17 C.F.R. §240.10b-5.

⁵⁷².Patrikis et al., *supra* note 466.

⁵⁷³.*Id.* See Root, "Suitability-- The Sophisticated Investor", 1991 Colum. Bus. L. Rev. at 329-30 ("An irreducible minimum requirement for state common law actions sounding in tort is the existence of a fiduciary duty owed by the broker-dealer to the customer.").

⁵⁷⁴.*Twomey v. Mitchum*, 262 Cal. App. 2d 690, 69 Cal. Rptr. 222, 235-36 (Cal. Ct App. 1968; *Merrill Lynch, Pierce, Fenner & Smith v. Cheng*, 697 F. Supp. 1224, 1227 (D.D.C. 1988).

⁵⁷⁵.Steven Wolowitz & Nicholas W. Lobenthal, *New Derivatives Agreement Differs From "Bankers Trust" : The Voluntary Framework Governing Sales of Derivatives Calls for Less Disclosure Than Does the Recent Settlement With Regulators*, Nat'l L.J. B8 (col.2) (Mar.27, 1995).

⁵⁷⁶.*Bankers Trust, P&G Settle Two-Year-Old Lawsuit Surrounding Derivatives Losses*, BNA, May 13, 1996 (citation 5/13/96 BBD d4).

⁵⁷⁷.*Id.*

⁵⁷⁸.Wolowitz & Lobenthal, *supra* note 576.

⁵⁷⁹.*Id.*

⁵⁸⁰.*In re BT Securities Corp.*, Securities Act Release No. 7124, Exchange Act Release 35136, Administrative Proceeding File 3-8579 (Dec. 22, 1994); *In re Bankers Trust Securities Corp.*, CFTC Docket 95-3 (Dec. 22, 1994).

⁵⁸¹.Wolowitz & Lobenthal, *supra* note 576.

⁵⁸².*In re BT Securities Corp.*, *supra* note 583; *In re Bankers Trust Securities Corp.*, *supra* note 583; SEC News Release 94-180 (Dec. 22, 1994); CFTC News Release No. 3806-94 (Dec. 22, 1994).

⁵⁸³.Wolowitz & Lobenthal, *supra* note 576.

⁵⁸⁴.Dominic Bencivenga, *A Suitable Investment, Derivatives Groups Devise Voluntary Standards*, N.Y.L.J. 5 (col.2) (Sep. 7, 1995).

⁵⁸⁵.*Id.*

⁵⁸⁶.*Id.*

⁵⁸⁷.*Bankers Trust, P&G Settle Two-Year-Old Lawsuit Surrounding Derivatives Losses*, *supra* note 577.

⁵⁸⁸.*Id.*

⁵⁸⁹.*Id.*

⁵⁹⁰.Bencivenga, *supra* note 585.

⁵⁹¹.Bankers Trust, P&G Settle Two-Year-Old Lawsuit Surrounding Derivatives Losses, *supra* note 577.Under the terms of the settlement, Procter & Gamble will pay Bankers Trust \$35 million in cash, and Bankers Trust will absorb the rest, an amount that Procter & Gamble said is about 83 percent of the total.

⁵⁹².Notes III, *supra* note 161, at 606.

⁵⁹³.*Id.*

⁵⁹⁴.*Id.*

⁵⁹⁵.Leah N. Spiro et al., *Today, Orange County...The Muni Mess on Wall Street: How Bad?*, Bus. Wk., Dec. 19, 1994, at 28.

⁵⁹⁶.*Id.*

⁵⁹⁷.*Id.*

⁵⁹⁸.Notes III, *supra* note 161, at 609.

⁵⁹⁹.*Id.*

⁶⁰⁰.Andrew Bary, *Peter Pan Portfolio: Orange County Bet That Interest Rates Would Stay Low Forever*, BARRON'S, Dec. 5, 1994, at 17.

⁶⁰¹.*Id.*

⁶⁰².*Id.* A typical derivative held in the Citron portfolio would adjust based on the following formula: 10 minus LIBOR (the London Interbank Offered Rate). This meant that when LIBOR was low, for example 3%, Citron's portfolio could earn 7% on its derivatives. *Id.*

⁶⁰³.Spiro et al., *supra* note 595, at 28.

⁶⁰⁴.*Id.*

⁶⁰⁵.Bary, *supra* note 600, at 17.

⁶⁰⁶.Waxman, *supra* note 564, at 3-4.

⁶⁰⁷.Loomis, *supra* note 244, at 50.

⁶⁰⁸.Notes III, *supra* note 161, at 608.

⁶⁰⁹.*Id.*

⁶¹⁰.*Id.*

⁶¹¹.*Id.*

⁶¹².Loomis, *supra* note 244, at 50.

⁶¹³.Horn, *supra* note 123.

⁶¹⁴.*Id.*

⁶¹⁵.*Id.*

⁶¹⁶.Christi Harlan, *Greenspan Suggests Derivatives Require Wholly Different Kind of Regulation*, WALL ST.J., May 26, 1994, at B4; Fed Vice Chairman Blinder Sees No Crisis Brewing in Derivatives, No Need for Law, 63 Banking Rep. (BNA) 359 (Sept. 19, 1994); DeSanze & Sun, *supra* note 372, at 19.

⁶¹⁷.59 Fed. Reg. 26,456 (1994).

⁶¹⁸.DeSanze & Sun, *supra* note 372, at 19.

⁶¹⁹.*Id.*; 59 Fed. Reg. 45,243 (1994) (to be codified at 12 CFR pt.3) (proposed Sept. 1, 1994).

⁶²⁰.59 Fed. Reg. 26,456 (1994) (to be codified at 12 CFR pts.208 and 225) (proposed May 20, 1994).

⁶²¹.59 Fed. Reg. 26,456; 59 Fed. Reg. 45,243.

⁶²².OTS Issues Bilateral Netting Plan Paralleling Fed and OCC Proposals, 62 Banking Rep.(BNA) 1066 (Feb. 28, 1994).

⁶²³.59 Fed. Reg. 52,714 (1994) (to be codified at 12 CFR pt.325) (proposed Oct.19,1994).

⁶²⁴.DeSanze & Sun, *supra* note 372, at 19.

⁶²⁵.*Id.*; 59 Fed. Reg. 26,456 (1994).

⁶²⁶.*Id.*

⁶²⁷.*Id.*

⁶²⁸.*Id.*

⁶²⁹.*Id.*

⁶³⁰.DeSanze & Sun, *supra* note 372, at 20; 59 Fed. Reg.26,462 (1994).

⁶³¹.59 Fed.Reg. 45,243,45,244-45 (1994) (to be codified at 12 CFR pt.3) (proposed Sept.1, 1994).

⁶³².*Id.*; DeSanze & Sun, *supra* note 372, at 20.

⁶³³.*Id.*

⁶³⁴.*Id.*

⁶³⁵.*Id.*

⁶³⁶.*Id.*

⁶³⁷.*Id.*

⁶³⁸.DeSanze & Sun, *supra* note 372, at 20.

⁶³⁹.*Id.*; 59 Fed.Reg. 45244 (1994) (to be codified at 12 CFR pt.3) (proposed Sept.1, 1994).

⁶⁴⁰.*Id.*

⁶⁴¹.*Id.*

⁶⁴².The final rule was published on August 2, 1995 in 60 Fed. Reg. 39490. Ernest T. Patrikis et al., *Derivatives Activities of Banking Organizations: Initiatives for Supervision and Enhanced Disclosure*, available in WESTLAW, 932 PLI/Corp 7 (publication page references are not available for this document) (April 1996).

⁶⁴³.Patrikis et al., *supra* note 642.

⁶⁴⁴.DeSanze & Sun, *supra* note 372, at 21.

⁶⁴⁵.Patrikis & Cook, *supra* note 73.

⁶⁴⁶.*Id.*

⁶⁴⁷.59 Fed.Reg.26, 456, 26,457 (1994); DeSanze & Sun, *supra* note 372, at 20.

⁶⁴⁸.DeSanze & Sun, *supra* note 372, at 20.

⁶⁴⁹.*Id.*; 59 Fed. Reg.26,458 (1994).

⁶⁵⁰.*Id.*

⁶⁵¹.*Id.*

⁶⁵².Regulation H, 12 C.F.R. Part 208, App. A; Patrikis et al., *supra* note 642.

⁶⁵³.*Id.*

⁶⁵⁴.Patrikis & Cook, *supra* note 73.

⁶⁵⁵.*Id.* This is consistent with the Financial Accounting Standard Board ("FASB") treatment of accounting swaps on the statement of financial position. See FASB Statement No. 15 (March 1990) and FASB Interpretation No. 39 (March 1992).

⁶⁵⁶.Final revisions to the risk-based capital guidelines were published September 5, 1995 (in 60 Fed. Reg. 171) under which State Member banks and Bank Holding Companies may reduce the amount of risk-based capital they are required to hold, through the use of bilateral netting arrangements, to offset future credit exposure. The revisions became effective October 1, 1995. They are based on revisions to the 1988 Basle Capital Accord approved on April 10, 1995, and apply to future exposure to financial institutions from interest rate, exchange rate, commodities (including precious metal), equity contracts. Patrikis et al., *supra* note 642.

⁶⁵⁷."Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations", *supra* note 472.

⁶⁵⁸.Ernest T. Patrikis et al., *Managing Risk Exposure in Derivatives: Derivatives Activities of Banking Organizations: Initiatives for Supervision and Enhanced Disclosure*, available in WESTLAW, 914 PLI/Corp 373 (publication page references are not available for this document) (December, 1995).

⁶⁵⁹.*Id.*

⁶⁶⁰. "Examining Risk Management and Internal Controls of Securities and Derivatives Contracts Used in Nontrading Activities" in SR 95-17 (SUP) (Mar. 28, 1995).

⁶⁶¹. "Rating the Adequacy of Risk Management Processes and Internal Controls at State Member Banks and Bank Holding Companies" in SR 95-51 (SUP) (Nov. 14, 1995) ("Risk Examiner Guidelines").

⁶⁶². "Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations", *supra* note 472; Patrikis et al., *supra* note 642.

⁶⁶³. *Id.*

⁶⁶⁴. *Id.*

⁶⁶⁵. *Id.*

⁶⁶⁶. *Id.*

⁶⁶⁷. *Id.*

⁶⁶⁸. *Id.*

⁶⁶⁹. *Id.*

⁶⁷⁰. *Id.*

⁶⁷¹. *Id.*

⁶⁷². *Id.*

⁶⁷³. *Id.*

⁶⁷⁴. *Id.*

⁶⁷⁵. CHANCE, *supra* note 97, at 534.

⁶⁷⁶. Japan To Require Non-Financial Firms To Mark-To-Market Financial Assets, BNA June 28, 1996 (ciattion 6/28/1996 BBD d10).

⁶⁷⁷. CHANCE, *supra* note 97, at 534.

⁶⁷⁸. Japan To Require Non-Financial Firms To Mark-To-Market Financial Assets, *supra* note 676.

⁶⁷⁹. CHANCE, *supra* note 97, at 534.

⁶⁸⁰. For example, at the end of the year, the firm may be holding an asset, which is hedged with a swap. The swap shows negative value. Instead of recording its impact in the current year, the recognition of the swap is deferred until the asset is sold, where the gains or losses on the swap are recorded as part of the asset's profits. *Id.*

⁶⁸¹. "Examining Risk Management and Internal Controls for Trading Activities of Banking Organizations", *supra* note 472; Patrikis et al., *supra* note 642.

⁶⁸². *Id.*

⁶⁸³. *Id.*

⁶⁸⁴. *Id.*

⁶⁸⁵. *Id.*

⁶⁸⁶. *Id.*

⁶⁸⁷. *Id.*

⁶⁸⁸. Derivatives: Fed's Phillips Cautions Against Any New Regulatory Scheme For Derivatives, BNA June 7 1996, (citation 6/7/96 BBD d2).

⁶⁸⁹. *Id.*

⁶⁹⁰. *Id.*

⁶⁹¹. *Id.*

⁶⁹². *Id.*

⁶⁹³. "Evaluating the Risk Management and Internal Controls of Securities and Derivatives Contracts Used in Nontrading Activities", *supra* note 473; Patrikis et al., *supra* note 642.

⁶⁹⁴. *Id.*

⁶⁹⁵. *Id.*

⁶⁹⁶. *Id.*

⁶⁹⁷. *Id.*

⁶⁹⁸. Patrikis et al., *supra* note 642.

⁶⁹⁹. Examiners are directed to determine whether lack of risk management oversight at an institution indicates a further level of non-compliance with safety and soundness regulations. Examiners will rate an institution's risk management on a five-point scale ranging from strong (1) to unsatisfactory (5). *Id.*

⁷⁰⁰. "Rating the Adequacy of Risk Management Processes and Internal Controls at State Member Banks and Bank Holding Companies," in SR 95-51 (SUP) (Nov. 14, 1995) ("Risk Management Examiner Guidelines"); Patrikis et al., *supra* note 642.

⁷⁰¹. SCOTT & WELLONS, *supra* note 1, at 940; see Banking Circular BC 277, "Risk Management of Financial Derivatives" (October 27, 1993).

⁷⁰². Rushdoony, *supra* note 380.

⁷⁰³. Patrikis et al., *supra* note 642.

⁷⁰⁴. *Id.*; See Banking Circular BC 277, *supra* note 701.

⁷⁰⁵. *Id.*

⁷⁰⁶. *Id.*

⁷⁰⁷. *Id.*

⁷⁰⁸.Kenneth H. Bacon, *Derivatives Rule Being Widened By Comptroller*, WALL ST. J., May 10, 1994, at A2.

⁷⁰⁹.O.C.C., *Questions and Answers for Banking Circular 277*, OCC Bulletin (OCC 94-31) (May 10, 1994).

⁷¹⁰.*Id.*

⁷¹¹.SCOTT & WELLONS, *supra* note 1, at 940.

⁷¹².Patrikis et al., *supra* note 658.

⁷¹³.*See* Banking Circular BC 277, *supra* note 704; Patrikis et al., *supra* note 642.

⁷¹⁴.*Id.*

⁷¹⁵.*Id.*

⁷¹⁶.*Id.*

⁷¹⁷.O.C.C. News Release-94-22 (Feb. 18, 1994); Patrikis et al., *supra* note 658.

⁷¹⁸.FDIC Interpretative Letter (FIL-34-94, May 18, 1994); Patrikis et al., *supra* note 658.

⁷¹⁹.Patrikis et al., *supra* note 642.

⁷²⁰.*Id.*

⁷²¹.Johnson, *supra* note 19, at 382.

⁷²².*Id.*; The Kansas Attorney General opined that a State Bank could not enter into interest futures and forward placement contracts, a form of financial derivatives. *See* Op.Kan. Att'y Gen., No 82-68, 1982 WL 187557, at *1 (Mar. 16, 1982).

⁷²³.Johnson, *supra* note 19, at 382.

⁷²⁴.*Id.*; New York has granted such authority based upon a bank's incidental banking powers. *See* Letter from David T. Halvorson, First Deputy Superintendent, Banking Dep't, State of New York, to Edmund P. Rogers III, Esq., Senior Vice President and Resident Counsel, Morgan Guaranty Trust Company of New York (Aug.11, 1989) (opposing commodity linked activities); Letter from Carmine M. Tenga, Deputy Superintendent of Banks, Banking Dep't, State of New York, to Guy C. Dempsey, Vice President and Counsel, Bankers Trust Company (Nov.20,1991) (approving of commodities investements).

⁷²⁵.*See* ILLINOIS COMMISSIONER OF BANKS AND TRUST COMPANIES, STATEMENTS OF POLICY §4.05, at 4-6 (1991); Section 4.05 requires that all such derivative transactions be for "hedging purposes rather than speculation" and "must be kept within the legal investment limitation permitted by the Illinois Banking Act."; Johnson, *supra* note 19, at 382-83.

⁷²⁶.Patrikis et al., *supra* note 466.

⁷²⁷.*Id.*

⁷²⁸.*Id.*

⁷²⁹.Luke, *supra* note 382, at 108.

⁷³⁰.*Id.*

⁷³¹.*Id.* at 124.

⁷³².*Id.* at 108.

⁷³³.*Id.*

⁷³⁴.*Id.*

⁷³⁵.Patrikis et al., *supra* note 658.

⁷³⁶.Patrikis et al., *supra* note 642.

⁷³⁷.*Id.*

⁷³⁸.*Id.*

⁷³⁹.*Id.*

⁷⁴⁰.*Id.*

⁷⁴¹.*Id.*

⁷⁴².CHANCE, *supra* note 97, at 53.

⁷⁴³.*Id.*

⁷⁴⁴.*Id.*

⁷⁴⁵.SCOTT & WELLONS, *supra* note 1, at 925.

⁷⁴⁶.*Id.* at 926.

⁷⁴⁷.*Id.*

⁷⁴⁸.*Id.*

⁷⁴⁹.*Id.*

⁷⁵⁰.*Id.* at 927.

⁷⁵¹.*Id.* at 926.

⁷⁵².*Id.* at 927.

⁷⁵³.*Id.*

⁷⁵⁴.*Id.*

⁷⁵⁵.*Id.* at 928.

⁷⁵⁶.*Id.*

⁷⁵⁷.*Id.*

⁷⁵⁸.CHANCE, *supra* note 97, at 56.

⁷⁵⁹.*Id.*

⁷⁶⁰.*Id.* at 265.

⁷⁶¹.*Id.*

⁷⁶².*Id.*

⁷⁶³.*Id.*

⁷⁶⁴.*Id.*

⁷⁶⁵.NFA Rule 2-30, Nat'l. Fut. Ass'n. Man. ¶ 5147.25 (1994).

⁷⁶⁶.7 U.S.C. §2. (1988).

⁷⁶⁷.7 U.S.C. §1, et seq. (1988).

⁷⁶⁸.Cunningham, *supra* note 513.

⁷⁶⁹.FABOZZI ET AL., *supra* note 11, at 42.

⁷⁷⁰.CHANCE, *supra* note 97, at 264.

⁷⁷¹.FABOZZI ET AL., *supra* note 11, at 42.

⁷⁷².CHANCE, *supra* note 97, at 264.

⁷⁷³.*Id.*

⁷⁷⁴.*Id.*

⁷⁷⁵.*Id.*

⁷⁷⁶.*Id.*

⁷⁷⁷.*Id.* at 265.

⁷⁷⁸.The margin requirements are set by the futures clearinghouses. *Id.*

⁷⁷⁹.Markham, *supra* note 96.

⁷⁸⁰.Report of the Commodity Futures Trading Commission, OTC Derivative Marketss and Their Regulation, Working Papers 4-1, 4-19 (Oct. 1993).

⁷⁸¹.The CFTC declined to do so in 1978, on the ground that the principles already were implicit in the anti-fraud provisions of the Commodity Exchange Act, and adoption might emasculate these provisions. Adoption of Customer Protection Rules, [1977-80 Transfer Binder] Comm. Fut.L. Rep. (CCH) ¶ 20,642 (July 24, 1978).

⁷⁸².7 U.S.C. §§60(a), 6b(a); Patrikis et al., *supra* note 466.

⁷⁸³.17 C.F.R. §32.9.

⁷⁸⁴.Phacelli v. Conticommodity Serv., Inc., [1986-87 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 23,350, at 32,674 (C.F.T.C. Sept. 5, 1986).

⁷⁸⁵. Hill v. Bache Hailsey Stuart Shields, Inc., 790 F.2d 817 (10th Cir. 1986). 7 U.S.C. § 25 is an express basis for traders to commence court actions for damages against futures commission merchants. Customers of futures commission merchants may seek damages in special administrative reparation proceedings. Patrikis et al., *supra* note 466.

⁷⁸⁶. Riebold v. First Commodity Corp., [1986-1987 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 23,380 (C.F.T.C. May 20, 1986). *But see* Jerry W. Markham, "Fiduciary Duties Under the Commodity Exchange Act", 68 Notre Dame L. Rev. 199 (1992) (noting that judicial imposition of scienter requirement under section 4b of the CEA calls into doubt CFTC's initial conclusion that breaches of fiduciary duty alone are actionable under this provision).

⁷⁸⁷. Patrikis et al., *supra* note 466.

⁷⁸⁸. *Id.*

⁷⁸⁹. 17 C.F.R. §§1.55 (governing FCMs), 4.21 (governing commodity pool operators), 4.31 (governing commodity trading advisors), 33.7 (governing options transactions).

⁷⁹⁰. FABOZZI ET AL., *supra* note 11, at 42.

⁷⁹¹. CHANCE, *supra* note 97, at 532.

⁷⁹². *Id.*

⁷⁹³. *Id.*

⁷⁹⁴. Michael Siconolfi & Anita Raghavan, *CS First Boston Is Said To Repay Big Clients*, WALL ST.J., July 19, 1994 at A10.

⁷⁹⁵. United States General Accounting Office ("GAO"), Report to Congressional Requesters, "Financial Derivatives: Actions Needed to Protect the Financial System" (May 18, 1994) ("GAO Report").

⁷⁹⁶. Patrikis et al., *supra* note 642.

⁷⁹⁷. General Accounting Office, Report to Congressional Requestors: Financial Derivatives (May 18, 1994); DeSanze & Sun, *supra* note 372, at 17.

⁷⁹⁸. DeSanze & Sun, *supra* note 372, at 17.

⁷⁹⁹. General Accounting Office, Report to Congressional Requestors: Financial Derivatives (May 18, 1994).

⁸⁰⁰. *Id.*

⁸⁰¹. H.R. 4053, 103d Cong., 2d Sess. (1994).

⁸⁰². DeSanze & Sun, *supra* note 372, at 22.

⁸⁰³. *Id.*; 139 CONG. REC. H3821, H3822 (daily ed., June 18, 1993) (statement of Rep. Gonzalez).

⁸⁰⁴. Motes III, *supra* note 161, at 613.

⁸⁰⁵.DeSanze & Sun, *supra* note 372, at 23; 140 CONG. REC. S9171-01, S9172 (daily ed., July 18, 1994) (statement of Rep. Riegle).

⁸⁰⁶.*Id.*

⁸⁰⁷.Bacon & Hitt, *supra* note 435; *Bill Introduced to Regulate Derivative-Instruments Use*, WALL ST.J., July 19, 1994 at C6 (relating that Senator Riegle introduced the bill to regulate derivatives); Rep. Leach Introduces Derivatives Bill for All Financial Institutions, End-Users, 26 Sec. Reg. & L. Rep. (BNA) No. 5 at 168 (Feb.4, 1994) (discussing Leach bill).

⁸⁰⁸.DeSanze & Sun, *supra* note 372, at 23; H.R. 4170, 103d Cong., 2d Sess. (1994); H.R. 3748, 103d Cong., 2d Sess. (1994).

⁸⁰⁹.Cunningham, *supra* note 509.

⁸¹⁰.DeSanze & Sun, *supra* note 372, at 23; H.R. 3748, 103d Cong., 2d Sess. §§103,105.

⁸¹¹.Cunningham, *supra* note 509.

⁸¹².DeSanze & Sun, *supra* note 372, at 23; H.R. 3748, 103d Cong., 2d Sess. §§103,105.

⁸¹³.Cunningham, *supra* note 509.

⁸¹⁴.DeSanze & Sun, *supra* note 372, at 24; H.R. 4503, 103d Cong., 2d Sess. §101(a).

⁸¹⁵.DeSanze & Sun, *supra* note 372, at 24; H.R. 4503, 103d Cong., 2d Sess. §105(a).

⁸¹⁶.DeSanze & Sun, *supra* note 372, at 24; H.R. 4503, 103d Cong., 2d Sess. §104.

⁸¹⁷.DeSanze & Sun, *supra* note 372, at 24; 140 CONG.REC. at S9171.

⁸¹⁸.DeSanze & Sun, *supra* note 372, at 24; H.R. 4503, 103d Cong., 2d Sess. §102(a).

⁸¹⁹.DeSanze & Sun, *supra* note 372, at 24; H.R. 4503, 103d Cong., 2d Sess. §105(a).

⁸²⁰.DeSanze & Sun, *supra* note 372, at 24; 140 CONG.REC. at S9171.

⁸²¹.DeSanze & Sun, *supra* note 372, at 25; H.R. 4503, 103d Cong., 2d Sess. §202.

⁸²².*Id.*

⁸²³.DeSanze & Sun, *supra* note 372, at 25; H.R. 4503, 103d Cong., 2d Sess. §201(c).

⁸²⁴.DeSanze & Sun, *supra* note 372, at 25; H.R. 4503, 103d Cong., 2d Sess. §201(b).

⁸²⁵.DeSanze & Sun, *supra* note 372, at 23; H.R. 3748, 103d Cong., 2d Sess. §§103, 105.

⁸²⁶.Bacon, *supra* note 440, at A4.

⁸²⁷.DeSanze & Sun, *supra* note 372, at 25; S2291, 103d Cong., 2d Sess. (1994).

⁸²⁸.*Id.*

⁸²⁹.DeSanze & Sun, *supra* note 372, at 25; S2291, 103d Cong., 2d Sess. §9 (1994).

⁸³⁰.DeSanze & Sun, *supra* note 372, at 26; S2291, 103d Cong., 2d Sess. §6(a) (1) (1994).

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