Executive Summary

- Introduction and background to Credit Default Swaps
- Impacts of crisis on AIG
- Underlying causes of the problems experienced by AIG
- Suggested Risk Management Solutions
- Conclusion

1.0 Introduction

During 2006-2007, the spectacular burst of the US housing bubble ended a bullish run by global financial markets and triggered the global financial crisis that marked a depressing end to the first decade of the 2000s.

Amongst many financial institutions that received unfavourable spotlight during the crisis, the collapse and consequent bailout of AIG was an exceptionally notorious episode because of its former status as a Wall Street Darling.

In this Risk Radar Report, we look at how AIG, ironically an issuer of risk management solutions, failed to exercise prudent risk management for its own balance sheets and discuss, with benefit of hindsight, measures that should be put in place to prevent future episodes from recurring.

1.1 Background to Credit Default Swaps (CDS)

Unlike traditional insurers, AIG was heavily involved in writing CDS. In the simplest terms, a CDS is a bilateral contract involving a protection buyer as well as a protection seller (AIG in this case). The buyer seeks “protection” from the seller against the default of an underlying reference entity (for example a corporate bond), and in return for the protection services, the buyer pays a periodic sum of premium to the protection seller.
**Purposes of CDS**

Widely believed to have been invented by Blythe Masters and her team from J.P. Morgan in 1994, the CDS was originally conceptualized as an important risk management tool for financial institutions to prevent concentration of risks by distributing their risks widely throughout the entire financial system. Publicly available information on different CDS also revealed market sentiments on credit risks and was used widely by financial professionals, institutional and retail investors.

In recent times, however, CDS has been increasingly used for speculative purposes. A “naked CDS” refers to a CDS in which the “buyer” has no holdings or direct involvements in the underlying reference entity (i.e. no insurable interest). Buyers of naked CDS, however, still enjoy the privilege of being able to receive a compensation payment from the seller in the event of a default. It is estimated that more than 80% of CDS contracts are naked CDS (Kopecki & Harrington, 2009).

**Over the counter (OTC)**

CDS, like almost all other swap contracts, involve two counterparties with the liberty to alter the terms and conditions of the contract as much as they find suitable. The customizable nature of CDS contracts contrast greatly against exchange-traded contracts which have standardized terms. The flip-side, however, is that CDS contracts, like other OTC products, are subjected to less regulations but significantly more counterparty risks as compared to exchange-traded derivatives.
1.2 AIG’s involvement in mortgage backed securities (MBS)

Before the financial crisis, AIG underwrote huge amounts of CDS on Mortgage-backed securities (MBS).

An MBS is a form of security that derives its value and payments from a pool of underlying mortgages. Through securitization, an MBS essentially pools principal and interest payments from individual underlying mortgages and redistributes the pool of cash and payments to individual and institutional investors, packaged as Collateralized Debt Obligations (CDOs), which are tranches ranked by seniority and risk profile.

Before the crisis, CDOs were in huge demand as they offered generally higher returns than other bonds with the same credit ratings. In return, both investors and speculators of CDOs heavily purchased CDS from insurers such as AIG.

*Attractiveness of the CDS market*

Pre-crisis, the US financial market was experiencing bullish times and it almost seemed impossible for bond issuers to go bankrupt. Consequently, selling CDS became perceived as a lucrative business of “collecting premiums, and almost without having to pay anything at all”.

As of the end of 2007, CDS contracts had grown to roughly $60 trillion in global business. (Davidson, 2008). Indeed, during good times, writing CDS generated huge revenues for AIG. It is also noteworthy that, whilst many banks and other underwriters of CDS covered their short positions in CDS with long positions in other CDS, AIG, however, was never on both sides of the CDS trade (Davidson, 2008).

Davidson (2008) also noted that, pre-crisis, the size of AIG’s exposure to CDS reached $440 billion, which exceeded what it could pay in claims when the MBS it insured defaulted.
The apparently imminent mortgage crisis, coupled with AIG’s excessive exposure to CDS on MBS, triggered rating agencies like Moody’s to lower its credit rating. Consequently, AIG suffered a liquidity crunch and was pushed to the verge of bankruptcy. Of course, AIG’s systemically important financial institution (SIFI) status meant that it was eventually bailed out by the Federal Reserve.

2.0 Impacts of crisis on AIG

Liquidity crunch

When the housing market crashed and subprime mortgage borrowers defaulted, the value of MBS fell drastically. At that point in time, AIG insured more than $440 billion of fixed income investments held by the world’s leading financial institutions, including $57.8 billion in paper related to subprime mortgages (White & Moreira, 2008). Investors of MBS who had bought CDS protection also sought insurance payout from AIG simultaneously. These events, coupled with increased collateral requirements due to the downgrade of its credit ratings by major rating agencies, eventually caused AIG to suffer a liquidity crunch. It did not have enough cash and other liquid assets to meet its current obligations.

Severely damaged reputation

Before its fall from grace, AIG was the biggest and most well-known brand name in the industry to the extent that it was an icon of the insurance market throughout the world (Crump, 2008).

The $180 billion bailout of AIG, however, was one of the least popular in history (Irwin, 2013), and resulted in US public resentment towards AIG. The majority of the public had reservations about the appropriateness for the government to use taxpayers’ money to aid an ailing institution. Furthermore, there was uproar when some of these supposed funds which were channelled to see AIG through the stormy season were instead used to disburse bonuses to AIG’s officials.

Unlike the capital of a company, reputation lost is difficult to recover, and AIG’s recent unexpected lawsuit against the US government made the task of restoring its popularity an even more challenging one.

3.0 Underlying causes of the problems experienced by AIG

3.1 Intensive writing of CDS by AIG Financial Products (AIGFP)

To begin this section, we shall first be introduced to a subsidiary of AIG, the AIG Financial Products (AIGFP). AIGFP was set up in 1987 to manage innovative financial products, with a focus on OTC derivatives markets, outside the insurance industry (Baranoff, 2012).

During the bullish run-up to the mortgage bubble burst, banks and financial institutions were on a roll, furiously writing MBS, distributing and collecting fees from tranches. With almost willing compliance, insurers like AIGFP, on the other hand, were furiously writing Credit Default Swaps to cover the MBS and collecting handsome premiums in return from the MBS writers. Back then, AIGFP had an exposure to about $440 billion in CDS.
However, if many or all bonds and loans that are insured by the CDS writer default at the same time, it will incur a huge amount of cash outflow from the writer. [This is similar to a scenario in which an entire village, individually insured by one single insurer, gets destroyed by fire. The mentioned insurer will then have to make very large sums of payouts within a very short period]. This was exactly what happened to AIG.

Indeed, quoting New York Insurance Superintendent Eric Dinallo, the primary source of the problem was AIGFp’s enormous exposure to CDS. To complicate matters, majority of these CDS written were on “super-senior” tranches of MBS. These “super-senior” tranches were, however, backed by rather risky mortgage assets (Dammers, 2007).

With the eventual burst of the housing bubble, AIG was in a critical situation as it did not have enough capital reserves to cover potential claims in the first place. The CDS contracts also required that if AIG’s credit rating drops below a certain level, it has to fork out over $13 billion in collateral to the buyers of the swaps. Because of the losses in AIGFp and AIG's investment portfolios, all major credit rating agencies reduced the company’s credit rating, leading to its eventual liquidity crunch.

For the rest of this section, we look at how the congruence of two other factors, together with the insurer’s exposure to CDS, led to AIG’s downfall.

3.2 Inadequate regulatory monitoring of credit derivatives

Previously, CDS contracts have rarely been regulated due to the absence of an effective regulatory model (Rao, 2011). Frequent innovations in these derivative products also made regulation difficult. Indeed, the US Office of Thrift Supervisors (OTS) confessed that they themselves did not have the expertise to effectively monitor the CDS markets (Baranoff, 2012). It was also mentioned by Rao (2011) that the OTS failed in estimating the impact of CDS trading contracts by considering them as ‘fairly benign products’. The OTS failed in its job to supervise and monitor the credit derivatives of AIG and other parties, it also failed to take any preventive steps and signal caution to regulators.

In essence, no regulatory body prevented AIGFp from taking its dangerous position in CDS.

3.3 Moral Hazard of Credit Default Swaps

While we have already discussed many criticisms against CDS for its role in the crisis, it is imperative for us to understand that, at least theoretically, the existence of CDS is an important one – credit swaps allow financial institutions to maintain customer-lending relationships without bearing the corresponding credit risk exposure. Indeed, the ability to “pass on” the credit risk encouraged financial institutions to make loan funds readily available to the US mortgage market, and consequently made home ownership more accessible to the masses. The interest rates involved on mortgage loans also fell substantially with the massive loan funds made available. Unequivocally, the presence of markets for CDS contracts facilitates various important functions of the economy.

However, beyond theory, as the housing bubble slowly manifested itself, the ability to “pass on” credit risk through CDS was no longer viewed with such revere. Instead, it became so prominent that the massive MBS-CDS writings led to a situation where the financial institution bearing the credit risk was often different from the one that processed and issued the loan. Herein lies the breeding
ground for *Moral Hazard*; evidently, the availability of credit swaps loosened incentives of loan issuers to carefully perform prudent underwriting steps in the lending process such as credit analysis, due diligence and monitoring borrower activity. (Saunders & Cornett 2012)

Specifically, in an attempt to boost their borrower base in the lucrative MBS market, financial institutions offered low introductory-rate mortgages, even to subprime borrowers. The whole idea of moral hazard was that they did not have to bear the credit risk of their imprudent issuance of mortgage loans. Indeed, AIG must have felt the peril of moral hazard in full force when a large number of subprime borrowers failed to pay their mortgages as their low introductory-rate mortgages reverted to regular interest rates, triggering enormous volumes of CDS exercised, and subsequently resulted in a financial crisis faced by AIG.

3.4 Joseph Cassano’s leadership

The real reason why AIGFP undertook such a large position in CDS, however, might go beyond the surface intentions of greed for profits and underestimation of risk. Various reports have indicated that actions by the management, in particular the involvement of AIGFP’s former head, Joseph Cassano, had amplified the situation. Cassano has become so notorious that Vanity Fair magazine dubbed him "The Man Who Crashed the World."

In his article, Michael Lewis (2009) described that Cassano had an autocratic leadership style in AIGFP and suppressed healthy discussions and dissent. If that description alone does not indicate any serious flaws with the management, the fact that Cassano attempted to interfere with the works of the internal audit certainly indicates some serious yellow flags. Joseph St.Denis, the internal auditor, was brought in to address problems in AIGFP’s accounting methods mentioned by external auditors. St. Denis, however, was criticized by Cassano for discovering accounting irregularities in a target company’s hedge accounts.

Cassano’s act to remove St. Denis from the valuation of CDS contracts (FCIC, 2010) also raised suspicions that the former had fraudulent intentions when he took up large positions in CDS for AIGFP. In an interview, St. Denis stated in his own words that Cassano ran everything in AIG FP and was “the absolute ruler” of the company (FCIC, 2010).

Another indicator of poor management decisions was the fact that AIGFP did not even have a proper valuation model for its Super Senior CDS contracts before September 2007. In fact, St. Denis explained that back then, AIG simply used a VaR model (FCIC, 2010). This is not only surprising, but extremely suspicious considering that AIGFP had more than $440 billion exposure to CDS contracts, as mentioned earlier.

Investigations on whether Cassano had fraudulent intentions or merely made bad business decisions have not been able to produce conclusive evidence to indict Cassano (Ashby Jones, 2010).
4.0 Suggested Risk Management Solutions

4.1 Greater degree of regulation over the OTC derivatives

Due to the massive role credit swaps and other derivative instruments played in the crisis, there have been tremendous calls for stricter regulation over these instruments. Stecker (2009) commented that a movement towards one or more regulated clearing houses would be a first step towards bringing more regulatory focus to these types of contracts. Take futures and option contracts for example, due to the fact that they are being traded on organised exchanges, there is higher transparency. In addition, counterparty risk is almost negligible as any credit risk is borne by the exchange, rather than by the individual parties to the contract. [Counterparty risk refers to the risk, borne by a financial institution, that the counterparty to a contract, for example a CDS, defaults on its payment]

In view of this, the International Continental Exchange (ICE) Clear Credit LLP was set up in US in March 2009 to operate as the world’s first central counterparty and clearing house for CDS transactions conducted by participants. ICE Clear Europe was set up as the CDS central exchange for Europe.

![VOLUME](image)


The establishment of central counterparties in ICE Clear Credit and ICE Clear Europe was an important one; because of their purported roles in minimizing inherent risks, ICE Clear Credit somewhat played an important part in re-instilling confidence to US financial transactions and increased volume of CDS contract flows. Specifically, from launch through to 12 April 2013, ICE Clear Credit and ICE Clear Europe were responsible for ‘Gross Notional Cleared’ of approximately $20.7 trillion and €10.4 trillion respectively.

More holistically, the Dodd-Frank Wall Street Reform and Protection Act also formally addressed the proposals for increased regulation of financial organizations such as AIG.
4.2 Standard for monitoring capital adequacy and risk exposure of insurers

Basel III, or the third Basel accord, is a new standard for monitoring capital adequacy and other risks that were built based on the foundations of Basel I and Basel II. Basel III was developed in response to the deficiencies in financial regulation revealed during the crisis and it seeks to improve on the past standards on three fronts: capital requirement, leverage ratio and liquidity requirements.

Adoption of the standard, however has been delayed with criticisms about Basel III (that was fundamentally developed as a standard for banks) being not flexible enough to accommodate the liquidity profile of insurers such as AIG.

The development of a comprehensive regulatory and stress-testing tool, however, is much welcomed in the financial world as well as with investors.

4.3 Proper assignment of credit ratings

Enjoying massive reputation as well as its status as one of the few triple-A rated companies pre-crisis, investors felt assured buying insurance products such as CDS from AIG. This consequently led to AIG becoming a major insurer against credit losses (Harrington, 2009). Harrington also pointed out that because there were little supervisory activities on AIGFP selling these contracts, AIGFP consequently became an unregulated hedge fund within AIG, leveraging on the credit rating of the holding company to place huge bets with little reserves. Indeed, as Asher and Heaser (2008) noted, OTC CDS contracts on CDO contracts written by AIGFP were all AAA-rated due to the triple-A rating of the entity. The extensive use of triple-A ratings have resulted in a severe understatement of risk reflected for these securities.

With the benefit of hindsight, we are able to point out evidence of misallocation of credit ratings through the fact that, during crisis, the average recovery rate for securities graded with “high-quality” ratings returned only 32 cents per dollar to the investors, while those graded low quality returned a mere 4 cents per dollar (Saunders & Cornett 2012).

To address these concerns, let us discuss three possible courses of action.

*Increased regulatory controls over Credit Rating Agencies (CRAs)*

The most ostensible course of action is for authorities to increase their regulation of CRAs, by ensuring the usage of acceptable rating methods, transparency as well as conformance to standards that will remove potential conflicts of interest.

Indeed, under Subtitle C of the “Investor Protections and Improvements to the Regulation of Securities Act” (IPIRS), major reforms were officially proposed under the standard for “Improvements to the Regulation of Credit Rating Agencies”. Within these proposed reforms are: (i) the clarification and audit of methodologies and procedures with regards to credit rating, (ii) Nationally Recognized Statistical Ratings Organizations (“NRSROs”) are required to publicly disclose information on initial and revised credit ratings issued and (iii) adherence to rules established to prevent sales and marketing considerations from influencing the ratings issued by NRSRO.
"Issuer Pay" to "Subscriber Pay" model

It is also not difficult to point out the inherent conflict of interest embedded within the current "issuer pay" model adopted by most CRAs. As former SEC Chairman Mary Schapiro pointed out, CRAs have “inherent conflicts” because they are paid by underwriters of the securities wanting the highest possible ratings. In addition, CRAs are also constantly involved in providing advice to organizations’ management on how to maintain a certain level of credit rating. Detractors therefore argue that the “issuer pay” model is fundamentally flawed.

It is interesting to note that among rating agencies given the status of Nationally Recognized Statistical Ratings Organizations (“NRSROs”) by the Securities and Exchange Commission (SEC), one organization, Egan-Jones rating agency (EJR) adopts a “subscriber-pay” model which relies on revenue from investor subscribers as opposed to the traditional issuer-pay business model. According to research by Xia and Strobl (2012), ratings by EJR successfully forecasted the falls of Enron, WorldCom and Lehman Brothers.

Indeed, at least from a theoretical perspective, a “subscriber pay” model possibly better aligns the incentives of the credit rating agencies and the investor subscriber.

Unsurprisingly, such suggestions have been met with vehement objections from CRAs using the “issuer pay” model, most notably the Big Three [Standard & Poor (S&P), Moody’s, Fitch]. As Devan Sharma, president of S&P argued that “it is possible to envision a small number of large investors representing enough of a bloc to attempt to put significant pressure on the ratings process”.

Unequivocally, a convenient shift to a “subscriber pay” model will be strongly resisted and might be close to impossible considering the tremendous influence of relevant stakeholders. Scholars and authorities, however, cannot ignore the inherent problems that exist within the “issuer pay” model and need to constantly address them while seeking to improve the current credit rating process.

Using Credit Default Swap Spreads to complement CRAs

The final recommendation pertains to investors.

Flannery, Houston & Partnoy (2010) used data within the 2006-09 period and stated that CDS spreads were more dynamic and responded faster than credit ratings. The trio also recommends CDS spread as a potential market-based substitute for credit rating.

Instead of regarding CDS spread as a substitute, the writer recommends that potential investors and counterparties to a CDS contract view both CDS spread and credit ratings as complements while making decisions.

5.0 Conclusion

The bailout of AIG has been fraught with controversy and will continue to be studied in future as a case study for risk management, or the lack of it.

Derivative financial products, such as CDS, are growingly complex. However, it is important to note that “complexity” is not the root cause for ugly episodes like these; insufficient risk management
against greed and moral hazard is. In fact, as ironic as it might sound, most derivatives are fundamentally designed as risk management tools.

Again with the benefit of hindsight, we have seen from the case of AIG how important it is to exercise prudent risk management with discipline, in both good times and bad.
References:


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