

THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF ECONOMICS

AIG: MISCONCEPTIONS, PRECIPITATING FACTORS IN GOVERNMENT BAILOUT,
AND IMPLICATIONS FOR THE FINANCIAL INDUSTRY

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Spring 2011

A thesis
submitted in partial fulfillment
of the requirements
for a baccalaureate degree
in Economics
with honors in Economics

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ABSTRACT

The failure and subsequent bailout of American International Group was the first of its kind in United States history. The decision of the Federal Reserve to rescue the company has been criticized since day one, especially given the popular sentiment that AIG was brought down by credit default swaps. This paper provides an in-depth exploration of AIG, its history, its operations, and its failures. I propose three areas as the precipitating factors in the bailout: regulatory gaps, internal failures and executive compensation. These sections are further broken into divisions exploring pertinent subtopics for ease of reading. I conclude the paper by briefly discussing what can be learned from the AIG crisis and its implications across the financial industry.

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I. INTRODUCTION

In 2008, American International Group was one of the largest publicly traded companies in the world. It held more than one trillion dollars in assets. Yet, by September 2008, the company's liquid assets available to meet quickly mounting collateral calls on its securities lending and credit derivatives businesses dwindled to nine billion dollars. Regulators prevented cash from flowing from insurance subsidiaries to the holding company, rendering the majority of AIG's cash and cash-equivalents useless to its troubled subsidiaries (FCIC, 2011, 344). Thus, \$20 billion in collateral calls triggered by AIG's ratings downgrade in September 2008 brought the company to the brink of bankruptcy (Sjostrom, 2009, 962). The Federal Reserve stepped in and provided a line of credit to the company that grew to \$182 billion by the end of the financial crisis.

Misconceptions abound as to how AIG came to near collapse. Most of these misconceptions contend that credit default swaps were the sole cause of all AIG's troubles. Were it not for the credit default swaps market, or had this market been better regulated, the company would not have suffered. Proponents of this view believe that restructuring the market for credit default swaps will likely remove all risk of such an event recurring in the future. In reality, the problem was not that simple and the solution not nearly as clear.

In this paper, I will explain why the problems at AIG are not as simple as meets the eye and address the various factors that came together to cause the spectacular failure of the company. Specifically, the paper will proceed in sections. Section II will provide the background information needed to understand AIG and the complex markets in which it operates. Sections III, IV, and V will address the various causes of the company's failure: regulatory gaps, internal

failures, and compensation structure, respectively. Lastly, section VI will provide a look at the lessons learned from AIG's experience and address possible ways to avoid a similar situation in the future.

II. BACKGROUND INFORMATION

To better understand the precipitating events of the bailout of American International Group, it is important to develop background knowledge. In this section, I will discuss the history of AIG. This history will include foundations of the company business model as well as development of its subsidiaries and the details of its eventual government rescue. Further, I will give a primer on the financial markets leading up to the financial crisis, with emphasis on those products and markets that became problematic for AIG.

COMPANY HISTORY AND OPERATIONS

American International Group was not always the behemoth publicly traded company it is today. Its roots date back to 1919, when American Asiatic Underwriters, a small insurance operation opened by Cornelius Vander Starr, was formed. AAU underwent various transformations and rapidly grew until 1967, when American International Group was officially incorporated in Delaware. Upon incorporation, Maurice "Hank" Greenberg was named chief executive officer. Greenberg took the company public in 1969. In 1976, AIG was organized into four operating segments: a brokerage division of domestic general insurance, an agency division of domestic general insurance, foreign general insurance, and life insurance.

Each of these segments followed the same business model that had successfully served the company for half a century: aggressive evaluation and acceptance of risk. AIG used financial strength and its credit rating to successfully operate in arenas other insurers could not profitably

enter. The goal was to find both lucrative and creative solutions to policyholder problems. A culture was built in which success was rewarded and failure punished (Hampton, 2008, 1). With these core tenets in mind, the financial services division was born in 1987.

By this time, AIG had achieved a coveted status that only a handful of companies worldwide could boast—a Triple-A credit rating. Credit ratings are granted after examination by bond-rating firms and range from highest, AAA, to lowest, C or D. AIG's top ranking meant its risk of default was near zero. This rating made the AIG name synonymous with safety and security and allowed the company to borrow money at extremely low rates.

In 1986, a group of savvy businessmen from Drexel Burnham Lambert had developed a business plan to move interest-rate swaps from a short-term contract environment of 2-3 years to a longer-term contract environment lasting decades. To do so without taking on excessive risk, however, they needed the low borrowing costs that AIG offered (O'Harrow and Dennis, 2008a, 1). It was this need that drove them to target AIG as their first choice as a partner in bringing this plan to fruition. Though few people thought of AIG as a financial innovator, Greenberg agreed to a joint venture with the team in January 1987 and AIG Financial Products was born. Financial Products began with a collaborative culture and built itself on technology and skepticism. This "skepticism" meant that FP was careful about its products and encouraged all its employees to suggest possible flaws with any and all operations. Led by Howard Sosin, its employees built systems to track minute market fluctuations and take advantage of very small spreads. Meanwhile, other systems ensured that positions were constantly hedged with offsetting positions. A committee studied transactions at day's end to ensure there were no flaws in logic, pricing, or hedges. In its first year of operations, AIG FP earned over \$60 million—abbreviated MM moving forward—in revenue (O'Harrow and Dennis, 2008a, 4).

Sosin spent his six years with FP aiming to find niches his competitors had not identified and exploit them by creating cost-saving client solutions. Thomas Savage, a math specialist, took over as president of AIG FP when Sosin departed in 1993. Much like Sosin, Savage understood the importance of AIG's AAA rating to Financial Products' business model. Unlike Sosin, however, he agreed to take more direction from AIG CEO Greenberg. While much of the culture remained intact under Savage, the operating agreement changed in 1995. AIG FP became a subsidiary of AIG, retaining an additional 8% of FP's profits under this arrangement (O'Harrow and Dennis, 2008a, 9).

As companies began to replicate the services provided by AIG FP, Savage looked to Sosin's history and urged development of more complex transactions to ensure FP remained on the frontier of innovations. By 1998, Financial Products had profits of \$323MM (O'Harrow and Dennis, 2008a, 9). That year, Financial Products entered into an entirely new form of contracts—credit default swaps. These contracts were unlike Financial Products' other services. While they were risky, credit events that would force payouts were extremely rare. Therefore, the contracts didn't require assessing daily data and assumptions, counterbalancing risks, or making hedges; these were core principles of other product lines (O'Harrow and Dennis, 2010b, 3). Still, Greenberg green-lighted the new product line. It was a profitable, though small, part of AIG FP's portfolio until Savage's retirement in 2001.

When Savage left FP, Greenberg replaced him with a veteran of Financial Products, Joseph Cassano. Meanwhile, a scandal at Enron had caused some of AIG FP's product lines to become less popular. The CDS business grew under Cassano in part to make up for lost profits of other products, becoming involved with more complex and risky underlying securities

(O'Harrow and Dennis, 2010b, 7). Where they began by insuring corporate debt, they expanded to ensure default risk of reference obligations such as multi-sector CDOs.

In 2005, AIG came under the scrutiny of the New York Attorney General for its accounting practices. Subsequent investigations by the Securities and Exchange Commission prompted Greenberg to leave the office of CEO at AIG. The potential for restatement of earnings as well as Greenberg's departure prompted credit rating agencies to downgrade AIG (Cohan, 2010, 3). Martin Sullivan, a long-time employee of AIG, was appointed Greenberg's replacement. Though a large portion of AIG's portfolio relied on the company's triple-A rating, little changed under Sullivan after the downgrade. If anything, riskier bets were made without the watchful eye of Greenberg.

By 2007, AIG had grown to be one of the largest companies in the world with assets totaling \$1 trillion, revenues of \$110 billion, and 116,000 employees spanning 130 countries (AIG, 2011, 1). However, the risks taken on by the financial services division would prove too much for AIG to handle amidst the unfolding meltdown of the U.S. mortgage market and ensuing financial crisis. In May 2008, AIG's credit rating fell to "AA-". Liquidity strains worsened and both Cassano and Sullivan left their positions as AIG FP and Parent Company AIG unraveled. The final blow to AIG occurred after their departure, when AIG suffered a final downgrade in its credit rating—to "A-"—on September 15th, 2008 (U.S. Congress, 2010, 38). Clients' demands for collateral forced AIG to the brink of bankruptcy. Deemed too big to fail, the company was rescued by the Federal Reserve on September 16th, 2008. It was extended \$85 billion in loans from the government. That amount has since skyrocketed to \$182 billion in taxpayer dollars required to keep once successful AIG afloat (U.S. Congress, 2010, 7). Exactly

how AIG came to this point will be examined in great detail in the following sections of this paper.

FINANCIAL MARKETS PRIMER

In order to better understand the causes that led to the AIG bailout, it is as important to understand the instruments and markets AIG was involved in as it is to understand the history of the company. AIG, through its subsidiaries, was involved not only in insurance but in complex financial instruments including collateralized debt obligations, mortgage-backed securities and credit default swaps. It was operating not only in insurance markets but had taken on mortgage market risk. Below are descriptions of markets and instruments relevant to AIG.

COLLATERALIZED DEBT OBLIGATIONS -- Collateralized debt obligations (CDOs) are a specific form of marketable credit risk transfer. Basically, they are a type of structured asset-backed security with value derived from a portfolio of underlying assets. The underlying portfolio can either be comprised of synthetic credit risk exposures or physical assets such as bonds, loans or mortgage-backed securities (Parisi-Capone, 2007, 1).

In its most basic form, a CDO represents a promise to pay cash flows to investors. These cash flows are paid in a specific sequence based on the cash flows generated from the underlying pool of assets. The sequence in which investors are paid is determined by “tranching,” a process in which the underlying asset pool is split into risk classes with different risk/return/maturity profiles. If cash collected by the CDO is insufficient to pay all investors, the lowest tranches are the first to suffer losses.

CDOs are typically broken into four tranches: (1) equity, (2) subordinate debt, (3) mezzanine, and (4) senior tranches. Interest and principal payments are made in order of seniority, with the senior tranche being the first paid, followed by the mezzanine, subordinated

debt, and finally equity. The equity tranche is the most risky, therefore it garners the highest interest rate to compensate. However, investors with a stake in the equity tranche are the first to suffer losses should cash generated by the CDO be inadequate to pay all parties.

During the tranching process, the size of the least risky senior tranche is set to ensure a triple-A rating. The sizes of the remaining tranches are generally designed to achieve successively lower ratings (Nomura Fixed Income Research, 2004, 2). Through this design, their credit ratings are set to match their underlying risk profiles.

MORTGAGE-BACKED SECURITIES – Mortgage-backed securities (MBSs) date as far back as 1970 and are bonds backed by a pool of home or other real estate loans. Financial institutions extend these mortgage loans to borrowers and eventually either bundle loans with similar characteristics together to sell or sell them to be bundled by an arranger. The bundled loans are then securitized and sold to investors. MBS issuers typically include the Government National Mortgage Association, Federal National Mortgage Association, Federal Home Loan Mortgage Corporation, and private entities. Most market participants consider those MBSs issued by the first three agencies to be guaranteed by the government. This insulates them from credit risk, making them seem like other high-quality fixed income securities with low risk (Goldman Sachs Asset Management, 2008, 4). However, these types of securities are heavily reliant on the underwriting standards of mortgage brokers.

Residential mortgage securities (RMBS) can be backed by various types of loans with different borrower characteristics. Agency mortgages meet all usual standards with regards to loan size, documentation, and loan-to-value ratios. Jumbo mortgages exceed the agency maximum loan size. Alt-A mortgages typically rely on less documentation than agency loans. Subprime mortgages fail the agency test on two fronts, low borrower credit scores and high loan-

to-value ratios. Documentation may be lower than with agency mortgages, but is typically higher than with Alt-A mortgages (Goldman Sachs Asset Management, 2008, 9). These types of mortgages need not be pooled together—one pool can consist of multiple types of loans. RMBSs can act as the underlying assets of CDO and be tranced as such.

CREDIT DEFAULT SWAPS – Credit default swaps (CDSs) are contracts in which sellers agree to reimburse buyers against default on financial obligations of third parties, or “reference obligations.” They are basically insurance against default. In a typical transaction, a protection seller provides a notional amount of protection to the protection buyer in exchange for a premium. The contract between the protection seller and protection buyer, which is privately negotiated, specifies “credit events” such as bankruptcy upon which the protection seller must compensate the protection buyer. Credit default swaps are used for hedging, speculation, and arbitrage (Sjostrom, 2009, 950).

A significant risk to the buyer of a CDS is counterparty credit risk. The CDS seller posts collateral to the buyer to mitigate this risk, dependent on both the risk of a credit event and on the credit rating of the company. A buyer can demand more collateral if a credit event becomes more likely, but an increase in the collateral posted is not guaranteed. However, under most contracts, a downgrade in the credit rating of the protection seller will require that they post additional collateral (Sjostrom, 2009, 951). Recall that these transactions are privately negotiated such that the conditions above may not be true of all CDS contracts. Therefore, it is not only through contracts that CDS buyers attempt to mitigate counterparty credit risk, but through purchasing CDSs from entities that are inherently less risky. They determine the risk level a counterparty poses by looking to their credit rating, knowing that triple-A rated entities are on par with the federal government in terms of default risk.

CDSs are traded over-the-counter rather than on an exchange. According to the International Swaps and Derivatives Association (ISDA), the CDS market was relatively small in 2001. Only \$918 billion in notional amount of CDSs were outstanding that year. The market peaked in 2007 with more than \$62 trillion outstanding and has reduced in size since then to \$30 trillion in 2010 (ISDA, 2010, 1). The CDS market has not only evolved in terms of size, but has also changed from its inception in terms of types reference obligations. Reference obligations underlying CDSs were comprised of mostly single-name reference entities when CDSs first appeared as financial instruments. Today, the market is comprised of a more diverse mix of underlying reference obligations, including not only single-name reference entities but baskets of collateralized debt obligations and CDS index trades (Shetman and Southwick, 2006, 13).

MARKET CONDITIONS

An understanding of the instruments used by AIG is vital to understanding its issues in a broader sense. But to fully grasp the multitude of failures at the company, a framework of the overall economic climate prior to AIG's collapse is also necessary. Markets were stable in the early 2000s. Low real short term interest rates, rising home prices, and stable economic conditions paved the way for expansion of the credit market. Further, strong demand for the U.S. Treasuries and bonds drove down long-term interest rates which stimulated credit growth. Savings ratios declined and borrowing increased among U.S. consumers, and the mortgage market expanded. To keep the pace of growth, mortgage originators began to tap previously undesirable markets. Lending expanded into subprime and alternative mortgages and underwriting practices deteriorated. An increase in securitization allowed mortgage originators to more easily shift the risk associated with these loans to other parties, further encouraging growth (Mizen, 2008, 530). These investment opportunities in securitized products such as ABSs,

MBSs, and CDOs were particularly attractive to investors because of the low interest rates referenced earlier—investors were looking for ways to increase yields and thus were willing to take greater risks.

In 2006, the number of defaults on mortgages began to rise. By mid-2007, increased subprime mortgage defaults had infected the market. Countrywide Financial Corporation reported large losses and hedge funds at UBS, Bear Stearns and two large European banks were forced to shut down due to mounting subprime losses (Mizen, 2008, 533). Because of the complexity of the securitization process, it became difficult for other banks to assess their exposure to the mortgage market—some of the exposure was off-balance sheet and the market was so disrupted that market values were distorted. In addition, the effects of the defaults led to reappraisal of many other risky assets. Assets began to be downgraded and banks further questioned their exposure to losses. This uncertainty caused banks to hoard liquidity in an effort to cover potential losses. Banks refused to lend to other banks for fear of counterparty risk (Mizen, 2008, 545).

Fear expanded into a full-fledged credit crunch by 2008, when liquidity substantially declined. This lack of liquidity led to problems for many financial institutions. In mid-September 2008, short-term funding rates skyrocketed to well above their usual rates and Lehman Brothers was unable to cope, declaring bankruptcy on September 15th (Anderson and Gascon, 2009, 605). This added to financial institutions' lending fears and liquidity virtually dried up. The market conditions only began to improve after the Federal Reserve made available three liquidity enhancing programs between late September and October 2008 (Anderson and Gascon, 2009, 607).

III. REGULATORY GAPS

The background provided above makes it possible to now discuss the causes of government rescue at AIG, specifically. First, I will draw upon your understanding of CDSs and the company history to discuss regulatory gaps and the adverse effects they had on AIG.

Inconsistent regulation creates incentives for companies to attempt to gain a competitive edge. American International Group understood these incentives as well as any company; AIG's financial services division was better than most at locating and exploiting gaps in current regulation in order to stay ahead of the competition (Dennis & O'Harrow, 2008a, 9). Through the subsidiary's search, gaps were found in both securities lending processes and credit default swap markets. Taking advantage of these gaps would be one of the causes of the company's failure.

In this section, I first discuss the regulatory gaps present in securities lending that allowed AIG to back itself into a corner in terms of liquidity. I will then discuss both domestic and international regulatory gaps in the credit default swap market that led AIG to become a larger player in the industry than would have been likely otherwise. I will finally address AIG Financial Products' subsidiary status as potentially problematic.

UNITED STATES SECURITIES LENDING PROGRAM

A significant factor in the eventual demise of American International Group was the pressure the company was under to generate adequate liquidity to maintain daily operations. Contract provisions across the company triggered collateral calls that AIG could not meet with cash on hand. One of the areas the company's 2008 Annual Report points to as a substantial cause of this pressure is "[demand] for the return of cash collateral under the U.S. securities lending program" (AIG, 2009, 61). Securities lending activities for AIG's insurance subsidiaries were consolidated to a special unit that was not licensed as an insurance company, AIG

Investments (FCIC, 2010f, 4).

In its most basic form, securities lending allows one institution to lend securities to another for purposes of diversification or executing short sales. A typical transaction involves a security borrower, usually a hedge fund or trading desk, and a security lender, usually an institutional investor such as an insurance company. When the transaction takes place, the borrower has to post collateral of 102-105 percent of the security's market value with the lender. The lender invests the collateral, earning the spread between the interest earned on invested collateral and the interest paid to the borrower (Harrington, 2009, 791). As the value of the underlying security fluctuates, the collateral posting requirements of the borrower may change. A rise in the value of the underlying security will require the borrower to post more collateral. A decline in the value of the underlying security will force the lender to return a portion of the collateral (Congress, 2010, 271).

Securities lending programs are standard in the financial industry. AIG's specific program, however, had two unique features. The first was the way in which collateral was invested. This topic will be addressed in discussion of AIG's abandonment of its risk management model. The second unique feature was the collateral posting requirements considered acceptable by the company.

The specific form of AIG's securities lending program looked much like that of a custody firm or long-term asset manager, rather than an insurance company. For collateral, AIG Securities Lending Corporation, a division of AIG Financial Products, lent securities owned by several of the parent company's life insurance subsidiaries to authorized borrowers (Congress, 2010, 43). These counterparties, under normal circumstances, would usually be required to post 100-102 percent collateral on the market value of the securities.

The landscape of the market began to change, however, in the mid-2000s. Unregulated companies began entering the securities lending market. These companies were able to lend under terms that required lower capital requirements. Due to the increased competition, AIG “accepted cash advances of less than the 102 percent historically required by insurance regulators” (AIG, 2008, 84). Facilitated by an agreement with its insurance company subsidiaries, AIG Investment’s parent, AIG, posted collateral adequate to cover the deficit.

As the market began to deteriorate, and due to losses incurred in other divisions, AIG Investments began to receive collateral calls from investors involved in its securities lending operations. In desperate need of liquidity, the agreement by which AIG accepted less collateral than typical for the market was taken to the extreme. Securities lending at well below the level traditionally required by insurance regulators was used as a method to raise cash, with AIG accepting as little as 90 percent collateral on securities borrowed (Congress, 2010, 46). Because collateral posting requirements are ungoverned in the securities lending market, AIG was able to prolong its existence as a going concern by using the program to generate cash.

Under-regulation of the securities lending industry led AIG to its risky behavior of accepting less collateral than industry standards typically required, as AIG Investments’ shortfall was made up by parent company AIG when necessary. The industry environment further demanded the company’s first step toward improper activity: competitors in non-insurance industries entered the market and lowered their collateral posting requirements, forcing AIG to either follow suit or become uncompetitive. Without this regulatory gap, in which non-insurance companies were able to accept less collateral in their securities lending programs, it is hard to say whether the company would have jumped ship and accepted such extreme discounts as collateral as part of the securities lending program when it came to their desperation to meet collateral

demands in late 2008.

UNITED STATES CREDIT DEFAULT SWAP REGULATION

Regulation was also important for the disclosure of CDSs. A quick search of AIG's annual reports for the phrase "credit default swap" proves that there were definitely gaps in disclosure requirements for these derivative instruments. With the bullish markets present in 2006, the company's annual report revealed only three mentions of the phrase (AIG, 2007). Jump forward to 2007, when markets began to show weakness, and a very similar portfolio is disclosed very differently, with no less than one hundred uses of the same term (AIG, 2008). Because AIG had to explain significant unrealized losses on their CDS holdings, they were forced to disclose the risky investments that had existed under the radar for several years prior to the softening of the market.

The question then becomes what legislative decisions are responsible for the existing gaps. First, recall that credit default swaps are similar in construction to securities, commodity futures, and insurance contracts. Each of these types of transactions is usually subject to a set of uniform guidelines. Securities are governed by the Securities and Exchange Acts of 1933 and 1934, respectively. Commodities are regulated under the Commodity Exchange Act, and insurers are subject to state insurance laws (Sjostrom, 2009, 984). CDSs were conspicuously excluded from coverage under each of these regulatory instruments.

Credit default swaps were regulated under the Securities Act and Exchange Act until year-end 2000. A CDS is a put on a debt security (Glass, 2001, 1). A security, as defined by these acts, included "any... evidence of indebtedness" as well as any "put... on any security" (Sjostrom, 2009, 984). Combining these two facts, common practice was to treat credit default swaps as securities contracts subject to the rules and regulations of the Securities and Exchange

Acts. However, with the enactment of the Commodities Futures Modernization Act (CFMA) on December 21st, 2000, everything changed. The CFMA, in section 206A(b) lists exclusions from the term swap agreement that include any put on any security (Glass, 2001, 2). This act made it impossible to deem CDSs securities. Companies were then able to free the instruments from the shackles of securities regulation.

Further, the CFMA altered the regulatory environment through its effect on the Commodity Exchange Act (CEA), which governed commodity futures. The CEA's broad definition of commodity was thought to potentially include credit default swaps. This created some question as to whether CDSs were legal transactions; they were not traded on the commodity futures trading commission-regulated exchange, as required under the CEA. According to the CFMA amendment to the CEA, contracts among eligible participants for excluded commodities need not be traded on an exchange. Among the list of excluded commodities were securities, credit risks or measures, and debt or equity instrument—all of which are categories into which CDSs rightfully belong (Sjostrom, 2009, 986). Since the perception of illegality was removed from CDSs, incentive to enter into contracts undoubtedly increased.

Though there is no question that credit default swaps act as insurance, the transactions have not been governed by state insurance law for all insurance entities. According to the National Association of Insurance Commissioners State Insurance Regulation, “the fundamental reason for government regulation of insurance is to protect American Consumers” (National Association of Insurance Commissioners, 2010, 2). Since the CDS market is dominated by institutional investors and devoid of any consumer activity, regulation of CDSs as insurance would not serve the primary purpose of regulatory agents. Following this line of reasoning, New

York and several other states expressly excluded CDSs from regulatory coverage (Sjostrom, 2009, 988). However, as will be discussed below, monoline insurers were regulated by state insurance regulators due to the specific risks they were taking on.

Some of AIG's competitors, however, were subject to insurance regulation with regard to the credit protection they provided because they were "monoline." As monoline insurers, they insured only one type of risk in their operations and thus were subject to different operating guidelines than AIG. Monoline insurance companies operating in the financial products realm wrote CDSs but were forbidden under insurance regulations from paying out on contracts unless **realized** losses were incurred. Unlike these companies, AIG was able to write contracts allowing for posting of collateral upon ratings downgrades or unrealized devaluation of underlying securities (FCIC, 2011, 141). While taking advantage of this gap gave AIG a competitive edge, it also subjected them to much greater risk than their monoline counterparts who operated through a regulated market.

The explicit regulatory gaps outlined above combined to create a significantly under-regulated market for credit default swaps, especially with respect to AIG. With the introduction of the Commodities Futures Modernization Act, not only were institutions able to cease treating CDSs as securities but also any questions of the legality of CDS transactions were removed. This deregulation provided incentive for AIG and other companies to increase the size of their CDS portfolios. The expressly stated exclusion of CDSs from insurance regulation in 2004 removed what remaining worry lingered in the minds of market participants—they were free to enter into contracts without worry of regulatory consequences. Further, separate regulation of monoline insurers from other insurers created an environment fostering regulatory arbitrage.

AIG entered into the credit default swap market in 1998, but it was not until after the

Commodities Futures Modernization Act that their involvement took off. In the wake of the Enron scandal, certain derivative contracts came under attack. AIG's subsidiary, Financial Products, could no longer deal in these types of derivatives and had to make up for lost revenue (Dennis & O'Harrow, 2008b, 8). CDSs were the obvious way to do so, due to their newly hospitable regulatory environment. In concert with the exclusion of CDSs from regulation as insurance in 2004, AIG wrote its first multi-sector CDS—the very type that would prove to lead the company to its demise (U.S. Congress, 2010, 27). There is no doubt that some type of regulation of CDSs in the U.S. would have limited the severity of AIG's situation in late 2008.

EUROPEAN CREDIT DEFAULT SWAP REGULATION

World derivative regulation was also played a role in the AIG bailout. In its annual reports, the company discusses the notional amount of credit default swaps written and held. It separates this notional amount into CDSs written for risk mitigation and CDSs written “for financial institutions, principally in Europe, for purpose of providing them with regulatory capital relief” (AIG, 2008, 138). It is the second type of swap that accounted for more than half of AIG's credit default swap exposure in the years leading up to the bailout. The question then becomes how AIG was involved with the capital requirements of European banks.

The answer to this question lies in the creation of the Basel Committee for Banking Supervision. This committee was established in response to increasingly more common inter-country capital flows and integration of financial markets, which necessitated a global regulatory framework to stabilize the international financial system. In 1988, Basel I introduced a common standard of risk assessment to international banks. It required that banks maintain a minimum ratio between their capital and assets (Jablecki, 2009, 18). While the theory behind this framework is solid, the standard has not always been maintained as envisioned.

A prime example is the establishment of credit risk standards in Europe. Dino Kos, a former executive vice president at the Federal Reserve Bank of New York, asserts that “somehow European banks convinced regulators to reduce capital charges for pools of assets that were insured with financially sound third parties” (Kos, 2010, 51). They were probably able to do so because, based on actual credit experience, the usual risk capital weighting assigned by Basel I was higher than internal risk assessment by the banks suggested (Watson, 2006, 20).

Based on the relaxed regulation, AIG, a triple-A-rated insurer at the time, was able to act as a financially sound third party to European banks. Thus, banks were able to shift their credit risk to AIG and reduce their capital holding requirements. The usual risk capital weighting of 8% of the principal balance of assets could be effectively reduced to less than 2% (Watson, 2006, 20). The ability of companies to free up 6% of capital by buying CDSs all but necessitated that AIG become involved in capital relief. AIG’s involvement would improve the balance sheets of European banks, meanwhile AIG would receive what they viewed as low risk premium payments in return.

Thus, the relaxation of Basel I encouraged AIG to write more credit default swaps than they would have in its absence.

Table 1

AIG Super Senior Credit Default Swap Portfolio, 12/31/2008		
Millions of dollars		
	Net Notional Amount	Unrealized Market Valuation Loss
Regulatory Capital		
Corporate Loans	\$125,628	
Prime Residential Mortgages	107,426	-
Other	1,575	\$379
TOTAL Regulatory Capital	\$234,449	\$379
Arbitrage		
Multi-Sector CDOs	\$12,556	\$25,700
Corporate Debt/CLOs	50,495	2,328
TOTAL Arbitrage	\$63,051	\$28,028
Mezzanine Tranches	\$4,701	\$195
TOTAL	\$302,201	\$28,602
Source: AIG Annual Report, 12/31/2008		

Table 1 summarizes AIG’s holdings of credit default swaps in the year of its failure, 2008. Over three quarters of the company’s credit default swap portfolio consisted of regulatory capital swap transactions with banks across Europe (AIG, 2009, 358). These regulatory relief CDSs enabled European Banks to remove risk from their balance sheet, mostly relating to investments in corporate entities and mortgages. These two types of reference obligations represented over 99% of the total taken on by AIG for European Banks.

It should be noted that failure of AIG would have completely destroyed ALL \$300B in protection written by AIG. Given that most of the \$234B in regulatory relief transactions was held by European banks, the failure would have required European banks to raise significant capital to shore up their financial statements. The implications of failure could have included “further loss of confidence in European banks and further strains on funding markets that already were barely functioning” (Kos, 2010, 52).

Therefore, AIG was rescued in part to avoid worsening the global financial crisis. There is no doubt that the company’s position with regard to regulatory capital credit default swaps was

a threat to the global economy. Regulatory gaps within the Basel I framework were the underlying reason this position developed. The risk associated with the European banking sector certainly weighed on the conscience of regulators in declaring the necessity of the AIG bailout.

SUBSIDIARY STATUS - AIG FINANCIAL PRODUCTS

When asked about the downfall of AIG, those involved in the market point to two things: credit default swaps (discussed above) and the subsidiary responsible for those contracts, AIG Financial Products. Ben Bernanke, chairman of the Federal Reserve, was particularly critical of the regulatory environment surrounding Financial Products. Bernanke declared AIG FP a “hedge fund... attached to a large and stable insurance company.” (U.S. Congress, 2010, 26)

As a subsidiary of AIG, Financial Products was not subject to insurance regulation. Further, as a non-depository institution they were not stringently regulated by the Office of Thrift Supervision (OTS) like other deposit-holding subsidiaries of AIG. Early in the 2000s, however, the European Union demanded new rules for consolidated supervision of holding companies’ subsidiaries. The Financial Conglomerates Directive required that conglomerates not operated in the EU have a consolidated supervisor that focused on capital adequacy, intragroup transactions, risk management, and internal controls (GAO, 2007). For the United States, the Office of Thrift Supervision took on this role.

By 2005, the OTS had convinced the EU that it could serve as the consolidated supervisor for AIG and its subsidiaries. Still, there remained confusion over the supervisory role of the entity with regard to the Financial Conglomerates Directive. Though some review of AIG FP’s holdings was conducted between 2005 and 2007, it was minimal due to lack of resources at the regulatory entity. One of the directors at the OTS admitted that he didn’t understand the OTS’s responsibilities, which resulted in Financial Products falling through a regulatory gap

(FCIC, 2011, 350). The organization was a weak regulator at best. Their “supervision” allowed for a false sense of security in that people believed all of AIG’s subsidiaries were effectively overseen, though this was not the case.

IV. INTERNAL FAILURES

Regulatory gaps played a significant role in the ultimate failure of AIG, but perhaps more important are the internal failures the company experienced. Management lost sight of its original vision and business model. Further, they abandoned their once incomparable risk management model in the search for greater profit.

In this section, I will specifically address AIG’s risk management failures as it concerns the company’s securities lending program and credit default swaps. These weaknesses were noted by auditor PricewaterhouseCoopers in February 2007, months before disclosure of any weakness was made public and also well before the government bailout (FCIC, 2010a, 5). I will further examine the reliance of AIG on its credit rating. The effect new executives had in the overall business model failure will briefly be discussed.

SECURITIES LENDING AND COLLATERAL INVESTMENT

The issues with AIG’s securities lending program were addressed above, in the section on regulatory gaps. However, there are also other questionable practices directly related to this program that contributed to AIG’s liquidity issues. While the primary objective of AIG’s securities lending program was stated as “[protecting] principal value of cash collateral received and [maintaining] adequate liquidity,” the secondary goal seemed to have taken over the primary goal in the years leading up to the crisis. This secondary goal was to “provide incremental income... through prudent and risk-controlled investment practices” (FCIC, 2010a, 22). As

compared to other companies, the risk profile of AIG's securities lending program took on an atypical structure during this period.

Securities lending agreements are structured to allow for the return of posted collateral at any time, based on the request of the counterparty. As such, most companies that operate securities lending programs invest cash collateral in liquid securities such as Treasury bonds. AIG Investments, however, chose to alter their practice in late 2005 (U.S. Congress, 2010, 43). It was then that they began to buy residential mortgage-backed securities (RMBS) with collateral received in securities lending transactions. According to Eric Dinallo, New York State Insurance Department Superintendent, these investments were not of concern to insurance regulators at the time due to their AAA-rating (U.S. Senate, 2009, 5).

Although there is no doubt that it is riskier to invest in structured products than U.S. Treasuries, RMBS were considered a fairly safe form of securitized products prior to the subprime crisis of 2006. In a study published in *The Journal of Fixed Income* that used data from 1983-2002, it was found that the ratings of RMBS had higher upgrade frequencies than downgrade frequencies and the stability of speculative-grade ratings for these securities was much greater than for asset-backed securities or collateralized debt obligations. These findings are directly attributable to the strength of the residential housing market at the time (Hu and Cantor, 2003). There is reason to believe, therefore, that AIG did not believe the investment of collateral from securities lending in RMBS to be excessively risky.

However, though historical evidence showed little risk in the market for RMBS, the aversion to risk normally displayed by AIG would lead a rational investor to believe they were a forward looking company. Thus, they would not only base their evaluation of risk on past performance, but on where the housing sector was headed. Internal failures in risk management

are evident in AIG's increasing investment in RMBS despite warning signs of a potential bubble in the United States housing market. According to a 2004 article published by the Federal Reserve, these red flags included a rapid rate of increase in national average home prices, a high ratio of median home price to median household income, and a low rent-to-price ratio for real estate (McCarthy and Peach, 2004, 5). The due diligence usually performed by AIG should not have missed all of these factors. Thus, it is a foregone conclusion that AIG took an excessively risky bet with collateral reinvestment in RMBS despite the relative lack of volatility in the RMBS market experienced in prior years.

In 2007, coinciding with the peak of securities lending activities at AIG, the New York State Insurance Department, aware of "potential stresses" to the securities lending program, began to work with AIG to unwind the program—unfortunately, they found it to be difficult given that the RMBS could not be sold for full value on the market (U.S. Senate, 2009, 6). Given the facts laid out above regarding the housing market, this is unsurprising.

It is surprising, however, that approximately 60% of the \$76 billion in invested liabilities held by AIG were invested in RMBS (U.S. Congress, 2010, 43). It follows that, since RMBS could not be sold for full market value in 2007, 60% of AIG's securities lending investments were illiquid due to mismanagement of investment risk. Further, Chief Risk Officer Robert Lewis has admitted that AIG's focus with respect to its investments was on credit risk and credit losses. The risk department placed little, if any, emphasis on liquidity risk (FCIC, 2010c). It was this type of risk that would ultimately prove a problem for AIG Investment's securities lending portfolio.

Combined with the massive write-downs necessitated by AIG FP's CDS holdings and the subsequent collateral posting obligations at Financial Products, the risk faced by counterparties

to AIG's securities lending transactions became too great. They began to worry about the safety of their posted collateral. These counterparties decided to return borrowed securities for their original postings (Sjostrom, 2009, 642). The collateral posted was invested in RMBS and illiquid, creating an issue with insufficient funds that would become a major contributor to the company's overall failure.

CREDIT DEFAULT SWAPS

Above, I briefly mention the massive write-downs AIG was forced to implement. They resulted from poor investments and valuation methods employed by AIG Financial Products. Given the environment in which these swaps were first envisioned, it would have been impossible to foresee such a grim scenario unfolding as occurred in 2008. Much like its securities lending program, AIG explicitly states its CDS portfolio as a key contributor to the lack of solvency that necessitated government rescue (AIG, 2009, 61).

In 1998, credit default swaps were introduced by AIG FP as a new kind of contract through which AIG would ensure corporate debt in case of default. According to sophisticated computer models, much like those relied upon for other types of contracts sold by the company, these CDS contracts had the potential to make profit with little risk—"a 99.85 percent chance of never having to pay out" to be exact (O'Harrow and Dennis, 2008b, 1). The fact that risk was so remote would hurt AIG in the long run because the minimal risk, combined with the cost of hedging the contracts, would outweigh the benefits of hedging AIG FP's bets in this market in the traditional sense.

The entry into the CDS market would evolve from its beginnings in corporate debt into insuring volatile forms of debt without a conventional method of hedging risk—a departure from a core tenet of the AIG business model discussed earlier. In 2000, AIG FP underwrote its first

corporate arbitrage CDS. Additional risk was taken on in 2004, when the subsidiary underwrote its first multi-sector CDS (U.S. Congress, 2010, 27). Backing its multi-sector CDS portfolio were prime, Alt-A, and subprime residential mortgage-backed securities as well as commercial mortgage-backed securities and other asset-backed securities. According to the Annual Report of the parent company, AIG FP took only a portfolio approach to management of market risk exposures (AIG, 2006, 108). This portfolio approach refers to relying on underwriting standards to manage risk rather than traditional practices of hedging through offsetting positions (FCIC, 2010c). Further, law firm Weil Gotshal disclosed that the December 2005 decision made by AIG FP to cease writing swap contracts on subprime collateralized debt obligations was unrelated to the credit downgrades suffered by AIG and was not accompanied by any attempts to hedge or unwind CDS risk exposure (U.S. Congress, 2010, 34). This represents a significant internal failure in risk management on the parts of both AIG FP and, ultimately, AIG.

Another risk management issue with regards to CDSs was discovered by PricewaterhouseCoopers in 2007. At 12/31/2007, according to the independent auditor, “AIG had a material weakness in its internal control over financial reporting and oversight relating to the fair valuation of the AIG FP super senior credit default swap portfolio” (AIG, 2008b, 4). The model it had built to value these CDSs failed to address the risk posed by devaluation of reference collateralized debt obligations, which would trigger significant collateral posting requirements even in the absence of a credit event (U.S. Congress, 2010, 36). Put more simply, Financial Products hadn’t correctly modeled the potential collateral calls that could result if market value declined. This hole in AIG FP’s model obviously posed significant risk to AIG, who guaranteed all payment obligations entered into by Financial Products.

When the subprime market began to unravel and collateral calls were first received, AIG

FP claimed their valuation model was still accurate. Management argued there was temporary distortion in the market caused by absence of liquidity, rather than a flaw in their valuation process. This allowed AIG FP to negotiate collateral amounts with counterparties—that is, until demand for collateral became so great that the company risked its reputation and ability to secure funding if it continued to hold negotiations (U.S. Congress, 2010, 37). Combined with ratings downgrades as well as write-downs of CDS holdings by other market participants, collateral calls would become too much for AIG to handle.

AIG failed to appropriately manage risk as it relates to valuation of CDSs as well as market volatility. Again, as was the case with securities lending, the company's risk department was too focused on credit risk and failed to mitigate the company-wide exposure to liquidity risk. Chief Risk Officer Robert Lewis wasn't even aware of liquidity provisions of CDS contracts until the first collateral call was received by the company in July 2007. While AIG FP was writing CDSs, risk management failed not only in proper supervision of market risk but of liquidity risk with respect to credit default swap contracts. These oversights played a significant role in leading AIG to bailout negotiations with the government in 2008.

INCONSISTENCIES IN INTRACOMPANY RISK ASSESSMENT

It is also interesting to note that AIG FP was concerned by the risk associated with the subprime market. This concern contributed to its decision to stop originating CDSs backed by subprime CDOs. AIG FP implemented the decision between late 2005 and early 2006.

At the same time, as discussed above, AIG insurance subsidiaries did not cease investing most of the collateral received from securities lending in RMBS. At the end of 2005, the value of collateral received in securities lending arrangements was approximately \$59 billion (AIG, 2007, 114). By 12/31/2007, collateral received had ballooned to \$76 billion of which \$49 billion was

invested in RMBS (AIG, 2008, 108). Assuming a consistent asset mix was held by AIG Investments over the period in question, AIG Investments increased exposure to the mortgage market by at least \$10 billion between 2005 and 2007.

United Guaranty Corporation, another AIG subsidiary, was also increasing its exposure to the subprime market over this period (FCIC, 2010a, 4). UGC's primary line of business was issuance of residential mortgage guaranty insurance, but it began also writing second lien mortgage guaranty insurance in 2005. Second liens are inherently riskier than traditional residential mortgage guarantee insurance, and at the end of 2006 UGC ceased providing insurance on second liens due to "unfavorable loss experience on third-party originated second lien business with a credit quality lower than typical for UGC" (AIG, 2008a, 35).

Both these scenarios represent a significant breakdown in internal controls for AIG. Auditor of AIG PricewaterhouseCoopers went a step further, referring to this as "a lack of cross AIG evaluation of risk exposure to a sector" (Financial Crisis Inquiry Commission, 2010a, 4). While AIG FP sought to limit exposure due to market risk, both AIG Investments, and for a time UGC, were confident enough in the same market to significantly increase investments. Had these subsidiaries been interacting more closely, increased exposure to the softening mortgage market may have been avoided.

DEPENDENCE ON CREDIT RATINGS

It is not unusual for large insurance companies to have some level of dependence on their credit ratings, since they typically rely on a certain rating to afford them cheap access to bond markets. Low costs of borrowing enable insurers to profit on the spread between their cost of capital and the returns on their investments. However, the guarantee of obligations provided to subsidiaries by parent company AIG suggests that this operating model may have been more

integral to AIG's operation than to that of other insurance companies (U.S. Congress, 2010, 52). Any downgrade or potential threat to the company's triple-A rating would have been a serious concern due to its particularly sensitive operating model.

The very reason AIG FP's investments were lucrative while only minimally risky was AIG's AAA rating. This was especially true for AIG FP's credit default swap business. AIG FP became the leader in the CDS market due in large part due to the backing of AIG. The triple-A rating gave customers peace of mind that their investments were safe (O'Harrow and Dennis, 2008c, 1). Former CEO Hank Greenberg understood the importance of AIG's credit rating to the CDS business as well as many of the other businesses in which AIG operated. With this understanding, he stated that he would go after AIG FP "with a pitchfork" if the rating were harmed (O'Harrow and Dennis, 2008b, 2). Such an event would have adversely impacted the entire business model, across all AIG subsidiaries.

From March through June of 2005, AIG suffered ratings downgrades from all major agencies to AA. These downgrades triggered collateral posting requirements of over \$1 billion (O'Harrow and Dennis, 2008c, 2). According to AIG's annual report for that year, the downgrades would result in hindering AIG FP's ability to compete for business in the derivative and structured transaction marketplaces, reduce the competitive advantage of AIG's insurance company subsidiaries, and increase collateral posting requirements which could adversely affect the company's liquidity position (AIG, 2005, 17). It is obvious from this disclosure that AIG realized the significant risks ratings downgrades posed to their business model.

Because AIG had held the same credit rating for over 20 years, the risk of a ratings downgrade was probably considered near zero by management prior to 2005. The downgrade discussed above was unexpected due to AIG's longstanding status as AAA and the risk was

unaccounted for. However, the event should have struck a chord with management. Executive-level management should have realized that the risk of further downgrade was no longer a remote possibility.

Instead, the business model and risk profile of AIG was little affected after the ratings downgrade. This reflects another internal failure. Instead of curtailing its activity in the CDS business, AIG FP continued to write contracts through 2005. Between late 2005 and 2006, it stopped offering CDSs backed by multi-sector CDOs due to uncertainty in the mortgage market, but continued all other CDS businesses (U.S. Congress, 2010, 36). In a congressional hearing in 2008, former CEO Hank Greenberg stated that “when the AAA credit rating disappeared in spring 2005, it would have been logical for AIG’s new management to have exited or reduced its business of writing credit default swaps” (Cohen, 2010, 6). Some of the motivation for this statement could have been hindsight, but it appears as though AIG management, to some degree, ignored the risks of further ratings downgrades.

Much like AIG FP, AIG Investments grew their securities lending program despite the potential collateral posting requirements if ratings agencies were to issue further downgrades. In 2004, securities lending represented a \$49 billion business to AIG (AIG, 2006, 115). The business grew in 2005, 2006, and 2007 to \$59 billion, \$69 billion, and \$76 billion, respectively (AIG, 2008, 102). Securities lending was somewhat risky for AIG in 2004, but ratings downgrades and subsequent potential collateral posting requirements from further downgrades represented a new level of risk for the firm.

Inadequate response to the heightened risks represented by the 2005 ratings downgrades were certainly internal failures on the part of AIG. The company’s business model was reliant on the triple-A rating of the firm and risk profiles should have been adjusted in response to the

downgrade. Instead, despite evidence the company was aware of the risk associated with further downgrades, more risk was assumed in businesses most injured by the lowered credit rating.

EXECUTIVE-LEVEL LEADERSHIP

Leadership at AIG and AIG FP failed in the years before the company's bailout. The implications of AIG FP's replacement of Thomas Savage with Joseph Cassano as chief executive officer were not fully realized when the leadership changed in 2002. More importantly, the transition between chief executive officers at AIG—from Maurice Greenberg to Martin Sullivan—lacked the knowledge transfer necessary for such a complex company.

Under the close supervision of Maurice Greenberg, AIG Financial Products transitioned between CEOs in early 2002. Thomas Savage stepped down and Joseph Cassano took on the senior leadership role. This was a departure from status quo for the subsidiary. Where former CEOs of AIG Financial Products Thomas Savage and Howard Sosin were quantitative thinkers from highly regarded institutions and understood the complex risk calculations behind the company's businesses, Cassano had no such background. The culture of the AIG subsidiary changed under Cassano, no longer relying on "informed skepticism in which just about anyone could question dubious aspects of a trade" (O'Harrow and Dennis, 2008b, 7). This arrangement was successful in Cassano's early years in the role, as AIG executives, namely then-CEO Hank Greenberg, kept watch over AIG FP.

It is widely acknowledged that Maurice "Hank" Greenberg—former CEO of AIG—was the only person at the company who fully understood the complex interrelationships and operations of AIG's many subsidiaries. During his forty year tenure, some suggest Greenberg "designed a company so vast, complex and Escheresque, operating in some 130 countries with roughly 92,000 employees... that only one person could ever run it properly: Hank Greenberg"

(Cohan, 2010, 3). The truth may be in the events that unfolded upon his forced resignation in 2005. Martin Sullivan, a thirty year veteran employee of AIG, was appointed to the position of CEO. By June of 2008, Sullivan left AIG, lasting only three years in the position after a career spanning more than thirty with the company. New CEO Robert Willumstad was working with the government to orchestrate the bailout of AIG by September of that year.

In an interview with Charlie Rose, Greenberg stated that Martin Sullivan “either didn’t understand or paid little attention to AIG Financial Products” (Greenberg, 2008). Greenberg suggested that this was a failure in risk management that would not have occurred on his watch. This notion is backed by Sullivan’s testimony to the Financial Crisis Inquiry Commission (FCIC). Sullivan admits not only to being unaware of the collateral provisions of CDS contracts held by AIG FP, but also to having no knowledge of the subsidiary’s super senior CDS portfolio until 2007 (FCIC, 2010c). Industry analysts believe Greenberg would have recognized that the late 2005 market shift required more stringent risk management and made that a priority (U.S. Congress, 2010, 51). This was an oversight by Sullivan, whose priority in 2005 was on an internal review of AIG’s books and records in response to questionable accounting practices (FCIC, 2010b, 2).

Not all blame for the leadership problems belongs to new CEO Martin Sullivan, however. In his 40 years at AIG, Greenberg and the Board of Directors at AIG failed to put together a proper succession plan for his departure from the company. In a recent study, the *Harvard Business Review* found that chief executives were typically given too much power to select their replacements (Citrin and Ogden, 2010, 29). This was almost certainly the case at AIG, as Greenberg himself had developed a succession plan for Martin Sullivan to replace him in May of 2005. The succession would be followed by a six month trial period in which Greenberg would

work closely with Sullivan (Cohan, 2010, 3). Though Greenberg resigned in March and the trial portion of his succession plan would no longer be possible, the Board still went with Greenberg's choice of successor.

Another issue with the choice of successor made by AIG's board is the company's position at the time. Martin Sullivan himself admitted that AIG was in crisis when he was named CEO in early 2005 (FCIC, 2010b, 2). Given this crisis state, Martin Sullivan, an employee of AIG since 1971, may not have been an appropriate choice for the CEO position. The *Harvard Business Review* found that the most important factor in determining the proper CEO candidate is the health of the company. People appointed from within the ranks of the company, "insiders", achieve better results when a company is performing well. Those CEOs who are appointed from outside the company do best "when a company is in crisis" (Citrin and Ogden, 2010, 30), the state of AIG at the time Sullivan was named CEO. When the Board appointed an insider to a situation better suited for an outsider, AIG was automatically faced with worse odds of navigating the company's issues successfully.

Due to an inadequate transitional phase and the health of the company, some things began to fall through the cracks when Sullivan took over. Had AIG FP had a competent CEO at the time, Sullivan's lack of focus on minutia at the subsidiary would not have been a problem. However, Cassano needed oversight to ensure the risk profile at Financial Products remained acceptable. In 2008, amidst issues with collateral calls and credit default swap valuation, Cassano resigned (O'Harrow and Dennis, 2008c, 7). Cassano failed to fully understand the business model of AIG FP, which was based on stringent risk management, and Sullivan failed to keep a close watch on the operations of the subsidiary. There is no doubt that these internal failures contributed to AIG's failure.

V. COMPENSATION

As with internal failures and regulatory gaps, often the downfall of a company can be traced in part to the methods used to compensate executives. From 2003-2008, AIG chief executive officer Martin Sullivan was paid a total of \$108MM. Between 2000 and 2007, AIG Financial Products CEO Joseph Cassano was paid over \$280MM (FCIC, 2010c). Note that the subsidiary head earned significantly more than the holding company CEO. There is some precedent for this in terms of hedge fund managers, with hedge fund managers paid extremely large sums for bringing in large portions of the company's revenue stream. However, there is also some question as to whether Cassano was actually performing such a task. In any case, the compensation packages of Sullivan and Cassano are immense, especially taking into account the end result of actions perpetrated by the two men: a multibillion dollar government bailout.

In this section, I will address the compensation plan for the top executives at American International Group, Inc. The primary focus will be on CEO Martin Sullivan. I will further discuss the compensation of individuals at AIG FP, considering incentives created in their pay plan. I will also compare the pay of AIG FP CEO Cassano to that of Sullivan.

AMERICAN INTERNATIONAL GROUP

According to public disclosures, AIG's compensation framework, which was reformed in 2006, was performance-driven. To attract, motivate, and retain key employees, AIG provided a five-pronged approach. The two most important aspects of this approach are as follows. First, AIG aimed to align long-term economic interests of employees and shareholders through providing substantial common stock compensation. Second, AIG aimed to emphasize "at-risk" elements of compensation through providing awards that would have value only if AIG posted strong financial performance (AIG, 2007, 24).

Closely tying compensation to performance creates incentive problems. Bonuses, which are normally calculated based on yearly financial performance measures such as earnings per share, create incentives for executives to pursue risky activities that will boost earnings that year, even if these earnings are not sustainable in future years. The pursuit of risk to reap short term reward is not in shareholders' best interests, as they desire sustainable long-term growth.

Further, stock options, which some believe to better link executive and shareholder interests, create problems of their own. Stock options give executives the option to purchase shares of stock at a certain price, the strike price, over a certain period. If the stock price goes above the strike price of the option, the option is said to be "in the money," meaning that the owner of the option would profit from exercising his right to buy. A strike price that is below the stock price is similarly said to be "out of the money." The idea behind stock options providing better incentives to executives is that they are only valuable if the stock price remains above the strike price. One problem with this incentive is that an executive could force the stock price high to cash out on options, at the expense of the long term health of the company. Another problem is that exercising of options has been shown to adversely affect stock price—other investors think, "why would an executive exercise stock options unless they believed the stock were at its peak?" They see exercising of options as a negative signal and thus sell their stock when options are exercised, forcing down the stock price.

The incentive problems above would both be pertinent to AIG, as its executives were paid mainly with bonuses and stock options. AIG, however, was a successful company for decades before it spectacularly collapsed, suggesting that there were no perverse incentives in the compensation scheme throughout much of the company's history. If incentives created by compensation were tied to AIG's failure, something must have changed in compensation

structure in the years leading up to the bailout. The most likely point at which to look for this shift is in the years before and after the position of chief executive officer changed hands. A study of the company's proxy statements reveals the following data on compensation of the CEO of AIG:

Table 2

CEO Compensation at American International Group: 2000-2007					
CEO	Year	Salary Rate	Cash Bonus	Option Award (# AIG Shares)	Exercise Price
Martin Sullivan	2007	\$1,000,000	\$3,625,000	143,404	\$57.05
Martin Sullivan	2006	\$1,000,000	\$10,125,000	175,000	\$71.00
Martin Sullivan	2005	\$963,462	\$6,786,875	136,575	\$65.99
Maurice Greenberg	2005	\$276,923	-	-	-
Martin Sullivan	2004	\$774,963	\$830,000	50,000	\$64.47
Maurice Greenberg	2004	\$1,000,000	\$8,000,000	375,000	\$64.47
Maurice Greenberg	2003	\$1,000,000	\$6,500,000	750,000	\$55.48
Maurice Greenberg	2002	\$1,000,000	\$5,000,000	375,000	\$61.30
Maurice Greenberg	2001	\$1,000,000	-	375,000	\$79.61
Maurice Greenberg	2000	\$1,000,000	\$5,000,000	200,000	\$96.56

Source: AIG Proxy Statements, 2000-2007

Neither salary rates nor cash bonuses were significantly different under Greenberg than under Sullivan. Incentive compensation in the form of bonuses therefore couldn't have played a significant role in changing the risk taking behavior of AIG's chief executive.

As far as stock-based compensation is concerned, Greenberg received more options than Sullivan in the years examined above. Compensation in the form of stock options has potentially unlimited upside, with the only downside simply receiving nothing if the stock doesn't rise to the exercise price (FCIC, 2011, 63). Therefore, stock options have been linked to increased risk taking behavior. The results above would not suggest that Sullivan had more incentive to take on risk than his predecessor given the options compensation received by each.

While the compensation structure would not suggest Sullivan was prone to riskier behavior than Greenberg, equity stake may have played a role. When Sullivan took the reins as

CEO of AIG, his common stock ownership was less than .01% of the company. Greenberg owned 1.79% of the company at last disclosure prior to his resignation in 2005. As a trustee for C.V. Starr & Co., Inc., beneficial ownership of another .72% of the company belonged to Greenberg (AIG, 2005, 10). That brought his total equity stake up to a substantial 2.51% where Sullivan had only a minimal stake. Equity ownership creates risk aversion in that one's wealth is tied to company performance. The 2.51% stake likely represented a large portion of Greenberg's total wealth, where Sullivan's total wealth was much less a function of AIG's performance. Therefore, Greenberg likely had greater incentive to examine the risks taken on by AIG's subsidiaries—their success was his success and their failure meant that Greenberg would suffer a significant decline in wealth.

Sullivan wasn't subject to the same constraints. Increased risk-taking could certainly result as the level of risk aversion decreases. Sullivan had less incentive to closely monitor actions since his overall wealth was not as closely tied to the performance of AIG, thus unmonitored subsidiaries began to take riskier bets.

AIG FINANCIAL PRODUCTS

Among numerous articles referencing AIG Financial Products, all have negative undertones indicating the compensation received by FP employees was suspect. In a *New York Times* article discussing FP, it was stated that employees “minted tidy fortunes” during their years with the subsidiary (Morgenson, 2008, 2). Considering the subsidiary's role in the ultimate downfall of AIG, they may be right. In the years before the crisis, the 370+ employees at Financial Products had received average yearly compensation of approximately one million dollars each.

As AIG Financial Products was a subsidiary of American International Group, the parent

company was able to submit consolidated financial statements and did not have to disclose specific compensation information for AIG FP. The government intervention AIG required has allowed some information about the compensation plan to surface. At the request of the Financial Crisis Inquiry Commission, Joseph Cassano revealed a high level view of the compensation plan for “highly compensated employees” at AIG FP.

Beginning around 1995 and experiencing only minor changes since that time, AIG FP’s compensation plan for “highly compensated employees” required that up to 45 percent of compensation be deferred. This portion of compensation would then be used to purchase subordinated debt in the subsidiary. It paid out annually during a window of between four and six years, but vested immediately (FCIC, 2010d, 8). The deferred compensation was therefore subject to business performance, in that if AIG FP were to dissolve those with this sort of compensation would see their vested earnings only if assets were left over after paying all equity holders and general credit holders. In this way, AIG FP linked compensation to long-term performance for its highly compensated employees.

Given the high average yearly compensation for employees at Financial Products, the first problem with the compensation plan is that it didn’t apply to all FP employees. Another problem relates to its method of tying compensation to long-term performance. Research has shown that risk aversion increases as the proportion of a CEO’s wealth held in company debt increases. Thus, subordinated debt holdings act as a check on executives’ risk-taking behavior (Tung, 2010, 30). However, AIG FP’s subordinated debt issuances were different from other issuances. Parent company AIG had agreed to guarantee all of Financial Product’s investments, which impeded Financial Products ability to fail independent of AIG. There was therefore less downside risk in AIG FP’s subordinated debt than in a similar company not granted such a

guarantee. Though almost half of senior employees' compensation plans were deferred in subordinated debt, the employees still received substantial bonuses in the form of cash. They had plenty of incentive to take risk to ensure high bonuses since their subordinated debt was less risky due to explicit backing of AIG.

When looking at the compensation received by Financial Products employees, it is interesting to note the compensation received by Joseph Cassano in comparison to AIG CEO Martin Sullivan. While it appears that Sullivan was well paid as CEO of AIG, he received only \$11MM plus stock options in his most lucrative year, 2006 (see Table 2 for his total compensation in this time as CEO). For 2006, among 350 large U.S. corporations, the median direct compensation was \$6.45MM. Martin Sullivan earned nearly double that, but given the top five earners on the list earned between \$38MM and \$54MM, it appears as though Sullivan's compensation wasn't unusually high for the size of holding company AIG (Lubin, 2007, 1).

Cassano, on the other hand, earned over \$38MM in compensation for 2006 and took home \$43MM in cash compensation after accounting for payouts from prior years' deferred compensation (FCIC, 2010e). The table below summarizes Cassano's compensation for all years available.

Table 3

AIG Financial Products - Compensation for CEO Joseph Cassano, 2000-2006								
In Thousands								
	Salary	Bonus	Equity Kicker	Quarterly LIBOP Interest	Total Gross	Current Year Deferred Payments	Prior Year Deferred Payments	Net Cash Compensation
2000	150	30,000	3,047	1,144	\$ 34,340.59	(14,650)	3,898	\$ 23,588.92
2001	150	30,000	4,384	1,256	\$ 35,790.13	(14,650)	6,340	\$ 27,480.13
2002	150	45,000	7,653	701	\$ 53,503.26	(22,150)	8,108	\$ 39,461.59
2003	150	42,000	11,106	632	\$ 53,888.46	(20,650)	11,358	\$ 44,596.80
2004	150	30,000	7,173	893	\$ 38,216.03	(14,650)	14,192	\$ 37,757.69
2005	150	31,582	6,023	2,020	\$ 39,775.21	(16,919)	16,347	\$ 39,203.37
2006	150	27,750	6,993	3,146	\$ 38,038.80	(13,525)	19,176	\$ 43,690.10

Source: FCIC, 2010g

In comparing this table to the CEO compensation for AIG parent over a similar period, it becomes obvious that Cassano was paid significantly more than the CEO of parent AIG during all years studied. The very different structures also become apparent, as Cassano received strictly cash as compensation where Greenberg and Sullivan received both cash and stock. Cassano's yearly cash compensation was more than triple that of either Sullivan or Greenberg. Where both Sullivan and Greenberg's compensation plans shared some alignment with other CEOs of large U.S. corporations, Cassano's pay was more reflective of the compensation received by executives at the large Wall Street investment banks.

For the pay scheme of the CEOs at AIG and AIG Financial Products to make fiscal sense, AIG Financial Products would have had to account for a large portion of the company's overall revenue stream. The data suggests otherwise.

Between 2000 and 2006, the revenues of AIG Financial Products are not disclosed for 2003 and 2006. For years disclosed, however, the greatest portion of AIG's revenues accounted for by Financial Products was 1.97% in 2002 (AIG, 2003). Further, the annual revenues of Financial Products peaked in 2004 at \$1.727 billion. During this year, revenues of the holding company AIG were almost \$98 billion (AIG, 2005). These numbers suggest that there was no reason for the AIG Financial Products CEO to receive a larger compensation package than the CEO of AIG parent. The role this skewed compensation played in the eventual bailout of AIG is somewhat ambiguous, but there is no doubt that this situation was not in the best interest of either FP or AIG as a whole.

VI. LESSONS LEARNED AND MOVING FORWARD

Though perceived as the singular cause of the AIG meltdown, credit default swaps were

not the only issue faced by the company. As noted in the past three sections, regulatory gaps, internal failures, and compensation structure came together to necessitate the bailout.

The thorough study of these problems conducted above has a purpose beyond understanding the company's downfall. It can also provide insight to prevent such crises in the future. There are many takeaways for both company-level and industry-wide crisis avoidance, but in what follows I will focus only on four key areas—securities lending, credit default swaps, internal company operations, and compensation—and provide one or two lessons from each.

SECURITIES LENDING PROGRAM

AIG's securities lending program was discussed in two respects. It failed both in its regulation and purpose as stated by AIG Investments. Though AIG Investments was not a licensed insurance company, state insurance regulators took on some of the burden of overseeing the program. Reform as it concerns this practice would certainly help avoid a crisis of the magnitude suffered by AIG in 2008.

Securities lending programs of insurance companies should be fully regulated and operated within the companies they support. Though this may hinder the competitiveness of insurance companies in the securities lending industry, it would prevent sticky situations of accepting less collateral than required by insurance regulators. It would also prevent some of the liquidity strain that comes along with operating outside the subsidiaries. As mentioned earlier, insurance regulators prevent otherwise liquid assets from flowing out of regulated insurance subsidiaries to the holding company. This prevents unregulated subsidiaries from receiving available cash should a liquidity problem arise (FCIC, 2011, 344). If securities lending were operated within the life insurance subsidiaries from which the securities were received, the capital requirements held by these subsidiaries could be used in the event of a liquidity strain.

Attempts made by the New York State Insurance Department to regulate and unwind the securities lending facility in the absence of such a connection were futile (FCIC, 2010f, 4).

The more important issue with regards to the securities lending program at AIG relates to the investment of collateral in risky assets with maturity terms mismatched to the program. State or federal agents should not regulate the assets in which companies invest. However, other companies should look at AIG's securities lending program and realize it provides lessons in avoidable mistakes. Cash collateral investment demands a great amount of risk control (Nelson, 2009, 2). AIG suffered when they changed their investment guidelines for the securities lending program to be less stringent (FCIC, 2010a, 22). Risk departments at companies with securities lending programs must develop and uphold strict investment guidelines for the programs to operate effectively. They should also disclose such policies such that potential customers can properly evaluate the counterparty credit risk they are taking on. This increased transparency would help ensure that market participants make informed decisions about where they do business. Firms without the discipline to provide active management and disclosure about their programs should reconsider their involvement in securities lending.

CREDIT DEFAULT SWAPS

The overall market for credit default swaps contracted by 50% since its 2007 peak both due to regulatory changes and the stigma associated with these types of derivatives since the financial crisis (ISDA, 2010, 1). Still, lessons learned in the AIG crisis should be applied to the CDS market to ensure stability after this stigma has worn off. The most important of these lessons is that credit default swaps should be actively monitored by a regulatory agency to ensure greater transparency in the market.

In the United States, much debate about the lack of regulation in the credit default swap

market was triggered by the financial crisis. The response was the creation of central counterparties (CCPs) such as the InterContinentalExchange (ICE) Trust, approved by the Securities and Exchange Commission (SEC), which would oversee all activities from agreement to enter into a CDS contract to settlement of said contract. Since the introduction of clearinghouses, only a small portion of the overall activity in the market has moved to institutions such as ICE—Market participants are not mandated to use CCPs in entering into their CDS contracts (Cecchetti et al., 2009, 53).

The Dodd-Frank act was passed declaring the Commodities Futures Trading Commission (CFTC) and the SEC responsible for regulating CDSs (CFTC, 2010, 4). Though the regulators have been defined, the actual form of the regulations imposed on the CDS market through these parties has yet to be fully defined. The regulators are focusing on introducing a mandate to require that CDSs be traded through clearinghouses whose sole purposes are to clear credit default swaps.

To effectively clear a product, standardization of contract terms is necessary. The availability of pricing information to determine market prices is required for the mark-to-market process. It is further necessary to be able to model the risk characteristics of the instrument on a forward-looking basis (CFTC, 2010, 15). Standardization of contract terms by a clearinghouse would be desirable as it would prevent provisions from differing among contracts. As discussed in the case of AIG, liquidity provisions unique to the default swaps written by the Financial Products group were a significant factor in the liquidity problems faced by AIG's CDS business as a whole. Had the contracts been standardized to disallow collateral posting on the part of the protection seller in the event of unrealized market valuation losses of underlying assets, much of the strain faced by AIG leading up to its bailout would have been alleviated. Central

clearinghouses therefore have some value to the CDS market in that they will provide for standardization of contract provisions. However, note that modeling risk characteristics of credit default swaps is problematic and in order for central clearinghouses to operate successfully accurate models are needed.

There are many other criticisms of mandating a centralized counterparty be used to clear CDSs. First, while the market is currently valued at \$30 trillion, some contend that the market needs to be much larger to effectively reduce risk. Stanford researchers Darrel Duffie and Haoziang Zhu have found completed research on this topic. They found that clearing CDSs can actually increase risk: the risk-reducing benefits financial institutions receive from holding offsetting positions in other asset classes are removed from the market when CDS risk is transferred from the financial institution to the clearinghouse. Further, proposals for multiple clearinghouses reduce the benefits of risk-pooling and will not effectively curb risk in the CDS market (Duffie and Zhu, 2009, 2).

In learning from the situation at AIG, it is important to mitigate some of the industry issues with credit default swaps. It appears that clearinghouses may be able to provide an efficient solution to the liquidity and transparency problems in the CDS market. This will be the case given only one CCP for CDSs is introduced and that CCP is not limited to clearing only CDSs. Other options are being discussed. Moving CDS activity to exchange traded markets is a possibility (Stulz, 2010, 88). Warehousing to increase market transparency is another alternative to help improve market efficiency (Cecchetti et al., 2009, 54). These other proposals are not the most likely potential transformations in the market and are therefore not addressed here.

INTERNAL COMPANY OPERATIONS

While AIG faced many internal failures that contributed to its overall need for bailout,

the most important was the company failure in risk management. Of AIG's risk management failures, its failure to fully assess its liquidity risks was the most egregious. It was this breakdown that caused AIG to have too little cash on hand to deal with collateral calls in its securities lending and CDS businesses.

According to the Basel Committee on Banking Supervision, there are two types of liquidity risks that must be managed by firms. The first is funding liquidity risk, which is defined as "the risk that the firm will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial risk of the firm." The second is market liquidity risk, or "the risk that a firm cannot easily offset or eliminate a position without significantly affecting the market price because of inadequate market depth or market disruption" (BIS, 2006, 1).

The first lesson from AIG's collapse relates to both types of liquidity risk. Risk management should be handled in a consolidated manner to ensure that liquidity risk is assessed with respect to other risks of the firm. The risk department at AIG, headed by Chief Risk Officer Robert Lewis, was responsible for assessing credit risk, market risk, and operational risk at all AIG subsidiaries. However, liquidity risk was in a silo separate from the risk department. Liquidity risk management was a role performed by one person—the chief financial officer at AIG. This system allowed liquidity risk to fall through the cracks. Had the risk department controlled all risks, it is possible that liquidity risk would have been better handled. Liquidity risk management would have been handled by an entire department rather than being the responsibility of one individual. Integrated management of risks would ensure that liquidity risk is not only handled, but handled in such a way as to incorporate the effects of other risk types on this specific risk category.

The second lesson is related specifically to market liquidity risk. Market disruption in the mortgage market subjected AIG to significant market liquidity risk that was unanticipated. This fact, combined with AIG's one-sided bet on the housing market, caused a liquidity drain on the company. Firms need to assess market liquidity risk. They need to be prepared for this kind of risk by taking offsetting positions in markets subject to disruption. In this way, market liquidity risk at a given institution will be minimized.

Moving forward, more emphasis needs to be placed on liquidity risk industry-wide. Risk should be handled in an integrated manner rather than spreading responsibility for risk management across departments. Market liquidity risk should be considered and, as risk increases, so should offsetting positions to create a liquidity cushion.

COMPENSATION STRUCTURE

There is no doubt that the compensation received by AIG executives was excessive when compared with its competitors, especially when looking at this compensation in light of the government rescue. The compensation structure did little to discourage excessive risk-taking. There have been several proposals since the financial crisis to put restrictions on CEO pay. Here I will discuss the one I believe has the most promise to encourage risk aversion in companies like AIG in the future: prospective clawback provisions.

A prospective clawback provision, written into an employment contract when it is negotiated, acts as a mechanism for recovering performance-based compensation to the extent it is discovered that performance goals were not achieved. Clawbacks allow companies to recover pay if actions of executives artificially inflated financials to reap near-term rewards at the expense of long-term company performance. Thus, the incentives accompanied by prospective clawback provisions align stakeholder interests with those of executives (Caywood, 2010, 125).

A clause of this type in a compensation contract incentivizes performance that will lead to sustainable increases in shareholder value. If increases are not sustainable and result in significant losses, executives risk the loss of bonuses and other compensation granted in prior years. As such, it is easy to see that clawback provisions would have curbed some of the risk-taking behavior of Cassano and Sullivan in the years leading up to the bailout.

Critics of clawbacks point to the difficulty of deciding on the particular circumstances under which clawback provisions will be triggered. The triggering mechanism must be sufficiently severe as to deter excessive risk-taking, however it must not be so strong that it affects the ability of the company to attract or retain executives (Gibson, Dunn & Crutcher, 2008, 2). For example, it is common for clawbacks to be triggered upon restatement of financials. This makes sense if the prior financials were misstated due to misconduct or fraud. However, if executives are subject to losing a portion of their compensation because the restatement was due to error that wasn't the result of fraud or misconduct, the clawback provision becomes a significant risk to the executive accepting it.

There is a fine line to toe in terms of determining circumstances that will trigger clawbacks. However, if contract terms are written properly, clawbacks offer a chance to effectively align incentives of executives and shareholders. At AIG, such alignment may have subdued executives' problems with risk assessment.

VII. CONCLUSION

While the bailout of American International Group cost taxpayers billions of dollars, positive effects also resulted. Involvement with taxpayer dollars necessitated full disclosure of AIG's financial position, far beyond requirements of the SEC or any other regulatory entity. In

large part due to increased desire for transparency, the government requested detailed data regarding AIG's structure, holdings, and management, mostly from the early 2000s onward. This information would have never otherwise surfaced.

With this newly available information, regulatory gaps, internal failures, and compensation issues were exposed. Piecing this together with information disclosed prior to the bailout, I was able to assess the effect of these issues on AIG's failure. These assessments revealed valuable knowledge about the challenges AIG faced prior to the bailout. As noted above, these challenges provide several lessons that pertain both to industry regulation and firm-level management—lessons that can and should be applied by the entire financial industry in an effort to successfully weather future crises.

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