THE SUBPRIME MORTGAGE CRISIS: WILL NEW REGULATIONS HELP AVOID FUTURE FINANCIAL DEBACLES?

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PROLOGUE

This paper was solicited, and written, specifically to address the "subprime mortgage crisis." At the time, it was a micro issue seen to be at the core of a possible global economic disaster. The exigencies of law review deadlines, as well as the vicissitudes of the economy, necessitated completing the piece before the broader clouds on the horizon came to dominate the news. However, the issues underlying the subprime debacle are the same as those defining this broader economic "melt-down." The themes discussed here are, in a limited context, equally applicable to the global and seemingly chaotic current economic turmoil. It is more than ironic, albeit inevitable, that the systemic virus nourished by the excesses of the subprime problem, and spread through the slice-and-dice derivatives packages discussed *infra*, has now infected and threatened the global economy.

If anything, the broader, more massive, collapse has underlined the importance of financial and market regulatory policies; the scope and extent of financial and transactional disclosure requirements; and the problem of moral hazard, particularly with respect to the nature of governmental intervention in the financial markets. However the most significant aspect of moral hazard that surfaced here is the acute asymmetric information and lack of transparency flowing from the total lack of public disclosure, a situation that continues even after the public bailout.

The recent revelations about the mysterious "credit default swaps" market, an unregulated and unreported market valued at more than $55 trillion dollars,[P1] have highlighted the centrality of the need for full disclosure as well as full understanding of the complex and interlaced financial derivatives structure.[P2] These undisclosed derivative contracts look and feel much like massive betting, an unrestrained bookmaking paradise; we now need to look more carefully at such transactions and contractual relationships that in other contexts would be considered as

[P1] Shannon D. Harrington, *DTCC May Raise Credit-Default Swap Disclosure Amid Criticism,* BLOOMBERG, Oct. 31 2008, *available at* http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a1lF5ibQBk9w.

[P2] In what may be a welcome portent, on October 31, 2008, the Depository Trust and Clearing Corporation, operating the central registry for the "credit default swaps" market, announced that it will begin to release weekly data on some of the trading in that derivative. *Id.*

extralegal, if not illegal, gambling.

The impetus for this paper was the then high profile "Paulson Plan."[P3] However, in a matter of a few short weeks, the Paulson Plan has given way to the seven hundred billion dollar "rescue" plan. The Bear Stearns collapse has morphed into the AIG "bailout" and the demise of Lehman Brothers. While these events were of a heretofore unimaginable magnitude, they derive from the same ethos that created the subprime mess. It is hoped that the analysis of the assault on the financial system offered here will provide a greater understanding of the power of financial instruments, such as the array of derivatives that drove the market, and the need for appropriate and enforceable disclosure mechanisms, as well as an enhanced understanding of the delicate relationship between financial growth and creativity and the role of governmental regulation and intervention.

[P3] U.S. DEP'T OF THE TREASURY, BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE (Mar. 2008), *available at* http://www.treas.gov/offices/domestic-finance/regulatory-blueprint/.

INTRODUCTION

> What do you get when you cross a Mafia don with a bond salesman? A dealer in collateralized debt obligations (C.D.O.'s)—someone who makes you an offer you don't understand.
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> Seriously, it's starting to look as if C.D.O.'s were to this decade's housing bubble what Enron-style accounting was to the stock bubble of the 1990s. Both made investors think they were getting a much better deal than they really were. And the new scandal raises two obvious questions: Why were the bond-rating agencies taken in (again), and where were the regulators?[1]

In the last few years we have been inundated with information about the huge losses that subprime mortgage-backed securities have caused to large financial institutions and to investors globally. We seem to be acutely aware of the enormous scope of the losses and we search for causes and culprits; what happened and who is to blame? In that process of searching there emerges a new vocabulary to describe the suspect securities that underlay the crisis - such as swaps, derivatives, collateralized debt obligations, securities packages, and mortgage-backed securities - and a new set of "usual suspects" - such as investment bankers, mortgage brokers, hedge fund managers, rating agencies, and financial engineers, who wove poisoned mortgage "baskets." In short, there are several causes and there is lots of blame to go around. In considering potential regulatory responses to the current crisis, it is essential that we not lose sight of the complex array of causes and players.

The bubble that burst began to inflate with mortgage loans made by an array of financial institutions to high risk home buyers; these loans were consolidated into securities packages issued by financial institutions that were then repackaged and sold to other financial institutions and to other investors.[2] A regulatory response, in short, must address the question: who out of this group do we regulate and what kind of regulation is appropriate? Similarly, any regulatory scheme must begin with a true understanding of the nature of the financial securities and their derivatives that underlay the problem, an understanding that also contemplates the fact that these kinds of securities are

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[1] Paul Krugman, *Just Say AAA,* N.Y. TIMES, July 2, 2007, at A19.
[2] *Id.*

ever-changing.

The United States' initial response to this global economic disaster was to infuse money to rescue the most prominent and severely impacted financial entities[3] and to offer, through Treasury Secretary Henry M. Paulson, Jr., a regulatory proposal commonly known as the Paulson Plan,[4] aimed at avoiding or at best curtailing future financial disasters.

Not surprisingly, the new regulatory plan provoked immediate comment, some positive, some negative.[5] As discussed below,[6] the plan, whatever its merits, is indeed ambitious and it purports to revise the regulatory system substantially.[7] The timing however, in an election year, is really unfortunate as it is clear that little will be done before the inauguration of a new president in 2009. It is therefore appropriate to consider not simply the Paulson Plan but the overall question of what, if any, kind of regulatory scheme will actually address both the root causes and effectively prevent or minimize the impact of a future, and perhaps more sophisticated, financial crisis.

Looking at the bizarre financial machinations and the intriguingly creative nurturing of greed that produced the debacle, it certainly is hard to argue that there is no need for some form of stringent regulation. On the other hand we cannot ignore the fact that regulation can impair the efficient functioning of our financial systems by making transactions more

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[3] *See* David M. Herszenhorn, *Administration is Seeking $700 Billion for Wall Street in Possible Record Bailout*, N.Y. TIMES, Sept. 21, 2008, at A1; *see also* Deborah Solomon et al., *Shock Forced Paulson's Hand*, WALL ST. J., Sept. 20, 2008, at A1.

[4] Liz Moyer, *Inside the Paulson Plan*, FORBES, Mar. 29, 2008, *available at* http://www.forbes.com/2008/03/29/paulson-finance-reform-biz-wallst-cx_lm_0329paulson.html; U.S. DEP'T OF THE TREASURY, BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE (Mar. 2008), *available at* http://www.treas.gov/offices/domestic-finance/regulatory-blueprint/ [hereinafter BLUEPRINT].

[5] Stephen Labaton, *Doubts Greet Treasury Plan on Regulation*, N.Y. TIMES, Apr. 1, 2008, at A1 (noting that some share the view that the plan "will be dead on arrival" but others are hopeful).

> . . . T. Timothy Ryan Jr., president of Wall Street's biggest trade group, the Securities Industry and Financial Markets Association, said the plan was 'thoughtful' and 'very wise.'
>
> Our present regulatory framework was born of Depression-era events and is not well suited for today's environment, where billions of dollars race across the globe with the click of a mouse[.]

Id.

[6] *See infra* text accompanying notes 46-69.

[7] BLUEPRINT, *supra* note 4, at 1, 2 (describing the need of modernization of the federal regulatory structure that was established in the late 1800s).

cumbersome and costly and indeed may even produce direct financial harm.[8] Realistically, in terms of financial impact, in evaluating whether and how to regulate, we may be "damned if we do and damned if we don't."

So, too, we need to understand that we in the United States are not alone. As markets have become more global, there will necessarily be world-wide impact from unilateral U.S. regulation; what we do will affect, and may cause problems for the global economy, as well as the individual economies of other countries. As we have already seen, as with the problems of Deutsch Bank and the UBS Swiss consortium,[9] the current mortgage-backed securities disaster has had significant impact outside the United States. Meaningful regulation must involve a global financial monitoring system that would restrict the potential for abuse.

The case for regulation easily begins with recognition that if everybody in the financial markets behaved responsibly, we clearly would not need it. Of course, realistically we cannot assume the existence of consistently responsible self-regulatory behavior on the part of financial players.[10] The root question is whether we can create a system that can *prevent* bad behavior without creating a cumbersome system of regulations that will be constantly trying to catch up with increasingly sophisticated devices in the complex and innovative world of creative finance, a system that may well do little more than the counter-productive stifling of helpful creativity (while perhaps inhibiting the more obvious and unsophisticated harmful variations). Alternatively, rather than substantive requirements attempting to regulate the financial instruments themselves, should the approach be a more general recognition of acceptable and unacceptable financial conduct predicated on full disclosure so that abuse and misbehavior, generally through inadequate risk disclosure, are averted by a *post hoc* scheme of punishment?

The issue is complex and the dangers of both under and over

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[8] *See generally infra* note 29, Anchor Savings Bank, FSB v. United States, 81 Fed. Cl. 1 (2008); *see also* Gerard Baker, *More Regulation Will Harm, Not Help, Recovery*, TIMES U.K., Sept. 19, 2008, at 32.

[9] *See generally Fallen Star: The Fallout; Swiss Bank Foresees a Loss of $721 Million this Quarter,* N.Y. TIMES, Sept. 25, 1998, at C4 (predicting profit loss and offering little hope of recovery from rescue funds); Gretchen Morgenson, *Foreclosures Hit a Snag for Lenders*, N.Y. TIMES, Nov. 15, 2007, at C1 (commenting on several U.S. foreclosure cases resulting from mortgage securities).

[10] *See* Walden Bello, *Capitalism in an Apocalyptic Mood*, FOREIGN POL'Y IN FOCUS, Feb. 20, 2008, *available at* http://www.fpif.org/fpiftxt/4996.

regulation are great. Nevertheless, on balance, I believe that the serious problems began with complexity and that the center of a regulatory approach must be in clarity. That is, a system founded on the principles of clear and complete disclosure of the consequences flowing from the creation of and investment in high-risk derivative securities would significantly mitigate future harm without unnecessarily impairing financial growth. With fast and continuous global inter-connectivity, complete disclosure to all participants of the nature of risk in any securities is almost trivial. One of the problems that the financial institutions have created is that the investors do not really seem to know what the instruments are exactly and what risk is associated with them. On the other, and originating, end of the spectrum is the borrower who assumes inordinately high debt, lulled by an unrealistic belief, often encouraged by interested third parties, in the inevitable march upward of real estate values. With complete disclosure of risk at every level, new financial models and tools will be generated to evaluate complex assets and derivatives properly so that everyone will know, at every stage, exactly what is in each basket.

I. HISTORY: FINANCIAL CRISIS AND GOVERNMENT INTERVENTION

Financial crises, of varying severity, have been a recurring historical phenomenon. While each crisis has had its distinctive characteristics, there are also a number of significant similarities among them. One of the more prominent and consistently recurrent features is what the relatively new field of behavioral finance refers to as "herding behavior," or following the trend, "behavior [that], although individually rational, produces group behavior that is, in a well-defined sense, irrational. This herd-like behavior is said to arise from an *information cascade*."[11] It has been seen in the vicissitudes of the housing market, in the stock market crash of 1987,[12] and in the foreign exchange market.[13]

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[11] ROBERT J. SHILLER, IRRATIONAL EXUBERANCE 151 (2000) [hereinafter IRRATIONAL].

[12] *See* ROBERT J. SHILLER, MARKET VOLATILITY 371-400 (1989) (discussing a survey conducted to investigate investor behavior before and after the stock market crash).

[13] *See* Helen Allen & Mark P. Taylor, *Charts, Noise and Fundamentals in the London Foreign Exchange Market*, 100 THE ECON. J. 49, 49 (1990); Jeffrey A. Frankel & Kenneth A. Froot, *Using Survey Data to Test Standard Propositions Regarding Exchange Rate Expectations,* 77 AM. ECON. REV. 133, 150 (1987).

The trouble usually begins within a relatively good economic environment, in which people have a surplus of disposable income and are in search of investments, a search in which the investors seem to concentrate on trendy, popular assets. "The model implies that, under some conditions, investors will focus only on a subset of securities ('herding'), while neglecting other securities with identical exogenous characteristics."[14] As discussed below, in the case of the subprime mortgage crisis, the herd element was seen in the surge of investment in subprime mortgage derivatives, a complex security that became the darling of the period.[15] Frequently, as the herd grows larger, there may be criminal participation seeking to take advantage of the situation, particularly if the derivatives are sufficiently complex so that there is a widespread lack of understanding of the nature of the securities.[16] After the inevitable crash, the government steps in to mitigate the magnitude of the disaster.

This is an old and repeating pattern. We still talk about the great seventeenth century tulip market crash in the Netherlands, in which the bubble had grown to the point, before the crash, that tulip value could equal the price of a house.[17] The government had to intervene by offering to buy the outstanding tulip futures contracts at 10% of their value.[18] A century later there was the

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[14] *See* David Hirshleifer et al., *Security Analysis and Trading Patterns When Some Investors Receive Information Before Others*, 49 J. OF FIN. 1665, 1665 (1994).

[15] *See* Nelson D. Schwartz & Julie Creswell, *What Created This Monster?*, N.Y. TIMES, Mar. 23, 2008, at BU1.

[16] *See, e.g.,* Tom Hays, *2 Wall St. Brokers Accused of $1B Subprime Fraud*, AP ALERT: N.Y., Sept. 3, 2008 (describing the filing of charges against two brokers employed by Credit Suisse for allegedly defrauding customers by making more than $1 billion in unauthorized purchases of securities tied to subprime mortgages). The Securities and Exchange Commission filed a related civil lawsuit in federal court in Manhattan, alleging that the brokers:

> . . . [L]ed corporate customers to believe that auction rate securities being purchased in their accounts were backed by federally guaranteed student loans and were safe like cash.
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> . . [T]he securities were backed by subprime mortgages, collateralized debt obligations and other high-risk investments, the authorities said. Because of their higher risk, they brought a higher yield and much larger commissions for the brokers.

Id.

[17] *See* IRRATIONAL, *supra* note 11, at 177.

[18] *See* Peter M. Garber, *Tulipmania*, 97 J. POL. ECON. 535, 547-49 (1989) (noting how the representatives of the florists proposed that the buyers have the ability to reject the deals by paying the sellers ten percent of the sale price, but that the states of Holland decided to suspend all of the tulip contracts thus providing sellers the right to sell their contracted tulip bulbs at market price, making the buyer pay the difference between the market price and the contract

South Sea Bubble,[19] that followed from the South Sea Company's uncontrolled issuance of stock subscriptions to the new bourgeois masses eager to park their money into perceived lucrative investments.[20] The buying frenzy pushed up the share prices and when the public realized that management was selling their inflated shares, there followed a herd stampede of selling, producing a chaotic collapse.[21] The British government had to step in to help the economy and ultimately adopted regulations outlawing the issue of stock subscriptions.[22]

Looking back to the twentieth century, the most memorable financial crisis, the Great Depression, began with the stock market crash of 1929, a crisis that produced unprecedented government regulations and the creation of the Securities Exchange Commission in the 1930s.[23] These measures, of course, were ineffective to deal with the savings and loan disaster[24] that started in the early 1970s and lasted into the 1980s and indeed, as discussed below, may well have contributed to the problem.[25] New regulations, in the form of the Depository Institutions Deregulation and Monetary Control Act,[26] were adopted in 1980,

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settlement price determined by the government).

[19] *See generally* VIRGINIA COWLES, THE GREAT SWINDLE: THE STORY OF THE SOUTH SEA BUBBLE (1960) (presenting the story of the South Sea Bubble by focusing on the individuals involved in its creation and burst); RICHARD DALE, THE FIRST CRASH: LESSONS FROM THE SOUTH SEA BUBBLE (2004) (providing a detailed history of how the South Sea Company's assumption of the debt of the British government and the creation of an inflated stock scheme led to an economic crash in 1720).

[20] *See* DALE, *supra* note 19, at 102-22 (explaining the six stage scheme used by the South Sea Company involving conversion offers and stock subscriptions used to attract investors); DIDIER SORNETTE, WHY STOCK MARKETS CRASH: CRITICAL EVENTS IN COMPLEX FINANCIAL SYSTEMS 11 (2003).

[21] *See* DALE, *supra* note 19, at 131-33.

[22] *See id.* at 135; SORNETTE, *supra* note 20, at 12.

[23] CHARLES H. MEYER, THE SECURITIES EXCHANGE ACT OF 1934: ANALYZED AND EXPLAINED 11 (F.B. Rothman 1994); Jane S. Lopus, *The Stock Market Crashes of 1929 and 1987: Linking History and Personal Finance Education*, 69 SOC. EDUC. 70, 71 (2005).

[24] *See* Lawrence J. White, *The Savings and Loan Debacle: A Perspective From the Early Twenty-First Century, in* THE SAVINGS AND LOAN CRISIS: LESSONS FROM A REGULATORY FAILURE 13-14 (James R. Barth et al. eds., 2004) (The savings and loan banks were restricted to deposits and mortgages, and when the interest rates went up they ended up with assets (mortgages) producing low interest rates, and deposits (liabilities) for which that consumer demanded higher interest rates than they were able to provide. There was no match of the duration of liability and assets that we learned is required for financial stability.).

[25] *See id.* at 15-17.

[26] Depository Institutions Deregulation and Monetary Control Act of 1980, Pub. L. No. 96-221, § 1, 94 Stat. 132 (codified as amended in scattered sections

ostensibly to allow banks more freedom in their choice of investments and deposits.[27] This was followed, in December 1982, by the Garn-St Germain Depository Institutions Act,[28] aimed at increasing and allowing the institutions to diversify their investments.[29]

An objective lesson in the problem of unintended consequences following from *post hoc* governmental regulatory schemes is found in the extensive *United States v. Winstar*[30] related litigation that grew out of the savings and loan crisis, most clearly described in the recent opinion in *Anchor Savings Bank, FSB v. United States*.[31] The 2008 opinion relates to the determination of Anchor's damages after earlier adjudication holding the United States liable for breach of contract.[32] Anchor, a "thrift,"[33] sued the United States, claiming that provisions of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) —legislation purporting to remedy the regulatory

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of 12 U.S.C. (1980)) (adopted under the Carter Administration).

[27] FDIC: The S&L Crisis: A Chrono-Bibliography, http://www.fdic.gov/bank/historical/s&l (last visited Nov. 20, 2008) [hereinafter S&L Crisis].

[28] Garn-St Germain Depository Institutions Act of 1982, Pub. L. No. 97-320, 96 Stat. 1469 (codified as amended in scattered sections of 12 U.S.C. (1982)). *See also* S&L Crisis, *supra* note 27.

> This Reagan Administration initiative is designed to complete the process of giving expanded powers to federally chartered S&Ls and enables them to diversify their activities with the view of increasing profits. Major provisions include: elimination of deposit interest rate ceilings; elimination of the previous statutory limit on loan to value ratio; and expansion of the asset powers of federal S&Ls by permitting up to 40% of assets in commercial mortgages, up to 30% of assets in consumer loans, up to 10% of assets in commercial loans, and up to 10% of assets in commercial leases.

S&L Crisis, *supra* note 27.

[29] *See* Anchor Savings Bank, FSB v. United States, 81 Fed. Cl. 1, 14 (2008).

> The centerpiece for this deregulation was the Garn-St Germain Depository Institutions Act of 1982 ("Garn-St Germain"), which was broadly considered "the most significant piece of thrift legislation since the Great Depression." Simply put, Garn-St Germain expanded thrifts' investment powers considerably, permitting the industry to engage in entire new lines of business and commit greater resources to already existing lines of business that had previously been subject to more restriction. The goal of Garn-St Germain's asset deregulation was to allow thrifts to expand out of the residential mortgage niche to which the industry had been relegated. "[T]hese actions gave thrifts far greater flexibility in deciding how their money could be invested."

Id. (citation omitted).

[30] U.S. v. Winstar Corp., 518 U.S. 839 (1996).

[31] *Anchor,* 81 Fed. Cl. at 6.

[32] *Id.* at 29.

[33] *Id.* at 9 (explaining that a "thrift" is a savings and loans institution).

problems that had been seen as underlying the savings and loan collapse— impaired and breached existing contracts.[34] Specifically, in the 1980's, at the request of U.S. regulators, Anchor acquired several failing thrifts under agreements that allowed it to use "supervisory goodwill" as an asset in meeting its asset requirements.[35] The FIRREA disallowed that kind of accounting, and Anchor, in order to meet its newly defined capital requirements, was forced to divest itself of these holdings at a considerable loss.[36] Consequently, in *Winstar*, Anchor and a number of other banks attacked FIRREA as an unlawful impairment of the earlier contractual obligations: a claim that was upheld.[37]

The resulting situation is captured succinctly in the court's opinion awarding damages:

> Before trial, this court noted that the tales that the parties crafted harken back to Charles Dickens' *A Tale of Two Cities*. Anchor portrayed its business and operations in the period leading up to the breach as the proverbial "best of times," with the bank poised for extraordinary success, but the government countered with a more pessimistic approach, challenging Anchor's performance as a quintessential "worst of times" in which Anchor was headed towards failure. . . .
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> Following an almost month-long trial, it is now more clear what is the real story in play. The extremist arguments proffered by both parties have given way to a truth that lies somewhat in the middle-it was neither the Dickensian "best" of times nor the "worst." It was, however, a time of remarkable change and innovation in both the savings and loan industry and its progeny, the mortgage-banking industry. Anchor appears to have been one of the institutions most prepared to respond to that change, as its management had deliberately positioned the bank to be a leading player in the evolving mortgage-banking industry. As that industry began to rely more heavily upon thrifts as intermediaries between borrowers and the secondary mortgage market's capital supply, Anchor was ready to be an industry leader.
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> . . . [Anchor was forced to sell profitable assets, including] a profitable subsidiary, [Residential Funding Corporation (RFC)], that was the leading private player in the secondary mortgage market. This subsidiary was poised for explosive, long-term growth precisely when Anchor was forced to sell it. Indeed, in just the first

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[34] *Id.* at 29.
[35] *Id.* at 3.
[36] *Anchor,* 81 Fed. Cl. at 3.
[37] *See* U.S. v. Winstar Corp., 518 U.S. 839, 843 (1996).

> two years after Anchor sold its subsidiary, the subsidiary earned pre-tax income nearly equaling the entire forced-sale price; in only three years, its after-tax, net income exceeded the sale price.
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> . . . .
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> Indeed, one can view the entire history of American banking as a search for a Holy Grail to insulate financial services institutions from financial risk. Historically, this Holy Grail was found in various devices of risk reduction, including the ability to offer various financial products to consumers (such as loans, mortgages, credit cards and other credit devices, automobile loans, investments, including savings accounts, etc.), devices intended to increase deposits (such as interest-bearing accounts), and the ability to expand geographically (whether through branches or by subsidiary banks or other financial services institutions).[38]

As to subprime mortgages, "mortgages that are non-conforming because of some underwriting criteria other than size of the loan . . . [,] these ventures were profitable . . . because they were high-yield, higher-margin businesses in markets that were rapidly expanding in the 1990's."[39] In short, history demonstrates that the cycle of financial crisis followed by regulation, followed by new financial crisis, followed by new regulation, has continued unabated. Of present concern, however, is the related fact that the cyclical period appears to be progressively shorter. The question we need to ask is: what, if anything, have we learned that will allow us to prevent or at least to mitigate the effects of the next, apparently inevitable, crash? Will we just continue to repeat the same mistakes? What becomes clear is the limited utility in the *future* of a pattern of new regulations aimed at protecting us after the fact from the most recent crash, without the ability to predict and protect us from possible future financial crashes.

The problem is exacerbated by the fact that, at the core of most financial disasters, what we have seen is illegal behavior by some of the players that amplify the problem, to the point of financial debacle. This kind of behavior is, at least, tolerated so long as the market is booming, and questions are not asked while the money keeps coming in. It is when the spiral heads downward that we find the abuses in a system, with no checking points in place to identify and avoid these abuses. In other words, the structure that went up in flames did not spontaneously combust; rather, the combustion had some help from a financial arsonist.

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[38] *Anchor*, 81 Fed. Cl. at 3-9 (citations omitted).
[39] *Id.* at 107.

The history of free markets, with their upward and downward spirals and fluctuating attitudes toward abuse, is parallel to the history of the Eurobonds[40] issued in the Euromarket which have allowed more freedom in trades and have generally flourished as a result, with allowance for increased financial creativity not encumbered by regulations.[41] The difficult task is to find ways to let the financial markets blossom with these kinds of initiatives and innovations without the dampening effect of cumbersome, costly, complicated, and time-consuming regulations, while also protecting the public and investors from the abuses and predatory conduct that appear in the wake of market success.

II. FINANCIAL ANALYSIS

A. *Risk and Return*

One of the central, but most complicated, principles of finance is the quantification of risk.[42] It is intuitively obvious that any method of evaluating return on an investment must deal with the perceived amount of risk attached to that investment.[43] Thus, the choice between investing in a Microsoft bond carrying a 5.3% coupon and a bond issued by, for example, Dayton Superior Corporation (DSUP),[44] a smaller, riskier company offering the same coupon, is abundantly clear: the investor in those circumstances will choose Microsoft, believing the Microsoft bond to be less risky and the company at little risk of bankruptcy[45]

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[40] Gunter Dufey, *The Eurobond Market: Its Significance for International Financial Managements*, 1 J. OF INT'L BUS. STUD. 65, 67 (1970) (describing the Eurobond market). *See generally* IAN M. KERR, A HISTORY OF THE EUROBOND MARKET: THE FIRST 21 YEARS 11-83 (1984) (chronicling the early history of the Eurobond market spanning 21 years beginning in 1963).

[41] Dufey, *supra* note 40, at 65-66 (describing the increase in alternatives to utilizing foreign markets as opposed to domestic ones and exemplifying the diversity in a Eurobond transaction).

[42] *See generally* LAURENT CONDAMIN, JEAN-PAUL LOUISOT & PATRICK NAÏM, RISK QUANTIFICATION: MANAGEMENT, DIAGNOSIS, AND HEDGING 28-41 (2006) (providing an explanation of the quantification of risk through a knowledge-based approach).

[43] *See id.* at xi; Roger M. Groves, *Time to Step Up: Modeling the African American Ethnivestor for Self-Help Entrepreneurship in Urban America*, 13 MICH. J. RACE & L. 99, 110 (2007) (stating that a typical investor "compares one opportunity for making money with other opportunities before deciding . . . .").

[44] Dayton Superior Corporation is a company in Dayton, Ohio that manufactures and distributes products used in construction. Dayton Superior Corp., http://www.daytonsuperior.com (last visited Sept. 20, 2008).

[45] *See, e.g.*, Dina Bass & Bryan Keogh, *Microsoft Bonds to Finance Deal*, SEATTLE TIMES, Feb. 5, 2008 ("A Microsoft bond may attain the highest AAA

compared to Dayton Superior Corporation (DSUP). The question then becomes, what increase in the bond's interest rate over the Microsoft bond, and what amount of bond coupon reflecting the return on the investment, will convince the investor to buy the DSUP? In fact, when it came to market, the DSUP bond was issued at a 13% coupon rate: the almost three-fold increase in the bond's stated return was necessary to balance the perceived risk.[46] The investor who is willing to undertake the risk of losing the entire investment is compensated by the 7.7% in additional coupon income.[47] This, of course, is a simple example, and risk evaluation for securities investments can be extremely complicated. These complications are addressed by a relatively new analytical modeling tool, the capital asset pricing model (CAPM), whose creation and use revolutionized the field of finance.[48]

The capital asset pricing model (CAPM) defines a linear risk-return relationship,[49] in terms that quantify the expectation of a return on an asset given its level of risk. The model starts with the basic proposition that there should be a benchmark return that defines the minimum return the investor should expect in the absence of risk.[50] This benchmark is defined as the risk-free rate (r_f) and is measured currently by the return on United States government treasury obligations; i.e., it assumes that

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rating, according to James Crandall, head of syndication at Calyon [Investment Bank] New York.").

[46] Press Release, Dayton Superior Corp., Dayton Superior Announces Extension of Exchange Expiration Date for Private Debt Exch. Offer (Sept. 4, 2008), *available at* http://67.192.65.138/weavecmsresources//InvestorPR/Rel%20Exchange%20September%204%202008.pdf.

[47] *Id.* This 7.7% additional income is the difference between the 13% coupon rate of the DSUP bond and the 5.3% coupon rate of the Microsoft bond. *Id.*

[48] Developed by William F. Sharpe in 1963, the CAPM shows that the equilibrium rates of return on all risky assets are a function of their covariance with the market portfolio. *See generally* William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk*, 19 J. FIN. 425, 425-27 (1964) (discussing the need for a "positive micro-economic theory dealing with conditions of risk."). In 1990, Sharpe received the Nobel Prize in economics for his work on this model. The Nobel Foundation, The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, http://nobelprize.org/nobel_prizes/economics/laureates/1990/ (last visited Oct. 5, 2008).

[49] The CAPM defines the linear relationship between risk and return where the measure of risk is quantified as the "beta." *See* James W. Henderson & J. Allen Seward, *Risk Aversion and Overcompensation from the Risk Free Discount Rate*, 8 J. LEGAL ECON. 25, 28 (1998).

[50] *Id.*

there is no risk in investing in a treasury bond.[51] Any return above this benchmark is generated by the enhanced risk and, for the purpose of quantification, is a function of *beta* (β), the measure of risk.[52]

With the benchmark as the "bottom line," we can see the positive correlation between the amount of risk attendant to an investment and the appropriate return to compensate for that risk. Thus, to make the choice between the Microsoft and the DSUP bonds, you need a reliable risk evaluation mechanism to determine the appropriate return (interest rate) differential that adequately compensates for the risk differential.[53]

As noted, risk in the CAPM is measured by the beta.[54] With its focus on the beta, the CAPM abandons the unreliable concept of standard deviation as a measure of risk in favor of a model driven measure of volatility. At the same time, it has a more sophisticated approach to risk within the reality of investment. It considers diversification and the implication that overall risk is reduced by diversifying the securities in the portfolio;[55] but it also contemplates that there are limits to the extent of risk reduction through diversification, limits imposed by the behavior of the market as a whole, producing an irreducible market risk (or systemic risk).[56]

Although the direct, linear relationship between risk and return would seem to be self-evident, irrespective of the manner

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[51] We assume that the government of United States will not default on its bonds. *Id.* *See* John Bernard, *Legal Tender*, NAT'L B. ASS'N MAG., Jan.-Feb. 1995, at 12 (1995) (noting that government obligations can vary in their nature and in their maturities and moreover, within each category of government obligation there may be some fluctuation in the percentage return. In reality, therefore, there may be more fluidity in the rate than we might like for the sake of analytic purity).

[52] Eugene F. Fama & Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence* 6 (CRSP Working Paper No. 550 & Tuck Bus. Sch. Working Paper No. 03-26, 2003), *available at* http://ssrn.com/abstract=440920 (explaining the CAPM formula as $E(r_i) = r_f + \beta_i\{E(r_m) - r_f\}$).

[53] Clearly, a subjective element of personal investor preference enters here, in the form of one's level of risk aversion. In principle, if the markets are efficient and the evaluation precise, the investor should be indifferent between the two.

[54] *See* Steiner Corp. v. Benninghoff, 5 F. Supp. 2d 1117, 1132-34 (D. Nev. 1998) (illustrating the serious attempts to define beta and other components of this model).

[55] Dave Kansas, *Don't Bet Against Your House*, WALL ST. J., Sept. 7, 2008. *See also* Floyd Norris, *Profit Without Risk? Not Likely*, N.Y. TIMES, Aug. 22, 2008, at C1.

[56] George G. Kaufman & Kenneth E. Scott, *What Is Systematic Risk, and Do Bank Regulators Retard or Contribute to It?*, 7 INDEP. REV. 371, 371-72 (Winter 2003).

in which we quantify that risk, this inescapable logic disappeared in the subprime bubble. In what seems to be an inexplicable exercise in irrationality, the financial institutions and individuals creating and operating in the subprime mortgage market appeared to believe that they could defy the laws of finance (if not the laws of gravity) and sever the link between return and risk: "Perhaps the most remarkable aspect of the credit boom that preceded the current bust was the belief of professional investors that they had found a way to increase their profits without taking on risk."[57]

Financial analysis, particularly the use of financial modeling to make investment decisions, begins with assumptions; assumptions as to the future are necessary for a pro forma analysis as a predicate to decision-making, an analytic process that of necessity leaves room for numerical manipulation to justify a pre-determined result. But a clear-headed approach also requires a continual understanding that estimates and assumptions as to the future can collide with reality and be virtually destroyed by radical and dramatic market changes, such as what happened with the real estate market in the United States.

B. Derivatives

The word "derivatives" leaves people confused and suspicious,[58] connoting some arcane kind of financial weapon and it has been convenient to put much of the blame for our financial problems at the derivatives' doorstep. It is true, of course, that these financial instruments can create havoc when used solely for speculation, but that does not justify the simple equation of derivatives with financial disaster. We should not ignore the fact that derivatives are also a very powerful hedging tool in risk management.[59] The media might not find it interesting to state that bank ABZ has used derivatives successfully and managed to eliminate the foreign exchange risk they were exposed to, or that an airline company has used them successfully to hedge increases in oil prices.[60] We need to remove the facial distrust and understand

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[57] Norris, *supra* note 55.

[58] Jenny Anderson & Heather Timmons, *Why a U.S. Subprime Mortgage Crisis is Felt Around the World*, N.Y. TIMES, Aug. 31, 2007; Karim Rahemtulla, *A Beginner's Guide to Derivatives*, MONEY WK., Sept. 29, 2006.

[59] Rahemtulla, *supra* note 58.

[60] *See, e.g.,* Jeff Bailey, *An Airline Shrugs at Oil Prices*, N.Y. TIMES, Nov. 29, 2007, at C1. Southwest Airlines used oil contracts to hedge the price of oil,

what derivatives are, what they do, and how they can both harm and help the global economy.

1. Types of Derivatives

As the word itself suggests, derivatives are not themselves real assets; rather, they are "derived" from other real assets so that their existence and value are totally dependent on the existence and performance of the underlying assets from which they are derived.[61] The field of finance recognizes four major groups of derivatives: forwards, futures, options and swaps. Each group is distinguished from the others by the nature of the assets from which each is derived. [62] Broadly speaking, options are mainly based on stocks, futures and forwards are based on commodities, and swaps are based on debt.[63] Interestingly, all four types of derivatives rely on major currencies, so foreign currency issues may arise with all of them. They all share the characteristic of being in essence actual or implied contracts for future performance.

a.) Forwards: Some derivatives have a long history, such as the forwards used in ancient times when Phoenician ships were sent to bring back previously identified and committed merchandise, most of it claimed already. Basically the ships went with a shopping list of merchandise to purchase in far away countries to bring back for a predetermined sale.[64] The arrangement was, just as it is today, a customized contract for specific delivery of a specific asset at a pre-specified price and pre-specified time.[65] For example, if on September 15, 2008, you need to order supplies from Europe that will be delivered in exactly two years and you will need to have two million euros two years from now to

buying future oil delivery through 2009 at $51 per barrel, so that it could show a profit while others struggled as oil prices escalated. *Id.* The hedges resulted in gains on hedging contracts of $455 million in 2004, $892 million in 2005, $675 million in 2006, and $439 million from January 2007 to September 2007. *Id.*

[61] PHILIP MCBRIDE JOHNSON, DERIVATIVES: A MANAGER'S GUIDE TO THE WORLD'S MOST POWERFUL FINANCIAL INSTRUMENTS 1 (1999).

[62] *Id.* at 2-3.

[63] *See infra* pp. 16-19. With the increased sophistication in financial markets they became more sophisticated and applied in different permutations and combinations i.e. swap option. JOHNSON, *supra* note 61, at 14, 16.

[64] *Compare* ROBERT W. KOLB, UNDERSTANDING FUTURES MARKETS, 2 (5th ed. 1997), *and* Geoffrey Poitras, *Futures Markets and Forward Market*s, *in* INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES (William A. Darity, Jr. ed., 2d ed. 2007).

[65] PHELIM BOYLE & FEIDHLIM BOYLE, DERIVATIVES: THE TOOLS THAT CHANGED FINANCE 3 (2001).

conclude the purchase, you may decide to enter today (when, let us say, one euro forward is equal to 1.5 U.S. dollars), into a euro forward contract. That contract states that on September 15, 2010 you will pay three million dollars to the forward broker in exchange for the two million euros you need to conclude your purchase. The contract, derived from the euro/dollar currency exchange rate, is both an enforceable commitment to pay on delivery of the goods and is also a hedge, by which you eliminate the risk of the fluctuations in the euro today.[66] Certainly, in two years the euro/dollar exchange rate will probably not be €1=$1.5. It could be more or less in relationship to the dollar, but what is important from your planning perspective is that you eliminated the risk of fluctuation, the risk of the foreign exchange volatility, and you know today exactly how much the goods will cost you in two years in terms of dollars. Thus, you have hedged your foreign exchange exposure.

b.) Futures: Futures are a more flexible form of forward contracts. Futures are by no means a new invention, as they played a significant role in the Dutch tulip disaster of the seventeenth century.[67] While similar to forwards, futures are standardized and marketable contracts whose values are determined daily, rather than individually customized.[68] Also, while derived from real assets, futures are not necessarily held by those seeking actual delivery of the assets.[69] The "buyer" of the futures contract is not really buying the commodities on which it is based and may choose to simply walk away from the transaction prior to the closing date, losing/gaining amount debited/credited to the buyer's account as a result of the daily market valuation, but with no actual obligation to take delivery of the commodities.[70] The buyer is essentially betting on what the future price of the commodity will be. The contracts are usually short-term (up to one year) and contemplate future delivery of specified commodities (agricultural, metallurgical, foreign exchange, oil, etc.). The contracts are themselves traded on and regulated by the appropriate commodities exchange. For example, to hedge the €2 million purchase discussed above, you might enter into twenty separate euro futures contracts

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[66] *Id.* at 3, 4.

[67] IRRATIONAL, *supra* note 11, at 177.

[68] DAVID A. DUBOFSKY & THOMAS W. MILLER, JR., DERIVATIVES: VALUATION AND RISK MANAGEMENT 126-27 (2003).

[69] *Id.* at 127.

[70] *See id.* at 127-28.

(generally the euro currency futures are set at €100,000 each) and your account, for the purchase of the contract, rather than the direct purchase of euros, will be settled daily (money will be added to and subtracted from the account depending upon the daily price fluctuation of the euro). During the life of the contract, prior to its delivery/expiration date, the contract can be traded or simply closed, ending the hedging and losing/gaining over what was paid originally to buy and maintain the contract, but without obligation actually to buy the euros with dollars.[71] The problem is that, due to the short term horizon of the futures, you will have to enter new contracts over a period of two years. Trading in futures requires the trader to secure a margin account with the brokerage firm that serves as "collateral" to the trade; that account is continuously debited and credited for the life of the contract and, if the balance dips below a certain level, the trader will receive a margin call in order to maintain the position.[72]

c.) Options: Options, literally a right to purchase or to sell something, are standardized marketable purchase or sale rights with respect to an underlying asset (frequently, but not necessarily, shares of stock) publicly traded and cleared through an exchange responsible for their enforcement, much like commodities or currency futures.[73] The value of an option is directly related to the market price of the underlying stock, currency, or other asset.[74] Options may be in the form of a right to purchase call options or a right to sell put options.[75] A *call*

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[71] This example is a bit more complicated inasmuch as, as noted, futures contracts are short-term, and not applicable to a two year commitment. You can enter a new contract each time you need to lengthen the time horizon of the risk hedging for which you are looking, but you are constantly exposed to the fluctuations of the currency. Surprisingly it doesn't matter if you are hedging the risk. Moreover, since the exchange settles daily based on fluctuations, if the fluctuations are so severe as to deplete your account, you will be subject to margin calls. The exchange requires maintenance of a margin (a sizable amount of money set aside for the exchange to use for the daily settlement). *See* CHI. BD. OF TRADE, THE CHICAGO BOARD OF TRADE HANDBOOK OF FUTURES AND OPTIONS 56 (2006) (defining margin calls).

[72] *See id.*

[73] *Id.* at 209; JULIAN WALMSLEY, THE NEW FINANCIAL INSTRUMENTS: AN INVESTOR'S GUIDE 154-55 (1988).

[74] OFFICE OF TECH. ASSESSMENT, 98TH CONG., EFFECTS OF INFORMATION TECHNOLOGY ON FINANCIAL SERVICES SYSTEMS 85 (1984); *see also* BOYLE & BOYLE, *supra* note 65, at 5 (providing examples of the different assets from which options may be derived).

[75] CHI. BD. OF TRADE, *supra* note 71, at 210; WALMSLEY, *supra* note 73, at 154.

option is a standardized contract that gives the holder the right, but not the obligation, to *purchase* an asset at a specified price, the *exercise* or *strike* price, on or before a specified expiration date.[76] On the other side of the risk management spectrum is the *put option*, a standardized contract that "gives the holder the right, but not the obligation, to *sell* an asset at a specified price," on or before a specified expiration date.[77] While the holder of the call or the put is not required to exercise the option, the holder may choose to do so at any time before the expiration. Upon expiration the put or call option expires and the holder loses whatever price was paid for it. Obviously, the holder of a call will exercise it only if the market price of the underlying stock or other asset is higher than the strike price, while the holder of a put will exercise it only if the price of the underlying asset is lower than the strike price.[78] As opposed to futures, the option has a traded price, the cost of the option contract. The call option price is calculated using the Black-Scholes model,[79] and the price of the put is determined via the put-call parity theorem.[80] The major growth of the option market began in 1973 with the establishment of the Chicago Board Options Exchange.[81]

d.) Swaps: Swaps are the newest and most complicated of the derivatives.[82] To oversimplify it, swaps can be looked at as a system of "swapping" or exchanging payment obligations under different types of loans.[83] For example, a borrower under a fixed

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[76] CHI. BD. OF TRADE, *supra* note 71, at 210-11; *see* BOYLE & BOYLE, *supra* note 65, at 5; WALMSLEY, *supra* note 73, at 154.

[77] Jack E. Karns & Jerry G. Hunt, *Corporate Executive Deferred Compensation: Should the Exercise of Stock Appreciation Rights (SARS) Trigger Securities Law Liability?*, 75 N.D. L. REV. 535, 541 (1999); BOYLE & BOYLE, *supra* note 65, at 5.

[78] *See* Karns & Hunt, *supra* note 77, at 542-43.

[79] *See generally* Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973) (illustrating several ways to price different types of options). Myron Scholes won the Nobel Prize for the option pricing model in 1997. The Nobel Foundation, *supra* note 48.

[80] Based on the concept that equal payoffs should equilibrate the prices of calls and bonds (present value) and underlying stock and puts. *See* Michael S. Knoll, *Put-Call Parity and the Law*, 24 CARDOZO L. REV. 61, 72-74 (2002); Kevin J. Liss, *Options as Disguised Finances: The Demise of an Urban Tax Legend*, 27 VA. TAX REV. 907, 942-46 (2008).

[81] Robert J. Aalberts & Percy S. Poon, *Derivatives and the Modern Prudent Investor Rule: Too Risky or Too Necessary?*, 67 OHIO ST. L.J. 525, 549 (2006).

[82] *See* Henry T.C. Hu, *Swaps, the Modern Process of Financial Innovation and the Vulnerability of a Regulatory Paradigm*, 138 U. PA. L. REV. 333, 336 (1989). The first recorded swap seems to have been in 1981 between IBM and the World Bank. *Id.* at 363.

[83] *See* BOYLE & BOYLE, *supra* note 65, at 7; *see also* Hu, *supra* note 82, at 346-

rate loan might want to trade obligations with a borrower under a floating rate loan, each borrower agreeing to service the payment obligations of the other ("swapping" their service obligations). While an individual "swap" might be the subject of specialized individual agreements, there can also be more standardized arrangements facilitated by specialized financial institutions.[84] To continue with the foreign exchange example, the transaction could be facilitated by "swapping" the obligation to repay a three million dollar loan for someone else's obligation to repay a two million euro loan. The effect, again, assuming that each party meets its loan service obligations, will be to eliminate exposure to the euro currency risk.

2. What Derivatives Do and Who Uses Them

Two types of investors trade in derivatives: the speculators or arbitrageurs whose sole goal is to profit from the fluctuations of the underlying asset as reflected in the price of the derivative; and the hedgers seeking to limit risk with respect to the underlying asset. There is justifiable concern over the abuse of derivatives by predatory speculators.[85] The essence of the derivative for both risk limitation and speculation is that exposure is limited to the derivative instrument rather than to the more expensive underlying asset.[86] Thus, the speculator buying futures on the euro/dollar exchange rate in the belief that the euro will increase, does not have the capital expense of actually buying euros, but will nevertheless profit from a future increase. Of course the same speculator who guesses wrong as to the future market will lose the entire investment in the derivative. In its speculative incarnation, derivatives serve as

53 (discussing the interest rate swap and the currency swap).

[84] GRAHAM ROBERTS, LAW RELATING TO INTERNATIONAL BANKING 153-54 (1998).

[85] *See* Diana B. Henriques, *Lieberman Seeks Limits to Reduce Speculation*, N.Y. TIMES, June 12, 2008, at C4 (Senator Joseph I. Lieberman, chairman of the Senate Homeland Security and Governmental Affairs Committee, has proposed "to ban large institutional investors, including index funds, from the nation's booming commodity markets." The Committee has begun to examine "whether financial speculation is affecting the prices of crops and fuel. 'There is excessive speculation in the commodity markets that is driving up the cost of food and energy…. The question is, do large institutional investors play a positive role?' [Senator Lieberman's] concern, he said, is that they do not.").

[86] *See* Anderson & Timmons, *supra* note 58 (explaining that risk and speculation are so well limited to the derivative that there is a "downside of spreading risk so well . . . .").

the vehicle for a form of gambling not unlike betting at a racetrack.

For example, Barings Bank, one of the oldest and most respected banks in England, went from centuries of huge financial success to bankruptcy in one month because of one trader's gambling in derivatives.[87] It is this part of the derivatives market that created the immense financial problems we now confront,[88] and their global ramifications are of such a degree that foreign countries are considering the implications of their exposure to our financial disasters.[89]

However, while seeking to remedy the abuses, we should not lose sight of the beneficial use of these instruments for limiting risk. By and large, as briefly noted above, derivatives are an excellent tool for hedging risk.[90] For foreign exchange purposes, although each of the four derivatives has its particular

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[87] Alan Friedman, *Cost Cuts at Barings Left Rogue Trader Unsupervised*, INT'L HERALD TRIB., Mar.1, 1995.

> Barings, the British bank that collapsed after a maverick trader built up $27 billion of unauthorized trading positions, [stated] … that it had allowed the trader to police his own trading operations.
>
> A spokeswoman for Barings in London said that as a result of a cost-cutting drive, Nick Leeson - the 28-year-old Englishman at the center of the Barings debacle - had been permitted to act as both the chief trader at the bank's Singapore futures operations and as the overseer of his own trading.

Id.

[88] *See* Ruth Kelly, Fin. Sec'y to the H.M. Treasury, Speech at the International Derivatives Week Reception (June 28, 2004) (transcript *available at* http://www.hm-treasury.gov.uk/2662/htm).

> At the very least, few would dispute that ill considered use of derivatives can exacerbate volatility and risk… Witness the financial difficulties experienced by Procter & Gamble, Orange County and Barings Bank - to name just a few. Organisations need to have proper controls in place to manage the use of derivatives and, for this reason, I welcome the FOA's Guidelines on how end-users should manage their use of derivatives.

Id.

[89] *See* Anderson & Timmons, *supra* note 58.

> The backlash is particularly sharp abroad, in countries that were surprised to find that problems with United States homeowners could be felt so keenly in their home markets. Foreign politicians and regulators are seeking a role in the oversight of American markets, banks and rating agencies. The head of the Council of Economic Analysis in France has called for complex securities to be scrutinized before banks are authorized to buy them.

Id.

[90] *See id.* (noting that the "founder of GFIA, a hedge fund research firm in Singapore" likens derivatives to power tools. "If you know how to use them, . . . they are exponentially better and faster for building a house, compared with using hammers, screwdrivers, and handsaws.").

advantages and disadvantages and differing costs, they can serve to limit the risks of currency market fluctuation in meeting future obligations payable in a foreign currency. For a large multinational company, as well as any small international trading company, this kind of currency hedging by means of derivatives is good business sense. The fact is that global trade as we know it today would not be possible without the existence of these instruments.

C. Financial Engineering and the Subprime Mortgage Backed Securities

Financial engineering is the process of using combinations of various financial instruments to create new instruments.[91] These new combinations are created in response to the needs of advanced financial applications.[92] Thus, for example, we now have a "swaption," an option to enter into a swap.[93] Different combinations emerged, each as a means and solution to exploit financial opportunities. One of the first such financial combinations was zero coupon Treasury Investors Growth Receipts (TIGR), created by Merrill Lynch,[94] in which government bond coupons were stripped from the principal, and separate baskets of coupons and principal were created and interests in each basket were traded separately as securities.[95]

In the wake of the savings and loan crisis in the 1980s, lending banks began to regularly transfer their newly issued mortgages to the market to improve the bank's liquidity and increase their ability to issue more mortgages.[96] There are many good reasons

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[91] *See* Jerry W. Markham, *Super Regulator: A Comparative Analysis of Securities and Derivatives Regulation in the United States, the United Kingdom, and Japan*, 28 BROOK. J. INT'L L. 319, 364-65 (2003) (describing financial engineering and the resulting regulatory battles between the Securities and Exchange Commission and Commodity Futures Trading Commission); *see also* Anderson & Timmons, *supra* note 58 (explaining that there has been a major increase in recent years of "new finance vehicles like derivatives").

[92] *See* Roger W. Ferguson, Jr., Vice Chairman of the Bd. of Governors of the Fed. Reserve Sys., Remarks at the Annual Conference on the Securities Industry (Nov. 20, 2002) (transcript *available at* http://www.federalreserve.gov/BoardDocs/Speeches/2002/20021120/default.htm).

[93] JOHNSON, *supra* note 61, at 14-6.

[94] *See* Deborah Rankin, *Personal Finance; The New Allure of Treasury Securities*, N.Y. TIMES, Nov. 15, 1987, at 311.

[95] *Id.*

[96] *See Protecting Homeowners: Preventing Abusive Lending While Preserving Access to Credit: Hearing Before the Subcomm. on Financial Institutions and Consumer Credit and Subcomm. on Housing and Community Opportunity*,

for the originator of a mortgage to sell the mortgage instrument on the market: the sale transforms an illiquid asset to a liquid, marketable one, and eliminates it from the books, resulting in improved financial ratios, facilitating compliance with restrictive lending regulations, and, thereby, freeing funds to offer new mortgages.[97]

The significant increase in the mortgage market produced a corresponding development of related financially engineered derivatives, specifically the mortgage-backed security (MBS),[98] an artificially created asset consisting originally of an interest in a basket of residential mortgages, with return to the investors being contingent on the incoming cash flow from the existing mortgages in that basket.[99] The security's cash flows are backed by the principal and interest payments of a basket of mortgage loans.[100] That is, the artificial securities were subject to the risk of the mortgagor's default with respect to the underlying mortgages as well as the prospect of reduced return from reduced cash flow as a result of prepayment or early loan repayment of the mortgages.[101] The market for these securities became enormous, and variations on bundles of securities backed by mortgages proliferated. Continuing development of baskets of convoluted combinations of subprime mortgages, most notably the creation of credit default swaps based on those mortgages, fueled what became the worse financial crisis in decades.[102]

108th Cong. 118 (2003) (statement of Cameron L. Cowan, Partner, Orrick, Herrington, and Sutcliffe, LLP).

[97] *Id.* at 122, 123.

[98] Anthony B. Sanders, *Commercial Mortgage-Backed Securities*, *in* THE HANDBOOK OF MORTGAGE-BACKED SECURITIES 1119, 1119 (Frank J. Fabozzi ed., 6th ed. 2006) [hereinafter MORTGAGE-BACKED SECURITIES]. There are also Commercial Mortgage-Backed Securities ("CMBS") consisting of mortgage loans backed by commercial properties. *Id.* These loans are even riskier because they can vary in type of payment and length of payment. *Id.* There are newer Collateralized Mortgage Obligations ("CMO"); a type of mortgage-backed security that creates separate pools of pass-through rates for different mortgage classes. *Id.*

[99] *See* U.S. SEC. AND EXCH. COMM'N, MORTGAGE-BACKED SECURITIES (June 25, 2007); *see also* 17 C.F.R. § 229.1101(c)(1) (2005) (defining an asset-backed security as a "security that is primarily serviced by the cash flows of a discrete pool of receivables or other financial assets . . . that by their terms convert into cash.").

[100] U.S. SEC. AND EXCH. COMM'N, *supra* note 99.

[101] *See*, *e.g.*, *id.*; Anand K. Bhattacharya et al., *An Overview of Mortgages and the Mortgage Market*, *in* MORTGAGE-BACKED SECURITIES, *supra* note 98, at 3, 27-9.

[102] *See* JOSEPH G. HAUBRICH & BRENT MEYER, FED. RES. BANK OF CLEVELAND, SUBPRIME DERIVATIVES (Mar. 26, 2007) (suggesting that the subprime loans

> A typical borrower in the subprime mortgage market is "house-rich" but "cash-poor," having built up equity in his home but in little else, and has a lower net income than the average borrower. Subprime lenders generally charge somewhat higher interest rates to account for the increased risk associated with these loans.[103]

As one court put it, subprime mortgages are "mortgages that are non-conforming because of some underwriting criteria other than size of the loan. . . . For the most part, these ventures were profitable . . . because they were high-yield, higher-margin businesses in markets that were rapidly expanding in the 1990s."[104]

The subprime mortgages are mortgages whose borrowers have questionable credit standing, people with high risk credit history, or even those with no credit history at all.[105] Since there is a higher risk associated with this kind of loan, lenders can demand a higher rate than applicable to mortgage loans assumed by people with good credit history.[106] For the lending institution,

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fueled the financial crisis. "As if subprime mortgages aren't scary enough, there are financial derivatives based on subprime loans."); *see also* Hays, supra note 16 (describing the financial crisis).

> In recent months at least eight major investment banks, including Merrill Lynch & Co., Goldman Sachs Group Inc., Citigroup, Inc. and Morgan Stanley, have signed deals with federal and state regulators to buy back more than $50 billion worth of auction rate securities. The regulators alleged that the banks misled customers into believing that the investments were safe.

Id.

[103] In re First Alliance Mortgage Co., 471 F.3d 977, 984 (9th Cir. 2006).

[104] Anchor Sav. Bank, FSB v. United States, 81 Fed. Cl. 1, 107 (2008).

[105] Sally Pittman, *Arms, But No Legs to Stand On: "Subprime" Solutions Plague the Subprime Mortgage Crisis*, 40 TEX. TECH L. REV. 1089, 1091 (2008) (describing the average subprime borrower); Souphala Chomsisengphet & Anthony Pennington-Cross, *The Evolution of the Subprime Mortgage Market*, FED. RES. BANK OF ST. LOUIS REV., Jan.-Feb. 2006, at 31, 31-32, 43 (discussing the role of subprime lending as providing mortgages for people with bad credit); Lisa Smith, *Subprime Loans: Buyer Beware*, FORBES, Aug. 27, 2007, *available at* http://www.forbes.com/investoreducation/2007/08/27/subprime-credit-default-pf-education-in_ls_0827investopedia_inl.html.

[106] Cathy Lesser Mansfield, *The Road to Subprime "Hel" was Paved with Good Congressional Intentions: Usury Deregulation and the Subprime Home Equity Market*, 51 S.C. L. REV. 473, 511-12 (describing how an early law allowed lenders to charge high interest rates on subprime mortgages); Pittman, *supra* note 105, at 1092-93 (explaining that subprime mortgagers have lower credit scores and, because of this, the lenders can charge higher rates than prime mortgages); Chomsisengphet, *supra* note 105, at 31-2; Geoff Smith, Testimony, *Regarding: Building Sustainable Homeownership: Responsible Lending and Informed Consumer Choice*, FED. RES. BANK OF CHI., June 7, 2006, at 1; Lisa Smith, *supra* note 105.

this high interest loan can be a very lucrative proposition.

As soon as those mortgages were issued they were combined into baskets of millions of dollars of mortgage-backed debt that were then transferred to other institutions, usually investment banks, that created even bigger baskets, which were then divided into smaller pieces by some common risk denominator, only to be sold in their new packages to other investors.[107] With such a chain of transformation, in principle it did not really matter who the original mortgage debtor was because the higher risk associated with that debtor not only created the better return, but was immediately passed on down the chain. In short, the concept that with high risk comes the possibility of failure, default (and the loss from foreclosure) did not enter the equation. Again, the process turned the risk-return equation on its head. When the economy is on the upswing, the "subprime" borrowers generally are employed and can make payments on those high interest mortgage loans, or they can dip into their growing equity in their homes if they have to, making everybody a winner. At the very worst, from the investors' point of view, there would always be the equity in the real estate to cushion any fall. As long as the real estate market is going up, everyone prospers and they have finally achieved the impossible goal of high return with low risk.

The problem started when the economy and the real estate market went into recession. People became unemployed, and then began to default on those high mortgage loan payments; thus, the equity cushion vanished with sharply declining real estate values.[108] In turn, investors began, justifiably, to lose confidence in those financially engineered assets, producing a cascading effect of illiquidity in the market and huge losses for the investors.[109] Like a mortgage-backed house of cards, the artificial structure started to collapse as the first wind hit it. That then brings us to the regulatory response - the Paulson Plan to the rescue!

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[107] *See* Bill Barnhart, *Back to Freewheeling Ways; Effects of Subprime Mortgage Meltdown Still Rumbling Throughout the Economy*, CHI. TRIB., Oct. 8, 2007, at 1 (stating that "financial engineers have converted the risk of large numbers, investing in a well-diversified basket of assets, into the much greater risk of small numbers, investing in a portion of the basket."); Greg Ip & Mark Whitehouse, *Increase in Risk Aversion May Lead to Ripple Effect*: *Trend is—a Wake-Up Call, Economist Says*, GLOBE & MAIL, Mar. 1, 2007, at B17 ("[Collateralized debt obligations] have become a popular way to pool baskets of loans then redistribute slices with varying degrees to a spectrum of investors.").

[108] William R. Emmons, *The Mortgage Crisis: Let Markets Work, But Compensate the Truly Needy*, REG'L ECONOMIST, July 1, 2008, at 10.

[109] *Id.*

III. THE PAULSON PLAN

A. The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure

A year in the making and in response to the growing financial crisis, in March 2008, the Department of the Treasury released a new regulatory plan, *The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure*,[110] referred to as "the Paulson Plan."[111] As soon as it was issued, it was met with a rush of comments in the media, criticizing it for going too far as well as not going far enough. In any event, questioning its chances of survival, "lawmakers and lobbyists from an array of industries opposed to the plan predicted that most of it would be dead on arrival."[112] Others have commented that the issue is not whether the recent financial crisis demonstrates that we desperately need regulatory help, but rather the problem seems to be the inadequate enforcement of existing regulations, as a result of budget cuts or an unresponsive administration, suggesting that the rules were fine and that it was the regulators who were the problem.[113]

The Paulson Plan does not attempt a "quick fix" for the subprime crisis, but instead proposes an overhaul of the system.[114] Indeed, in unveiling the Paulson Plan, Secretary Paulson observed "that he did not expect the bulk of the plan to be adopted during the current administration—and he said Congress should not even consider adopting most of it until after

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[110] BLUEPRINT, *supra* note 4.

[111] *Id.* (Henry M. Paulson, Jr., is the Secretary of the Treasury); Bob Fernandez, *Pennsylvania Lawmakers' Views on Passing a Bailout*, PHILA. INQUIRER, Oct. 1, 2008, at C01 (discussing the positive and negative aspects of the proposed bailout plan from the perspective of Pennsylvania lawmakers).

[112] Labaton, *supra* note 5.

> Key lawmakers have signaled that they want to take their time in weighing ideas for broad changes. They are already hearing from state regulators and consumer groups who say that the proposal would do little to curb risky behavior by financial institutions, and from industry groups that say it goes too far.

Id.

[113] James Surowiecki, *Parsing Paulson*, THE NEW YORKER, Apr. 28, 2008, at 26 (commenting that "[f]ederal bank regulators had the power to discover and curb the fraud and deception that helped fuel the subprime boom, but they were apparently oblivious.").

[114] Labaton, *supra* note 5 ("'Some may view these recommendations as a response to the circumstances of the day,' Mr. Paulson said. 'That is not how they are intended.'").

the current housing and credit crisis ended."[115] It recognizes the fact that the present system, whose underlying structure is still based on a 1930 bifurcated "securities and futures regulation" system, does not work.[116] It also recognizes that it will take a long time before this proposal can actually be enacted, given not only the inevitable delays produced by opposing recommendations and extensive interest group lobbying, but the reality of politics in an election year. Finally, it recognizes that the United States financial market does not operate in an economic vacuum, but rather it must function properly in a global economy.[117] In the last few years, European countries and Australia have created new regulatory systems that seem to work much more efficiently than the present U.S. scheme.[118]

The impetus for a more radical regulatory approach is pure competition; the need for the United States's economy to be nimble enough to compete in global markets. Foreign economies update and "tweak" their regulatory systems, and in so doing, they can provide an efficient financial source of capital for American industries seeking to avoid the U.S. regulatory system.[119] At the same time, improvement in information flow has not only facilitated the engineering of new and sophisticated financial securities, but has also created free access to them in different markets.[120] In short, in order to remain competitive in a predominantly global market, the U.S. has no choice but to review its own antiquated regulatory system while avoiding regulatory duplication that can lead to jurisdictional disputes among regulators and slowing down the introduction of financial innovation.[121] Consistent with this concern is the Paulson Plan's

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[115] *Id.*

[116] BLUEPRINT, *supra* note 4, at 2.

[117] *Id.*

[118] *See id.* at 3; David G. Nason, Fin. Inst. Assistant Sec'y, Remarks Before the City of London Corporation Redesigning U.S. Financial Regulation for a Global Marketplace (Dec. 11, 2007), *in* U.S. FED. NEWS, Dec. 2007; Robert K. Steel, Undersecretary of Treasury for Domestic Fin., Remarks on U.S. Financial Regulation to the New York Society of Securities Analysts (Feb. 7, 2008) *in* CQ TRANSCRIPTIONS.

[119] *See generally* Nason, *supra* note 118 (discussing the importance of maintaining competitive regulatory regimes).

[120] *See generally* OFFICE OF TECH. ASSESSMENT, 101ST CONG., ELECTRONIC BULLS AND BEARS: U.S. SECURITIES MARKETS AND INFORMATION TECHNOLOGY 3-4 (1990) (discussing the effects of technology and information flow on securities markets).

[121] *See generally* BLUEPRINT, *supra* note 4, at 27 (some examples of inter-agency disputes include: "the prolonged process surrounding the development of U.S. Basel II capital rules, the characterization of a financial product as a

mission statement: "The mission of the Department of the Treasury . . . focuses on promoting economic growth and stability in the United States. Critical to this mission is a sound and competitive financial services industry grounded in robust consumer protection and stable and innovative markets."[122]

One of the short term goals of the plan is to modernize the President's Working Group on Financial Markets (PWG) to improve its role as a "coordinator of financial regulatory policy" by including within its purview the whole financial sector. [123] In light of the financial mortgage crisis, the plan also recommends the creation of a Mortgage Origination Commission (MOC),[124] "that would set new minimum standards for mortgage brokers and otherwise unregulated financial institutions that sell mortgages,"[125] and that will oversee individual states' evaluation systems.[126]

The plan's intermediate-term recommendations include:

(i) A two-year phasing out period of the present thrift institutions regulations since the role of the thrift institutions has changed from being a dominant source of residential mortgage funding to expanded lending activity – as a result of thrift regulation fostering such expansion, their special regulatory position and protection is no longer necessary;[127]

(ii) Creation of a centralized supervision system, preferably under the Federal Reserve System (that might consequently change its role in the future), to oversee the role of state-chartered banks as well as the payment and settlement systems that facilitate the transfer of funds;[128]

(iii) For the insurance industry, the establishment of an Optional Federal Charter (OFC) and an Office of National Insurance (ONI) to provide help in developing a modernized and comprehensive national system that will expand the scope and jurisdiction of insurance

futures or a security contract, and the scope of banks' insurance sales.").

[122] *Id.* at 1.

[123] *See id.* at 5-6 (the President's Working Group on Financial Markets was created in 1988).

[124] *Id.* at 6.

[125] Labaton, *supra* note 5, at A1 ("The new commission could be formed only by Congress, and some lawmakers predicted it might be adopted this year.").

[126] *See* BLUEPRINT, *supra* note 4, at 78, 80.

[127] *See id.* at 8, 89.

[128] *Id.* at 99-100.

companies under a federal umbrella;[129]

(iv) Merging of the regulation of futures and securities to provide a unified regulatory framework that supports their global development;[130] and

(v) In the same vein, the plan recommends converging the services provided by investment advisers and broker dealers.[131]

The long term strategy of the Paulson Plan is to move to an objective-based regulatory system. This approach, following the example of the European and Australian markets will require a structure of three key goals:

1) market stability regulation, addressing the overall stability of the financial markets and the economy;[132]
2) prudential financial regulations addressing market discipline and government guarantees;[133] and
3) business conduct regulation addressing protection of consumers.[134]

The Paulson Plan indeed makes timely recommendations, divided into the short-term need to "improve regulatory coordination," the intermediate-term effort to "eliminat[e] , , . . duplication[s] of the U.S. regulatory system," and the long-term goal to change the system to an "objectives-based regulatory approach" that will be more efficient in adapting to future changes, open to and embracing innovative financial instruments.[135] The Plan recognizes that while the current crisis needs to be addressed immediately, a complete overhaul is the preeminent goal, and it recommends reducing the overlapping authority into fewer, more efficient entities. It also views as a long-term solution a system that links the three main goals "of market stability regulation, prudential financial regulation, and business conduct regulation to regulatory structure greatly improves regulatory efficiency," for the future.[136]

It is very significant that the Plan considers that simply changing the regulations will not fix the various problems and

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[129] *Id.* at 128.
[130] *Id.* at 106, 109.
[131] BLUEPRINT, *supra* note 4, at 106.
[132] *Id.* at 13.
[133] *Id.* at 14, 26 (noting that Australia and the Netherlands adopted the "Twin Peaks" model which emphasizes that the second and third goal should be achieved by separate agencies).
[134] *Id.*
[135] *Id.* at 1-2.
[136] BLUEPRINT, *supra* note 4, at 14.

that an effort must be made to increase "market discipline" by enforcing compliance with the regulations or laws. The Plan recognizes that market discipline requires rigorous public disclosure in the financial markets. ("For example, the Pillar 3 portion of the Basel Accord requires enhanced public disclosures in an effort to increase market discipline.")[137] The Plan, laudably, understands that the protection of the consumer that is supported by government all but guarantees "moral hazard" problems.[138]

Obviously, in its details, the Paulson Plan invites comment, controversy, amendment and, frankly, nit picking. Given that we are very far from seeing what may ultimately emerge from the give-and-take of a prolonged political and legislative process, there is little purpose in meticulous analysis of all of the Plan's intricacies. Rather, my concern here is with its aspirations, and its more general view of what is needed to address the kinds of serious problems we have seen while facilitating a vibrant and creative American presence in the global financial marketplace. What makes the Paulson Plan interesting and impressive is that, for the first time, the government is attempting to look at something more malleable and adaptable to the constantly changing financial realities by utilizing ideas from other economies and recognizing the need to use these new regulatory systems to enhance our ability to operate within the global markets. It has been suggested that the regulators are looking at this as "a push to move from our current system of regulation — often known as 'rules-based' — toward a 'principles-based' approach,"[139] one that is less stifling and cumbersome and at the same time open to flexibility and fast adaptation to new financial improvements. Only time will tell if the Plan will make it.

IV. THE SUBPRIME MORTGAGE CRISIS AND THE THEORY OF AGENCY

A. Disclosure and Efficient Markets

In the wake of one of the worst financial crises in decades, the

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[137] *Id.* at 158.

[138] *Id.* at 157.

[139] Surowiecki, *supra* note 113, at 26. For example, the author describes the differences between football, as a strict rules-driven game, and soccer, with its more flexible, principle-based approach and a referee who has a lot more leeway in decision making during the game. *Id.*

questions that arise are: Do we need more substantive regulation or do we need the means to require full and adequate disclosure of facts coupled with meaningful compliance enforcement? Is the Paulson Plan or any other regulatory variation essential, or can we create an environment of market discipline without it?

A fundamental principle of finance is the "efficient market" hypothesis, described by Eugene Fama (considered the father of the hypothesis) as "the simple statement that security prices fully reflect all available information."[140] First proposed in 1970, Fama revisited and reaffirmed its principles in 1991.[141] Central to the hypothesis, and the working of an efficient market, is the availability of information to the investing public.[142] It seems counter-intuitive, particularly in an era of instant global communications, that financial institutions and the other players in the complex derivatives marketplace have generally played their game close to the vest, avoiding disclosure of detailed information relating to the array of "fabricated derivatives" traded at enormous sums.[143] Indeed, it was not until 1998 that the Financial Accounting Standards Board (FASB) adopted a minimal disclosure standard, requiring businesses to declare the value of their derivatives holdings and add those values as assets or liabilities to their financial statements.[144]

Clearly, we all suffer and pay a price when very large, "mega" sums, whose very size necessarily carries implications for the global economy, are traded for the convenience of a thin market of institutional investors with little or no public disclosure of meaningful information, dealing in arcane securities whose

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[140] Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. OF FIN. 1575 (1991) [hereinafter *Efficient II*]; *see also* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. OF FIN. 383, 388 (1970) (defining the concept of market efficiency and suggesting three types of efficiency, "strong, semi-strong, and weak," with the strength being directly proportional to the amount of available information).

[141] *See Efficient II*, *supra* note 140, at 1575.

[142] *Id.*

[143] John W. Milligan, *Disclosure Standoff*, BANKING STRATEGIES, July-Aug. 2002.

[144] FIN. ACCOUNTING STANDARDS BD., SUMMARY OF STATEMENT NO. 133, ACCOUNTING FOR DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES (1998).

> This Statement establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts, (collectively referred to as derivatives) and for hedging activities. It requires that an entity recognize all derivatives as either assets or liabilities in the statement of financial position and measure those instruments at fair value.

Id.

credit-worthiness is established by the fiat of institutional ratings agencies. Given the fact that all derivatives are ultimately dependent upon the "real" value of their underlying assets and are directly subject to the vicissitudes of the market for those real assets, the need for readily available and widespread dissemination of clear information concerning those assets is imperative. In the absence of meaningful disclosure in derivative markets, there are few resources for individual investors to use to understand what the derivatives and the real assets underlying them are, how the financial engineering of the assets affects their pricing, and, more importantly, how the institutionalized rating agencies generated the credit ratings for those derivative securities.[145] If the aim of financial analysis is risk evaluation and risk management, that aim is subverted in a system that precludes dissemination of the information necessary for a useful determination of risk. The system instead relies on the improbable notion, referred to above,[146] that return on investment can operate independently of risk.

One need not have a conspiratorial world view to appreciate the extent of the cloud on information that marked the trading market in derivatives in general and in the subprime mortgage related securities specifically. One simple manifestation of the blatant disregard for the investors' need to know arose in connection with the Bear Stearns debacle in March 2008, as its then chief executive officer denied rumors of the company's liquidity problems two days before disclosing that the company was to be sold at a discounted price because of its "liquidity crisis."[147]

It is interesting to note how, once the situation reaches crisis proportions, the participants and their supporting entities seek to place blame on one another. Thus, it was suggested by a leading securities lawyer that "[t]he financial crisis we're in today stems from the invention by Drexel Burnham Lambert of the junk bond. . . . You can draw a straight line from Drexel Burnham to the financial world today."[148] Certainly, "junk bonds," created by

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[145] BASLE COMM. ON BANKING SUPERVISION AND THE TECHNICAL COMM. OF THE INT'L ORG. OF SEC. COMM. (IOSCO), RECOMMENDATIONS FOR PUBLIC DISCLOSURE OF TRADING AND DERIVATES ACTIVITIES OF BANKS AND SECURITIES FIRMS 13 (1999).

[146] *See supra* Part I A, pp. 11-14.

[147] Landon Thomas, Jr., *JPMorgan and Fed Move to Bail Out Bear Stearns,* N.Y. TIMES, Mar. 14, 2008.

[148] Andrew Ross Sorkin, *Junk Bonds, Mortgages and Milken*, N.Y. TIMES, Apr. 29, 2008, at C1. This suggestion was made by Martin Lipton, senior partner and cofounder of the Wachtell, Lipton, Rosen & Katz law firm. *Id.*

Michael Milken at Drexel Burnham in the early 1980's,[149] were a hit on Wall Street at the time and have since been blamed for a variety of financial and moral ills.[150] But junk bonds were a manifestation of financial orthodoxy: Milken based the concept on the fundamental financial axiom that the higher the risk, the higher the expectation of reward. The bonds that he created were indeed very risky and accordingly carried an extremely high coupon.[151] But there was no secret as to their nature as the very name, "junk bonds," warned the investor that this was a high risk investment. The investor understood that the eighteen percent coupon carried with it the risk that the issuer could collapse and the investment value could be wiped out. Simple and yet brilliant in their inception, junk bonds took over the market because a significant number of risky ventures[152] that could not get traditional financing could be funded through those bonds.[153] As

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[149] *Company News; Milken Out Of Jail After 22 Months,* N.Y. TIMES, Jan. 5, 1993, at D6 [hereinafter *Company News*]. Mr. Milken "has spent the past two decades trying to rehabilitate his image after pleading guilty to six felony counts of securities fraud and conspiracy, paying [$1.1 billion] in fines and spending 22 months behind bars." Sorkin, *supra* note 148, at C1. It is not at all clear that his legal problems arose simply from his junk bond creation and activity; rather his crime appears to have involved unlawful inside trading. *Company News*, *supra* note 149. Nevertheless, the perceived disaster of the junk bonds and market turbulence has been linked together and attributed to him. *Id.* During this time Milken "earned $1.1 billion from 1984 to 1987, including $550 million in 1987 alone." *Id.*

[150] *See* Richard W. Stevenson, *'Junk Bonds' Cause Loss at Insurer,* N.Y. TIMES, Apr. 3, 1990, at D1 (discussing the losses faced by companies, specifically First Executive Corporation, due to junk bond problems).

[151] The formula used to determine the coupon was based on elements such as the basic prime, the risk-free interest rate, and length to maturity (the assumption is that the longer an asset is available on the market, the more there is potential for it to default). The higher the risk component of the bond, the higher the percentage addition to the coupon, so that at a time that a conventional U.S. Treasury bond might carry a 3.76% coupon, a high risk company would issue a 'junk' bond with a coupon of 10.7%. John Waggoner, *Slowing Economy Scuppers Junk-Bond Funds,* USA TODAY, Feb. 7, 2008, at 2B.

[152] *See* John Greenwald, *Predator's Fall: The Collapse of Drexel Burnham Marks the End of a Money-Mad Era of Hostile Takeovers, Lavish Living, and Heedless Disregard for Debt*, TIME, Feb. 26, 1990, at 46; Sorkin, *supra* note 148 ("The list of companies that would not exist without [Milken] is long: MCI, CNN and Turner Broadcasting (now part of Time Warner), Barnes & Noble and Occidental Petroleum, just to name a few.").

[153] The high-risk, high-yield junk bonds were widely used to finance corporate takeovers during the 1980's. *See* Greenwald, *supra* note 152 (noting a record setting total of $236 billion from takeovers in 1986 and highlighting specific mergers backed by junk bonds, including the merger of Gulf Oil and Chevron in 1984). The inevitable and ultimate collapse of the junk-bond market worsened the nation's savings and loan crisis because many troubled thrift institutions had invested heavily in the speculative securities. *See* Daniel P.

it happened, and as was to be expected, some ventures collapsed quickly, some succeeded, and in some cases the risk and real possibility of default did not catch up with the ventures for several years.[154]

On its face, the subprime mortgage market would appear similar to the junk bond market, in that by its nature, as loans to higher risk borrowers, subprime mortgages have a higher risk and should therefore carry a higher return. The difference, however, is more significant than the similarity. While a corporate junk bond represented a direct obligation of a high risk venture, such that the investor could know precisely what entity incurred the interest and principal obligations of the bond, at the heart of the subprime crisis was a new derivative in the form of financially engineered "mortgage baskets." These "mortgage baskets" were sold to other financial institutions in new smaller "baskettes" with a convoluted scheme of "re-rating" them. Instead of a subprime mortgage standing alone, being perceived as a high-risk, high-return investment, the "baskette" was seen as *low*-risk, high-return. This perception, as to the nature of the derivative securities, was fostered and maintained by the fact that the "real" assets underlying the securities were real estate and the widely held belief that the real estate market was perpetually upward moving.

In short, the "diversified" basket, in which diversification mitigates risk, was fundamentally not diverse. Furthermore, the components, albeit separate mortgages, were of subprime caliber and entirely dependent on a rose-colored view of the real estate market. Fixated on a non-existent diversity and a market assumption based on wishful thinking, the raters and evaluators discounted the disastrous possibility of a real estate market downturn wreaking havoc on the assets underlying the "derivative basket," leaving those instruments valueless.

In order to facilitate the secondary market in mortgages, and thereby encourage banks to lend on the strength of mortgages that could then be sold on the secondary market, the United States created two quasi-governmental entities to provide

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Hann, *Emerging Issues in U.S. Corporate Governance: Are the Recent Reforms Working?*, 68 DEF. COUNS. J. 191, 191 (2001); Deirdre Fanning, *The Executive Life; The Enduring Charm of the Drexel Mystique*, N.Y. TIMES, Nov. 25, 1990, at 325.

[154] *See generally* Greenwald, *supra* note 152 (discussing the collapse of the junk bond market by focusing on the rise and fall of Drexel Burham Lambert Group, the firm that pioneered junk bonds).

"liquidity, stability, and affordability" in the housing market.[155] Fannie Mae was created in 1938 as part of the Federal National Mortgage Association under the National Housing Act.[156] Freddie Mac, a shareholder-owned entity, was chartered in 1970 by Congress in the Federal Home Loan Mortgage Corporation Act.[157] However, these facilitating entities appear to have facilitated "one of the great financial disasters of all time, posting billions of dollars in losses with no end in sight," and they were involved in a major accounting scandal, while rewarding senior management with tens of millions of dollars in compensation.[158] The Fannie Mae/Freddie Mac fiasco represents a gross distortion of the theory of agency, a concept that was first embraced by the financial economists in the 1970's to explain the relationship of agent and principal and, by extension, the role of corporate management.[159]

B. Moral Hazard and the Subprime Mortgage

In short, there is an issue of "moral hazard," and the consequences of managerial misbehavior. A special case of "moral hazard" stems from the reality of asymmetrical information - the failure of disclosure that fuels opportunistic behavior. This kind of behavior occurs most readily in an environment in which there is no mechanism or incentive to compel full disclosure.[160] While

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[155] *See* Subchapter III – National Mortgage Associations of the National Housing Act, 12 U.S.C. § 1716 (2006) (stating the purposes of the National Mortgages Association subchapter of the National Housing Act as providing residential mortgages with liquidity, stability, and affordability); *see also* Fannie Mae, Annual Report (Form 10-K), at 1 (Feb. 27, 2008) ("Fannie Mae's activities enhance the liquidity and stability of the mortgage market and contribute to making housing in the United States more affordable. . . ."); FREDDIE MAC, INFORMATION STATEMENT AND ANNUAL REPORT TO STOCKHOLDERS 1 (2008) ("[Freddie Mac's] mission is to provide liquidity, stability, affordability to the U.S. housing market.").

[156] *See* 12 U.S.C. §§ 1716b-1723i (2006); Fannie Mae, *supra* note 155, at 1.

[157] *See* Federal Home Loan Mortgage Corporation Act, 12 U.S.C. §§ 1451-1459 (2006); FREDDIE MAC, *supra* note 155, at 1.

[158] Joe Nocera, *A Mission Goes off Course*, N.Y. TIMES, Aug. 23, 2008, at C1. *See* Jeremy W. Peters, *U.S. Files Charges in Fannie Mae Accounting Case*, N.Y. TIMES, Dec. 18, 2006 (discussing charges filed against Franklin D. Raines, J. Timothy Howard and Leanne G. Spencer, three former top executives of Fannie Mae, accusing them of manipulating Fannie Mae's books to produce multi-million dollar bonuses).

[159] *See* MICHAEL C. JENSEN, A THEORY OF THE FIRM: GOVERNANCE, RESIDUAL CLAIMS, AND ORGANIZATIONAL FORMS 137 (2000).

[160] *See, e.g.,* Louise Story, *In Bear Stearns Case, Question of an Asset's Value,* N.Y. TIMES, June 20, 2008, at C1.

conceding that valuation of the subprime mortgage derivatives is a difficult and sophisticated process, the institutional traders have not hesitated to act as if there were no significant valuation problems.[161] Valuing derivative assets is not easy, but then again, there are enough tools in finance to facilitate such an endeavor, or at least attempt to. Disclosing the process of valuing them might make things more obvious to the public at large whose money is at stake in these investments.

More broadly, "moral hazard describes a situation where parties behave differently because they do not expect to bear the full consequences of their actions."[162] The problem arises because an individual or institution feels that there will be no consequences for their actions, and therefore has a tendency to act less carefully than it otherwise would, leaving another to bear the consequences of those actions. This is one explanation of the reckless behavior of Fannie Mae's management, who acted under the assumption that the government would bail them out when disaster struck.[163]

The concept of moral hazard can be applied to the subprime mortgage crisis because the financial institutions that loaned the money to the borrowers of subprime quality knew that they would benefit from the investment as long as the real estate market continued to grow. By creating the baskets of subprime derivatives, they passed on the risk of a downturn to others (assuming, if all else failed, they could count on the government

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> [I]nside Bear Stearns, the answer was anything but clear last spring for investors who put their money into two giant, but ultimately doomed, hedge funds.
>
> Two executives who oversaw the funds, Ralph R. Cioffi and Matthew M. Tannin, did not disclose that the funds were plunging in value until it was too late, the authorities say. On Thursday morning, the pair surrendered to federal agents and were charged with nine counts of securities, mail and wire fraud.

Id.

[161] *See, e.g., id.* ("In February, Credit Suisse found a group of employees who had bumped up the value of mortgage assets by $2.65 billion during the fourth quarter last year and through the start of this year. The employees were fired.").

[162] Tom Vanderwell, *Tom Vanderwell on Moral Hazard*, RC3.ORG (July 22, 2008), http://rc3.org/2008/07/22/tom-vanderwell-on-moral-harzard/.

[163] *See* Holden Lewis, *'Moral Hazard' Helps Shape Mortgage Mess*, BANKRATE.COM (Apr. 18, 2007), http://www.bankrate.com/brm/news/mortgages/20070418_subprime_mortgage_morality_a1.asp?caret=3c. ("If you sell flood insurance, people will build on flood plains. If you make airbags and anti-lock brakes standard in all cars, people will drive faster and tailgate more closely. If you introduce fat-free cookies (fat-free, but still loaded with calories), people will eat more cookies than before, and get just as fat.").

to bail them out).[164]

What we have here is a moral hazard chain of behavior which began with unlicensed mortgage brokers who pushed risky mortgages on unsuspecting and unqualified buyers; the lending institutions, aware of the risk, sold those mortgages to investment banks that packaged those mortgages into derivative securities that were supposed to hedge and mitigate the risk associated with them; the various sellers of these packages sold them to unsuspecting investors all over the world.[165] Finally, we can throw into the mix the rating agencies that did not want or did not know how to rate the complex securities properly. It all worked quite well until the underlying real estate market bubble burst and we found ourselves in the midst of a global financial crisis.

One can readily sympathize with the eager homeowner who was convinced to incur a clearly imprudent and unsuitable loan, and see the need to use government money to help prevent the loss of a family home. But, if not done carefully, this type of aid will in effect eliminate any accountability by the lending institutions who entered willingly into these risky situations; it would, while helping the homeowner who had been perhaps preyed upon, also bail out the financial institutions that exacerbated the problem and shield their investors, who bought those risky securities, from the consequences of a losing bet. [166] Ultimately, instead of a bail out, if the combination of these consequences of opportunistic and predatory behavior were allowed to run their course, leading to a meltdown, it might not

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[164] Lawrence Summers, *Beware Moral Hazard Fundamentalists*, FIN. TIMES, Sept. 23, 2007 ("In the financial arena the spectre of moral hazard is invoked to oppose policies that reduce the losses of financial institutions that have made bad decisions. In particular, it is used to caution against creating an expectation that there will be future 'bail-outs.'"). However, Summers concludes that government bail outs are a positive result of financial crises and offers a formula for government bailouts:

> First, are there substantial contagion effects? Second, is the problem a liquidity problem where a contribution to stability can be provided with high probability or does it involve problems of solvency? Third, is it reasonable to expect that the action in question will not impose costs on taxpayers? If the answers to all three questions are affirmative, there is a strong case for public action.

Id.

[165] *See, e.g.,* Grant McCool, *Ex-Credit Suisse Brokers Accused in Fraud Scheme,* REUTERS, Sept. 3, 2008, *available at* http://newsdaily.com/stories/n03522215-auctionrate-creditsuisse/.

[166] *See* Lewis, *supra* note 163.

be such a bad thing.[167]

Congress and regulators, in their attempt to clean the mess left behind by this financial crisis, must consider the role of the theory of agency, and more specifically moral hazard, in planning a protective world for the financial consumer in the future. Laws must be passed that protect the consumer without simply rescuing financial institutions that disregard their duty, and continue to create financially engineered assets to pass on the risk to others.

CONCLUSION: DISCLOSURE, COMPLIANCE AND CURE

There is no magic formula to avoid financial downturns. In general, it is the free markets, unencumbered by regulations, that are more creative and experience the fastest growth. At the same time, free markets lead to a pattern of higher volatility than regulated markets and an equilibrium that seems to be constantly moving; this volatility is a price we should be willing to pay for the economic freedom and growth that it fosters. A heavily regulated market might have lower volatility, but it is also more cumbersome and slow in developing new and creative financial products that stimulate growth. The solution to our financial problems is not to invest our resources in a new and restrictive system of regulations that is not flexible enough to keep pace with a complex, innovative and increasingly global financial world. Rather, we must create an environment that will promote full disclosure to all market participants that in turn will lead to serious monitoring of financial institutions, rating agencies, and related entities, resulting in severe discipline for noncompliant behavior.

If we accept the premise that full disclosure is essential to keep financial entities honest and to allow informed decision-making by the investing public, we need to create a regulatory structure that will encourage disclosure and tools that will aid self-enforcing compliance. While adequate disclosure requirements can readily be created, the more difficult task is to create an environment in which compliance is preferred to noncompliance, in which a self-enforcing mechanism is more efficient and effective than external compulsion. As is frequently the case, we need both the carrot and the stick.

Compulsion, in the form of specific regulation and the legal

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[167] *See* Summers, *supra* note 164.

mechanism to enforce them, certainly can be a valuable tool. However, in reality, substantive regulation often appears too late as an after-the-fact remedy, inadequate to deal with future problems. A scheme directed to the current array of sophisticated instruments might simply serve to encourage the creation of even more sophisticated newer versions outside the regulatory scope. Moreover, so far, while the legal system may be directed to blatant individual wrongdoing, there is little directed to the personal responsibility of the management of the entities that create the havoc.[168]

It is clear that for there to be meaningful regulation, responsive to the needs of the future without unduly restricting financial growth and creativity, any regulatory scheme must focus on creating an environment that encourages and rewards the full disclosure that is necessary both to the operation of efficient markets and to the maintenance of fundamental fairness in the market. Optimally, any such scheme must provide for vigorous and meaningful penalties for non-compliance. Thus, in mandating full disclosure of risk and the nature of securities, there can also be monitoring mechanisms which would include random sampling of the contents of the manufactured "baskets," to determine what they actually contain and the quality of the ratings assigned to them. Conduct such as knowingly mispricing complex instruments, knowingly withholding information as to risk, knowingly proceeding to market complex and volatile products without an appreciation of the consequences are all ultimately breaches of fiduciary duty to the public and to the various components of the financial and real estate markets, and should be treated as such.

The United States financial real estate market and its mortgage derivatives have incurred losses that, in global scope and consequences, exceed the savings and loan crisis of the 1970s. The current subprime mortgage crisis was precipitated by the weakening of the real estate markets, coupled subsequently with the tightening of the mortgage markets. It is easy to blame the derivatives for this financial disaster, just as it is easy to demand

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[168] *See* Sorkin, *supra* note 148 ("Toward the end of every bubble, people misuse the financial tools at their disposal, and then a witch hunt begins for the villain. Then, of course, the regulators jump in and try to fix things - and often go a bit overboard."). The author describes Milken's concern that more "regulation will send the economy into an even deeper funk. The biggest financial companies have every motivation to push for more regulation to quash competition, the way they did of him in 1990 . . . ." *Id.*

more and stricter regulations for the financial real estate market and its related branches. However, we must remember that the savings and loan crisis of the 1970's was in part a direct reaction to the strict regulations imposed much earlier on the banking industry. It is the deregulation reform that started in the 1980's that helped in the recovery of the banking industry. Similarly, in the last decade, there has been a growing global recognition of the need to re-evaluate financial regulatory systems. Consider, for example, the tri-partite structure of the relatively new regulatory system in the UK which loosened the reins on the financial system, reorganizing it more efficiently, and contributing to the recent UK economic growth.

The problem we encounter in the current subprime mortgage financial crisis is a direct result of inadequacy, corruption, and lack of disclosure. The inadequacy arose when those who created mortgage derivatives did so without fully understanding the ramifications of these instruments so that they were unable to price them correctly. At the same time, the rating companies had neither sufficient information nor the skill to evaluate these instruments properly in determining their appropriate credit rating. The inadequacy was exacerbated by the hubris that assumed that the direct relationship between high risk and expected high return doesn't apply to these investments; that as long as the real estate market keeps moving upward, additionally fueled by the entry of sub-prime buyers, the high return will keep on being generated and the risk will be nonexistent. The problem was then amplified by unqualified and unlicensed mortgage brokers, who either did not fully understand or had no misgivings about leading people into mortgage products without fully disclosing the potential risk associated with these products. Coloring it all is the phenomenon of government-backed mortgage institutions and other financial institutions that did not feel compelled to disclose to the public the risk involved in the mortgage backed instruments in which they were invested. The subprime mortgage crash now looks more like the well known pyramid scheme that benefits the people who set it up and invest at the onset, and when it all unravels the rest of us are left to pay the price of cleaning up the mess.

My purpose here is not to propose a specific scheme, as much as to highlight the problem of regulation as a magic bullet. Whatever its merits, the Paulson Plan does recognize that the issue is too complex for a simple drafting exercise or for a single legislative one-size-fits-all remedy. As discussed, much of the

problem concerns the very social and economic environment in which the subprime debacle occurred and any solution must also be directed to that environment.