PERVERSE INCENTIVES: RISK TAKING AND REFORM

Aaron J. Unterman
Perverse Incentives: Risk Taking and Reform

By Aaron Unterman*

History will view the period leading up to today’s financial crisis as a period of unjustifiable excess. A period in which greed overtook reality and the developed world suspended disbelief in order to indulge in unprecedented and unsustainable levels of consumption. The financial crisis, which has been described as a perfect storm, insinuating the intersection of random magnifying events, is actually the unwinding of the largest asset bubble and financial industry expansion in history. The financial crisis was preceded by an era of unparalleled growth and prosperity in the developed world. However, this period of unbridled optimism has come crashing to a halt, and it is clear that the global economy is in the midst of a severe readjustment that will change the face of commerce. As we shall see, this economic bubble was the result of disequilibrium that attached inflated value to assets, instruments, and individuals and diverted financial resources to less productive uses of capital. The bloated financial industry, credited with ensuring the most efficient allocations of capital, has failed and drastically new approaches are necessary to rein in an industry overwhelmed by greed. Much of the greatly lauded financial innovation that drove markets leading up to the crisis has turned out to be little more than mechanisms to avoid regulation and accumulate risk. According to Nobel Laureate economist Joseph Stiglitz:

The fact of the matter is that most of our financial market’s creativity was directed to circumventing regulations through creative accounting so that no one, not even the banks, knew their financial position, and tax arbitrage.¹

Evidence of the collapse of the financial system is abundant, and this author has dealt with the progression of the downfall in previous works.² The investment banking industry, once the proud symbol of America’s economic prowess, has ceased to exist and most of the nation’s largest and systemically important financial institutions are no longer viable without government support. The contagion from the financial market failure to the real economy has been devastating, and in what can only be described as a true injustice, taxpayers are being forced to devote billions to the bailout of the same institutions that caused the crisis. Allowing major institutions to profit from irresponsible financial dealings and then intervening only when the consequences of their actions are manifest bails out those responsible for this financial disaster, inevitably with taxpayer money, and has the effect of privatizing profit and socializing loss. Most unfortunate is the fact that many people who will feel the brunt of economic pressures had nothing to do with the greedy behavior that was its impetus, did not share in the benefits, and were largely unaware of the ongoings. The tragically unfortunate irony is that the honest working class citizen struggling to keep his home may have his tax dollars paid out in bonuses to those responsible for the crisis.

* Aaron Unterman is an associate in the financial services department of Osler, Hoskin & Harcourt LLP specializing in structured finance and various types of financings and restructurings. He holds an LLM in international business and economic law from Kyushu Imperial University in Japan and an LLB from the University of Victoria in Canada. The author welcomes any questions, comments, or criticism and can be contacted at auntermannoterman@osler.com. The views expressed herein are those of the author and do not represent the views of Osler, Hoskin & Harcourt LLP.
The common theme that ties the financial crisis (and this article) together is one of misguided incentives that pervaded the finance industry and perverted the actions of individuals and institutions resulting in a global crisis with severely deleterious social effects. In the world of finance, the greatest way to achieve a dramatic increase in wealth is to take large risks, of course, this is also the easiest way to lose it. A great deal of the so-called financial innovation that we experienced preceding the crisis was devoted to finding ways to take on as much risk as possible. In the financial world, risk-taking is known by the more innocuous term “leverage”. Generally speaking, regulators of financial institutions usually focus on reducing the leverage institutions incur. This is done through capital standards that require firms to hold reserves against the transactions that they undertake. The rise of off-balance sheet instruments, credit default swaps (CDS), and the spectacular risk-taking of individuals in the financial industry are all connected to the great rewards available through risk-taking.

The first section of this article examines the incentives that encouraged financial institutions to assume as much risk as possible through the originate-to-distribute model and use of off-balance sheet instruments. It will then deal with financial compensation of industry members and how it encourages short-term risk. This section will conclude by arguing that the recent wave of government bailouts has created new mis-incentives, which, if left unaddressed, will create persistent market dysfunction. In the second section, we will investigate the often misunderstood and misrepresented CDS industry and how it has revolutionized the incentives of the financial industry. The mis-incentives pervading the finance industry caused complex financial instruments to thrive as they provided tremendous short-term gain while longer term risks were neglected. This article will examine how this behaviour is being reinforced by the government bailouts extended to the financial institutions most involved in accumulating extreme risk. As we go forward, it is imperative to realize that the government bailouts we are witnessing engenders a moral hazard by allowing institutions and their creditors to rely on government aid. Although this may be a necessary evil undertaken to prevent a total economic collapse, the lessons of this crisis must be used to facilitate the evolution of the economy into a financial system in which private rewards and social returns are in alignment.

**Financial Mis-Incentives**

The US subprime mortgage market meltdown, the catalyst of the current financial crisis, resulted from the lack of incentives to originate good quality credit inherent in the originate-to-distribute model. The risk transfer achieved through the securitization of credit obligations resulted in extremely inadequate monitoring of borrowers as originators became detached from risk of default. In the subprime market mortgage, originators were able to transfer all risk of loss, creating a misalignment of interests with investors. Unfortunately, this led to the deterioration of credit underwriting standards but did not succeed in distributing risk to those more capable of handling it. At the height of the finance bubble, credit risk transfer became more of a regulatory arbitrage tool than a means to disperse risk to those most suited to hold it. The methods used to achieve the securitization process flourished from a mis-incentive inherent in the regulation of financial institutions. This in turn encouraged the migration of assets and liabilities to off-balance sheet instruments to avoid capital charges.

The use of off-balance sheet instruments emerged as a way to insulate investors from the threat of bankruptcy by an asset provider by legally transferring assets to a bankruptcy-remote entity. This protection facilitated greater access to credit for businesses and individuals. However, in many cases the driving force behind the use of off-balance sheet instruments became regulatory
arbitrage, as this transfer reduced capital requirements of institutions selling investments\(^4\) and decreased disclosure and other regulatory obligations. The supposed virtue of off-balance sheet instruments was that they allowed risks traditionally held and monitored by banks to be dispersed to a diverse set of investors, reducing the risk of financial shocks. In reality, these instruments were manipulated to allow financial institutions to accumulate more risk, encouraging negligent lending practices and illusory risk transfers.\(^5\) Institutions sponsoring off-balance sheet instruments provided large credit enhancements and guaranteed liquidity lines, continuing their economic exposure to these instruments. These commitments were not adequately recognized for the purposes of regulatory capital requirements, allowing banks to expand their balance sheets and take on more leverage. This regulatory arbitrage allowed banks to maintain balance sheet risks without the capital requirements. Contributing to the regulatory failure was a total mispricing of risk incorporated into traditional capital requirements. This resulted in less capital being required for some highly risky subprime collateralized debt obligations (CDOs) than necessary for loans to all but a tiny fraction of the world's most reliable companies. Leading up to the financial crisis, financial firms held 48 percent of AAA-rated CDOs on non-prime mortgages, although these instruments were designed to transfer credit risks from these institutions to capital market investors.\(^6\) These failed complex financial instruments misrepresented risk and diverted funds from true economic function to investments essentially created to game capital requirements by maintaining less capital for instruments with higher rates of return.

Relying solely on capital requirements neglected the huge emerging risks associated with the off-balance sheet economy. Going forward, far more comprehensive credit evaluation is necessary to truly appreciate total risk exposures of individual banks and the banking system as a whole. Plans are underway for the implementation of new international accounting standards that will have the effect of consolidating off-balance sheet instruments and subjecting them to regulatory and capital requirements.\(^7\) There is no policy reason for allowing structured products to escape the regulatory and transparency requirements applied to publicly traded securities. Increasing capital requirements to account for the true liabilities attached to off-balance sheet entities would also reduce incentives for financial institutions to accumulate debt obligations without undertaking proper due diligence. The market has lost faith in the originate-to-distribute model and to restore confidence originators must take meaningful steps to ensure the quality of assets underlying structured finance products.

**Compensation**

As the financial crisis progresses, the financial gurus and Wall Street executives, once thought to be our best and brightest, have been exposed as individuals who amassed staggering levels of personal wealth through extreme risk-taking. These trailblazers of a new and more efficient financial system capitalized on illusory economic bubbles and left the taxpayers to pay for their greed. It is clear that one major cause of the financial crisis was the employee incentive systems in place that allowed individuals to reap massive personal gains while simultaneously creating huge hazards to the economic system.

This system, which stimulated the bubble era of finance, encouraged high-risk behavior in search of short-term gains and did not promote long-term growth, stability, or true economic wealth. According to Martin Wolfe, Chief Economist of the *Financial Times*: 
The distorted system of compensation at many financial institutions is based on large bonuses awarded annually based on performance during that year to motivate high rates of business. This allows members of the investment industry to profit in good times but not share the losses in bad times and all the while encourages unchecked risk-taking. The short-term nature of the industry is such that, at the end of 2007, when the financial crisis had become apparent, people were still receiving record-setting bonuses.

The most unfortunate aspect of this quandary is that the taxpayer, who has witnessed unnecessary economic destruction created by blatant financial irresponsibility, has actually been forced to pay bonuses (larger than most earn in a lifetime) to the very people who concocted the financial meltdown. So greedy and distorted has the finance industry become that failed firms have abused government bailout funds—intended to prevent the systemic risk of the collapse of these firms—by using them to pay employee bonuses. Furthermore, these bonus payments, reluctantly exposed by the Federal Reserve, demonstrate a continuing disassociation from reality on the part of industry participants. The fact of the matter is that individuals’ actions have had a devastating impact on their companies and the global economy as a whole. Whether the continued sense of entitlement is a disingenuous cash grab or a true misunderstanding of the destruction created through greed is anyone’s guess. The financial remuneration of employees within the financial system must be drastically reformed to ensure that such liberties will not continue to be taken.

The current incentive compensation model is clearly not in alignment with shareholder interest and, as the credit crisis exposed, is not geared toward long-term performance. Going forward, employee compensation should be closely related to protecting shareholders’ interests and long-term, firm-wide profitability. One obvious solution is to compensate the performance of investments, not the amount of business done. A trader should not be rewarded for selling or investing in toxic CDOs if they will be worthless a year later. This could be achieved by deferring incentive compensation and awarding bonuses in the form of restricted stock, required to be held for a designated period. Alternatively, bonuses could be paid into cumulative pools to be held for a medium term and fluctuate based on the success of investments. Funds within such a bonus pool should subtract bad performances from strong ones and could also be used to pay any damages arising from negligent investment advice or shareholder losses. As a whole, incentives in the investment industry should be geared toward long-term success and stability. Bonus heavy compensation encourages unnecessary risk-taking and consideration should be given to increasing base salaries, while reducing bonuses and subjecting them to clawbacks for investments or transactions that subsequently sour. The costs of risky employee behavior must be incorporated into compensation systems through the accounting for leverage just as financial institutions must be required to pay for risk-taking activities through capital standards. Individuals should have their compensation based not only on the profits that they achieve but also on the risks to which they subject their institutions. In the current system, there is no limit to the bonus that can be earned but the downside risk is limited to a zero bonus; therefore, there is incentive to use as much leverage as possible to multiply profit. Furthermore, greater public disclosure of compensation should be required to allow all stakeholders to evaluate whether rewards are justified for the success that has (or has not) been achieved. Without a significant
change in mentality, the financial industry’s blind pursuit of profit will continue, as will the cycle of economic bubbles and subsequent failures.

The last gasp of the financial industry to hold on to disproportionate financial compensation has been to claim that any move to restrict rewards will lead to a drain of the industry’s talent base or flight to foreign jurisdictions offering greater rewards. Realistically, we are in the midst of a severe global economic crisis; the eye of the storm squarely over the finance industry suggests that it is unlikely that the labor market will be heating up in any other developed countries anytime soon. The theory that exorbitant levels of compensation are necessary to retain talent is disingenuous, given the current state of the finance industry. The industry is in the process of shrinking and will emerge from the crisis far less bloated. There will be fewer jobs in finance and, at least in the short-term, greater competition for jobs, which will allow talent to be recruited at lower compensation levels. If the eventual result of lower compensation levels is to divert some of our best and brightest from the finance industry to other fields, this would likely not be detrimental to society.

The end result of the tremendous amount of valuable human resources previously devoted to the finance industry has raised the legitimate question of whether we really want our best and brightest concentrated in an industry that may not be the best social return of their talents. A prescient speech given by Nobel Laureate James Tobin in 1984 shortly before the beginning of a period of unprecedented global economic expansion observed the following:

I [suspect] we are throwing more and more of our resources, including the cream of our youth, into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity.14

In the future, we must consider whether the same level of talent should be dedicated to developing overly complex highly risky financial instruments when deciding whether to place restrictions on compensation in the industry.

The Bailout

The mantra of capitalism has always been that of minimal state intervention with proponents preaching deregulation. However, state inaction actually facilitated greed and the creation of a fundamentally unsustainable financial system that relied on the foolish assumption of permanent asset price increases. It subsequently failed and took the global economy along with it. Now as we witness wide-scale and exorbitant government bailouts,15 it is clear that stricter regulation is necessary across the globe. Private firms demonstrated a total lack of discipline in boom times, and when the consequences of their actions became evident, governments intervened with the public’s money to bail them out. This is unacceptable on a number of levels but, as mentioned previously, what is most reprehensible is that it allows the wealthy to prosper at the expense of the everyday taxpayer. Without intervention, it is likely the entire US financial system would have been pushed into insolvency, creating greater harm to the economy than the prolonged recession and inflationary pressures that the bailout will create. Yet an unfortunate effect of the huge government bailouts is that they reinforce the types of mis-incentives that created the crisis. Although devoting taxpayer money to bailout the system prevented a total economic collapse, it rewarded firms that evoked the crisis through greed and inepitude, providing public support to institutions that bask in the rewards of irresponsible risk-taking.
The accumulation of risk that threatened to collapse the global financial system arose because firms lacked incentives to reduce their exposures to it. Only firm-specific risks were accounted for in capital considerations, and there was no inducement to reduce systemic exposures for the greater good. Not only have there been no penalties imposed for creating systemic risk but also, in light of recent government bailouts, arguably there was actually incentive to take risks in order to reach the status of a systemic threat to the economy (as opposed to being just a minor failure) because of an implicit “too big to fail” policy on the part of the US government. Evidence documenting this includes irresponsible financial firms that did not even attempt to raise enough capital to ensure their survival or even cover their losses. Even more egregiously, certain firms continued to pay cash dividends, depleting their capital until they were bailed out (or in some cases allowed to fail).16 Bailouts create moral hazards on the part of institutions and investors engaging in these risky behaviors as they anticipate a government rescue. The “too big to fail” policy, engrained in US economic practice, encourages institutions to become so large or systemically important that the market gives them the benefit of the doubt that they will not fail. Another contrary incentive this creates is to encourage companies to deteriorate into an unresolvable state so as to gain taxpayer assistance. Whether it be a potential aquiror or a company faced with tough operational decisions, it may be favorable to allow the company to deteriorate so as to glean a rescue package.17 These mis-incentives extend to creditors gambling on firms being too big to fail. They were rewarded at the expense of the taxpayer, creating an anti-competitive situation whereby creditors that either misevaluated risks or, worse, relied on an implicit guarantee that the government would not allow large systemically important institutions to fail essentially had their investments guaranteed by the taxpayer.

The government’s bailout creates a permanent ethical threat that requires systemically important institutions to be regulated. In this regard, it is essential that they are governed by a special regulator who monitors them as well as the economic risks created by their cumulative activities and interconnectedness. It has been further suggested that all systemically important institutions under the purview of such regulations should be required to have at least one regulator on their board of directors.18 It is too late to turn back on this policy; instead, institutions that generate systemic risk and receive implicit support must compensate the government for this protection. To quote Stiglitz, “those who impose costs on others (externalities) must be forced to pay those costs. This is not just a matter of equity; it is a matter of economic efficiency.”19 In the short-term, a market price should be placed on the value of the government guarantee of systemically important institutions and this price should be acknowledged and borne by those who benefit from it through insurance-style payments or taxes. Furthermore, to prevent the depletion of capital resources by these firms, eligibility requirements should be established to draw on government liquidity facilities such as maintaining maximum leverage and minimum capital ratio requirements.20 Institutions that have been relatively successful should be rewarded as opposed to throwing money at the least successful institutions just because they are large and bloated. Therefore, more onerous requirements should be placed on liquidity extended to institutions in financial disarray. Generally, recapitalization should be far more conditional, including replacement of management, limits on executive compensation and bonuses, and additional voting rights for government.21 Importantly, institutions that are insolvent and no longer viable should be wound up or nationalized lest we subject our economies to the zombie bank syndrome that afflicted Japan during its lost decade.22 Going forward, a solution must be developed to discourage institutions from exposing the economy to systemic risks. One essential method is the improvement of capital requirements to more accurately reflect the levels of risk that institutions contribute to the economy. However, in light of the extensive public funds that
have been devoted to systemically important institutions and implicit protections they have been
granted more innovative approaches are also necessary. In this regard, firms should be required
to pay for the risk that they contribute to the economy through a special tax that could be
contributed to a systemic risk fund. Furthermore, there should be a mandatory purchase of
insurance for systemically important institutions. This insurance could be provided through the
designated systemic risk regulator. This regulators analysis of institutional risk levels could
determine appropriate premiums for each regulated institution based on exposures and
contribution to economy wide risks.

The CDS Debate

Credit default swaps (CDS) are a spawn of the explosion of structured finance and have become
central to the reform debate. These instruments, along with their over-the-counter (OTC)
cousins, represent one of the greatest sources of earnings for the world’s most sophisticated
financial institutions. What was once an obscure instrument known only to the financially
erudite has become an intrinsic part of the credit crisis vocabulary. The media, politicians, and
the public alike have seized upon these instruments, blaming them for the destruction of the
global economy, while CDS proponents have credited them with preventing a total collapse.
When misused, CDS provide an archetypal example of the mis-incentives that precipitated the
global financial crisis. This market, which peaked at $62.2 trillion in 2007, provided tremendous
private rewards to participants though their economic value is questionable.

The CDS industry allows market participants to hedge financial positions or speculate on the
probability of the default of corporations, securitization transactions, or any other entity that
could fail to meet its obligations. CDS are derivative instruments that allow a “protection buyer”
to acquire protection against the default (or in derivative industry terms a credit event) stemming from a debt or class of debts (known as the reference entity) from a “protection seller”
in exchange for a periodic fee. The debtor on the referenced obligation is usually not a party to
the swap and in most cases is entirely unaware of the transaction. The CDS industry has played
a large role in credit markets offering a means of hedging or gaining risk exposure. They have
also been incorporated into more complex SF instruments like CDOs. In addition to this risk
transfer function, CDS provides credit information and price discovery to the market through the
pricing of CDS. This information proved to be a far more useful gauge of risk than credit ratings
throughout the credit crisis. However, CDS are bilateral contracts traded over the counter and
therefore not subject to securities regulation. As a result, the growth of the industry has suffered
from a serious lack of transparency, particularly with regard to overall risk exposures of
counterparties, and this has caused tremendous instability in the global financial market. The
much maligned former Chairman of the Federal Reserve, Alan Greenspan, espoused the virtues
of credit derivatives, believing them essential to the stability of the US and global economies.
Greenspan asserted that the systemic benefits of the market were so important that any regulation
that might hinder market growth should be avoided. This unregulated climate sanctioned by
Greenspan created perhaps the single most prolific financial market growth in history. The end
of 2007 saw the notional amount of outstanding derivatives contracts reach $454.4 trillion.
With regards to CDS, the outstanding contracts represent many multiples of the underlying
corporate bond market.

There is a great deal of confusion surrounding the CDS market, and those with private interests
have seized upon this to essentially defer any criticisms as misunderstandings by unsophisticated
commentators. However, it is clear the CDS have played a large role in the financial crisis. The
essential debate surrounding them is whether they reduce or magnify risk, and the remainder of
this article will attempt to shed light on this industry that has taken centre stage in the financial
crisis.

Notional vs. Real Exposure

The astounding notional amount of CDS that has so frightened the public has been disputed by
the industry and used as proof of the layperson’s misunderstanding of these instruments. At the
peak of the CDS market, there were $62.2 trillion in contracts outstanding. Industry proponents
have repeatedly asserted that this number is the product of double counting, which is partly true.
This astonishing number comprises all CDS contracts outstanding. Dealers in the CDS game will
often enter into offsetting hedges by entering into a new contract with a third-party seller of
credit protection. In this case (assuming that the market behaves properly and there is no threat
of a counterparty failure), the party who sold the initial credit protection has essentially
transferred that risk to a third party. If the underlying reference entity were to default and a swap
was triggered, the third party would pay the dealer who would pay the protection buyer. In
economic terms, the effect would be a payment from the third party to the original protection
buyer. However, because there are two contracts outstanding, there would be notional amounts
of double the CDS outstanding. Although the outstanding risk exposure is less than the notional
amount of derivatives, to draw the conclusion that there are not extreme risks would be a
mistake. According to the Depository Trust and Clearing Corporation, when the aforementioned
multiple recording is discounted, the notional amount of CDSs outstanding is a humble $25.6
trillion,\(^\text{32}\) approximately double the US GDP.

The notion that CDS markets “net to zero” is a common defense to any claims of systemic risk.
In every CDS contract, one of the two parties will receive money without any leakage; therefore,
there is no potential for loss, only transfers of wealth. However, the case of AIG demonstrates
that this zero netting does not protect against a systemic market collapse. Had AIG not been
bailed out, the parties that bought credit protection would have liquidated the collateral held by
AIG to support their CDS obligations. This would have rendered the already insolvent company
very insolvent, and the vast majority of protection buyers would have been out of luck. So the
end result of this “zero netting” would be a severely bankrupt company and zero protection
payments. This certainly appears to be an economic loss. These chains of CDS contracts also
create concentration risks. This market is believed to be a zero sum game with losses incurred by
protection sellers matching gains by protection buyers.\(^\text{33}\) Yet there is a tremendous concentration
of risk within the CDS market with the ten largest participants accounting for nearly 90 percent
of the $45 trillion outstanding notional CDS value in 2007.\(^\text{34}\) This concentration is what led to
the unprecedented bailouts of CDS counterparties.

Risk Dispersion vs. Risk Concentration

The espoused virtue of the credit derivatives market was its ability to diffuse risk to a diverse set
of investors well-suited to handle it, thereby reducing the likelihood of financial shocks. CDS
allow financial institutions to protect or hedge against their credit risk exposures. For example, a
lender or bondholder that becomes concerned that it is overexposed to an entity that it views as a
credit risk can reduce or eliminate said risk by entering into a CDS contract. Unlike a traditional
loan, CDS contracts are easily transferable and are often not held until maturity but can be traded
to profit from changes in fees charged, which occur when the market’s valuation of the risk of
default for a reference entity changes. For example, if a CDS contract is written on a company
that is viewed by the market as a high credit risk, the fees for writing protection would be very high. If the company’s risk of default decreases (through improved financial performance or receipt of government bailout funds), this contract could be sold for a profit, as the fees to write protection would have decreased. Because these contracts are independent of the underlying bond issuers, they offer flexibility to offset emerging risks at any time. In this way, CDS can be a very useful tool to manage credit risks and ensure financial stability of protection buyers. However, the nature of the CDS industry is that one party’s risk reduction is another’s risk exposure, and it is the protection sellers in the CDS market that have created severe systemic risks to the global economy. The explosion of CDS has magnified systemic threats due to the concentration of risk in a few main counterparties and the transfer of risks to parties like hedge funds, which didn’t have the capacity, or capital, to contain them.

The major danger of derivatives exposed by the financial crisis is that of failed counterparties. The failure of a major protection seller could trigger a meltdown and have devastating effects on the value of hedges, requiring potentially huge balance sheet write-downs. A large proportion of the bailout funds discussed in the first section have gone toward preventing the reverberations of the failure of a major CDS counterparty. AIG, which ran an unhedged protection selling book, is a prime example of the dangers to the financial system that CDS can pose through the concentration of credit risk. If not for the unprecedented US government bailout, AIG, which on the basis of its AAA credit rating was able to sell more than $447 billion in predominately unhedged credit protection,35 would have been wiped out and likely taken counterparties with it. The running price tag of the AIG bailout is a staggering $182.5 billion.36 Not surprisingly, the vast majority of these bailout funds have gone directly to CDS counterparties. It has recently been revealed that $93.2 billion of bailout funds has flowed to financial institution counterparties including Goldman Sachs, Société Générale, and Deutsche Bank.37 Reports suggest that, even after the bailouts and settlements that have occurred, AIG still has $300 billion in unfunded net notional exposures.38 Notwithstanding the enormous sums of taxpayer money required to buttress CDS counterparties, the market has remained stable to this point in the crisis. This has been the major argument in favour of CDS, that the market has withstood one of the worst financial crisis in history, remaining operational and liquid. This is given as proof of the stabilizing influence that CDS have on the economy. However, it is extremely difficult to dispute that, if not for government bailouts, the CDS market would have collapsed. Without billions of taxpayer dollars there would certainly have been a run on protection selling counterparties.

As the financial crisis affects the real economy and the recession worsens, corporate defaults will rise, putting tremendous pressure on protection sellers and the derivatives industry in general. A major source of concern will be the ability of the CDS market to absorb corporate defaults. The intensifying increase in defaults possesses a significant risk to a market already facing severe stress. Historical rates of default on investment grade and junk bonds is 1.25 percent. At this level, $500 billion of CDS will be triggered, leading to possible losses of up to $250 billion after recovery for sellers of credit protection.39 Standard & Poors has forecast that US high-yield corporate default rates will reach an all-time high of 13.9 percent in 2009.40 Increasing corporate defaults have the potential to cause the collapse of protection sellers as increasing numbers of reference entities default. Corporations can have multiples of their outstanding debt wagered in the CDS market, and a large corporate default could threaten derivative counterparties. If a corporation and seller of protection against that corporation were to default simultaneously, the underlying premise of risk transfer through CDS is destroyed and instead becomes an exercise in risk magnification.41 Bailout funds to this point have gone toward providing collateral for CDS
contracts and unwinding trades. However, once credit events begin to occur in greater quantity (and they have), protection sellers will be required to make huge payments that they do not have the money for. The business model of collecting fees to provide credit protection under the assumption that defaults will never occur clearly had no chance of being sustainable. Lack of any regulatory reserve requirements for CDS protection sellers has quickly become one of the most expensive mistakes in history, and in many cases, sellers of credit protection are vastly undercapitalized.\textsuperscript{52} For example, hedge funds, which are major players in the CDS market, carry leverage ratios approximately triple that of commercial banks.\textsuperscript{43} Furthermore, the devastation occurring in the financial market is leading to low recoveries on debt (and therefore higher protection seller payouts), which puts a great strain on protection sellers.\textsuperscript{44} It has been suggested that losses due to the inability of protection sellers to make good on their CDS contracts could reach a sum of $158 billion.\textsuperscript{45} The lack of capital reserve requirements for CDS whose payout function is very similar to an insurance contract is patently creating serious difficulties in the market.

Furthermore, just as the originate-to-distribute model removed the motivation of originators to monitor borrowers, so too does the use of derivatives distort credit monitoring as creditors can pass off risk to protection sellers, which may be in a worse position to monitor and evaluate credit risk. CDS limit downside risk and encourage financial institutions to increase lending but reduce incentives to do so responsibly. Creditors that have default protection may also lose incentive to monitor debtors.

As discussed, the CDS market was created to allow companies to reduce risk exposures through hedging to ensure that they did not accumulate unmanageable or unwanted levels of risk. However, the evolution of this market has seen these instruments become tools for speculation and regulatory arbitrage. The market now has volumes of three to four times the underlying debt obligations and with as much as 80 percent traded by investors that do not own the underlying bond, it is clear that the market is largely driven by speculation. It is this speculation (often equated to gambling by the media) that has led to astronomical losses at many institutions. The case of Lehman Brothers provides an example of a situation in which losses were magnified through the $400-$500 billion of outstanding CDS referencing Lehman debt. It is estimated that between $250-$350 billion of this amount was not hedging the underlying debt but rather used for speculative purposes. Therefore, the Lehman bankruptcy resulted in $600 billion in losses to bondholders and an additional $250-$350 billion was lost by sellers of credit protection to speculators.\textsuperscript{46}

Defenders of the CDS market assert that there is no distinction between the assumption of credit risk through lending money to a company or writing a protection swap on the debt of such company. The obvious difference is that because of the lack of meaningful capital charges much more leverage is used and therefore much greater risk is assumed. Banks often use CDS as a means of avoiding capital charges and have provided incentives for risk-taking. CDS are unregulated and do not have any reserve requirements for the insurance provided by protection sellers. It is estimated that only 2 percent to 5 percent of the amount insured is set aside in case of a credit event.\textsuperscript{47} There is also concern that regulatory arbitragers encourage risk transfer to market participants subject to lower standards and regulation.\textsuperscript{48} Hedge funds can sell protection without including the liability on their balance sheets.\textsuperscript{49} In addition, whereas a loan is a transfer of funds to a productive use, a synthetic assumption of risk through the CDS market is not a truly
productive use of capital. It is a symptom of a bloated financial industry when money used to hedge or speculate on credit risk exceeds that used on loans to the real economy.

Although CDS are supposed to reduce market risk by dispersing it to those most capable of handling it, the opposite has occurred. Instead risks have been concentrated and transferred to parties with inefficient resources to make good on their commitments or properly evaluate credit risks. Although, there is a role for CDS as a means of protecting against credit risk, this instrument has been abused and has had the opposite effect on the market.

Restructuring Risks

As we enter a recessionary period, the ability of the market to preserve the value of troubled firms through restructurings is essential to the economy. However, the explosion of CDS has changed the dynamics of such arrangements. A recent report on derivatives describes the situation as follows:

One of the great strengths of the financial system has been its capacity to organize and execute restructurings for troubled but viable countries and companies. Such restructurings typically occurred through groups of primary creditors having a major financial interest in the outcome. To the extent such primary creditors now use the credit default swap market to dispose of their credit exposure, restructuring in the future may be much more difficult.\(^{50}\)

A creditor of a company teetering on bankruptcy may behave differently if it has purchased credit protection through a CDS. A creditor that has bought CDS protection may have incentive to put a reference entity into bankruptcy in order to settle a contract. If a company defaults, the swap holder may be entitled to a full payment even if it recovers one hundred cents on the dollar. Therefore, CDS may increase the risk of involuntary bankruptcy filings as maturity dates approach on outstanding swaps.\(^{51}\) This disincentive to keep a troubled company operating as a going concern could undermine fundamental motivations for successful restructurings. The growth of credit risk transfers makes it very difficult for creditor committees to determine the true economic exposure of various stakeholders. It will be much more difficult to predict the behavior of competing creditors without requiring that petitioners disclose their swap positions.\(^{52}\) The performance and effects of CDS in a recessionary period have yet to be truly tested and restructurings are another area which may be adversely affected.\(^{53}\)

Interestingly, CDS qualify as eligible financial contracts and survive a stay in bankruptcy, which could be to the severe detriment of all secured creditors. It remains to be seen the effect that this exception from bankruptcy legislation may have but it is not difficult to envision this being used as a means to manipulate the system. For example, rules that prevent preferential transfers within three months of a bankruptcy prevent debtors from sending preference to creditors by posting new collateral do not apply.\(^{54}\) Therefore, instead of posting additional collateral under a credit agreement, a party could post additional collateral under a swap contract that would terminate upon bankruptcy, releasing the collateral. These and other issues will change the dynamics of restructurings and could pose a challenge to successful workouts.

Reform of the Over-The-Counter Derivatives Market

While the CDS market does provide a legitimate tool for hedging risk that, if used properly, could contribute to a more stable financial market, it has unfortunately had the opposite effect by
creating huge risk concentrations and posing a pervasive threat to the global economy. In no uncertain terms this is a result of a conscious and costly decision not to regulate the industry. The derivatives market has grown to astonishing heights as a self-regulating industry under the purview of the International Swaps and Derivatives Association (ISDA). Representatives of the ISDA board of directors\textsuperscript{55} include many of the same institutions that collected illusory gains from the trade and subsequently suffered catastrophic losses. It is obvious this self-regulating institution does not possess the discipline to independently oversee the market. Allowing the derivatives market to proceed in this manner is essentially equivalent to allowing investment banks to self-regulate the securities industry.

There is a clear need for the establishment of a regulator over the derivatives market. The Group of Thirty has recommended that such a regulator govern all parties that create two-sided markets as well as all systemically important protection sellers and intermediaries. Such a regulator would be charged with developing and promulgating rules regarding risk management practices, the reporting of trades, collateral requirements, and measures to increase market transparency.\textsuperscript{56} Comprehensive, internationally coordinated oversight of this industry is essential to future economic stability, and there is no reason why derivative transactions should not also be governed by the legislation similar to that applied to bonds and loans. This should include the registration of transaction documentation for derivative contracts entered into, published through a public disclosure service.\textsuperscript{57} Reporting should extend to disclosing significant counterparty exposures in order to allow all interested parties access to the requisite information to evaluate CDS risk exposures. Disclosure of swap positions should be mandatory so that market participants have some idea of the exposures and risk that counterparties face. For disclosure to be meaningful, there is also a need for the development of private non-bank firms to specialize in monitoring and assessing credit derivatives.\textsuperscript{58} There is no economic or policy reason for allowing these transactions to be unregulated and the size, volatility, and complexity of the market demands immediate supervision.

Protection sellers should be required to hold more capital and be subject to closer supervision of underwriting standards for new products.\textsuperscript{59} All sellers of credit protection should be subject to greater regulation, including insurance-industry-style capital reserves. Furthermore, imposing limits on counterparty risk exposures would encourage diversification and limit the potential domino effect of a major counterparty’s failure.\textsuperscript{60} The need to standardize derivative products and develop a central clearinghouse for trades has been recognized by regulators and market participants. The development of a central clearinghouse will reduce counterparty risk by requiring appropriate margin requirements and mark-to-market evaluation on a daily basis.\textsuperscript{61} A central counterparty should act as a guarantor of all trades and each bilateral CDS contract should be broken into two separate contracts with the clearinghouse in the middle and include standardized margin requirements on all deals.\textsuperscript{62} A clearinghouse of this nature must come under the purview of a regulator that should create rules requiring insurance industry style capital reserves.

The Federal Reserve Bank of New York, major derivative market participants, and international supervisors have all begun efforts to improve the infrastructure of the OTC derivatives market by developing a central clearinghouse for derivatives trades.\textsuperscript{63} In mid-March 2009, nine major banks began using Intercontinental Exchange Inc.’s New-York based clearinghouse for credit derivatives, and during the remainder of that month $50 billion in CDS were cleared. Rival clearinghouses have been established by CME Group Inc. and NYSE Euronext.\textsuperscript{64} Provided that these firms maintain
adequate capital reserves, this should reduce uncertainty and the risk of a major counterparty failing. The plan is also intended to increase standardization and automation of credit derivative trade processing and improve risk management oversight. It must be recognized that, if improperly managed, such institutions could actually concentrate risk and it is essential that appropriate regulation and risk management be implemented to ensure that reliable regulatory infrastructure is created. The nature of the parties involved in the clearinghouses also raises serious questions as to the impartiality that can be expected from clearinghouses owned by the same financial institutions dominating derivatives trading. Without significant oversight and transparency there is potential for market manipulation and anti-competitive behavior.

The derivatives industry has proliferated even as the global credit markets have entered a serious downturn. Allowing this growth to continue unchecked poses an unacceptable risk to the world market and urgent action is needed to reign in this massive industry. As with off-balance sheet instruments, we can no longer afford the CDS market to operate in the shadows and a regulatory system should be established with rules and market oversight.

**Conclusion**

We remain at the mercy of the worst financial crisis since the great depression and the economic pain that has resulted is far from over. This crisis was caused by greed, irresponsibility, and short sightedness. The global community must learn from these mistakes and use this opportunity to achieve meaningful reform. The blind pursuit of profits at all cost may provide temporary periods of economic expansion but these do not last, and their benefits can disappear in the blink of an eye. A global collective re-thinking of our economic goals must be undertaken and hopefully more sustainable policies which do not facilitate greed will be the result. We have entered a new and complex economic era which offers benefits, but these can only be harvested through a more disciplined and responsible approach to finance.

**Notes**

3. Stiglitz, supra n.1, at p.3.
5. Large accumulations of transferred credit risk found its way back to the balance sheets of the largest and most reputable North American and European banks, creating unexpected write-downs and losses. In addition to contractual obligations to provide liquidity support not being properly accounted for, in many cases credit risks transferred by banks were re-assumed even though there was no obligation to do so in order to preserve reputations.
9 The two most shocking examples are Merrill Lynch’s award of $3.6 billion in bonuses shortly before it was taken over by Bank of America, a company that received more than $45 billion in bailout funds. See Testimony of Kenneth D. Lewis Chairman and CEO of Bank of America before the Committee on Financial Services, US House of Representatives Washington, DC, Feb. 11, 2009. $20 billion of these funds along with $118 billion in asset guarantees were provided to facilitate the acquisition of Merrill Lynch. These 2008 bonus came as a reward for the company’s loss of a combined $35.8 billion over 2007 and 2008, a figure that erased the previous 11 years of earnings. These bonuses along with other awarded prior or concurrently to the receipt of bail out funds have disingenuously been defended as not coming from bailout funds, although clearly less bailout funds would have been required had the bonuses not been paid. Gretchen Morgenson, “After Huge Losses, a Move to Reclaim Executives’ Pay” (February New York Times, www.nytimes.com. The current outrage is the payment of large bonuses to the disgraced derivatives trading division of AIG, which succeeded in destroying one of the largest financial institutions in the world and running up a tab of $182.5 billion and counting on the US taxpayer. Timothy R. Homan and Margaret Chadbourn Summers, “U.S. Lawmakers Lambaste AIG Bonus Plan as ‘Outrageous’” www.bloomberg.com, Mar. 16, 2009.
12 Id.
13 NYU, supra n.6, at ch. 7.
16 NYU, supra n.6, at ch. 14.
17 It has been suggested that some systemically important institutions may have intentionally failed to make plans for bankruptcy to attract a taxpayer-funded bailout. See Kenneth M. Ayotte & David A. Skeel Jr., “Bankruptcy or Bailouts?,” University of Pennsylvania Law School, paper 268, year 2009.
18 NYU, supra n.6, at ch. 5.
19 Stiglitz, supra n.1, at 17.
20 NYU, supra n.6, at 14.
21 Id.
22 Propping up insolvent institutions instead of allowing them to fail has been blamed for the long recessionary period in Japan that began in the early ’90s from which the country has never really
recovered. There is a great deal of literature available documenting Japan’s economic woes that followed the bursting of its real estate and equity bubbles.


25. These statistics were published by the International Swaps and Derivatives Association and are available at http://www.isda.org/press/press041608market.html (ISDA).

26. The 2003 ISDA definitions for credit events include bankruptcy, restructuring, failure to pay, obligation acceleration, obligation default, and Repudiation or Moratorium (for sovereign), available at www.isda.org.


28. An example of the use of CDS to insulate lenders from risk can be taken from the Enron saga. It is estimated that the banks financing Enron entered into more than 800 swaps worth $8 billion to offset their losses on the company’s collapse. See Frank Partnoy & David A. Skeel Jr., “Nineteenth Annual Corporate Law Symposium: Debt as a Lever of Control: The Promise and Perils of Credit Derivatives,” 75 U. Cin. L. Rev. 1019, 7.


30. ISDA, supra n.25.


36. As of April 2, 1999.


38. Joseph Mason, “AIG is a Hedge Fund—and so are Large Impaired Banks” (Mar. 6, 2009), www.rgmonitor.com.

39. Although CDS are treated as insurance in the restructuring of the Delphi Corporation, protection buyers received 36.62 percent per contract, not 100 percent. RGE, supra n.33.
40. Standard & Poor’s “U.S. Corporate Default Rates Forecasted to Reach All-Time High of 13.9% in 2009” (Jan. 23, 2009), www.standardandpoors.com/ratingsdirect.
41. According to Bankruptcy expert Stephen Lubben:
   In a credit default swap transaction, the protection buyer gives up the risk of default by the debtor and takes on the risk of a concurrent default by both the protection seller and the underlying debtor. While risk of mutual default is likely remote, especially given the strong credit quality of many swap dealers, it is not inconceivable that a major corporate default could cause one or two financial institutions severe financial distress.
Lubben, supra n.27, at 5.
42. For example, ACA Financial Guarantee sold $69 billion in CDS protection with only $425 million in capital. When the company was downgraded below “A,” it was unable to meet its requirement to post further collateral. The protection buyers agreed to temporarily waive the additional collateral requirements. Subsequently the company was downgraded to “CCC.” Reducing the value of the CDS contract and likelihood that buyers of credit protection would be paid on the occurrence of a credit event of a reference entity. Satyajit Das, “Surreal Realities of the CDS Markets—Part 1 & 2” (Jan.16, 2009), RGEMonitor.com.
44. The failure of Lehman Brothers generated recovery of only 8.625 percent on the outstanding debt, requiring protection sellers to ante up 91.375 percent. Other examples include Washington Mutual, which recovered 57 percent, and the three failed Icelandic banks, which recovered only 1.25 percent - 6.625 percent. Das, supra n.42.
45. Id. at 3.
46. Id. at 41.
48. Id.
49. Lubben, supra n.27, at 405.
51. Lubben, supra n.27, at 11.
52. Id.
53. SF restructurings are further complicated by the fact that principal and interest may be separately allocated with different tranches having different priorities regarding to losses and prepayments leading to what is called “tranche warfare.” Steven L. Schwarcz, “Protecting Financial Markets: Lessons from the Subprime Mortgage Meltdown,” 93 Minn. L. Rev., Issue no. 2, 2008-9, (forthcoming), at 22. Difficulties may also arise with SPV structures that do not allow modifications without triggering the early release of collateral or violating legal requirements. The Role of Credit Rating Agencies in the Structured Finance Market in Hearing Before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Entities, House
Committee on Financial Services, 110th Cong. 137 (Sept. 27, 2007), (statements of Julia Whitehead and Sean Mathis) at 141.


55. Bear Stearns, UBS, Citigroup, BNP Paribas, and Royal Bank of Scotland have representatives on the 16 member board and have suffered heavy losses due to the derivatives trading. For a list of ISDA directors and officers, please see http://www.isda.org.

56. G30, supra n.7.

57. Partnoy, supra n.28, at 1047.

58. Id. at 1051.


61. Roubini, supra n.11, at 8.

62. NYU, supra n.6, at Ch. 11.
