

# **A Critical Analysis of the Dodd-Frank Wall Street Reform and Consumer Protection Act**

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## **Abstract**

This paper focuses on the Dodd-Frank Wall Street Reform and Consumer Protection Act which was passed into law in the United States on July 21, 2010 in response to the recent financial crisis. It particularly focuses on the parts of the bill related to the markets for structured financial products and credit ratings agencies. The paper reviews the issues that led to the crisis as well as the theory that helps to explain the causes of these issues. It then goes on to analyze the recently passed legislation in light of these issues and the relevant theory, and discusses the likely positive effects as well as the likely shortcomings of the different pieces of legislation.

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## 1. Introduction

The debate over the regulation of markets has existed ever since the creation of markets themselves. From the grain markets of the Roman Empire to the rice markets in medieval Japan, markets around the world have often been regulated by a central authority. Although it has not always been the case, regulation of markets has typically been with the intention of accomplishing two things: the protection of less informed market participants, and the prevention of market failure. Still, there are notable economists, such as Adam Smith and Milton Friedman, who claim that the best way to achieve market efficiency is without regulation.

The debate between free and regulated markets seems to be never-ending, and is particularly apparent in the post-2008 financial crisis world. In July 2010 a series of financial reforms, dubbed the Dodd-Frank Wall Street Reform and Consumer Protection Act, were passed in the United States. Besides the typical free-market vs. regulation debate, many skeptics have asked whether more regulation is really what we need to solve the issues that exist in the U.S. financial system. In order for this new regulation to help, it must solve a problem that was previously left unsolved by either the natural corrections of the market or by previous regulation, and its benefit must be greater than the adverse effect it may have on the rest of the market.

The purpose of this paper will be to introduce the challenges leaders face in the post-financial crisis world, and to critically analyze the recently passed legislation specifically relating to the markets for structured financial products, and credit ratings agencies. The reason for the special focus on these areas is due to the central role that structured financial products and their rating had in the recent crisis. In order for the Dodd Frank act to be considered largely successful, it must solve these central problems without greatly hampering the financial markets as a whole. Since it is not possible to take precise measurements of all of the effects that these regulations are likely to have, this analysis will be largely qualitative and theoretical. It will involve an analysis of the theory that the different pieces of regulation are directly or

indirectly based upon. In light of this theory an analysis of the regulations themselves and the effect that they are likely to have, will then be conducted.

## **2. Theory**

### **2.1. Asymmetric Information**

The need for financial regulation stems from the fact that there is a tremendous amount of asymmetric information in financial markets. For example, firms know more about the risks that they take than their customers and many investors, just as the borrowers of mortgages know more about their ability to repay loans than the mortgage brokers<sup>2</sup> that issued the loans. Without asymmetric information there would be no need for financial regulation as all parties would have the information they need to make the most rational decision. Since this is not possible, financial regulation should attempt to correct for the negative effects of asymmetric information while imposing as little disturbance on the positive natural dynamics of the market as possible. As such, each of the models presented in this section deals with issues caused by information asymmetry which the proposed financial regulations are intended to correct in order to secure the financial system.

### **2.2. Principal-Agent Model**

Bernard Salanié (1994) describes how contract theory is necessary to compensate for general equilibrium theory when information asymmetries are present.<sup>1</sup> Contract theory depends heavily upon use of game theory and the principal-agent model. The principal-agent model is comprised of two parties: the uninformed party (the principal), and the informed party (the agent), who has information that is valuable to the uninformed party.<sup>2</sup> The models involving the principal-agent paradigm typically describe the constraints imposed on the relationship through explicit (guaranteed by a third party) or implicit (guaranteed by an observable equilibrium that neither party has an incentive to break) contracts.<sup>3</sup>

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<sup>1</sup> Salanié, *The Economics of Contracts: A Primer*, Second Edition, English Translation 2005

<sup>2</sup> Ibid

<sup>3</sup> Ibid

Salanié notes that different strategic games can be separated by which party moves first and whether the situation depends upon actions that the agent takes, or characteristics of or information held by agent.<sup>4</sup>

### 2.3. Signaling

In signaling models, the principal is imperfectly informed about characteristics of, or information held by the agent, but the agent moves first.<sup>5</sup> In a more general definition, signaling refers to the agent revealing some useful information about itself so that the principal can make a more informed decision. Sometimes signaling can be initiated by the agent on his or her own behalf, while other times signaling can be required by the principal as a prerequisite to entering into a contractual relationship with the agent. Signaling will be discussed mostly in conjunction with the other principal-agent listed in this section.

### 2.4. Adverse selection

Adverse selection describes a group of situations where the principal is imperfectly informed about characteristics of, or information held by the agent, and where the principal makes the first move in the situation.<sup>6</sup>

Following is a modified example of a Basic Model of Capital Markets with Adverse Selection shown by Freixas and Rochet (1997).<sup>7</sup> While this example deals with entrepreneurs financing their products through capital markets, it can be related to many other situations including the relationship between mortgage seekers and mortgage brokers. A description of this will be provided after the example.

Consider a group of entrepreneurs who each own a risky project requiring an initial investment equal to 1. The net returns from this investment ( $\hat{R}(\Theta)$ ) of these investments follow a normal distribution of mean  $\Theta$  and variance  $\sigma^2$ . While the variance is the same for all projects, the mean differs across projects, and is the privately held information held by each entrepreneur.

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<sup>4</sup> Salané, *The Economics of Contracts: A Primer*, Second Edition, English Translation 2005

<sup>5</sup> Ibid

<sup>6</sup> Ibid

<sup>7</sup> Freixas and Rochet, *Microeconomics of Banking*, 1997

The statistical distribution of the means in the population is common knowledge. The investors are risk neutral and have access to costless storage technology. The entrepreneurs have initial wealth  $W_0$  which is greater than 1 available to finance their projects, but they would prefer to sell the projects to the capital markets because they are risk averse. They have an exponential Von Neumann-Morgenstern utility function of  $u(w) = -e^{-\rho w}$ , where  $w$  represents their final wealth and  $\rho > 0$  is their absolute index of risk aversion. If the mean were observable, each entrepreneur would sell its project to the market at a price  $P(\Theta) = E[\hat{R}(\Theta)] = \Theta$  and would be perfectly insured. The final wealth of an entrepreneur with type  $\Theta$  would be  $W_0 + \Theta$ .

Now suppose that  $\Theta$  is private information and that entrepreneurs are indistinguishable by investors. The price of equity ( $P$ ) is the same for all firms. Under this scenario, only entrepreneurs with a lower expected return will sell their project.

Entrepreneurs that self finance their project will obtain:

$$Eu(W_0 + \hat{R}(\Theta)) = u(W_0 + \Theta - .5\rho\sigma^2)$$

Entrepreneurs that sell their project to the market will obtain:

$$u(W_0 + P)$$

Therefore, entrepreneurs will only sell their project to the financial market if:

$$\Theta < \Theta' = P + .5\rho\sigma^2$$

This puts investors in a bad situation where information asymmetry forces them to choose from among the worst projects.

In some cases, entrepreneurs can use partial self-financing as a signaling tool to try and signal to investors that they possess a high quality project. This relies on investors being convinced that other entrepreneurs with low quality projects will have no interest in even partially self-financing their poor quality projects. In order for this to occur, investors must be convinced that the self-financed fraction of the investment ( $\alpha$ ) is significant enough to deter mimicking from entrepreneurs with poor projects.



In this scenario, the “no mimicking” condition is:

$$u(W_0 + \Theta_1) \geq Eu(W_0 + (1-\alpha)\Theta_2 + \alpha R(\Theta_1))$$

The left side of the equation is the utility of a type  $\Theta_1$  when he sells his entire project at a low (appropriate) price  $P_1 = \Theta_1$ . The right side of the equation represents his expected utility when he tries to mimic type  $\Theta_2$ . In the case where he mimics type  $\Theta_2$ , he sells a fraction  $(1-\alpha)$  of his project at a high price  $P_2 = \Theta_2$ , but retains the risk inherent in his owned fraction  $(\alpha)$ .

This is a good example of fundamental human behavior. People will try to maximize their benefit and minimize their costs. If people are not willing to hold at least a share of the risk, it signals that they do not expect to gain from the project. In practice, holding a share of the risk not only acts as a signal to others, but it also tends to cause people to put in more effort as they will be more affected by the outcome of the project.

## 2.5. Moral Hazard

In moral hazard models the principal makes the first move, and is uninformed about the actions of the agent.<sup>8</sup> A more general explanation of moral hazard involves the agent’s handling of risk on behalf of the principal. Moral hazard occurs when an agent makes risky decisions that affect the principal, that the agent would not make if he were less insulated from risk.

The following is a model of the Credit Market with Moral Hazard by Freixas and Rochet (1997).<sup>9</sup> It deals with a firm’s attempts to gain financing for a project with a size normalized to one. In this example, the amount of financing that the firm needs =  $R$ . There is a 0 risk-free rate of return on assets. The firm has the option to choose between a good (safe) technology which produces result  $G$  with probability  $\pi_G$ , and a bad (risky) technology which produces result  $B$  with probability  $\pi_B$ . Only good projects have an *expected* Net Present Value (eNPV) above one ( $\pi_G G > 1 > \pi_B B$ ), despite the fact that  $B > G$ . This implies that  $\pi_G > \pi_B$ . In this case the success of the investment is verifiable by outsiders, but the firm’s choice of technology and return are not. Assume also that this project is the firm’s only source of cash and that the firm’s success or

<sup>8</sup> Salané, *The Economics of Contracts: A Primer*, Second Edition, English Translation 2005

<sup>9</sup> Freixas and Rochet, *Microeconomics of Banking*, 1997

failure rests on this project. Because of these conditions, the firm repays  $R$  only in the case of success, and repays 0 in case of failure.

With this in mind, the firm will make its technology choice based upon expected profit  $= \pi_i(i-R)$ .

This means that the firm will only choose the good technology if:

$$\pi_G (G - R) > \pi_B (B - R)$$

Since  $\pi_G > \pi_B$ , this expression is equal to:

$$R < R_C = \frac{\pi_G G - \pi_B B}{\pi_G - \pi_B}$$

$R_C$  represents the critical value of debt above which the firm will choose the bad technology even though the probability of failure is much higher. From the lender's point of view,  $R_C < G < B$ . This means that the lender gets no additional benefit from outcome B relative to the benefit from outcome A. As such, the probability of repayment ( $p$ ) depends on  $R$ :

$$p(R) = \pi_G \text{ if } R \leq R_C \text{ and } p(R) = \pi_B \text{ if } R > R_C$$

In order for there to be equilibrium in the credit market without monitoring, the expected return on  $R$  for investors must be equal to one ( $p(R)R = 1$ ). Under the assumptions mentioned above, lending will only occur if  $\pi_G R_C > 1$ . If  $\pi_G R_C < 1$ , there will be no lending as lenders will have a negative expected NPV.

As mentioned earlier, there is no incentive for lenders to want the company to choose the risky technology in any circumstance because they receive the same return ( $R$ ) either way. Information asymmetry makes it impossible for the lender to know which technology the company will choose. In this example, the lender can attempt to align the borrower's choice with the lender's best choice by offering a rate that is low enough so that the borrower's expected value (profit) from choosing the good technology is higher than his expected value from choosing the bad technology.

The problem with this scenario in the real world is that often the potential return from a risky decision is so much larger than the return from a safe decision, that it makes it difficult for the expected profit from the safe decision to eclipse that of the risky decision. This causes moral hazard to be a much larger problem.

Without information asymmetry, the lender would have the ability to charge the borrower a rate that could efficiently compensate for the level of risk in the borrower's decision. It is sometimes possible to eliminate much of this information asymmetry through regulation and monitoring, but this imposes an additional cost. The following example is also from Freixas and Rochet 1997, and builds upon the previous example.<sup>10</sup>

A monitoring technology is introduced at cost  $C$ . Using this, banks can prevent borrowers from using the bad technology. Given perfect competition between banks, the nominal value of bank loans with monitoring ( $R_m$ ) at equilibrium is determined by the break even condition:

$$\pi_G R_m = 1 + C$$

In order for equilibrium to occur, two conditions are necessary:

The first is that the cost of monitoring, and thus the nominal value of loans ( $R_m$ ) must be less than the NPV of the good project ( $G$ ). Given the above condition, this gives:

$$\pi_G G - 1 > C$$

The second condition is that direct lending which is less costly must be impossible.

$$\pi_G R_C > 1$$

Therefore bank lending is at equilibrium for intermediate values of the probability:

$$\pi_G \left( \pi_G \in \left[ \frac{1+C}{G}, \frac{1}{R_C} \right] \right)$$

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<sup>10</sup> Freixas and Rochet, *Microeconomics of Banking*, 1997

If monitoring cost  $C$  is small enough so that  $\frac{1}{Rc} > \frac{1+C}{G}$ , then firms will finance projects themselves for high probabilities of success, borrow from banks for intermediate probabilities of success, and not finance projects with a low probability of success since they won't be able to gain financing from banks, and won't have an incentive to finance themselves.

As shown above, individual banks need to weigh the costs of monitoring against the benefits. The same goes for the government when it comes to regulation. Government regulation, especially when it comes in the form of oversight organizations, does have a steep cost in terms of tax money. Regulation can also impose costs by disrupting the natural workings of the market.

Unfortunately, the moral hazard problem is quite common in business as the agent typically does not carry as much of the risk as the principal does. Moral hazard problems were major contributors to the financial crisis, and are the subject of much of the proposed financial regulation in the US right now. Examples of these problems will be provided throughout the paper.

## **2.6. Risk Shifting**

That the amount of money and credit available are important determinants of asset prices. Asset bubbles, or the inflation in the price of certain assets, are often started or catalyzed by an expansion of available credit. While later sections will go into more detail on asset bubbles, this section will present a concept called risk shifting which is another factor that can exacerbate asset bubbles. Risk shifting stems from the principal agent problem where the principal is unable to observe the actions of the agent, and is closely related to the moral hazard problem.<sup>11</sup> Risk shifting is common when the providers of investment funds are unable to observe the characteristics of investments made by a third party investor on the provider's behalf.<sup>12</sup> Risk shifting can cause moral hazard which leads to the agent making overly risky investments. When this happens on a large scale it causes the prices of risky assets to be bid up

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<sup>11</sup> Allen and Gale, *Understanding Financial Crises*, 2007

<sup>12</sup> Ibid

above their fundamental values.<sup>13</sup> It follows that the amount of risk shifting, i.e. the amount of credit provided through third parties, is a major determinant of the severity of asset bubbles.

The following is an example of risk shifting provided by Allen and Gale (2007).<sup>14</sup> It demonstrates how risky assets are bid up due to risk shifting by comparing a “fundamental” case where investors invest on their own behalf, to an intermediated case where investors must invest through an unobservable third party. They consider it a “bubble” when the price of an asset rises above the price determined in the “fundamental” case.

In both cases there are two dates,  $t = 1, 2$ . There are also two assets, a safe asset which is in variable supply, and a risky asset in fixed supply. For each 1 unit invested in the safe asset at date 1, the return is 1.5 at date 2. There is only 1 unit of the risky asset, and for this asset the return at date 2 is 6 with a 25% probability and 1 with a 75% probability. This leads to an expected payoff of 2.25 at date 2. Since there is a fixed supply on the risky asset, the price will be determined through bidding in the market. Let  $P$  represent the price of this risky asset.

In the fundamental case, each investor has 1 unit of wealth initially and invests her own wealth directly. Investors are risk neutral. The price of the risky asset can be determined by the following:

$$\frac{2.25}{P} = \frac{1.5}{1} \quad \text{and so } P = 1.5$$

This shows that risk-neutral investors investing their own funds will only bid up the risky asset to the level where the expected rate of return is the same from each type of asset.

In the intermediated case, investors have no wealth of their own. They can borrow at a rate of 33.33%. The maximum amount that they can borrow is 1. If they borrow at  $t = 1$ , they pay back 1.33 at  $t = 2$  if they are able to. If they are unable to pay back the full amount, they pay whatever they have. Because of this, borrowers are only interested in the upper part of the

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<sup>13</sup> Allen and Gale, *Understanding Financial Crises*, 2007

<sup>14</sup> Ibid

distribution of returns on the risky asset. Lenders are unable to observe how the investors invest the money.

If an investor invests in the safe asset he will receive the following return after the loan is paid back:

$$1.5 - 1.33 = 0.17$$

If instead the investor was able to invest in the risky asset at the price determined in the fundamental case, he would be able to purchase  $1/1.5$  unit of the risky asset. In this case, the investor would have the following expected return:

$$.25((1/1.5 \times 6) - 1.33) + .75(0) = 0.67$$

While the borrower would have the following expected return:

$$.25(1.33) + .75(1 \times (1/1.5)) = .83$$

In this case there is only a 25% chance that the lender will get paid back in full. The interest rate that the lender charged is far too low to compensate for this amount of risk. In order to get the same 33% expected return, he would need to charge have a 232% interest rate as shown below:

$$.25(3.32) + .75(1 \times (1/1.5)) = 1.33$$

For the borrower in this case, the risky asset with expected return 0.67 is preferred over the safe asset with a 0.5 larger payoff. For the lender, the expected return when the borrower invests in the risky asset is 0.5 less than when he invests in the safe asset. This 0.5 change in expected return is shifted from the lender to the borrower when the risk is shifted from the borrower to the lender. The lender cannot prevent this since the investment decisions of the borrower are unobservable.

In equilibrium with a variable amount of the safe asset and a fixed amount of the risky asset, the price of the risky asset will be bid up until the point where the expected return of borrowers is the same regardless of which asset they invest in. This is shown below:

$$.25((1/P) \times 6 - 1.33) + .75 \times 0 = .17$$

$$P = 3$$

In this case there is a bubble with the price of the risky asset being twice as high as it is in the fundamental case.

Another very relevant point brought up by Allen and Gale (2007) is that the amount of risk shifted depends on how risky the asset is.<sup>15</sup> This is often reflected in the price of the asset as the riskier the asset is the greater potential for shifted risk and thus the more the asset can be bid up before it returns the same as the safe asset. This is demonstrated in the extension of the previous example shown below.<sup>16</sup>

The situation is the same as in the previous example except that the return on the risky asset is 9 with a 25% probability and 0 with a 75% probability, reflecting additional risk. This yields the same expected return of 2.25 as in the earlier example. The price determination of the risky asset is:

$$.25(1/P \times 9 - 1.33) + .75(0) = .17$$

$$P = 4.5$$

In this case, even more risk is shifted to lenders leading to an expected return for lenders of:

$$.25(1.33) + .75(0) = .33$$

In order for lenders to be properly compensated for this level of risk and still earn a .33 return, they would need to charge a 432% interest rate:

$$.25(5.32) + .75(0) = 1.33$$

Lenders will often proceed with lending despite this problem when there is a limited supply of the risky asset. This is because it will only be worth it for a relatively small proportion of borrowers to invest in the risky asset. The rest of the borrowers will invest in the safe asset and

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<sup>15</sup> Allen and Gale, *Understanding Financial Crises*, 2007

<sup>16</sup> Ibid

be able to pay the lender back in full resulting in an expected return somewhere between the return where borrowers invest in the safe asset, and where they invest in the risky asset, depending on the supply of the risky asset.<sup>17</sup>

### 3. Overarching Issues related to Financial Crises

#### 3.1. Systemic Risk / Contagion

Isolated issues in financial markets have the potential to develop into crises due to systemic risk. Systemic risk is defined as the risk that the failure of one significant financial institution can cause or significantly contribute to the failure of other significant financial institutions as a result of their linkages to each other.<sup>18</sup> Systemic risk can cause market failure due to different types of financial contagion. One type of financial contagion is due to information asymmetry. When market participants do not know which institutions are healthy and which are not, a small shock to one or institution can shake the trust in the entire market. In the banking industry for example, this has been known to cause bank runs where depositors rush to withdraw their funds so as to avoid losing them to what could be an unhealthy institution. The problem is that this often results in the failure of otherwise healthy institutions along with the unhealthy institutions. In general, the larger the scale of information asymmetry is, the greater potential there is for contagion, and thus the larger the threat that systemic risk poses.<sup>19</sup>

However, contagion still occurs without a large degree of information asymmetry.<sup>20</sup> Another type of contagion occurs when a failed institution's obligations to other institutions lose their value, hurting the financial health of the institutions that held those obligations.<sup>21</sup> If this causes

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<sup>17</sup> Allen and Gale, *Understanding Financial Crises*, 2007

<sup>18</sup> Scott, Hal, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

<sup>19</sup> Kodres and Pritsker, A Rational Expectations Model of Financial Contagion, *Journal of Finance*, April 2002

<sup>20</sup> Saez and Shi, Liquidity Pools, Risk Sharing and Financial Contagion, *Journal of Financial Services Research*, 2004

<sup>21</sup> Allen and Gale, Financial Contagion, *Working Papers* 98-33, C.V. Starr Center for Applied Economics, New York University, 1998



these institutions to fail or hinders them from paying their obligations to other institutions, it can cause a chain reaction that can threaten the financial system as a whole.<sup>22</sup>

If financial regulation is to be successful, it must curb the issues that lead to shocks and failures, as well as eliminate the systemic risk that spread these issues throughout the financial system.

### **3.2. Limited Liability**

A major obstacle that regulators and market participants need to take into account is the fact that modern financial systems allow for the limited liability of many market participants. Whenever principal-agent issues in markets are discussed, much of the focus inevitably falls upon brokers and other service providing businesses lacking the incentives to offer the best possible service to principal that hired them. Another issue that affects markets, but is usually reserved for discussions about corporate governance, is the limited liability that decision makers within a business often have.

Large corporations and small limited liability companies among other types of protective registrations allow people to act without needing to worry about losing their personal wealth. Whenever decision makers are detached from personally being affected by the consequences of their decisions, it creates problems in the markets which they act. In other words, even if it were possible to align the incentives of firms operating in markets, issues would still exist as the personal incentives of decision makers in the firm are often not aligned with the incentives of the firm itself. While the issue of aligning the incentives of the decision makers with the owners falls under the realm of corporate governance which is not typically an area that is regulated by central authorities, it still has effects on markets and on the potential effectiveness of regulations.

Decision makers in businesses often take risky decisions because a negative outcome has a limited scope of damage on them personally. Bankruptcies of companies with limited liability protection result in the liquidation of the firm's assets while most of the personal possessions

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<sup>22</sup> Scott, Hal, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

of the decision makers and owners remain protected by law. This allows decision makers and owners to view themselves as though they are holding a call option on the value of the firm.<sup>23</sup> This is especially true for owners of small, newly started firms. Due to the downside protection that limited liability offers, owners often face a moral hazard problem when they acquire financing, and will often make risky decisions that offer the greatest possible upside. The value of options increase with volatility as the potential upside is larger while the downside is eliminated by the protection the option offers. This same principle can also act as a catalyst for moral hazard, as owners who feel like they are holding an option attempt to maximize potential return by increasing risk, and thus volatility.

### **3.3. Asset Bubbles**

One factor that has been a large contributing factor in many financial crises is the existence of some sort of asset bubble. In order for bubbles to occur, there is almost always an expansion of money or credit either just prior to, or during the bubble's formation. Also, as mentioned earlier, risk shifting is another factor which causes the prices of risky assets to be bid up to artificially high levels. When these things occur, any contraction in the money or credit supply could cause the bubble to "burst" and cause the inflated asset values to fall.

This is not the end of the story however, as this asset revaluation causes a chain reaction which can affect the entire financial system due to systemic risk. As the values of companies' assets fall so too do their stock prices. This causes panic throughout the stock market as investors race to get their money out of the market. It also causes major problems for banks. In addition to investors pulling their money out of stock markets, some people inevitably withdraw their deposits from banks. If too many people do this at once, it can put a huge strain on the banks. This is because banks inevitably lose much of the value of their own assets when the bubble bursts. It is also due to a more fundamental problem in the banking system, that being that banks borrow short and lend long. In other words, people deposit money in banks which can be withdrawn on very short notice, while banks often lend money to people with the expectation of it being paid back over a very long period of time. This can cause banks to

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<sup>23</sup> Bienz, Venture Capital, Private Equity and IPO's, Norges Handelshøyskole, Autumn 2009

liquidate their relatively illiquid assets for well below their true value, further adding to the downward spiral of asset prices.

If one or more banks begin to fail, it can lead to widespread panic, (contagion) causing bank runs, which can even lead to the failure of banks that were still in sound financial shape after the asset bubble burst. These days, the failure of one bank can also lead to the failure of others because of how interconnected the financial system is. Often, governments are forced to step in and guarantee deposits and bail-out firms whose failure could affect the entire financial system. This was exactly the case in the recent (2008) financial crisis, and it will be discussed in further detail later in this paper.

#### **4. Issues Related to the 2008 Financial Crisis**

##### **4.1. Structured financial products**

Structured finance has the broad definition of “all advanced private and public arrangements that serve to efficiently refinance and hedge any profitable economic activity beyond the scope of conventional forms of on-balance sheet securities (debt, bonds, equity) at lower capital costs and agency costs from market impediments and liquidity constraints.<sup>24</sup>” Lower capital and agency costs from market impediments and liquidity constraints refer to the fact that structured financial products aim to take relatively illiquid assets such as mortgages which can typically only be held by large, specialized organizations such as banks, and turn them into liquid assets that can be held by a wider array of investors. There are many types of asset backed securities (ABS). For the purposes of this paper, we will only discuss three of the structured financial products that were most central to the recent financial crisis, those being collateralized debt obligations (CDOs), mortgage backed securities (MBS), and credit default swaps (CDS).

##### **4.1.1. Collateralized Debt Obligations**

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<sup>24</sup> Jobst, Andreas, A Primer on Structured Finance, *Journal of Derivatives & Hedge Funds*; Nov2007, Vol. 13 Issue 3, p199-213

Collateralized debt obligations are groups of high yield assets such as risky bonds, or other asset backed securities which are pooled and then divided into various groups, called tranches.<sup>25</sup> These different tranches, are designed so that the upper levels are protected from default by requiring that a large proportion of the underlying assets default before the top level securities are affected.<sup>26</sup> The lower levels are much riskier, and as such, offer a higher rate of return to investors. The different levels are also often paid out at different time periods.

Collateralized debt obligation tranches that fall below the desired default probability (giving them a poor credit rating) were often packaged further into CDO<sup>2</sup>s. The principle behind a CDO<sup>2</sup> is basically the same as with a CDO in that it is a group of risky assets, in this case other CDOs, packaged so that the top levels of the security get paid out as long as an unexpectedly large proportion of the underlying CDOs do not fail. CDO<sup>2</sup>s were even more risky than regular CDOs however as the extra level of leverage made them even more susceptible to small errors in the assumed default rate and the assumed recovery rate on defaults.<sup>27</sup>

#### **4.1.1.1. Issues related to CDOs**

Due to the complexity of CDOs and CDO<sup>2</sup>s, there was a tremendous amount of asymmetric information between the issuer of the security and the buyer (the end lender of the products backing the security). Information asymmetry of this level often leads to the exploitation of the less-informed party. As mentioned, the main purpose of most types of regulation is to correct for this information asymmetry. Leading up to the financial crisis, the task of analyzing these complex products and reporting their risk level to potential buyers was left to private ratings agencies. While the many issues related to this will be discussed in detail in a later section, it is worth noting here that the false confidence that buyers were given by information provided by ratings agencies really allowed issuers to exploit buyers. In essence, issuers were able to transfer a large amount of risk to buyers while only compensating them for a fraction of that risk. While it is unclear whether or not issuers knew the full extent of the risk behind these products, they did know that the level risk protection was based on assumptions, which, if

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<sup>25</sup> Fruhan, *Credit Rating Agencies*, 2008

<sup>26</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>27</sup> Brunt, Growth and Architecture of Financial Systems, Norges Handelshøyskole, spring 2009

wrong by even a small amount, completely altered the model.<sup>28</sup> This will also be described in a later section.

#### **4.1.2. Mortgage backed securities**

Mortgage backed securities are composed of portfolios of mortgage loans packaged together and divided into groups of securities each containing pieces of a large number of different loans. They are often divided between residential mortgage backed securities (RMBS) and corporate mortgage backed securities (CMBS). They can also include other types of housing and property related debt such as home-equity loans.

One type of MBS is a collateralized mortgage obligation (CMO). Like CDO's, these are typically divided into different tranches where the upper levels are senior to the lower, riskier levels. Also like with CDOs, there exist CMO<sup>2</sup>s which are composed of lower tranches of CMOs combined to form another group of securities, many of which had the same assumed risk as the upper level CMOs.

Mortgage backed securities are also designed to give risk protection in the form of diversification due to the fact that the securities are composed of many mortgages from different geographic areas. However, this level of geographic diversification protection turned out to be much less effective than most people expected, leading to the failure of important assumptions upon which the risk level of a particular security was often based.

As with any asset backed security, the qualities of MBS' are highly affected by the quality of their underlying assets. In the years leading up to the financial crisis, it became increasingly common for MBS' to be composed of subprime mortgage loans. Subprime mortgage loans are loans given to borrowers who are seen as having a higher risk of default. Subprime mortgages are issued with higher interest rates in order to compensate for the higher risk. The demand for securities composed of subprime mortgages allowed banks and mortgage brokers to issue more of these high risk mortgages with little risk to themselves. It also spread this risk throughout the financial system through the holders of these securities.

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<sup>28</sup> Shah, Can Wall Street be Trusted to Value Risky CDOs? *Reuters*, (2007)

This system has helped the US housing market to grow for more than 30 years<sup>29</sup> by allowing banks to serve as match-makers as well as lenders. The system seemed to function well as long as housing prices were rising and people could continue to borrow against the increasing value of their homes. However, as we have seen recently when the housing bubble burst, the values of these securities were greatly affected, spreading dramatic losses throughout the financial system.

#### **4.1.2.1. Issues related to Mortgage Backed Securities**

Referring to the example of adverse selection in the previous section, it is not difficult to imagine a similar situation occurring between a mortgage broker and a mortgage seeker. If the mortgage broker is risk-neutral (as appeared to often be the case in reality), and they offer subprime mortgages with high rates relative to normal mortgages, they will encounter an adverse selection problem as only mortgage seekers who can't get better terms, and are likely to default, will take out subprime mortgages.

Similarly, signaling can be used as a tool with mortgages to weed-out mortgage-seekers who know that they are unlikely to have the ability to pay down the mortgage. This is one of the main reasons that quality mortgages usually require a large down-payment.

In hindsight, it appears that this adverse selection problem was largely understood by subprime mortgage brokers, as most of them attempted to rid themselves of the risk associated with actually holding these mortgages. Instead it was more of an example of a principal-agent and moral hazard problem with the mortgage brokers acting as the agents to investors who bought the mortgages from them. Often, mortgage brokers would act as matchmakers between loan seekers and lenders. In this capacity they carried zero risk since they never actually lent any money. In other instances mortgage brokers would issue a subprime mortgage, but only hold it for a very short time before it was sold to an intermediary, often to an investment bank, which would package it into a CMO or CDO and sell it. In this capacity they acted as underwriters of the loans, holding the risk for only a relatively short time before shifting it to another.

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<sup>29</sup> Kiraly and Nagy, Contagion and the Beginning of the Crisis, *MNB Occasional Papers*; Oct2008, Issue 76

As in the risk shifting example, since brokers carried very little risk they were able to in a sense, overbid for risky assets by offering subprime mortgages to the riskiest of borrowers. The risk, and thus the potential for loss was then passed on to the purchasers of the securities. As with other types of structured financial products, CMOs composed of subprime mortgages were then rated by independent ratings agencies which failed to provide an accurate assessment of this risk. Buyers of these securities believed the ratings and thought that the possible moral hazard and risk shifting issues associated with the creation of these securities had been mitigated by the existence of the ratings agencies. This caused buyers to require a rate of return much lower than the rate they should have required given the level of risk that they were holding.

#### **4.1.3. Credit Default Swaps**

Credit default swaps act like insurance to the buyer of the swap. The issuer of the swap agrees to pay the par value of the bond if the bond defaults.<sup>30</sup> This effectively transfers the risk another level to the swap issuer, and can have the effect of spreading the risk further through the financial system. Credit default swaps were originally used to provide protection against the default of corporate bonds.<sup>31</sup> Swaps sold on structured financial products were different from swaps on corporate bonds in that they would trigger payments as mortgages defaulted affecting the owned tranche, rather than triggering one lump-sum payment when the entire corporate bond defaults.<sup>32</sup>

In addition to providing downside protection for owners of an asset, credit default swaps on structured financial products were often used in a speculative manner. Unlike normal insurance contracts, Credit default swaps could be bought and traded without actually owning the security that the swap is for.<sup>33</sup> In these cases, the issuer of the swap was essentially betting that the security that it insured was not going to default, while the buyer of the swap was essentially betting that the security would default. The speculative power of credit default

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<sup>30</sup> Investopedia.com

<sup>31</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>32</sup> Ibid

<sup>33</sup> Ibid

swaps became even greater when indices were created on the average values of baskets of swaps.<sup>34</sup> This allowed investors to speculate on the larger sum of assets behind a range of credit default swaps, such as CDOs and CMOs.

The market for credit default swaps in the years leading up to the financial crisis was estimated to be \$36 trillion, with a large portion of that being swaps on structured financial products.<sup>35</sup> When the values of structured products deteriorated, these swaps were a major contributor in spreading losses throughout the economy.

#### **4.1.3.1. Issues related to credit default swaps**

Credit default swaps were originally thought to provide a great benefit by allowing financing to come from those with available funds, while risk is carried by those both willing and able to do so.<sup>36</sup> While this worked to an extent, it also allowed for additional risk shifting which gave swap buyers the incentive to bid up, and invest in more risky assets. This likely had a large contribution in creating asset bubbles such as the housing bubble which was a major contributor to the financial crisis. They also had the effect of helping to spread systemic risk further throughout the financial system.

Credit default swaps played a part in causing financial institutions to hold structured products on their balance sheets in the time leading up to the financial crisis, by giving them a false sense of risk protection. These financial institutions thought they were protected by holding only the top tranches of structured products, and by having those tranches backed by credit default swaps. In many some cases, these two forms of “protection” also allowed them to have a lower regulatory capital reserve ratios than they would need if they just held the unprotected, underlying loans on their books.<sup>37</sup> This meant that large amounts of risk were held by companies that were not intending to hold it. Credit default swaps were also often purchased by issuers of structured financial products in order to protect them from downside risk while

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<sup>34</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>35</sup> Scott, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

<sup>36</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>37</sup> Ibid



the securities were still on their books. Losses were then spread to many vulnerable companies when the swap issuing company could not meet its obligation to pay.

There was also another theoretical conflict of interest problem related to credit default swaps. It is alleged that lenders holding a CDS as protection often had the adverse incentive to drive the borrowing firm into bankruptcy rather than restructure its debt and help it to get healthy again.<sup>38</sup> This is because lenders could simply be paid back in full by cashing in the CDS. This would free up the money to be used on another investment rather than investing effort and time on helping the borrowing company.

#### **4.2. Credit Ratings Agencies**

Credit ratings agencies have existed since the early twentieth century in order to provide investors with information about corporate bonds.<sup>39</sup> The idea was that a consistent framework would allow investors to reasonably compare risk “within and across sectors and geographies.”<sup>40</sup> To date, there are a handful of credit ratings agencies which have achieved Nationally Recognized Statistical Rating Organization (NRSRO) status from the Securities and Exchange Commission, but as of the start of the financial crisis, the three largest ratings agencies, Standard & Poor’s, Moody’s Investor Services, and Fitch, accounted for more than 95% of the total ratings issued.<sup>41</sup> Achieving NRSRO status is extremely important for ratings agencies as many potential buyers, such as corporate pension funds and mutual funds, have restrictions regarding the minimum NRSRO rating of securities that they invest in. Even the US government uses ratings to guide the investment of some of its institutions, such as the Term Asset-Backed Securities Loan Facility (TALF) which can only be used to purchase AAA rated securities.<sup>42</sup> Ratings by NRSROs are important beyond their regulatory uses as private investors often use ratings in much the same way as public, and regulated investors do.<sup>43</sup> Because of

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<sup>38</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>39</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

<sup>40</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>41</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>42</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>43</sup> Partnoy 2009 (from Amandou)

this, there has been a huge demand for securities rated by NRSROs, making the certified ratings business very profitable.

#### **4.2.1. Expanded Role of Credit Ratings**

Ratings agencies and NRSROs in particular began to take on a larger role in the economy after changes made to the Net Capital Rule in 1975. These changes permitted banks to have lower marginal capital requirements if the securities they held were rated investment grade by at least two NRSROs.<sup>44</sup> Eventually, more regulatory responsibility was given to these private companies when many buy-side institutions such as pension funds, mutual funds, and insurance companies began to rely on NRSRO ratings to comply with regulatory requirements.<sup>45</sup> Many of these companies also began setting internal requirements on their investments based on certified ratings. As this occurred the dynamics in the market for certified ratings changed. Originally credit ratings agencies were paid by investors seeking information on potential investments, but as dependence on credit ratings increased, this system shifted to the way it is today where ratings agencies are mostly paid by the issuers of the security.<sup>46</sup> This occurred in large part because issuers wanted to have their securities considered for purchase by all of the major buyers.

This change in the way in which rating agencies were paid also caused changes in the competitive environment between agencies. Instead of competing to give the best quality ratings, NRSROs often competed to maintain and attract business by pleasing the issuers by giving them favorable ratings, especially on structured finance products that were often specifically designed to attain a specific rating.<sup>47</sup>

It is also alleged that many firms became overly dependent on credit ratings, causing them to neglect their own due diligence on investments.<sup>48</sup>

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<sup>44</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

<sup>45</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>46</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

<sup>47</sup> Bassett, Geom, and Remolona, Risk Management by Structured Derivative Product Companies, *Federal Reserve Bank of NY Economic Policy Review*, April 1996

<sup>48</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

### 4.2.2. Methodology

When rating corporate bonds, rating agencies typically have a large amount of reliable historical information to base their ratings on and the methodologies that they use to rate corporate bonds have been tested over time. When rating structured financial products however, credit ratings agencies did not use a standardized approach, and methodologies were often not even standardized within individual ratings agencies.<sup>49,50</sup> They also relied heavily on key assumptions. For instance, they assumed low default correlations between the different loans comprising a security, they assumed a certain probability of default, and they assumed a relatively high recovery rate on defaulted loans.<sup>51</sup> For example, it was common to assume a 65% recovery rate on defaulted sub-prime mortgages.<sup>52</sup> However, in hindsight it appears that a 30% recovery rate is more realistic.<sup>53</sup> When these assumptions were off by even a small amount they completely altered the results of the model. Making matters worse is the fact that the models were often based upon very unreliable data, as the products were often too new to have reliable cyclical data.<sup>54</sup> Asset backed securities with these types of errors in the assumptions had a much higher chance of default for the all tranches of the security. This means that the ratings based on these incorrect assumptions gave an incorrect picture of the true risk posed by different structured financial products.

### 4.2.3. Issues related to credit rating agencies

The issues surrounding credit ratings agencies in the post financial crisis world are of great importance due to the vital role ratings agencies have been given in financial markets. As mentioned, NRSROs were heavily relied upon, in both an official and an unofficial capacity to correct for information asymmetry between borrowers and lenders. When payment for ratings shifted from the investor to the issuer, it set the stage for a major moral hazard problem.

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<sup>49</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>50</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>51</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

<sup>52</sup> IMF (2008)

<sup>53</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>54</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

Investors depended on ratings agencies to act as their agent for investigating and reporting on the risk level of different investments. Many investors relied entirely on ratings agencies due to time and expertise it required to accurately assess the risk level of the products that they rated.<sup>55</sup> This was especially true with structured financial products which are extremely complicated. As mentioned, the dependence on ratings became official for many companies and investors when regulatory benchmarks were set based upon NRSRO ratings. When investors stopped paying NRSROs for their ratings, they lost their means to incentivize ratings agencies to offer the most accurate ratings possible. The competitive dynamics in the ratings industry also changed dramatically, as individual agencies competed to be the rater of choice of issuers, rather than the investors who really depended on the ratings. This led to raters competing to please their “customers,” especially since repeat business was vital to the agencies. Ratings agencies at times even gave advice to issuers of structured products on how they could adjust the product to attain a specific rating.<sup>56</sup>

The situation was especially prone to spreading systemic risk through investors that were supposed to remain at least partly insulated from it when structured financial products were allowed to be rated on the same scale as corporate and municipal bonds. When this happened, the comparability of risk within the ratings classes, across sectors, and between structures was drastically reduced.<sup>57</sup> Many investors who knew the old system thought that they could trust ratings on structured products as they did those on standard securities, and did not take the additional uncertainty inherent in structured product into account.

Credit ratings have been major contributors to spreading systemic risk for multiple reasons. For one, as mentioned before, inaccurate ratings allowed risky assets to be held by investors that were not in a position to hold such assets, putting them in a dire situation when those assets failed. Also, credit ratings trigger systemic risk through downgrades of certain types of assets. During the recent crisis, as ratings agencies made downgrades of sub-prime backed securities,

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<sup>55</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50, No. 4

<sup>56</sup> Bahena, What Role Did CRAs Play in the Financial Crisis? *University of Iowa Center for International Finance and Development*.

<sup>57</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

investors lost confidence in the ratings of a much wider range of structured products, causing liquidity to dry up. This put investors in a worse position as they even suffered losses on relatively sound securities.<sup>58</sup> Ratings downgrades also caused fire sales of assets by investors required to hold only products above a certain rating, causing them to take heavy losses as they sold off those securities at the same time as many other large investors.

### **4.3. How did this happen?**

Providing a detailed explanation of the financial crisis would be a paper in itself. Following will be a relatively brief description of the crisis, aimed at tying together the topics discussed to this point, and further setting the background for the rest of the paper.

Growth not only in developed economies such as the US and those in the EU, but also in developing countries, both helped to cause, and was fueled by, a wealth of available credit. One of the main reasons that credit was so readily available is because of the relatively low-levels at which the federal reserve maintained key interest rates in the US. This helped made it possible for banks to issue a large number of mortgages and other housing related loans, such as home equity loans. These loans helped fuel a tremendous amount of personal consumption in the US which accounted for more than 70% of GDP in 2007.<sup>59</sup> At the same time, a lack of regulation allowed for the issuance of a huge number of subprime mortgage loans.<sup>60</sup> It got to the point where many of these loans were being issued with little or no documentation, little or no down-payment, and with what many considered to be deceptive variable interest rates.<sup>61</sup> The issuance of subprime loans was also made possible because of the market for structured financial products. The demand for structured financial products containing risky loans, such as subprime mortgages, allowed mortgage brokers and banks to make a profit by issuing these loans, but allowed them to avoid most of the risk by passing it on to the holders of the

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<sup>58</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>59</sup> Brown and Lundblad, The US Economic Crisis, *Journal of Accountancy*, Oct 2009

<sup>60</sup> Bardhan, Ashok, Housing and The Financial Crisis in the US: Cause or Symptom, *Journal for Decision Makers*, Vol 34, No. 3, 2009

<sup>61</sup> Ibid

securities containing the loans. This created a situation where the usual incentives to refrain from offering loans that are unlikely to be profitable were nonexistent.

Easily attainable mortgages helped to inflate a bubble in the housing market. There was an artificially high level of competition for houses, pushing the prices higher. As this occurred, many people took out loans on the inflated value of their homes, further compounding the problem.

As mentioned before, most people assumed that structured financial products backed by mortgages would have risk protection offered by geographic diversification. This was based on speculation as well as data that were not representative of the economic conditions encountered at the beginning of the 21<sup>st</sup> century.<sup>62</sup> We now know that the housing bubble stretched across the country, providing almost no diversification protection to securities comprised of housing related loans when the bubble burst.

Structured financial products were in such great demand, in large part because many of them held high ratings grades from NRSROs. Many buy-side firms are restricted in one way or another as to the quality of securities they are allowed to invest in. In certain cases, investors are only allowed to invest in AAA-rated bonds. This combined with an increase in demand for low-risk bonds from the rest of the world led to a tremendous demand for AAA-rated corporate bonds over the years.<sup>63</sup> However, there is and has been a relatively small supply of AAA-rated corporate bonds, and as such, returns on AAA-rated corporate bonds were quite low. When structured financial products came on the market and received AAA-ratings using the same ratings scale as corporate bonds, they were bought up by firms wanting to get a decent return while satisfying their regulatory requirements. Regarding the returns offered by AAA-structured financial products relative to AAA-corporate bonds, it seems as though the market did anticipate that the structured financial products were more risky than their corporate counterparts, as AAA returns for structured products were generally higher. However, we now know that the market did not adjust enough as in hindsight we see that most structured

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<sup>62</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>63</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

financial products rated AAA should have been rated much lower, and should have required even higher returns to compensate for the additional risk. As a consequence, high levels of risk were spread throughout the financial system, in part via groups of firms that had low-risk investment strategies.

Many people wonder how this was allowed to happen. Some place the blame on the SEC for giving regulatory power over buy-side firms to the private credit ratings agencies by giving them the power to determine which securities these firms could invest in<sup>64</sup>. Others place the blame on the US government as a whole for not effectively regulating the competitive dynamics in the ratings industry, and for not regulating the methodologies used by the ratings agencies to rate structured financial products despite the attempts made with the Credit Rating Agency Reform Act of 2006 in the aftermath of the Enron and WorldCom scandals.<sup>65</sup>

Much of the blame is placed on the methodology ratings agencies used to rate structured financial products. As mentioned earlier, ratings agencies relied heavily key on assumptions when rating structured financial products. If assumptions are wrong by even a small margin, the models could break down entirely. Issuers were well aware of the fact that they needed to satisfy certain conditions in order to achieve high ratings, and used this knowledge to structure products to attain certain ratings.<sup>66</sup> Sometimes credit ratings agencies would take it a step further and actually give advice as to how issuers could structure their products in order to maximize ratings.<sup>67</sup> Another issue is the fact that issuers could basically shop for ratings. If the rating given to a product was not what the issuer intended it could simply take the product to another agency in order to try to secure a more favorable rating.<sup>68</sup>

Also, blame has been placed on the fact that ratings agencies were allowed to use the same scale to rate structured financial products as they used to rate corporate bonds. Apparently this was requested by the issuers of structured products so that they would be available to

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<sup>64</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

<sup>65</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>66</sup> Ibid

<sup>67</sup> Ibid

<sup>68</sup> Fruhan, Credit Ratings Agencies, *Harvard Business Review*, 2008

investors with ratings-based restraints.<sup>69</sup> This helped to reinforce the notion that structured products were the same as corporate bonds, and helped to give investors a false sense of familiarity and confidence which may have dissuaded some from conducting their own research on the securities.

Credit ratings also cause systemic risk from the chain-reaction that often accompanies rating downgrades. When ratings downgrades occur, it can lead to ratings based “triggers” which can lead to collateral calls.<sup>70</sup> This situation is made worse when collateral calls are made on both defaulted products, and those that have lost market value due to reduced liquidity as a result of a loss of confidence that accompanies a ratings downgrade. It can also cause contagion as investors lose confidence in that ratings system and in securities similar to those that have been downgraded.<sup>71</sup> This was the case with AIG which had sold billions of dollars worth of credit default swaps on structured products, notably to Goldman Sachs. This action was likely a combination of risky speculation as well as an overreliance on credit ratings by AIG. As the ratings on structured financial products deteriorated, buyers of AIG’s CDS protection called for payment. As this occurred, there was a ratings downgrade on AIG’s own debt. AIG had overextended itself and was not able to meet its obligations on its own debt, forcing the US government to step in to save the company, which owed approximately \$10 billion to state and local governments, and approximately \$80 billion in retirement savings, from causing further damage to the US financial system.<sup>72</sup>

These effects were made much worse by the degree to which the financial system is interconnected. The failure of Northern Rock in the UK, as well as Bear Sterns and Merrill Lynch in the US, all of which were heavily invested in subprime mortgages and credit default swaps, prompted emergency action to prevent a chain reaction that could threaten the entire financial system.<sup>73,74</sup> The huge mortgage lenders Fannie Mae and Freddie Mac were also nationalized in

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<sup>69</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>70</sup> Ibid

<sup>71</sup> Ibid

<sup>72</sup> Scott, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

<sup>73</sup> [timeline.stlouisfed.org](http://timeline.stlouisfed.org)

<sup>74</sup> PBS frontline, 2009



order to prevent the possible failure of masses of firms that held debt from the two companies. When Lehman Brothers faced a similar situation to that of Bear Stearns in September 2008 the US government declined to provide the same guarantees for Lehman Brothers that had secured the sale of Bear Stearns. This made it impossible for Lehman to find a buyer before it was forced to declare bankruptcy, as no one wanted to take on the massive amount of “toxic” debt that Lehman had on its books.<sup>75</sup> The US government declined to back Lehman because it was concerned with the effects of moral hazard, and decided that moral hazard posed a larger threat than systemic risk.<sup>76</sup> However, Lehman was even larger and more interconnected throughout the financial system than Bear Stearns was, and so its bankruptcy sent massive shocks throughout the system. The credit markets froze almost completely as no companies wanted to lend for fear that the borrower would fail and not be able to repay its debt. This greatly affected AIG which was in desperate need for cash in order to meet its obligations on credit default swaps.

Eventually, Congress was forced to pass a bill that allowed the government to both buy toxic assets from companies, as well as take a direct stake in companies if necessary. It made use of both of these tools, spending billions of dollars buying back toxic assets, and investing to rescue troubled but interconnected companies like AIG.

#### **4.3.1. Issues related to the Government’s reaction to the financial crisis**

Many people have taken exception to the government’s handling of the financial crisis, particularly because of its apparent lack of consistency regarding big firms in trouble. Many people in the government, including then Secretary of the Treasury Henry Paulson, detested buyouts because they feared that they lead to moral hazard.<sup>77</sup> Buyouts lead to moral hazard when firms take excessively risky actions because they think they will receive a bailout if they fail. The government let Lehman Brothers fail in order to deter this moral hazard. This was viewed as extremely inconsistent because the government had previously bailed out Bear Stearns (under the table through an acquisition by JP Morgan), and would go on to provide

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<sup>75</sup> Inside the Meltdown, *PBS Frontline*, 2009

<sup>76</sup> Ibid

<sup>77</sup> Ibid

guarantees and bailouts that would save most of the other major troubled firms on Wall Street. The claim is that the government was forced to do this because of the level of systemic risk that had spread throughout the financial system. Still, the government received major criticism for its actions, and it is with this history in mind that the Dodd-Frank Wall Street Reform and Consumer Protection Act was created to prevent this type of action from happening again.

## 5. Analysis of Proposed Regulation

Financial regulation has always had its share of skeptics. Many people are concerned that the costs regulations impose on financial markets outweigh the benefits they bring. Certainly this is hard to generalize as there are many different regulations in the US and the world, each with their own set of costs and benefits. Still, we know that each regulation that is implemented has costs. There are direct costs involved in setting up and running the regulatory institution as well as indirect costs to the market. Because of this, it is rational to expect that the people designing these regulations would give their best efforts to make sure that the rationale behind each regulation was sound so that the intended benefits could be realized at the lowest possible cost. However, it appears that this is often not the case. It is claimed by some that “the development of financial regulation has been an empirical process, a matter of trial and error, driven by the exigencies of history rather than by formal theory.”<sup>78</sup> Regulations are often also shaped by political motives, sometimes causing unnecessary and/or inefficient suggestions to be included in measures for the sake of appeasing the electorate, special interest groups, and/or opposing party members.

In December 2009, the House of Representatives of the 111<sup>th</sup> Congress of the United States passed H.R. 4173: Wall Street Reform and Consumer Protection Act of 2009. The Senate’s version of the bill was passed in June 2010. In July 2010, the reconciled joint bill, which has come to be known as the Dodd-Frank Financial Reform Bill, was sent to President Barak Obama and was signed on July 21, 2010. The more than 1000-page bill aims to solve several issues

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<sup>78</sup> Allen and Gale, *Understanding Financial Crises*, 2007

which contributed to the financial crisis, at once. In addition to stricter standards across much of the financial system, it aims to create several new regulatory agencies to increase consumer protection, and minimize systemic risk. In the wake of the passage of the Dodd-Frank bill, it is not possible for us to know the motives for which each part of the legislation was created, although it is likely that the aforementioned issues played a significant role in the shaping of the bill.

This section of the paper will focus specifically on reforms related to structured financial products/derivatives, and credit ratings agencies. It will analyze these reforms based on the issues that they were created to resolve, in light of the theory behind those issues. It will weigh in on likely benefits as well as likely shortcomings, and will mention developments that are likely to occur as a result of these reforms.

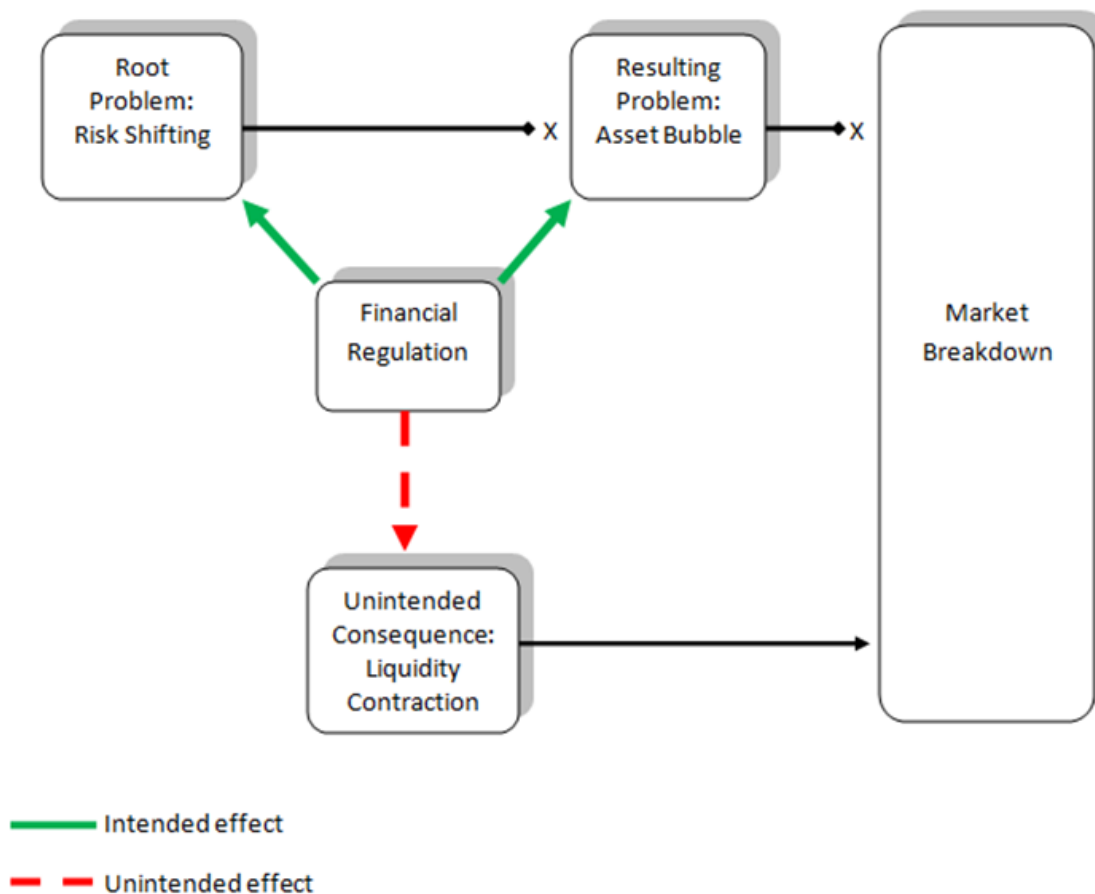


Figure 1

Figure one shows the role that regulation plays in trying to solve issues affecting financial markets. Regulation can attempt to solve a particular issue by either focusing on the root cause of a problem, the problem itself, or sometimes both. Fixing the root cause is certainly more ideal as it often also helps to correct other related issues and may help prevent future issues, however this is also often more difficult to solve. The figure also shows how regulation can create unintended consequences that have the potential to disrupt the market even as the original issues are solved. The results of these balancing acts among the different pieces of legislation will determine whether or not the overall bill is considered a success or a failure.

### 5.1. Credit Risk Retention Act of 2009

*-Amends the Securities Act of 1933 to direct the appropriate federal financial regulatory agencies to prescribe regulations to require any creditor to retain an economic interest in a material portion of the credit risk of any loan the creditor transfers, sells, or conveys to a third party, including for the purpose of including such loan in a pool of loans backing an issuance of asset-backed securities.<sup>79</sup> –Library of Congress*

The Credit Risk Retention Act of 2009 takes aim at the moral hazard and risk shifting problems that are apparent in the credit market. It specifically targets subprime lenders with its mention of loans that back an issuance of asset-backed securities.

As mentioned before, issuers of loans that backed asset-backed securities were able to do what they did because they were almost never the actual lender (risk holder) for a long period of time. They either acted as matchmakers (agents) for the actual lender (principal), or they loaned the money for a short time before passing it on. This gave them little or no incentive to ensure that did not issue loans to overly risky borrowers. The Credit Risk Retention Act aims to solve this problem by ensuring that each creditor in the lending process holds a share of the risk, thus giving them an incentive to keep the overall risk level down.

Let us examine a situation where a mortgage broker has the option to lend 1 unit to a borrower who has a 40% default probability. When the mortgage broker can pass on the risk of this mortgage, there is no incentive for him to deny a borrower with such a high default probability. In this simple example, the broker sells the mortgage (likely to a company looking to package it and sell it in a CMO or similar structured asset-backed security) for a small return (5% for simplicity's sake). In this example, all of the risk is passed on and the broker earns a positive return:

Borrower probability of default: .4

Expected return:  $1(1.05) = 1.05$

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<sup>79</sup> Library of Congress, Thomas.gov, 2009

Now let us consider what would happen in this same scenario if the broker was forced to keep 20% of the loan on his books, investing it at a rate that would give him a lower 2,5% real rate of return over the life of the loan. With a 40% default rate, the broker can expect a negative return on the 1 unit:

$$\text{Expected return: } 1(.84) + .6(.205) = .963$$

With these assumptions it is possible to find the default rate at and above which lenders will not have any incentive to lend. Let  $z$  represent that default level.

$$1(.84) + (1-z)(.205) = 1$$

$$1 - z = .7804$$

$$z = .2196$$

In this example, if mortgage brokers are required to keep a 20% interest in their loans, they will not lend to borrowers with an expected default rate above 21.96%. As lenders are required to hold a larger share of the risk, they will lose the incentive to offer risky loans. This will give them an incentive to tackle the adverse selection problem associated with subprime mortgage loans. It will be beneficial for lenders to invest costly resources such as time and capital to ensure that they offer loans to borrowers with a lower level of risk. This may be done by some combination of monitoring, or by demanding a positive signal and risk sharing from the borrower such as requiring a significant down-payment. It will also give upstream risk holders (those that buy the majority of the loans from others) a greater incentive to monitor their downstream agents to ensure that they are doing a good job.

Another issue is why the buyers of these risky loans, who actually became the lenders, seemed to not realize or not care that these loans often had such a high probability of default. The simple answer, in many cases, is that the buyer either did not know the default probability, or did not care about the default probability since they also transferred the risk of these loans by packaging and selling the loans in structured financial products. In the instances where an initial buyer planned on packaging and passing on the loans shortly after purchase, there was

little incentive to ensure that the loans they were buying met even the lowest of standards. Another explanation is that they actually believed that the packaging of the loans would provide sufficient protection for those holding the upper tranches of the securities. In reality it was likely a combination of the two as it seems as though many of the issuers of these securities underestimated their risk as they both kept large portions of their own products on their books, and purchased structured products from other firms. A good example of this is Lehman Brothers which in addition to selling structured financial products, held large amounts of these products such as CMOs and credit default swaps on their books. This ended up becoming the main cause of Lehman's downfall when the financial crisis hit.<sup>80</sup>

This legislation also affects the previously described situation by forcing issuers of these securities to hold a substantial portion of these loans on their books. This should function in a similar manner to the previously described situation, causing these firms to screen the loans they buy for default probability. The legislation will also likely cause firms to offer smaller amounts of all types of structured financial products for sale, as investors, now aware of the amount of risk that they have the potential to carry, will not want to invest in derivative packaging companies with large amounts of these assets on their books.

#### **5.1.1. Potential issues**

One "side-effect" of imposing risk-retention requirements on creditors is that it has the potential to restrict credit liquidity in many ways. First, it will do so in a similar way to what reserve requirements for banks do by limiting the amount of funds that loan givers have to use to offer more credit.<sup>81</sup> It will also do so by raising the minimum standards required for people to receive loans, leaving a larger percentage of the population without credit to spend. As mentioned before, the more risk lenders hold, the more effort they will be willing to invest in order to ensure that they do not offer loans to borrowers with a level of risk that will lead to a negative expected return for them. However, this only works to the point where lenders are still able to make a positive expected return. As risk-retention levels become higher and higher,

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<sup>80</sup> Inside the Meltdown, *PBS Frontline*, 2009

<sup>81</sup> Chandler, Selected Credit Controls, *American Journal of Economics & Sociology*, 1952

increased competition among lenders to offer loans to low-risk borrowers will cause returns on loans to fall as low risk borrowers will be able to choose between many competing lenders. Less efficient lenders may go out of business as the return that they receive is not enough to offset the cost that is required to insure a maximum level of risk. As there are fewer loans offered, each with lower levels of return, there will be fewer structured financial products with high-risk, high-yield loans backing them. As mentioned before, the supply of structured financial products will also be reduced by curbing the demand for these loans by the firms that package structured financial products as they will be wary of holding risky assets on their books both because of the inherent risk, and because of the negative effect it could have on their stock price due to investors wariness of structured financial products. This contraction in supply of investment vehicles will also likely have the effect of driving up the prices, and thus decreasing the returns offered by investing in other types of bonds and securities.

This is not so much a side-effect as it is a desired outcome in markets that have experienced bubbles due to the fact that they were previously overly liquid. Still, attention must be given to ensure that credit markets are not suffocated by imposing overly high requirement levels, as we see today in the post-financial crisis world that many countries, including the United States are still struggling to find fuel to stimulate growth in the economy. Central interest rates have remained at extremely low levels as countries attempt to pump credit into their economies and concurrently devalue their currency in an attempt to stimulate growth through exports. It is a common opinion that much of the world is in a currency war as of the fall of 2010, leading to fears of large scale inflation in the future. Achieving the appropriate level of liquidity in credit markets is a balancing act, just as achieving the appropriate level of inflation is.

## **5.2. Over-the-Counter Derivatives Markets Act of 2009**

*Amends the Commodity Exchange Act to require joint regulation of swap markets by the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC).*



*Requires swap repositories, swap dealers, major swap participants, and swap execution facilities to register with the CFTC.*

*Repeals the exemption from CFTC regulation of derivatives transaction execution facilities and boards of trade.*

*Authorizes the CFTC and the SEC to ban abusive swaps.*

*Amends the Securities Exchange Act of 1934 to repeal the prohibition on regulation of security-based swaps and applies specified requirements to such swaps.*

*–Library of Congress<sup>82</sup>*

These measures will force major swap participants, defined as anyone who maintains a substantial net position in swaps, exclusive of hedging for commercial risk, or those whose positions create such significant exposure to others that it requires monitoring; to be subject to regulation such as capital standards, margin requirements, and record keeping and reporting requirements.<sup>83</sup>

Another main function of the bill is that it will force major swap participants to trade on a standardized clearing platform which will be monitored.

The purpose of the Over-the-Counter Derivatives Markets Act of 2009 is to reduce systemic risk. It aims to do this by increasing transparency which acts to reduce asymmetric information in the market for credit default swaps. It also attempts to ensure that losses are not spread throughout the financial system by enforcing capital requirements which will make it more likely that participants will have the ability to cover losses, and by having clearinghouses to deal with losses if a participant does default. It also gives regulators the power to terminate the actions of any participant in the swap market that poses a significant threat to the financial system, and aims to ensure that all major swap participants hold a share of the risk.

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<sup>82</sup> Library of Congress, Thomas.gov, 2009

<sup>83</sup> House Committees Approve Bill to Regulate \$450 Trillion Over-the-Counter Derivatives Markets, www.lawupdates.com, 2009

One of the main issues with the credit default swap market has been its existence as an over-the-counter market which has made it more difficult to regulate due to a lack of transparency. This lack of transparency has made it difficult for regulators to detect and prove any alleged market manipulation, as well as made it hard for both regulators and market participants to know all of the parties involved in any particular transaction.<sup>84</sup> There have also been problems with adverse incentives as there have been allegations that speculative swap traders would attempt to drive a company or security into default with well timed naked swap purchases.<sup>85</sup> This is one costly example of the market manipulation that can occur in markets with a lot of market friction. Another intended benefit is that the market will more accurately reflect the real price of a given asset, and that market outsiders will no longer be able to take advantage of the pricing of the market without participating in the price discovery process themselves.<sup>86</sup>

Forcing major swap participants to trade through clearing houses is intended to reduce systemic risk for a number of reasons. For one, clearing houses act as counterparties to trades and take on the responsibility of default by one of the counterparties, preventing the spread of systemic risk.<sup>87</sup> In this capacity, clearing houses also diversify and manage the risks of these counterparties, and can help to monitor these counterparties by either providing useful information to regulators, or by preventing certain counterparties from taking on additional risk.<sup>88</sup> They can also facilitate netting of collateral requirements across different counterparties.<sup>89</sup>

Requiring all market participants to register with the CFTC and conducting transactions in the open through a third party are the first steps toward gaining an overview of the market and how it functions. Also, in addition to these systemic risk minimizing capabilities, the existence of clearing houses will help to minimize the amount of market manipulation by forcing firms to

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<sup>84</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>85</sup> Ibid

<sup>86</sup> Grant, Jeremy, Trading Platforms: Regulators face uphill battle as dark pools grow murkier, *Financial Times*, Nov. 2010

<sup>87</sup> House Committees Approve Bill to Regulate \$450 Trillion Over-the-Counter Derivatives Markets, [www.lawupdates.com](http://www.lawupdates.com), 2009

<sup>88</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>89</sup> Shiren, Damianova, Crosignani, Credit Default After the Global Banking Crisis: Regulatory Responses and Industry Incentives, *Journal of Securities Law, Regulation & Compliance* Vol. 2 #3

divulge their actions, and thus their motives to a third party. This means that this information will be available to the regulators at the SEC and the CFTC who are mandated to ban abusive transactions, and if necessary, punish market participants that engage in such transactions. Punishing such firms that engage in abusive swaps aims to prevent moral hazard by making the expected value of such actions negative. The bill also threatens to deny market access to firms that pose a threat to the market as a whole, and in conjunction with other parts of the bill addressing systemic risk, firms posing too large of a risk can even be terminated. Assuming firms' decision makers have the best interest of the firm in mind; this should be a substantial motivation for firms to become more risk averse.

### **5.2.1. Potential issues**

There are several issues that arise from forcing standardized derivatives contracts to be settled through clearing houses. One large issue revolve around how these third party clearing houses, also known as central counterparties (CCPs) or Swap Execution Facilities (SEFs) would be administered. It has been decided that these CCPs will be private, for-profit organizations rather than public utilities. This could lead to problems similar to those seen in the credit ratings industry. Conflicts of interest often arise when regulatory authority and public responsibility are given to companies which are also looking to grow and earn profit. For instance, there is some concern that CCPs could attempt to lure additional business by competing on offering the lowest possible collateral margin requirements.<sup>90</sup> Doing this would drastically increase the level of risk CCPs were exposed to leading to an increased likelihood that obligations could not be covered by CCPs in the event of a large amount of defaults from one or more large counterparties.

An important issue that must be addressed is to determine which derivative products will be handled by clearing houses and which will not. Under the original proposal CCPs would decide this, as any product that is accepted by one CCP will set a precedent that it is a standardized product and will thus be seen as such from that point forward.<sup>91</sup> If for-profit organizations are

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<sup>90</sup> Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>91</sup> Clark, Moral Hazards, *Risk-Magazine.net*, November 2009

left to decide which products they will clear, some claim that they will likely clear as many products as possible in order to make the most money.<sup>92</sup> This could overwhelm the industry with products that it doesn't fully understand, as occurred in the credit ratings industry.

While clearinghouses are likely to reduce systemic risk spread from market participants, their interconnectivity to all market participants make them a huge danger to the system if they were to fail. If a large, interconnected clearinghouse were to fail it would almost certainly prompt a bailout from the government. It can be argued that since CCPs will be the ones holding the risk of the market, they would have the incentive to keep risk levels low, even if it means passing up short-term profits. However, this argument is only likely to come true if CCPs do not fall victim to moral hazard themselves. If firms give bailouts a reasonable probability in their risk evaluation it can lead to moral hazard. In this case it would be necessary for regulators to keep a close watch on CCPs to ensure that all necessary safeguards are in place, and that moral hazard does not come into play.<sup>93</sup>

Assuming these moral hazard issues can be avoided; there are still other issues with using CCRs in such an important capacity. In light of the complicated nature of the products CCPs will be dealing with, it may be wise to be skeptical about their ability to accurately manage the risk associated with those products. In order for CCPs to manage the risks associated with clearing a product, they need "to be able to model the product's potential behavior, which requires good historical and current prices and an ability to understand and estimate possible future price movements, including in stress environments."<sup>94</sup> This information is very difficult to come across in such a market. This issue should be particularly apparent in light of credit rating agencies' and most of the financial market's problems assessing the risk inherent in many types of derivatives. Combined with the finite nature of their capital reserves, this could put CCRs in a situation where they needed a bailout even if they perform their jobs to the best of their

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<sup>92</sup> Clark, Moral Hazards, *Risk-Magazine.net*, November 2009

<sup>93</sup> Scott, Hal, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

<sup>94</sup> Clark, Moral Hazards, *Risk-Magazine.net*, November 2009

abilities.<sup>95</sup> In order to combat this risk, clearing houses should be required to take preemptive measures beyond capital reserves, such as participant membership in emergency funding, a backup clearing fund, and collateral posting requirements to participants.<sup>96</sup>

Another issue that has been brought up is the cost that this change will impose on the derivatives market. While some claim that having standardized contracts trading through clearing houses will increase liquidity, others feel that the move to clearing houses can drastically reduce liquidity for those who need credit default swaps the most.<sup>97,98</sup> For one thing, clearing houses are not as efficient as natural open market mechanisms are at transferring information.<sup>99</sup> It has been argued that while transparency to regulators is desirable, transparency to the market as a whole could make it difficult for financial institutions to function properly if all market participants were aware of all of the institutions' positions.<sup>100</sup> Many buyers have very specific, relatively illiquid demands to meet hedging requirements that standardized contracts cannot fulfill.<sup>101</sup> It is argued that in the case of specialized contracts, having the information published for the market to see would actually lead to market manipulation as other traders move the market against the large contract, dramatically driving up the price.<sup>102</sup> In such cases, these contracts may be forced to continue to operate over-the-counter where they will face increased regulation and increased costs. In addition to imposing additional costs on those who need credit default swaps the most, this also makes it more

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<sup>95</sup> Shiren, Damianova, Crosignani, Credit Default After the Global Banking Crisis: Regulatory Responses and Industry Incentives, *Journal of Securities Law, Regulation & Compliance* Vol. 2 #3

<sup>96</sup> Scott, Hal, The Regulation of Systemic Risk in the United States Financial System, *Harvard Journal of Law and Public Policy*, March 2010

<sup>97</sup> Shiren, Damianova, Crosignani, Credit Default After the Global Banking Crisis: Regulatory Responses and Industry Incentives, *Journal of Securities Law, Regulation & Compliance* Vol. 2 #3

<sup>98</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>99</sup> Shiren, Damianova, Crosignani, Credit Default After the Global Banking Crisis: Regulatory Responses and Industry Incentives, *Journal of Securities Law, Regulation & Compliance* Vol. 2 #3

<sup>100</sup> Stulz, Credit Default Swaps and the Credit Crisis, *Journal of Economic Perspectives*, V 24, #1, (2010)

<sup>101</sup> Ibid

<sup>102</sup> Grant, Jeremy, Trading Platforms: Regulators face uphill battle as dark pools grow murkier, *Financial Times*, Nov. 2010

difficult for innovations and expansions to occur in the market. This has the potential to reduce liquidity in the swap market.<sup>103</sup>

### **5.3. Accountability and Transparency in Ratings Agencies Act of 2009**

*Increased Liability: The bill enhances the accountability of Nationally Recognized Statistical Rating Organizations (NRSROs) by clarifying the ability of individuals to sue NRSROs. The bill also clarifies that the limitation on the Securities and Exchange Commission (SEC) or any State not to regulate the substance of credit ratings or ratings methodologies does not afford a defense against civil anti-fraud actions.*

*Duty to Supervise: The bill adds a new duty to supervise an NRSRO's employees and authorizes the SEC to sanction supervisors for failing to do so.*

*Independent Board of Directors: The bill requires each NRSRO to have a board with at least one-third independent directors and these directors shall oversee policies and procedures aimed at preventing conflicts of interest and improving internal controls, among other things.*

*Mitigate conflicts of interests: The legislation also contains numerous new requirements designed to mitigate the conflicts of interest that arise out of the issuer-pays model for compensating NRSROs. Additionally, the bill significantly enhances the responsibilities and accountability of NRSRO compliance officers to address conflicts of interest issues.*

*Greater Public Disclosure: As a result of the bill, investors will gain access to more information about the internal operations and procedures of NRSROs. In addition, the public will now learn more about how NRSROs get paid.*

*Revolving-Door Protections: When certain NRSRO employees go to work for an issuer, the bill requires the NRSRO to conduct a 1-year look-back into the ratings in which the employee was*

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<sup>103</sup> Mackenzie, Michael, OTC Derivatives: One-size-fits-all approach risks killing flexibility, *Financial Times*, Nov. 2010

*involved to make sure that its procedures were followed and proper ratings were issued. The bill also requires NRSROs to report to the SEC, and for the SEC to make such reports public, the names of former NRSRO employees who go to work for issuers.*

*-The House of Representatives Financial Services Committee<sup>104</sup>*

*Requires the SEC to: (1) conduct periodic reviews of NRSRO compliance with the look-back requirement; (2) establish an office that administers SEC rules governing NRSRO practices; (3) require each NRSRO to disclose publicly information on initial ratings and subsequent changes to such ratings; and (4) prescribe rules requiring each NRSRO to adopt certain credit ratings methodologies that include risk assessment and the assumptions underlying the procedures and methodologies used to determine a credit rating.*

*-Library of Congress<sup>105</sup>*

This bill is aimed at correcting the many principal-agent problems that were apparent in the NRSRO ratings system prior to the financial crisis. It attempts to do so in large part by making NRSROs more accountable for their actions, both to regulators and to the public, and by improving the quality of the methodologies used by NRSROs in rating structured financial products.

An increased focus on the methodologies that NRSROs employ in rating structured financial products should help in several ways. The most direct way is by helping to mandate the use of what are hopefully the best methodologies available. As described, there will be additional focus on risk assessment, and particular focus on the assumptions that are so important to ratings. Conducting sensitivity analysis with the main assumptions for example, should help raters to see how sensitive many of the products they rate are to different economic conditions and allow the raters to more accurately account for this risk. Additionally, a standardized methodology should make it more difficult for ratings agencies to give high ratings in order to

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<sup>104</sup> The House of Representatives Financial Services Committee, House.gov, 2009  
[http://www.house.gov/apps/list/press/financialsvcs\\_dem/pressCRA\\_102809.shtml](http://www.house.gov/apps/list/press/financialsvcs_dem/pressCRA_102809.shtml), 2009

<sup>105</sup> Library of Congress, Thomas.gov2009

secure customers because they will need to justify any ratings that deviate from the ratings that should be attained by following normal procedures. This will make both the agencies and those in charge of specific ratings more easily accountable for any moral hazard.

One of the main issues that this bill addresses is the conflict of interests that arises from the issuer-pays model of compensation for ratings. While the bill does not prohibit this system completely, it mandates regulators to:

“prohibit, or require the management and disclosure of, any conflicts of interest relating to the issuance of credit ratings by a NRSRO including—

(A) Conflicts of interest relating to the manner in which a NRSRO is compensated by the obligor, or any affiliate of the obligor, for issuing credit ratings or providing related services;

(F) Rules providing for the establishment of a system of payment for each NRSRO that requires that payments are structured in a manner designed to ensure that the NRSRO conducts accurate and reliable surveillance of ratings over time, as applicable, and that incentives for reliable ratings are in place;”<sup>106</sup>

This bill does not specify exactly how these issues will be solved. Instead it mandates that the SEC must implement the necessary rules in order to eliminate conflicts of interest. While the exact measures that the SEC will take are still not known at this point, it is clear that it will involve a significant amount of direct oversight. This would be similar to the example given in section on moral hazard where a bank/regulator could choose to invest in a monitoring technology. As in that example, if this is the only method that is employed, it is likely to be quite costly as it would take a large amount of resources for the SEC to closely monitor every rating given by each NRSRO. It would also be very costly for the SEC to closely follow each rating after it was given to ensure that NRSROs conduct proper surveillance and adjustments to ratings after they have been issued. Instead, it would be beneficial for regulators to implement a system which would provide the proper incentives to NRSROs to provide and maintain

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<sup>106</sup> Thomas.gov, Library of Congress, 2009



accurate ratings. The fact that there are no suggestions of this sort makes it difficult to know the likely effectiveness of this part of the legislation.

Another thing that the bill will require is more stringent reporting requirements. NRSROs will be required to publicly disclose a large amount of information, including their methodologies, their sources of income, and any services other than ratings provided to issuers. This will make it easier for those who depend on ratings to monitor NRSROs by reducing the amount of asymmetric information. It should help to ensure that particular NRSROs are using the best methodologies because investors who disagree with the methodologies used by a particular agency can punish that agency either by voicing their displeasure publicly, or by pressuring issuers to not get rated by the agency in question by refusing to hold debt issued by an issuer that is rated by that particular agency. Investors will also be able to determine whether or not they will punish raters and/or issuers for potential conflicts of interest such as those that could arise from issuers paying ratings agencies for additional services.

Increasing the liability of NRSROs and their regulators by making them more susceptible to suits should help to incentivize NRSROs to provide the best possible ratings by adding an additional element of risk to any decision that does not have investors' best interests in mind. The same can be said about regulators who would be more susceptible to fraud-based suits. This should discourage NRSROs from giving artificially high ratings in order to attract or retain business by making the potential costs of such practices higher than the benefit.

One of the actions designed to increase the liability of NRSROs is the repeal of Rule 436(g) under the securities act of 1933. Rule 436(g) protected NRSROs from liability when the ratings they provided were included into a Securities Act registration statement or prospectus.<sup>107</sup> Without this protection, NRSROs would be subject to liability for misstatements or omissions if their ratings were included in official documentations issued by rated companies. Including ratings in periodic reports and registrations are important for companies as it can have an

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<sup>107</sup> Carbone, Danielle, The Impact of the Dodd-Frank Act's Credit Rating Agency Reform on Public Companies, *The Corporate & Securities Law Advisor*, V. 24 #9 Sept. 2010

effect on the company's liquidity, cost of funds, or covenants in its debt instruments.<sup>108</sup> The intention of this piece of legislation is to ensure that NRSROs do not provide any misstatements or omit any vital information in an effort to appease the firms which they are competing to serve, or in an effort to cut corners in an effort to save on costs.

The bill also cracks down heavily on individuals working in NRSROs. It requires all NRSRO employees to be supervised and gives the SEC the power to sanction supervisors who don't maintain strict standards for employees. It also mandates that NRSROs investigate the ratings of individuals that leave to work for an issuer, in order to ensure that all ratings issued by the former employee were done correctly. This will hopefully eliminate the possibility for issuers to bribe individual employees into giving good ratings in exchange for a future job by making it extremely costly for that individual if they are caught.

Additionally, NRSROs will be required to have independents comprise at least one-third of the board of directors. These members will attempt to ensure that management of NRSROs are responsible for adhering to regulations in addition to profitability.

### **5.3.1. Potential issues**

There are several issues that this legislation still leaves unresolved. While the proposal aims to eliminate principal agent problems that exist between ratings agencies and investors, there is still uncertainty as to how effective these measures will be at accomplishing their objectives. It also still leaves much to be desired in terms of solving many fundamental problems behind the ratings system as a whole.

For one, legislation mandates that ratings agencies must adopt certain methodologies that focus more on risk in order to strengthen the quality of their ratings. In principle, this should only be a positive step. In practice however, set methodologies, no matter how detailed they are, may still fall short of providing accurate information that can lead to accurate, useful ratings. This is not necessarily due to the methodologies (although the exact methodologies

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<sup>108</sup> Carbone, Danielle, The Impact of the Dodd-Frank Act's Credit Rating Agency Reform on Public Companies, *The Corporate & Securities Law Advisor*, V. 24 #9 Sept. 2010

that would be used are still uncertain), but rather because there is so little data for models measuring the risk to be based upon. In fact, useful historical data is lacking on both the structural performance of the securities, and on the underlying assets that comprise the securities.<sup>109</sup> Also, standardized methodologies could make NRSROs less adaptable to rating different variations of structured financial products. This could lead to future problems if agencies adhere to obsolete methodologies in order to rate new types of products. If standardized methodologies are to be required, then there must be a system for adjusting these methodologies or creating new ones in response to new structured financial products.

Another issue is that these methodologies are to be publicly disclosed so that investors can determine for themselves which agencies and ratings they will choose to trust. Once again, ideally this is a good thing, but since these methodologies could potentially still be using relatively unreliable data, this could have the unintended consequence of giving investors a false sense of confidence in ratings, helping to spread systemic risk and fuel asset bubbles. Also, more standardized, public methodologies will not prevent issuers from tailoring their products to achieve a certain rating. All it will do is make this process easier by eliminating the need for issuers to consult with ratings agency employees in order to do so.

NRSROs will also be required to report and manage potential conflicts of interest, including those that may occur from the “issuer pays” system, and those that arise from providing additional services to issuers such as advisory. Once again, this is a good idea in principle, leaves many questions in addition to the answers that it provides. Stating that NRSROs are required to do these things does not guarantee satisfactory results. A good example of this is the International Organization of Securities Commission’s (IOSCO) Code of Conduct created in 2004 as a voluntary code of conduct for ratings agencies.<sup>110</sup> Although the code was voluntary, it still demonstrated how the agencies that agreed to it failed to live up to their obligations by often reporting their methodologies and issues in vague and self-serving manners.<sup>111</sup> The Credit Rating Reform Act also had similar methods aimed at achieving similar goals, but failed

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<sup>109</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>110</sup> Ibid

<sup>111</sup> Ibid

to make significant changes. As long as conflicts of interest exist among NRSROs, it is likely that at least some will try to get around the regulation.

The increased liability for both the ratings agencies and for regulators should be a positive step in increasing the risk associated with providing inaccurate information, or in neglecting to provide thorough oversight. However attempts to increase this risk have potentially serious consequences. Since the repeal of 436(g) which became effective in July 2010, there has effectively been a stalemate between NRSROs and companies that disclose credit ratings in their SEC statements.<sup>112</sup> This causes a temporary standstill in the market for investment grade debt and asset-backed securities which was only relieved by a no-action letter issued shortly after the legislation was enacted.<sup>113</sup> It is clear that a more permanent solution will need to be put in place before the no-action letter expires on January 24, 2011 in order to avoid fallout from an extended breakdown of the effected securities markets.

While regulation that reduces asymmetric information is always positive, the proposed regulation falls short in that it does not fundamentally help to eliminate many of the conflicts of interest that are prevalent in the ratings industry. As long as the current “issuer pays” system is in effect, there will be conflicts of interest that threaten the quality of ratings. This is a difficult problem however, as it is not easy to change a system that has been built on this payment method for such a long time. Shifting the payment system back to the “investor pays” system is not very practical today either. In a time where there is so much reliance on ratings and so much technology that allows information to be transmitted quickly and easily, it would be difficult for a ratings agency to get a fair price for its ratings from only investors that pay for its services, as it is likely that a secondary market for passing on this information could develop. The “investor pays” system is also not without possible conflicts of interest of its own. Investors limited to the grade of securities that they can invest in, either through regulatory or internal controls, could put pressure on ratings agencies to inflate ratings so that they could

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<sup>112</sup> Carbone, Danielle, The Impact of the Dodd-Frank Act’s Credit Rating Agency Reform on Public Companies, *The Corporate & Securities Law Advisor*, V. 24 #9 Sept. 2010

<sup>113</sup> Ibid

broaden the range of securities that they could invest in.<sup>114,115</sup> This would also help relieve some of the demand for the securities that were already rated AAA, resulting in slightly higher returns from those securities. On the other side, investors could attempt to negatively influence ratings in order to enhance the returns on the securities they wish to purchase.<sup>116</sup>

It seems clear that the quality of ratings would benefit from a system where the party making the payment is not inherently interested in the outcome of particular ratings. One suggestion that could help to eliminate much of the conflict of interest involved in payment is one which creates a centralized clearing platform within the SEC or other regulatory body.<sup>117</sup> This central agency would require flat fees for different types of ratings and would then choose a ratings agency to rate the security. However, even this system is not without issues as a system for fairly choosing ratings agencies while incentivizing them to provide the best possible ratings would need to be developed which would be a difficult task in itself.

Another issue closely related to the conflicts of interest issue, but not directly addressed in this legislation, is the issue of the level of competition in the credit ratings industry. In recent years, the SEC has attempted to increase the level of competition within the certified ratings industry by making the requirements for achieving NRSRO status more clear and accessible. The common wisdom is that increasing competition and increasing choice are positive things. It is thought that increased competition would also ensure that NRSROs would be better at following up on ratings after the initial issuance.<sup>118</sup> However, in the ratings industry with the “issuer pays” system still in effect, increasing competition can have the unintended consequence of worsening the shopping for ratings problem. More competition may cause individual ratings agencies to go great lengths in order to please issuers and secure business. They may do so even in the face of direct oversight if they feel that not doing so will result in a worse outcome than getting caught by regulators would. Increased competition would likely

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<sup>114</sup> Amandou, The Systematic Regulation of CRAs and Rated Markets, *World Economics*; Oct-Dec 2009, Vol. 10 No. 4

<sup>115</sup> Rosner, Toward an Understanding: NRSRO Failings in Structured Ratings, *Journal of Structured Finance*, Winter 2009

<sup>116</sup> Ibid

<sup>117</sup> Richardson and White, 2009 (from Amandou)

<sup>118</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

also worsen the previously described issues related to an “investor pays” system. However, increased competition could be positive under the central distribution system if an effective system for distributing business based on positive ratings performance could be found.

Perhaps the main goal of this ratings industry regulation, and this financial regulation as a whole, is to reduce the spread of systemic risk. Reliance on flawed credit ratings is one of the main contributors to the recent financial crisis. It is true that as the quality of ratings increases, the risk associated with depending on them decreases. That is what much of the current regulation aims to do. However, the current regulation is leaving out one of the main issues related to risk spread by credit ratings, that being the huge reliance on NRSRO ratings by large investors such as banks, pension funds, and insurance companies who are required to invest in only investment-grade debt above a particular rating. Also, as mentioned earlier non-regulated investors have also become highly dependent on NRSRO ratings. These minimum rating requirements began prior to the development of most structured financial products. When structured financial products came onto market and were rated under the same system as normal corporate bonds, it allowed these high risk products be placed on balance sheets where safe assets were supposed to be. It is claimed that many of these regulated investors value credit ratings not for the information that they are supposed to provide, but rather for the purpose of achieving favorable regulatory treatment.<sup>119</sup> The current regulation falls very short by not addressing this problem.

One way that this problem could be eliminated is by taking regulatory responsibility out of the hands of private companies by shifting this responsibility to a public entity. This would ideally allow credit rating agencies to return to their original purpose of eliminating asymmetric information by providing real information about credit worthiness rather than serving to reduce regulatory restrictions. A public institution would also ideally be able to determine restrictions on regulated investors without being compromised by a drive to earn profit.

Another, more moderate way to address this problem is to create separate scales for structured financial products, and creating different regulatory restrictions for regulated investors

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<sup>119</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

investing in these products. This is something that has been proposed before. In 2008, the SEC proposed adding separate symbols to structured financial products. However this proposal was not enacted.<sup>120</sup> A similar proposal would be beneficial in several ways. Firstly, it would provide additional information to less informed investors who might not realize the differences between structured products and corporate and municipal bonds. Secondly, it would provide a basis for regulatory rules for regulated investors to be adjusted to a new system that could better insulate those regulated investors from the additional uncertainty inherent in structured financial products. Separating ratings into different classes based on their characteristics could also help to reduce systemic risk by reducing the vulnerability of other types of ratings when a particular class of assets is downgraded. This is because investors may see the downgrading of a particular class or group securities or products to be isolated from others if they feel that different ratings scales are used to reflect the different characteristics of different products.

#### **5.4. Potential costs / Concerns**

The reason it is so important to analyze and weigh every piece of regulation is because every regulation has costs, both direct and indirect. In terms of direct costs, while it is currently unknown how much government spending will need to increase in order to support the expanded role that the Securities and Exchange Commission and other regulatory bodies are certain to play, it is sure to be considerable. The size and overall amount of talent within these agencies will need to be greatly expanded to effectively take on the new responsibilities that have been given to them by the Dodd Frank Wall Street Reform and Consumer Protection Act. These agencies need to be able to recruit and retain the best and brightest talent in order to stay on top of the highly dynamic and innovative US and world financial systems. Companies affected by the regulation are also certain to have direct costs in order to comply with the new regulation. They will need to hire new personnel to fill the man-hours lost by current personnel dealing with regulatory measures. They will also need to hire new personnel, both as full time employees and as consultants who will specialize in compliance. Hiring can be a good thing for

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<sup>120</sup> Mulligan, From AAA to F: How Credit Rating Agencies Failed America, *Boston College Law Review*, Vol. 50 No. 4

the economy as a whole, but only if it is not at the expense of growth and the hiring of other employees for other positions.

Still, the largest costs related to the Dodd Frank bill are likely to be the indirect costs that come from increased market frictions. Market frictions are defined as anything that interferes with a normal flow of trade.<sup>121</sup> One market friction that could result from the regulation discussed here is a reduction in the amount of credit available to fuel investment. In this case, as mentioned before, slowing down reckless lending through risky investment vehicles that spread systemic risk and fuel asset bubbles is one of the main objectives. However, it is important that this combination of regulation does not contract credit too much at the risk of slowing down the recovery and future growth of the economy.

Regulation can also change the competitive dynamics of markets. This is especially true and potentially costly due to the current, relatively open global economy. Regulatory arbitrage refers to the act of seeking out jurisdictions with fewer regulatory burdens in an attempt to reduce costs and gain a competitive advantage over competitors.<sup>122</sup> If regulations in the US become too stringent, most of the market participants could leave to conduct their business elsewhere, causing adverse effects on the liquidity of those markets and overall growth potential of the economy. Regulatory arbitrage can also cause the effectiveness of regulations to break down as regulators are forced to be more lenient in their standards in order to prevent market participants from leaving the market.<sup>123</sup> This is one huge factor that advocates increased coordination and cooperation among policy makers and regulators around the globe.<sup>124</sup>

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<sup>121</sup> DeGennaro and Robotti, Financial Market Frictions, Federal Reserve Bank of Atlanta, *Economic Review*, July 2007

<sup>122</sup> Shiren, Damianova, Crosignani, Credit Default After the Global Banking Crisis: Regulatory Responses and Industry Incentives, *Journal of Securities Law, Regulation & Compliance*, Vol. 2 #3

<sup>123</sup> Ibid

<sup>124</sup> Clark, Moral Hazards, *Risk-Magazine.net*, November 2009



## 6. Insights

On the most basic level, the Dodd-Frank Wall Street Reform and Consumer Protection Act is intended to improve the functioning of the US financial system when the entire bill is taken into account. Though this paper only looked at part of the bill, it is clear that the regulations commissioned by the bill will have a significant effect on the areas it addresses. However, it is still unclear whether these parts of the bill, and/or the bill as a whole will have a positive or a negative effect overall. One reason that it is still very difficult to tell the effectiveness of the bill is because many of the actions that are described are not specified in writing, but will instead be created and put into place by regulatory authorities such as the SEC. This makes it impossible to analyze the likely effects of these measures before they are actually put in place by these authorities. The parts of the bill that are possible to analyze certainly have some promise in helping to solve the issues they were designed to solve, but many of them also seem poised to create unintended consequences that can put their net effectiveness in question. The current regulation is in large part a balancing act which takes aim at solving problems witnessed in the recent past while trying to minimize collateral damage to other parts of the system. The difficult thing is that it will likely force the US regulatory authorities to continue down a reactionary path of regulation where problems are solved only after they arise and cause damage.

Effective regulation must not only concentrate on solving the problem at hand, but also focus on solving the root of that problem. If the root of the problem is fixed, not only will the original problem be fixed, but so too will other problems stemming from the same core issue. This is no simple task. The designers of regulation should make use of the theoretical tools at their disposal to try and gain the greatest possible understanding of core issues such as information asymmetry, principal-agent problems, and systemic risk, in order to be more prepared to deal with these issues and the issues that they create. One thing is certain, and that is that the modern financial system is dynamic. Good regulation must place its main focus on the root issues in order to solve the issues of today while also attempting to prevent the issues of tomorrow.

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