

AIG – The Bailout

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1. AIG	2
1.1 AIGFP	2
2. How did the breakdown start?	3
3. The financial market and its products	4
3.1 Credit rating agencies	4
3.1.1 Rating agencies role in the 2008 financial crisis	4
3.2 Mortgage backed securities	5
3.3 Collateralized debt obligation	5
3.4 Credit default swap	6
3.4.1 The difference between a CDS and normal insurance	7
3.5 Over the counter trading	8
4. When it went south	9
4.1 The Bailout	10
4.1.1 What could've happened?	11
5. Risk Management at AIGFP	11
6. Conclusions	12
7. References	14
7.1 Books	14
7.2 Internet	14

1. AIG

American International Group, more commonly known as AIG is a global insurance company which was founded 1919 in Shanghai by Cornelius Vander Starr. Since then, AIG has spread its business worldwide and was through decades before the financial crisis of 2008 the biggest insurer in the world.¹

AIG offers a series of different insurances which will help their customers, whom are individuals and other companies, to protect their assets, manage risk and control retirement savings.² Just like any other insurance company, AIG earns its profit from customer paying their premiums. In order to offer insurances, companies like AIG usually require that there are many risks of the same type and that the risks are independent of each other.³ In addition to these more common insurances, AIG also provided the market with more complex derivatives during a period of time before the financial crisis in 2008. They made this through one of the company's many subsidiaries, namely, AIG Financial Products Corporation.

1.1 AIGFP

AIGFP was founded in 1987 with purpose to focus on these more complex derivatives.⁴ They discovered a new tactic to make money based on AIG's AAA credit rating. One of AIGFP's products, the Credit Default Swaps (CDS), was first sold in 1998⁵. This package of CDSs was an insurance on JP Morgan's various corporate debt. It was then deemed to have a 0.15 percent risk of failure, which according to AIGFP would only happened if the economy went into an absolute depression.⁶ These CDSs would later on be the ticking bomb that in 2008 brought AIGFP down to its knees. The CDSs will be explained in more detail later.

Before the breakdown, in 2007, AIG had revenues of \$110 billion and 116 000 employees worldwide.⁷ One year later, in February 2008, AIG declared estimated losses of \$11.5 billion and the American government had to bail out AIG to prevent a collapse of the company.⁸

¹ Investopedia, "Falling Giant: A Case Studie Of AIG", read: March 31st

² Reuters, "American International Group", read: March 31st

³ Strömberg, M and Gunnarson, R, "Riskhantering ur ett försäkringsperspektiv", Gothenburg University, 2017, read: March 31st

⁴ Talkingpointsmemo, "The Rise And Fall Of AIG's Financial Products Unit", 2009, read: March 31st

⁵ AIG, "2008 Annual Report", read 2 April

⁶ Talkingpointsmemo, "The Rise And Fall Of AIG's Financial Products Unit", 2009, read: March 31st

⁷ Daily News, "AIG facts", read 2 April

⁸ Talkingpointsmemo, "The Rise And Fall Of AIG's Financial Products Unit", 2009, read: March 31st

2. How did the breakdown start?

To fully understand the breakdown of AIG, it is necessary to understand the underlying factors of the financial crisis in 2008. When looking back to the years before the breakdown, it is today easy to point out some factors in the foundation of the economy and actions by individual companies that made the crisis so extensive. However, there were several signs that were obvious already then that the economy was heading for worse times.

After the Great Depression of 1929, the financial markets in the US and Europe were regulated to prevent these sorts of collapse to happen one more time. This regulation, amongst other things, kept the economy in balance during the “golden age” of capitalism right up until the 1970s when a period of stagnation occurred.⁹ To get out of this stagnation the politicians started to deregulate the financial market.

This kept going on in the late 20th century which gave the financial sector the opportunity to grow in a tremendous speed.¹⁰ In the beginning of the 21st century, by the time of the IT boom, the Federal Reserve lowered the interest rate to unusually low levels to keep the economy strong.¹¹ Many investors who previously used to buy treasury bills, which was seen as the safest investment, started to look for new investments. On the other hand, it was now very cheap to lend money. The politicians in the US reduced the credit requirements to borrow money, which in combination with low interest rates from the Federal Reserve made it possible for anyone to take loans. The politicians thought that all Americans should have the chance to buy their own houses, which they thought was good, because houses always increase in value. They thought that this was a safe deal because if the loan holders didn't pay their mortgages the banks would get their houses instead. Because of this, many loans were issued to persons with questionable credit. These new loans, with lower credit requirements were called Subprime loans, often with high and flexible interest rates. When everybody all of a sudden had the opportunity to buy houses, the house prices increased considerably.¹²

⁹ Orhangazi, Özgür, “Financial deregulation and the 2007-08 US financial crisis”, Department of Economics, Kadir Has University, Istanbul, August 2014, read: April 2nd

¹⁰ Ibid

¹¹ Dr Econ, “Why did the Federal Reserve System lower the federal funds and discount rates below 2 percent in 2001?”, January 2002, read: April 2nd

¹² Investopedia, “Financial Crisis”, read: April 2nd

If this would have been the end of it, the outcome of this probably would have been different. Unfortunately, banks, investment banks and other financial institutions took advantage of this deregulation and therefore searched for chances to make even more money, which they did. The financial institutions came up with the idea to connect homeowners with investors through mortgages. The following parts will show how they succeeded with this but in order to understand this better it is first necessary to know what a credit rating agency is.

3. The financial market and its products

Due to the deregulation of the financial markets in the 20th century, various financial products were created. It is important to understand these bonds and their derivatives since they are somewhat responsible for incentives on Wall Street and consequently the financial crisis.

3.1 Credit rating agencies

A credit rating agency main target in the financial market is to give an objective perspective for the underlying asset in a derivative. The purpose for this is to provide the investors with enough information for them to decide regarding a possible transaction in the derivative. There are other markets where rating agencies also operate, with the rating of companies, countries etc., although this report will focus on their impact at the financial sector.¹³

There are three main actors in the business of credit rating. They're Standard & Poor's, Moody's and Fitch, where the latter of this three where the founder of the AAA through D rating system. The system works as follows that a rating agency investigate the underlying asset, in the financial crisis 2008 it was usually the loans building up an CDO (more about the CDO later) that was the objective, and then create a rating based upon the opinion of the investigators.

3.1.1 Rating agencies role in the 2008 financial crisis

Because there were only three mayor rating agencies working with the big investment banks during the start of the 21th century, the competition between these three were fears. Michael Lewis explains in his book "The big short" how a conflict of interest arose among the rating agencies. Lewis claims that because of a non-regulated rating market the agencies could give a AAA rating and claim that they did it from their own opinion. It was often in the interest among the investment banks that the derivative, for example a CDO or synthetic CDO, got the highest possible rating so that they could sell it to pension funds or other investors that demanded a safe investment. The fact that

¹³ Investopedia, "A Brief History Of Credit Rating Agencies", read: April 2nd

rating agencies then got bonuses for a high rate of AAA or risked losing the investment bank to the competition made these ratings inaccurate and false.¹⁴

3.2 Mortgage backed securities

The principle behind Mortgage backed securities, often shorted MBS, is quite simple. A bank or other similar institution sells one or several mortgage loans to either a governmental institution or an investment bank. During the early 21th century a lot of MBSs got bought by investment banks which created a heavy demand for more mortgages to back up the derivative.¹⁵ The idea with a MBS is that the investment bank gathers many mortgages together and divide these into something called tranches, which basically means different layers.¹⁶ The payment that an investor received from the MBS depends on which layer of these tranches the investment was made. Some of the upper tranches only consisted of safe and dependable mortgages with a AAA rating from the rating agencies, which also made these pay less interest rate. If you bought a riskier tranche of the MBS with a lower grade you usually received a higher interest rate but took on a risk that the underlying asset would default, something that would accrue if the mortgage taker failed to pay his or her monthly interest rate.¹⁷

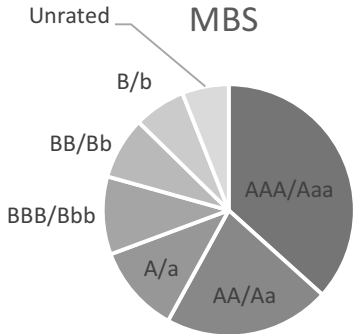


Figure 1 - Example of how tranches in a MBS could be distributed

3.3 Collateralized debt obligation

A Collateralized Debt Obligation, often shorted CDO, was one of the main pillars which the foundation of the 2008 crisis was built upon. In general, a CDO worked as follows: A bank hands out different type of mortgages, credit card loans, car loans etc. All these different types of loans forced the bank to tie up resources and capital for a long period of time, which indirectly limited the amount of new business the bank could take on. This is when the investment banks entered the

¹⁴ Lewis, M, "The big short", Mars 2010, read: April 2nd
¹⁵ U.S. Securities And Exchange Commission, "Mortgage-Backed Securities", read: April 2nd
¹⁶ Investopedia, "Tranches", read: April 2nd
¹⁷ Investopedia, "Mortgage-Backed Security (MBS)", read: April 2nd

picture. When working with CDOs, the bank which issued the loan could sell this to an investment bank that bought several types of loans from several different banks. All these were then bundled together into what is known as a Collateralized Debt Obligation and then sold to investors, such as pension funds and large companies. When the person whom originally borrowed the money pays the monthly interest, the interest money then went to the investors and not to the issuer of the loan or the investment bank. They instead took fees when creating, selling and managing the CDOs. A CDO is similar to a MBS in terms of that both the derivatives consist of loans. Although they differ in the fact that a CDO consist of all type of loans, sometimes including mortgages that did not sell as MBSs, when the MBS only consists of different type of mortgages.¹⁸

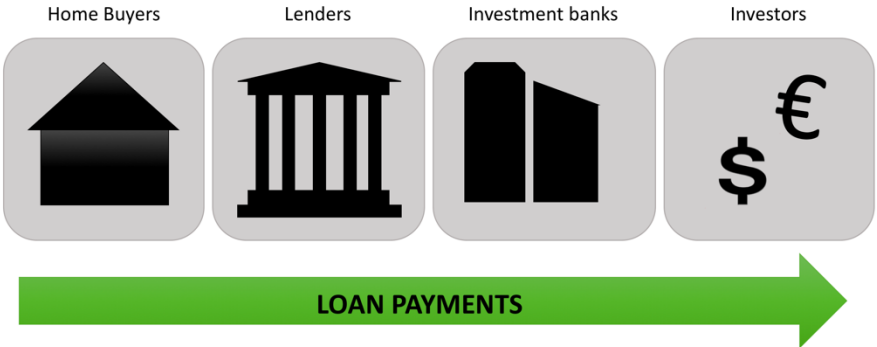


Figure 2 - Illustrates how the money went from mortgages takers to the investors in a CDO

3.4 Credit default swap

To understand the decomposition of AIG’s financial products one must truly understand what the company was selling. Besides the ordinary financial services such as corporate finance and risk management, in the property of being an insurance company AIG had the ability to insure various bonds. Insurance on a bond is called a credit default swap (CDS). The CDS is a bilateral contract between two parties that gives the buyer of the derivative protection on the face value of an underlying bond. To put it simply, the buyer pays a periodic fixed fee and in return the seller will pay the face value of the underlying asset on the occurrence of some specified credit event (typically a default on the payback of the underlying bond). This enables the buyer to transfer its risk exposure to the seller.¹⁹ Why doesn’t the insurance entity “cut the middle man” and receive all the periodic premiums itself, since they are the ones taking a risk one might ask. Well, this is partly where the system failed. AIG (which represents the insurance entity) didn’t just sell CDSs to one investor,

¹⁸ Investopedia, “Collateralized Debt Obligation – CDO”, read: April 4th

¹⁹ Choudry, M, “The Credit Default Swap Basis”, 2006, read: April 4th

indeed they insured MBSs and CDOs worth approximately 230 billion dollars.²⁰ Whereas AIG (or any other CDS seller) only had to put up a probabilistic amount of collateral for these insurances, as stated by some legal documents from the international swaps and derivative association (ISDA). Basically the investor lends their money today, but the one insuring the investor sets aside a significantly smaller amount of money. Consequently, AIG can just keep on selling CDSs, thus creating more and more income streams. This is a result of the general belief in the credit rating agencies. Since AIG initially had a AAA rating, they could insure large sums of money and only set aside a little collateral. Picture three explains the circulation of CDSs and bonds.

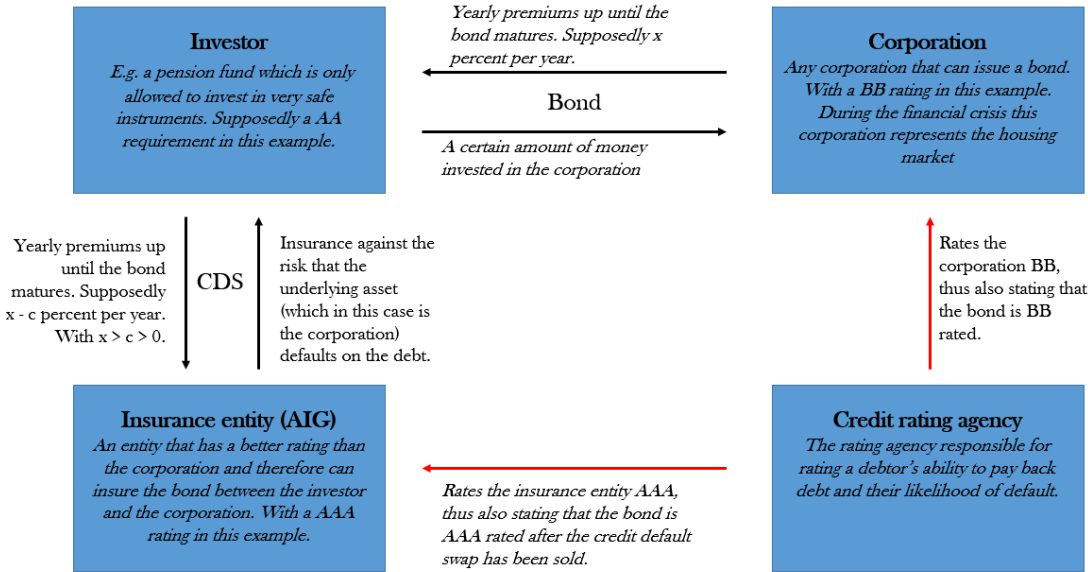


Figure 3 - Illustrates the circulation of CDSs and bonds

3.4.1 The difference between a CDS and normal insurance

Back in 2005 only 23 American banks owned positions in CDSs, hedging on average 2 percent of their loans via CDSs.²¹ As long as the insurer doesn't get in over its head, the general idea of transferring credit risk exposure via a CDS holds. The main difference between a CDS and normal insurances however, is that the CDS allows a buyer to insure some bond without even owning it. Because of this the CDS can be used to short a bond issued by the reference asset obligor²², if for some reason the buyer believes that the reference asset obligor will default on its debt. Picture four describes how a second party can buy a CDS to short the same corporation (to short its bonds more precisely) the first investor placed its money in.

²⁰ Paulson, A and McDonalds, R, "AIG in Hindsight", Federal Reserve Bank of Chicago, 2014, read: April 4th
²¹ Stultz, René M, "Credit Default Swaps and the Credit Crisis", The Journal of Economic Perspective, page 78, read: April 6th
²² Choudry, M, "The Credit Default Swap Basis", 2006, read: April 6th

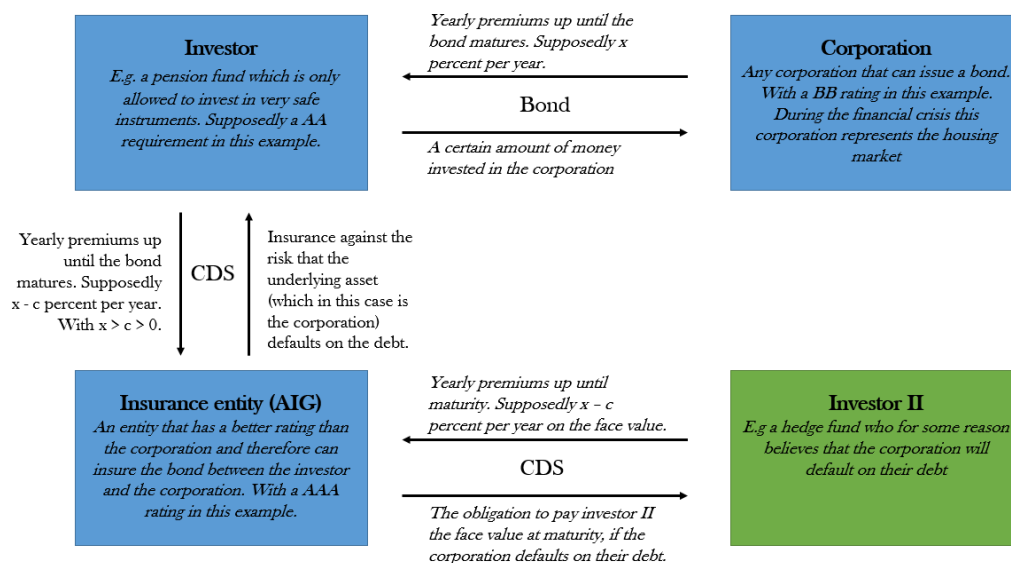


Figure 4 - Illustrates how a second party can buy a CDS to short the same corporation the first investor placed its money in

Since the CDS issuer only has to set aside a little collateral when selling a CDS, it's in their incentive to keep on selling CDSs regardless of the buyer's incentive. The insurance entity just needs to keep enough capital so that probabilistically, whatever debt defaults, they can repay. During the build-up of the financial crisis more and more people used CDSs to make various "bets" on the housing market. From 2004 to 2008 the market for CDSs grew from 6 to 41 trillion dollars.²³ In most cases the CDS market was in fact more liquid than the market for the underlying bond.²⁴ The combination of a growing market and lack of collateral led to a "house of cards-situation" where one single default could insinuate within the connection of various bonds and CDSs. Simply because the default on one bond could be enough to make an insurance entity undercapitalized and thus also diminishing the credit rating on another bond. Also, when the value of the underlying bond fell, the CDS seller had to post collateral towards its counterparty, thus potentially creating liquidity issues for the insurance entity. All in all these factors combine to the fact that the CDS has been called the worst Wall Street invention ever.

3.5 Over the counter trading

When two parties create a deal together and does not involve an exchange market its common to refer to this as trading over the counter (OTC). This is common with stocks and derivatives that not has been listed on an exchange market which was the case with a CDS.²⁵

²³ Stultz, René M, "Credit Default Swaps and the Credit Crisis", The Journal of Economic Perspective, page 78, read: April 6th

²⁴ Ibid, page 75

²⁵ Nasdaq, "Over-the-counter (OTC)", read: April 28th

There is some risk connected to trading OTC and therefore risk managers are cautious when handling derivatives that is not listed. A lot of the actors are connected to the ISDA master agreement in an attempt to manage this kind of risk. The agreement is basically a standard document signed by the two parties entering the deal. There are also room for the parties to add or withdraw some specific information to the master agreement. The document clarifies what the two parties can expect from one another and is convenient to have in case of a future conflict.²⁶

The credit support annex (CSA), is a part of the ISDA master agreement. It is one of the four main parts building up an ISDA master agreement, and is therefore crucial for this to happen. The CSA has as its main purpose to provide the transaction between the two parties with collateral enough to make the transaction take place.²⁷ This is an important part of a risk manager's work in companies like AIG. The rules of the CSA allows the counterparty to ask for the insurance entity to post collateral if the underlying bond or asset losses in value, deems to be more risky or if the credit rating of the insurance entity decreases. This is in fact what happened to AIG several times.²⁸

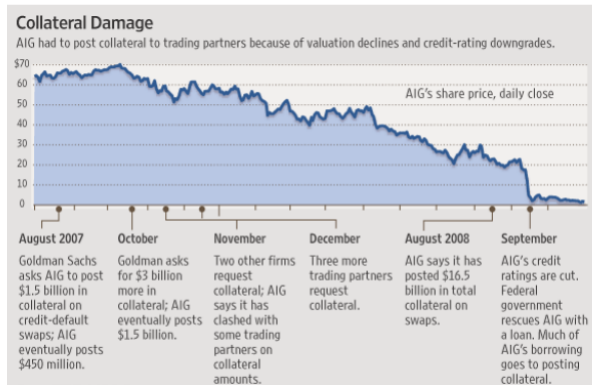
4. When it went south

As previous described in the report, AIG's financial product department insured CDOs for billions of dollars during the years building up to the crash at 2008. AIGFP had issued a significant number of CDS which had more than quadrupled the departments revenue, from 737 million dollars 2003 to over 3 billion dollars at 2008. The insurance market for financial derivatives was considered bulletproof and therefore AIGFP had not taken in to account on what would be the consequences if everything started to rumble simultaneously. When foreclosures rose during 2007, AIG had to honour all the different insurance agreements and the financial product department alone lost over 25 billion dollars. The following graph shows the stock price of AIG during the financial crisis.

²⁶ Investopedia, "ISDA Master Agreement", read: April 28th

²⁷ Investopedia, "Credit Support Annex", read: April 28th

²⁸ Mollenkamp, C, "Behind AIG's fall, Risk Models Failed to Pass Real-World test", Wall Street Journal, 2008, read: May 4th



Date	Rating Firm	Rating
Pre 3/15/2005	All	AAA/Aaa
3/30/2005	S&P	AA+
6/03/2005	S&P	AA
5/08/2008	S&P	AA-
9/15/2008	S&P	A-
3/31/2005	Moodys	Aa1
5/02/2005	Moodys	Aa2
5/22/2008	Moodys	Aa3
9/15/2008	Moodys	A2
3/15/2005	Fitch	AA+
5/02/2005	Fitch	AA
5/08/2008	Fitch	AA-
9/15/2008	Fitch	A

Source: Bloomberg.

Notes: Prior to March 15, 2005 AIG was rated AAA by all three ratings agencies.

Table 1 – AIG Credit Ratings 2005 to 2008, source: Bloomberg

4.1 The Bailout

In September 16, 2008, the Federal Reserve and Treasury Department saved AIG from bankruptcy.³⁰ AIG had by the time total losses of \$50 billion linked to their activities concerning their CDSs and other financial instruments. Merrill Lynch, Freddie Mac, Fannie Mae and some other financial institutions also had to be rescued.³¹

The bailout from The Federal Reserve was to begin with \$85 billion and they purchased MBSs with \$52.5 billion of these.³² The Treasury Department bought AIG preferred shares for \$40 billion.³³ These funds helped AIG to fulfill their contracts on various CDSs they had sold years earlier, in the sense that they could use the money to post collateral³⁴. In the end, the taxpayers paid more than \$170 billion to AIG.³⁵ After the bailout the American Government controlled close to 80

AIG had to post more collateral when rating agencies began downgrading the CDOs and MBSs AIG had insured (via CDSs). Further on this led to the rating agencies downgrading AIG as well, which forced them to post even more collateral when counterparties came asking.

When AIG's credit rating started moving south in the rankings it caused even more insecurity on the market. As the danger of insolvency stood upon the entire AIG, the federal government decided to step in with a bailout package. AIG was in the eyes of the government simply too big to fail.²⁹

²⁹ Investopedia, "Falling Giant: A Case Study of AIG", August 2016, read: April 4th

³⁰ Paulson, A and McDonalds, R, "AIG in Hindsight", Federal Reserve Bank of Chicago, 2014, read: May 4th

³¹ The Guardian, "Three weeks that changed the world", December 2008, read: May 4th

³² The Balance, "AIG Bailout: Cost, Timeline, Bonuses, Causes, Effects", April 2017, read: May 4th

³³ ibid

³⁴ Kwak, J, "AIG, Credit Default Swaps, and Risk Management", The Baseline Scenario, 2008, read: May 5th

³⁵ The New York Times, "A.I.G Planning Huge Bonuses After \$170 Billion Bailout", March 2009, read: May 4th

percent of AIG's equity. Later on, this investment turned out to be a great investment for the government which in 2014 had made a profit off \$22.7 billion only on AIG.³⁶

This bailout has been widely criticized in the matter of fact that the taxpayers had to help these rich institutions which on their own had caused the crisis. The criticism escalated when it came clear that AIG was about to pay out \$165 million in bonuses just one year after the bailout.³⁷

4.1.1 What could've happened?

In the same time as AIG got rescued, Lehman Brothers went bankrupt without any help from the US government. What were the reasons that just some of the failing companies were saved and what would have happened if AIG would not have been rescued? Of course, it is impossible to answer this question but you can discuss about possible outcomes. To start with, millions of insurance holders will end up with uninsured property. Furthermore, investors which had bought CDSs from AIG to hedge their investments would also fall when the underlying asset lost its value. If these investors were big financial institutions, these losses would easily spread and make this crisis more extensive.

In order to summarize these speculations, the crisis probably would had worsened at the moment if the bailout of AIG did not take place. But on the other hand, the recovery would perhaps take place earlier if the US government instead used the money to boost the economy.

5. Risk Management at AIGFP

As we delve deeper into AIGFP's CDS business it is interesting to see how they managed the risk they encountered. As stated earlier, the initial idea of AIGFP was to take advantage of their AAA credit rating. The question that then sparks to mind is how AIGFP determined the risk for all the forthcoming CDSs they issued. Since the construction of the CDS allows debt to insinuate within indirect connections (as shown in the CDS chapter) one cannot assume that CDSs on different bonds are independent of each other. If one bond defaults, the other one might be more likely to do so as well.

Like every other financial institution in these markets, AIGFP used models to estimate the probability of default on the underlying bonds. AIGFP of course relied on those models to help figure

³⁶ Time, "The Real Truth About the Wall Street Bailouts", September 2014, read: May 4th

³⁷ The New York Times, "A.I.G Planning Huge Bonuses After \$170 Billion Bailout", March 2009, read: May 4th

which swap deals were safe, and therefore should be sold. Back in 2008 Carrick Mollenkamp of the Wall Street Journal wrote that by selling CDSs AIGFP exposed themselves to three different kinds of risk. The first risk being the obvious one that the underlying bond defaults and that AIGFP therefore has to pay up the face value of the CDS. The second being the fact that AIGFP had to post more collateral if their credit rating decreased (which it in fact did, several times) or if the underlying bond declined in value (i.e. the probability of default rose). Finally Mollenkamp states that the third kind of risk is that AIG is obliged to account the swap deals on their own books based on their market value, and if the value falls AIG has to take write-downs. It is further stated in the article that AIGFPs risk models didn't take the second and third risks into account.³⁸ However, it is worth stating that the second and third risk-types are completely derived from the first one that is reliant on the prosperity of the underlying bond. Therefore, some argue whether one can entirely blame these models for AIGFPs losses. By the Basel II accord, it is recommended that bank be allowed to use their internal models to determine their capital requirements needed to meet losses due to credit risk, market risk etc.³⁹ James Kwak, who is Professor of law at UConn argues that if what a model categorizes as a “six-standard-deviation” events occurs there might be something wrong with the model. Further Kwak reasons from a statistical matter and says that if a model deems some event as virtually impossible, it is generally more likely that the model is wrong.⁴⁰

6. Conclusions

Throughout the entire financial crisis it is easy to see that the financial instruments have amplified the effects. One might then ask if the instruments mentioned in this essay are in general “bad for the economy”. The foundation on which all these instruments were built upon was that the housing market was rock solid and extremely unlikely to fail. This has proven to be an interpretation that was completely wrong. In the case of AIG, their risk management deemed several events as very unlikely or even impossible and sometimes uncorrelated. James Kwak argues you can't assume that housing prices won't fall by a significantly high percentage just by looking at historical data. Either the event only occurs on a time period that is bigger than your data span or the world has changed in significant way (which it of course had) and housing prices can fall by high percentages. Because of that the market had been deregulated at many levels on Wall Street and every actor only looked after its own house there was few people that stopped and wondered whether the housing market was as solid as the general belief said. The fact that for example the credit rating agencies were

³⁸ Mollenkamp, C, “Behind AIG's fall, Risk Models Failed to Pass Real-World test”, Wall Street Journal, 2008, read: May 5th

³⁹ Investopedia, “Basel II”, read: May 5th

⁴⁰ Kwak, J, ”AIG, Credit Default Swaps, and ‘Risk Management’”, The Baseline Scenario, 2008, read: May 5th

rewarded after what kind of rating they provided made them give inaccurate information to investors. Furthermore, the investment banks demanded an incredible number of loans to put in their financial products which resulted in mortgage brokers handing out subprime loans without even question it. The construction of the CDOs made risk management even harder, since barely nobody knew their exact content. When AIG started insuring these CDOs with CDSs it was in their incentive to keep on selling the same CDSs regardless of the buyer's incentive. This is a result of the fact that initially AAA rated AIG only had to put up very small sums in collateral. Even politicians were ridding the train, satisfying the large majority with dreams about their own house. It is reasonable to see that the economic situation at the time before the financial crisis was in the incentive of Wall Street. Before the financial crisis, the economic situation created a no zero sum game for all participants on Wall Street and that might be the reason for letting the deregulation on financial products to continue. If there would've been some other sort of regulation, then the initial concepts of the CDSs or CDOs per say could've worked. The CDS can play a useful role as insurance and thereby make it easier to capitalize some institutions. Whilst a more transparent mortgage bond than the CDO could satisfy the demand for new financial products, without creating incentives to short them.

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