

LUISS



Department of Economics and
Finance

Chair of Corporate Financial Markets and Institutions

**CONFLICT OF INTEREST IN THE ISSUER PAID MODEL OF
CREDIT RATING AGENCIES: WOULD AN ALTERNATIVE BE
POSSIBLE?**

Prof. Ugo Zannini

SUPERVISOR

Riccardo Murando

CANDIDATE

*To my beloved grandparents
To my parents
To my supervisor Mirta Musolino
To Federico, Enrico, Josè and Andrea*

Abstract

This thesis presents an analysis of the conflict of interest within credit rating agencies. Nowadays, when issuers need to issue new debt, such financial intermediaries rely on credit rating agencies for a rating. Rating represents the riskiness of the debt and investors use such tool to make investment decisions based on their risk profile. What is currently debated relies upon the fact that issuers are the ones that pay for the rating, leading to a potential conflict of interest. Notably, issuers in fact might put pressure on the credit rating agency in order to raise their rating being that they are the ones who pay them. What has been described up until now is what is referred to in this thesis as the issuer paid model. Such model has contributed in bringing two of the major financial cracks in history: the dot-com bubble of 2002 and the 2008 financial crisis. It might be questioned why the issuer paid model is still used today if it presents this conflict. This thesis will focus on understanding this fact, through the analysis of how the model has contributed to these scandals and through the presentation of new alternatives. It will be structured in the following way: The Literature Review, the analysis and the conclusion. In the literature review the historical background of the big three namely the S&P rating agency, Moody's and Fitch will be presented, followed by their role in the dot-com bubble and in the financial crisis. In addition, it will analyse the provisions that the government undertook. The analysis instead will take into consideration the subscriber paid model, the random selection model and the alternative user paid model. All of this will be followed by a conclusion which states that problems in the industry are inevitable.

TABLE OF CONTENTS

I. INTRODUCTION

II. LITERATURE REVIEW

1. The Issuer Paid Model
2. **The role of the issuer paid model in the dot-com bubble and in the financial crisis**
3. An analysis of the limits of the SOX, the 2006 reform act and the dodd frank act on regulating credit rating agencies conflict of interest
4. Conclusion

III. ANALYSIS

1. Introduction
2. The models
3. The subscription paid model
4. **The random selection model and the alternative user paid model**

IV. CONCLUSION

Introduction

Investment. Risk. Return. The world of Finance rotates around these three pillars. When taking into consideration the definition of what CRAs do the first definition that appears on Google is: “Credit rating agencies provide investors with information about whether bond and debt instrument issuers can meet their obligations”.¹ If we translateⁱ this sentence for a financial illiterate it would result in this: “Credit rating agencies study if the entity you gave money to can repay you. They do this by giving a grade to the investment you made, the higher the grade the lower the risk and vice versa”. Two of the main pillars of Finance has been cited in this simple statement. Return gets into the game the instant that credit rating agencies give their grade. It is therefore needless to say that the power of credit rating agencies exceeds beyond any possible imagination. It is only worth remembering that influencing where 200 trillion dollars will be invested bears a certain degree of responsibility.

Credit rating agencies were born as to assist investors in their choice of their securities, through publications and manuals, which analysed analytical information about issuers of debt. By subscribing to the service investors or brokers who needed to act in the stock exchange could rely on an entity specialized in understanding the quality of debt. Of course this service came with a cost, a cost that investors themselves bared when paying the subscription to this information. After years of this model with the advent of a global expansion of the securities market, new innovation in the statistical and analytical technologies, CRAs realized that they were not only anymore useful to investors but also to the issuers of securities. In fact credit rating agencies not only help investors with the choice of their securities, but they also facilitate access to capital for issuers who need credit. Thanks to reputation of the credit rating agency, investors are assured that the return is proportional to the investment made, facilitating the process of predisposing liquidity to the issuers. With the advent of photocopiers, knowledge started spreading like lighting creating a free riders problem in an industry. This caused credit rating agencies, who sell primarily information, as a service to seek new revenues in another way. If subscribers shall not be the ones paying the issuers shall take the burden.

The power of the rating industry is today concentrated into 9 main different credit rating companies: The S&P Global Ratings (S&P), Moody's, Fitch Group, A.M. Best Rating Services, Inc. HR Ratings de México, S.A. de C.V. Japan Credit Rating Agency, Ltd. Kroll Bond Rating Agency, DBRS Inc, Egan-Jones Ratings Co. All of these are to be considered as Nationally Recognized Statistical Rating Organizations (NRSROs). NRSROs were created in 1975, when the Securities and Exchange Commission (SEC) recognized that monitoring rating boundaries was required, in order to make capital requirements sensitive to the riskiness of broker-dealers' bond portfolios. ² Ratings in fact dictate the net capital requirements of banks and broker-dealers, the securities money market funds may hold, and the investment options of pension funds. Before this status existed, if a broker-dealer claimed that those ratings were "recognized," the SEC might have had difficulties to enforce actions. It therefore issued new rules that crystallized the centrality of the rating agencies. ³ These rules require NRSROs to have an effective internal control structure governing their policies, procedures, and methodologies for determining credit ratings. All rating agencies are responsible for the disclosure of information to investors through the analysis of several factors like the financial statements, level and type of debt, lending and borrowing history, ability to repay the debt, and past debts of the entity.

While the majority of the existing credit rating agencies today have become NRSROs after Credit Rating Agency Reform Act of 2006, which allowed new entrants in the industry, three of these act both today and historically as the major players of the industry: The S&P Global Ratings (S&P), Moody's, and Fitch Group. They were the first ones to get this status and the ones with the biggest market share. The S&P Global Ratings was founded in 1860 when Henry Varnum Poor first published the "History of Railroads and Canals in the United States", the first book which started being concerned on the development of the emerging railroad industry. Thanks to the expansion of new investment opportunities and the financial market, a journalist covering the oil market started publishing the National petroleum news seeking more transparency to the market. When Standard Statistics merged with Poor's Publishing in 1941 to form Standard and Poor's Corporation, the power of analysis of the agency expanded due to the advanced tools used in measuring the quality of debt through statistical analysis, creating an index which tracks the US economy as a whole: The S&P500. This index takes into consideration 500 companies that act as a barometer of the U.S. stock market and economy, covering approximately 80% of available market capitalization for a total of \$1.1 trillion assets under management as of Q2 2022. Many instruments of investment have been created since

then. ⁱⁱSuch like the S&P Global Ratings there is Moody's, the second major CRA. John Moody first published the "Moody's Manual" in 1900 which published basic statistics and general information about securities in national publications until the stock market crash of 1907. In 1914 it started collecting analytical information and Moody's Investors Service was created, which started to provide ratings to government bonds. Thanks to its title of established company having been a key player in national publications, Moody's started being followed by investors throughout the whole US, gaining power in the market of ratings up to the 1970s when Moody's began rating bank deposits and commercial papers becoming officially in 1975 a NRSO. The third key credit rating agency is Fitch. It was founded by John Knowles Fitch in 1914. In the 1920s, Fitch introduced the AAA through D rating system, which is now the most used rating system in the credit rating industry. The agency assigns values from the lowest (AAA) to the highest probability of default (D). Although Fitch plays an important role in the U.S rating system, acting as a third rater after the S&P and Moody's, it is best known for being Europe's leading rating agency of corporate bonds.

All of these three agencies differ both in their methodology but also in their market share. The methodology of the raters differs in the following way: The S&P Global Ratings considers : "the obligor's capacity and willingness to meet its financial commitments as they come due, and may assess terms, such as collateral security and subordination, which could affect ultimate payment in the event of default" (Standard & Poor's Ratings Services, 2014), Moody's considers the "likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default" (Moody's Investors Service, 2016) and Fitch considers: "the issuer's operating profile, including predictability and volatility of costs and the ability to manage growth in costs over time". The structure of the grading is as follows: Fitch and S&P have the same ranking structure for long term debt: AAA, AA, A, and BBB are investment grade categories; BB, B, CCC, CC, C, and D are considered speculative grade rankings. Moody's instead uses Aaa, Aa, A, Baa for investment grade debt and Ba, B, Caa, Ca, and C for speculative debt. Within each generic classification S&P and Fitch use pluses and minuses to modify their grades, while Moody's generally uses numerical modifiers 1-3, with 1 indicating that a credit falls in the higher end of the generic rating category, 2 indicating mid-range, and 3 indicating the lower end of the ranking. The market share instead is divided as follows: Fitch is the smallest of the three bond rating agencies, with 13% of the total market share while S&P Global Ratings and Moody's agency control the rest (50% and 32% respectively), making them the two strongest players in the industry.

The issuer paid model

At the largest rating organizations, the process for developing an initial rating on an issuer deploys as follows: analysts review financial statements and draft a preliminary rating. Then, they visit management of the issuer in order to perform qualitative analysis of the management. This is followed by a preparation of a brief report explaining the rationale for the rating presented to the rating committee, which then determines a final rating. Subsequently, the rating and report are sent to the issuer to ensure that it is factually accurate and do not disclose any confidential information. Finally the rating, paid for by the debt issuer, is disseminated to the public at no cost. Thanks to this model credit ratings are available to the entire market freely. Notably, investors can compare many securities before making an investment decision and can monitor continuously the financial situation of the debtor. Prior to the issuer paid model this was not possible. With the subscription paid model in fact only large investors or institutions were capable of buying the rating ⁴. This is because the process to rate a security is long and requires a lot of analysis, and credit rating agencies were compensated a hefty amount by these investors for their job. Consequently, little investors were left with no rating. They therefore were forced to seek advice from financial intermediaries, the stock brokers, merchant bankers, the portfolio managers about investments.

This does not imply that they are not still used today, but thanks to free access to rating investors have the opportunity of investing on their own. The second benefit that the issuer paid model has brought is the access to high quality information that rating agencies have. Thanks to the policy that: “Credit rating agencies should maintain in confidence all non-public information communicated to them by any issuer, or its agents, under the terms of a confidentiality agreement or otherwise under a mutual understanding that the information is shared confidential” ⁵ agencies can take into consideration precious qualitative and quantitative information in their rating analysis. With regard to the quantitative information, CRAs have the ability to examine before the public the balance sheets and income statements before the rest of the public. They might be therefore capable of anticipating the market reaction to the ups and downs of the business cycle through model driven ratings which evaluate an entity’s assets, profitability quality and funding. This allows important protection for both the issuers and the investors; the first can adjust the way of conducting business while the second draw benefit in the rating risk profile. In contrast, when dealing with the qualitative advantage

confidential information helps analyst do their job better. Through published reports, interviews and the discussions with the issuer's management analysts are able to improve their judgment to assess the entity's financial condition.

While many are the benefits presented by the issuer paid model, as the term suggests it is the same issuer that rewards the agencies job. Conflict of interest occurs when a person's or entity's vested interests raise a question of whether their actions, judgment, and/or decision-making can be unbiased. ⁶ Needless to say, that if the issuer is the one paying for a rating, questions on whether this rating is objective might arise. If this is the case the benefits that the issuer paid model has brought might result useless being that investors cannot rely on the ratings given by the agency. Fitch plays an important role when addressing conflict of interest in credit rating agencies. While Fitch only seeks to add additional information about the issuers ability to repay debt, resulting into a service upon request from the issuing firm, rating from S&P and Moody's is mandatory if a company wants to raise capital. ⁷ The ratings they give affect whether a pension fund, for instance, or a money market fund can invest in a company's bonds. The role of Fitch therefore remains between the lines and introduces the first problem of this model. Why would an issuer pay for Fitch's third rating ? Well although there is competition in the industry, and the three companies might offer different advantages for different kinds of clients, one important note is that Fitch empirically has, on average, given higher average rating in respect to its competitors. This is important because if we assume that for example Moody's and the S&P have given a low rating to a security of an issuer, the issuer might go to Fitch, pay for the service, and possibly have a higher rating. This could possibly change investors view of the security proposed, leading to a lower cost of capital for the issuer. This concept is valid also for other situations. For example, the Basel Committee has developed a series of guidelines on multiple assessments, which state that a bank working with two agencies whose assessments map into different risk weights must use the higher risk weight. When the bank works with three or more agencies whose assessments lead to different risk-weights, the guidelines require the bank to use the higher of the two lowest risk weights. Let's suppose that the issuer gets an A from Moody's and a B from the S&P, and the relevant risk weight is 100%. If the issuer instead decides to get a third rating from Fitch by obtaining an AA- or above, risk weight decreases to 50% ⁸. This allows the bank to make riskier investments. Both of these situations represent what is commonly referred to as rating shopping. Rating shopping is possible because the incentives of credit rating agencies and the ones of the issuers are aligned. If a credit rating

agency receives revenue from an issuer, it could be inclined to inflate the rating to not lose the business.

The role of the issuer paid model in the dot-com bubble and in the financial crisis

What has been previously discussed is one situation of potential conflict of interest in the issuer paid model. The escalation of the argument is clearly embedded in the 2007-2008 financial crisis when The U.S. Senate Permanent Subcommittee on Investigations concluded that “Inaccurate AAA credit ratings introduced risk into the U.S. financial system and constituted a key cause of the financial crisis.”, but the incipit of the argument starts much before, in the dotcom crash of 2000-01 where credit rating agencies played a crucial role due to their inflated ratings of companies.

Although many factors contributed to the dot-com bubble, one of them stands out when considering credit rating agencies: the abundance of venture capital. Cheap funds were obtainable through very low interest rates and made capital easily accessible for internet companies. When talking about funding, credit rating agencies play a fundamental role, holding the key to capital and liquidity being that they affect a company's ability to borrow money. At the height of the boom, it was possible for a promising dot-com company to become a public company via an IPO and raise a substantial amount of money even if it had never made a profit—or, in some cases, realized any material revenue. People started quitting their jobs to become traders in the financial markets, they started overlooking traditional metrics, such as the price–earnings ratio leading to a rise in the Nasdaq Composite stock market index of 400% between 1995 and 2000. In short people were willing to overlook financials and fundamentals in the hope that technology could bring them profits in the future, leading to a speculative bubble. ⁹Out of all the companies in the bubble one is representative of the role that credit rating agencies played in the crisis: Enron. What shocked the world about the Enron case is that on October 29, an S&P's credit rating analyst appeared on CNN stating that , “Enron's ability to retain something like the rating that they're at today is excellent in the long term.”, while on October 22 the SEC had asked the company to disclose its ties to outside investment partnerships set up by the company's chief financial officer leading Enron stock to drop 20 percent, and on October 24, CFO Andrew Fastow resigned. The scandal does not end because on November 8, when Enron disclosed it had overstated earnings by over half a billion dollars since 1997, the stock dropped to by \$8.41 and still rating agencies kept Enron at investment grade. Only by November 28, the Moody's and Standard & Poor's downgraded Enron to junk

bond and a couple of days later the stock went to bankruptcy. What is important about Enron is that it is the first big failure of credit rating agencies leading to global consequences. 63.4 billion dollars have been wiped out leaving a dry mouth to the investors.

The opening statement of Chairman Lieberman for fourth in a series of Governmental Affairs Committee hearings on the collapse of Enron summarizes at best the limit of the issuer paid model. He states: “The credit raters, for example, I learned, are allowed to look at a company's inside information when making assessments, and they are exempted from liability when they participate in securities offerings, which are two benefits that give them more information than other analysts have who work within our system.”¹⁰ This inside information Lieberman refers to is a direct consequence of the fact that credit rating agencies also offer ancillary services to the issuer. Ancillary services regard rated securities of an issuer for whom the rating agency also provides other kinds of services such as market forecasts, estimates of economic trends, pricing analysis, or other general data analysis, related distribution services or the consulting of the structure of securities and, most importantly, consultation on the structure of securities which is what happened in the crisis. Offering ancillary services clearly might lead to a potential conflict of interest. For example, credit rating decisions could be influenced by whether or not an issuer purchases additional services offered by the CRA. In addition even if the credit rating agency doesn't put pressure, the fact that this service exists might pressure issuers to buy it in the hope for a higher rating¹¹. What happened with Enron is a clear misuse of confidential information. Although it is true that confidential information helps the credit rating agency to gather information for their ratings, having therefore a positive impact for investors, it is also true that not using this information appropriately or not using this information at all, brings serious consequences for investors who rely on the credit rating agency for an overview of the quality of debt. In this case in particular, no matter the better sense of a company's situation in respect to market participants, credit rating agencies did not move quickly enough in order to avoid collapse. If Moody's had: “followed processes and practices that conformed methods of credit analysis”,¹² why was that methodology proved wrong in the case of Enron? The only possible answer on which Moody's could appeal is the fact that Enron did not tell the truth about its financial condition, but how can we believe a company who is paid by the issuer itself for the rating? Can we believe a company who is paid for consulting the structure of the debt of the issuer and who has its confidential information on the only basis that the counterparty did not tell the truth? This is something to reflect when dealing with the issuer paid model. Investors rely on the good reputation of the credit rating

agency. Being approved by the SEC, makes investors believe in the rating quality ex-ante and value the agency's analysis highly. But if these types of things happen the bank brakes.

Trust in credit rating agencies is again put to test in the 2007-2008 financial crisis. In brief the 2008 financial crisis was a result of many factors such as low interest rates and easy credit which gave access to funds to people who could not afford to repay them. This was possible thanks to the high ratings that credit ratings agencies gave to structured finance products; namely CDOs which are composed of loans and other assets which use the underlying asset itself as a collateral of the repayment of the debt. What is debated about the 2008 financial crisis stands in the reason why credit rating agencies gave high ratings to these products, with investors referring to the issuer paid model as the primary cause of the disaster. Investors were in fact relying on the reputation of the credit rating agencies for their investments, rather than on what they were buying. They "weren't so much buying a security" as they "were buying a triple-A rating", according to business journalists Bethany McLean and Joe Nocera.¹² If the Enron crisis was aimed to teach that the job of NRSROs should be better supervised, what happened with the financial crisis is not the demonstration.

On one hand, it is true that with a boom in these new kind of products, agencies made a hefty amount of cash. Stories of analysts recalling ratings of billion dollars in a very small amount of time are of normal practice. One analyst recalls rating a \$1 billion structured deal in 90 minutes, and the majority of the credit rating agencies have achieved above market return in the financial markets in the years prior years of the crisis. It is therefore fairly easy to infer that credit rating agencies ranked these securities triple A to earn money to the detriment of accurate analysis. Yet on the other hand it must be questioned why did credit rating agencies did this practice only on CDOs. If the rating agencies were selling high ratings to issuers why weren't high ratings sold for other kinds of securities? In other words if it is true that credit raters were inflating CDOs value, they could have done the same practice by selling triple a also for other kinds of products. ¹³ But if rating agency that becomes known for selling its high ratings will soon find that nobody will be paying anything for its ratings, high or low. resulting in a loss all the credit rating their business. There is one answer to the question with two different perspectives which could give an alibi or condemn credit rating work accordingly. On one hand, it is of general agreement that CDOs have been crafted by very creative financial engineers, and therefore their ability of transforming dross into gold could have been missed out also by the high standards of analysis of credit rating agencies. What supports this thesis is

the fact that CDOs were not only difficult to be understood by the credit rating agencies. Major sophisticated market participants with considerable amounts of money at stake and considerable access to information about the securities and about markets generally made the same mistake the rating agencies did. ¹⁴ The fact that structured finance vehicles were subject to change, so CDO managers "didn't always have to disclose what the securities contained" surely did not help credit rating analysts. On the other hand it could be argued that credit rating agencies could have turned a blind eye on the problems to rip off quick profits. The fact that CDOs were too complex to be understood for the average investor could have been an advantage in inflating rating in this this kind of security. Unfortunately no answer can be found to the question. Both have the foundations to be correct.

What groups both of the crisis is the fact that if the issuers were not the same ones to pay for the ratings, investors could not point the finger to credit rating agencies. Yet, the issuer paid model is still currently used today. Many have been the attempts of the government to reduce the conflict of interest in the issuer paid model. The next section will analyse some of the most major acts which tried to deal with this problem and which constitute basis of regulation still today.

An analysis of the limits of the SOX, the 2006 reform act and the dodd frank act on regulating credit rating agencies conflict of interest

Clearly new provisions in order to reduce conflict of interest were needed after the dot-com bubble. Among the many other reforms made in the SOX of 2002, which was created to enhance transparency in the market, Title V is the one that reviews the possible conflicts of interests between analysts and corporations. In specific the reform was designated to:

- Prohibit an NRSRO from issuing a credit rating to an issuer or that issuer's securities when the NRSRO, or one of its affiliates, previously made recommendations to that issuer about the issuer's corporate or legal structure, assets, liabilities, or activities.
- Prohibit an NRSRO from issuing a rating if the personnel responsible for determining the rating, or developing or approving procedures or methodologies

used for determining the rating, previously participated in determining the fee which the NRSRO charges the related issuer

- Prohibit NRSROs from allowing an employee who participated in determining or monitoring the credit rating from receiving gifts from the obligator being rated or from the issuer, underwriter, or sponsor of the securities being rated.
- Prohibit an NRSRO from issuing a rating for a structured finance product paid for by the product's issuer unless the information provided to the NRSRO to determine the rating is made available to other NRSROs 15

It is important to recognize that despite the positive effect SOX has had on investor confidence and audit quality, it was not a perfect regulatory measure. When dealing with the first provision in fact still today credit rating agencies provide ancillary services to credit rating agencies, and even if these count a very little fraction of the credit rating, it enables credit rating agencies to have access to confidential information. The SEC attempted to reduce this conflict of interest by establishing information barriers between analysts and people engaged in the sale of the ancillary service. Nevertheless the problem still remains, being that the people who engage in the sale of the ancillary services and the analysts act on behalf of the same board of directors who has the final word on the rating given. The second point instead remains flawed being that even if you prohibit the personnel who participated in determining the fee of the rating to issue a rating we must remember that both the decision of the rating and the decision of the fees is approved by the board of directors. It is true that it is approved also by an independent committee, but the personnel in both decisions is the same, they both act under the supervision of the same board. Only the third and fourth point cannot be put into discussion, yet from an external point of view the third point might seem only a formality rather than a provision. It seems kind of obvious that an employee who participated in determining or monitoring the credit rating cannot receive gifts from the issuer. The only solid point that cannot be put into discussion is the fourth one, which certainly enables credit rating agencies to work in a more transparent way. With flow of information passing through one credit agency to the other analysis results more complete, therefore increasing efficiency in the sector. Section 702(b) of the Sarbanes-Oxley Act of 2002 mandated an additional report on the role and function of credit rating agencies in the operation of securities market. This report attempted to analyse information flow, potential conflict of interests, unfair practices, barriers to entry and ongoing oversight. This was done with the objective of restoring investors confidence after the dot-.com bubble. 18 The concept release was published after 60 days with all of the concerns which

regard the issuer paid model, but the implementation of many reforms proposed was delayed until the Dodd-Frank Act. The main concern regarding barriers to entry instead, was addressed in the 2006 Credit Rating Agency Reform Act.

In the 2006 Credit Rating Agency Reform Act where credit rating agencies have been recognized as of "national importance". Before this act the SEC in fact did not have statutory authority to oversee credit rating agencies, thus implying that regulating the industry was difficult.¹⁸ What the government tried to do with this amendment was to increase the competition in the industry by allowing other participants to become NRSOs if complying with the submission to the SEC of the following information:

- 1) credit ratings performance measurement statistics over short-term, mid-term, and long-term periods;
- (2) the procedures and methodologies that the applicant uses in determining credit ratings;
- (3) policies or procedures adopted and implemented by the applicant to prevent the misuse of material, nonpublic information;
- (4) its organizational structure;
- (5) whether it has in effect a code of ethics and, if not, why not;
- (6) any conflict of interest relating to its issuance of credit ratings;
- (7) on a confidential basis a list of the twenty largest issuers and subscribers that use its credit rating services by amount of net revenues received in the fiscal year immediately preceding the date of submission of the application; and (8) any other information and documents which the SEC may by rule prescribe as necessary or appropriate in the public interest or for the protection of investors ¹⁹

The Credit Rating Agency Reform Act establishes fundamental reform and improvement of the designation process for the establishment of new NRSOs. As noted above, the Act tries to replace the barriers to entry with a transparent and voluntary registration system that favors no particular business model, thus encouraging competition in the market. By trying to eliminate

barriers to entry the Act tried to enhance competition and provide investors with more choices, higher quality ratings, and lower costs

What must be taken into consideration is that true that as stated at the beginning of the literature review 9 are the NRSROs today, but it is also true that only 3 occupy the 96% of the market share. This is because credit rating agencies who want to enter the market face an enormous barrier to entry. Out of all one stands out: reputation. If a broker calls a client asking him if he wants to buy bond X the client will ask: what's the rating? The broker will answer S&P triple A. Then the client will answer sure I will buy it. If the broker says EJR triple A the conversation is different. Even though the SEC tempted through this Act to enhance competition survival in the industry is low. The only possibility for the entrant in the market to build reputation could be to offer rating fees low to induce the issuer to hire it and if its ratings prove to be correct its reputation increases. However the problem still stands upon the fact that the ratings that the entrant must give must be as high as the highest one given by one of the big three, being that if not the issuer will not pay for the service. This induces to a double problem: on one hand the entrant must ensure that he will give the highest rating and on the other hand the entrant must be certain that its rating is accurate. On a one shot strike luck might bless, but in the long term it is a very difficult accomplishment to achieve. In addition new entrants might lack of resources. Without staff, analytical tools and many others entrants are in disadvantage in respect to established CRAs, who are able to hire more staff in order to analyse complex transactions.

While the 2006 credit rating agency reform act aimed primarily to enhance competition in the market, changes in the regulation of the credit rating agencies appeared in the Dodd-Frank Wall Street Reform and Consumer Protection Act which was created as a response to the financial crisis of 2007-2008. Through this provision new government agencies namely the Financial Stability Oversight Council, the Orderly Liquidation Authority, The Consumer Financial Protection Bureau (CFPB) and the Office of Credit Rating were established in order to oversee various components of the financial system. 20 While the Financial Stability Oversight Council, the Orderly Liquidation Authority and The Consumer Financial Protection Bureau were established in order to monitor the U.S financial system, efficiently liquidate a financial company close to failing and protect consumers, what is of main interest is the office of credit ratings. The office of credit rating agencies is an office within the SEC which:” conducts examinations of NRSROs to assess and promote compliance with statutory and Commission

requirements; monitors the activities of NRSROs, conducts outreach with investors, issuers, and other industry participants; develops and administers rules affecting NRSROs; and provides guidance generally with respect to the Commission's regulatory initiatives related to NRSROs". Many were the changes brought including the enhancement in competition of credit rating agencies and new regulatory frameworks which mandates NRSOs to have:

- An effective internal control structure governing their policies, procedures, and methodologies for determining credit ratings. The structure must take into consideration 17 specific factors, as well as any other factors applicable to the NRSRO's particular business.[8]

- Address and manage conflicts of interest arising from their business.[9]

- A board of directors which oversees four specific regulatory areas, including policies and procedures for determining credit ratings. The boards, which must comprise a certain number of independent directors, are also required to approve the NRSRO's procedures and methodologies to determine ratings.[10]

- A compliance officer to administer its policies and procedures and ensure compliance with the securities laws.[11]

- 14 items of information with each rating action. These include the version of the methodology used to determine the credit rating, a description of the types of data relied on, an assessment of the quality of information considered, an explanation of the potential volatility of the rating, and information on the sensitivity of the rating to the NRSRO's assumptions. These disclosures must be available to the same persons who can receive or access the relevant credit rating.[12]

- Public disclosures on Form NRSRO, including information such as performance measurement statistics consisting of transition and default rates for ratings classes.[13]

- Standards of training, experience, and competence for their staff that determines ratings.[14]

21

While all of these frameworks have contributed to reduce conflict of interests and enhance financial transparency in the market by protecting users of credit ratings and the public interest, promoting ratings accuracy, and ensuring that ratings are not unduly influenced by conflicts of interest on concern remains: all of these provisions are combined in a single office the functions of examinations, monitoring, and legal and policy. Not having a ramification of control in addition to the fact that the OCR is not an independent entity has lead civil and criminal actions to be infrequent in the last years, questioning the capability of OCR in enforcing actions. In fact although the office is: “required to examine each NRSRO at least annually under section 15E of the Exchange Act summarizing its essential findings, along with summaries of any NRSRO responses to material regulatory deficiencies and whether the NRSROs have appropriately addressed the OCR's recommendations”, many are the doubts about the transparency involved in the process because the transgression term is often described only in general and does not permit the reader to identify which rating agency is involved. Section 932(a) of Dodd-Frank requires that the OCR make its findings available to the public in "an easily understandable format ... summarizing [its] essential findings but when disclosing violation very general disclosures were made by the OCR. Some examples include:

- Analysts at one "larger" NRSRO learned of errors in a "substantial" number of third-party models used to determine ratings but did not analyze the impact of these errors, as required; the OCR further found substantive statements in this NRSRO' s internal rating records that directly contradicted its rating publications.
- Analysts at another "larger" NRSRO made inaccurate disclosures about its rating methodologies, and did not correct an error in calculations it used to determine certain ratings, or disclose the rating implications of this error
- The OCR found that two larger NRSROs and one smaller NRSRO failed to adhere to their own policies and procedures regarding review and revision of rating methodologies, criteria, and models, and correction of errors. 22

These are some of the statements made by the OCR but none of them refer in specific about which OCR was taken into consideration. The reforms mentioned above in the dodd-frank act were designated to finally increase and ease legal penalties for issuing inaccurate ratings. But

if no ramification of control or independent entity is created to enforce legal actions the problem remains.

Conclusion

Although regulation in financial markets has been imposed since 1934 through the Securities and Exchange act we must keep in mind that the Credit Rating Agency Reform Act of 2006, which allows the SEC to regulate the internal processes, record-keeping, and certain business practices of CRAs is relatively new. What has happened in the dot com bubble and in the financial crisis is a consequence of an underestimation of the power of the credit rating agencies and possibly it could have been avoided if a dodd frank act existed prior to these events, but we must also keep in mind that the enforcement of rules is still difficult. Regulating a model where credit rating agencies are paid by the issuer itself results of hard practice. While liability is a term that immediately pops into our mind when dealing with responsibility the thin line of liability is very difficult to paint in financial markets. Reforms have their limits. For every increase or decrease in liability a reaction in the incentives of decision making occurs. While increasing liability should reduce the willingness of people to commit wrongful acts it could bring serious consequences in the equilibrium of financial markets. Pessimistic bias would in fact induce credit rating agencies to give lower ratings to good debt in turn making it more difficult for issuers to raise capital. Although some limits have been put to evidence, this part of the thesis leaves space for further analysis in terms of the weighing the pros and cons and that each rule imply. The only purpose of this section was to highlight that the government has tried to reform the issuer paid model; it is not that nothing has been done, it is only very difficult to regulate its limits.

Analysis

Introduction

The nature of this Chapter is to analyse the data followed by the discussion of the research findings in order to analyse at best the conflict of interest in credit rating agencies from various angles. This will be conducted via the explanation of research studies, which aim to explain the nature of the argument debated. This part of the research will be divided into three main subsections: the subscriber paid model, which was the model used before the current one and two new alternatives proposed: the random selection model and the alternative selection model. Both of these have been chosen among 7 proposed alternative models in a Meeting of the Fixed Income Market Structure Advisory Committee. 23

The models

Name	Description
Random selection	Issuers continue to pay for ratings but payment is made to a ratings board that randomly assigns NRSROs to rate issuances.
Investor-owned	Institutional investors create and operate an NRSRO. Issuers are required to get two ratings, one from the investor-owned NRSRO and one from an NRSRO of their choice.
Stand-alone	NRSROs choose which issues to rate. A transaction fee for original issuance and fees from secondary market transactions pay for the ratings.
Designation	NRSROs choose which issues to rate and securities holders designate which NRSRO(s) would receive the fees they pay for rating(s). A third party collects and distributes fees.
User-pays	Third-party auditors determine who is “using” ratings and require that all “users” pay the NRSROs.
Alternative user-pays	Creditors’ resources are pooled and a government agency or independent board uses these resources to solicit ratings. NRSROs bid on the right to rate products.
Issuer and investor-pays	Issuers and investors pay a fee on the issuance of new debt and secondary market trades. NRSROs are placed in a continuous queue and assigned to rate issues as their number comes up. Assignment eventually is based on an NRSRO’s performance.

While all of these aim to reduce the possible conflict of interest which exists today, an analysis of their costs and benefits must be made in order to understand if they could possibly be implemented. Although seven proposals have been made in alternative to the issuer paid model this section will concentrate only on two of these namely the random selection model and the Alternative user pays model. This is because only by reading how the others are structured, there are too many disadvantages involved in respect to the benefits. In brief the investor owned

model for example is clearly not suitable because although it presents the advantage that investors are the ones who are controlling a credit rating agency, and who therefore have the ability to directly interact with issuers, it must be remembered that giving too much power on one side leads to brutal consequences. Investors in fact would be easily incentivized to under rate issuers in order to obtain a higher rate of return for a safer asset. In addition issuers would be obliged to pay not only one NRSRO but two leading to even higher costs. The stand alone model instead would give too much power to the NRSRO because by choosing which issuer to rate issuers would be obliged to compete on the upside for the fees to get rated by the agency, leading to the possibility that some types of securities might be left unrated. Not even the change to the designation model would allow the stand alone model to be suitable being that a change in the structure of the payment where securities holders designate which NRSRO(s) would receive the fees they pay, would imply that not only NRSRO would have to faculty to choose the issuer to rate but also that investors would pay for the rating leading therefore issuers with a double problem: rating deflation and unrated securities. These would cause enormous disequilibrium in the market. This section will therefore concentrate on the three models left: the subscription paid model, the random selection model and the alternative user pays model.

The subscription paid model

If issuers shall not be the ones who pay for the ratings an alternative must be found. As mentioned in the literature review, before the 1970s another model was in force which dealt with compensation of credit rating agencies: the subscription paid model. As the term alludes it refers to investors paying for the services of credit rating. Many are the conflicts in the issuer paid model, which might induce thinking that if in investors pay for the rating they conflict of interest might be reduced, yet an analysis of the benefits and the risks that this model poses must be made. What is praised about the subscriber paid model is the fact that companies that issue bonds and need credit ratings to attract investors would not be the same ones that pick and pay the CRAs to come up with the ratings. ²⁴ With investors paying for the service, it is reasonable to assume that credit rating agencies are incentivized to safeguard investors interest rather than the interest of the issuer. This could possibly eliminate the primary concern of the issuer paid model: shopping for credit rating. Recalling the issuer paid model, the performance of ancillary paid services is possible because issuers pay for the service. This allows credit raters both to profit from the ancillary services offered and to obtain valuable confidential

information which is used when rating. The conflict of interest arises when the issuer might feel pressure from the credit rating agency to choose it for ancillary services since it is rating one of its securities. With the subscription paid model this could not be possible being that investors would not allow this practice since they are the ones who are paying for the rating and are afraid that this situation might occur. Therefore on one hand conflict of interest between issuers and raters would be eliminated and on the other hand investors would have more control on credit rating agencies. Unfortunately this presents its costs. First of all investors cannot count anymore on the access of confidential information. It cannot be pretended that issuers open their books before public disclosure if issuer and credit rating agencies incentives are not aligned. As a consequence the role of credit rating agencies could be put in discussion. The fact that the only tool of analysis remaining to credit rating agencies would be public information, leads to question why would credit rating agencies be useful. Although it might be argued that normal investors, who don't have the ability or will to analyse companies could still benefit from their rating, institutional investors like equity or pension funds could perform analysis on their own being that the information that credit rating agencies have is also accessible to them. One possible reason of why they could buy credit rating is to deflate or inflate ratings based on their needs. If on one hand issuers try to pressure credit rating agencies to inflate their ratings to obtain credit for a lower cost of capital, subscribers could do the same to deflate ratings, to obtain a higher yield to return. Fearing of losing hefty commissions in fact could lead credit rating agencies to give a lower rating for securities with a lower risk. This would not only cause a higher cost of capital for already established companies, but it would also make it difficult for little companies obtain credit. On the other hand with regard to rating inflation, some institutional subscribers might pressure a higher rating on some securities due to the stringent policies with regard to capital requirements. Studies show that: "institutional investors have a propensity to take more risks by acquiring bonds with higher yield".²⁵ This reaching for yield is currently constraint by capital requirement regulations. Many large institutional investors are required to hold more equity capital if they take more risk. With the subscriber paid model investors could demand inflated ratings to the credit rating agencies to provide them with regulatory relief. This is because by demanding a higher rating assigned to a higher yield bond lower capital requirements would be required. If we recall why NRSROs were created, namely to abide to the net capital rule, this could be counterproductive.

The second main problem of this model regards the fact that only subscribers of credit rating agencies would have access to the rating. Recalling the literature review two are the things that

are most important when evaluating the role of credit rating agencies: their objectiveness and their availability to the market. If an investor pays for a rating he would not want the rest of the market to take it for free. What is currently debated about the subscriber paid model is the fact that the availability of the service would be allowed for the only ones who can afford it and therefore little investors, who don't have enough capital at their disposal to buy the rating, would remain without rating. What must be taken in consideration though is the fact that if we recall the literature review, in the early 1970s ratings were available not only to whom subscribed, it was available to all of the market. Resources were in fact used by people who weren't paying for the service, creating a free riding problem. The free rider problem is the burden on a shared resource that is created by its use or overuse by people who aren't paying their fair share for it or aren't paying anything at all. The problem therefore is not that through this model ratings would not be accessible for everybody, rather that credit rating agencies would go out of business. A simple google search would in fact lead to the access of information paid by others.

What therefore remains of the analysis of this model is the question if it better to have access to confidential information, leaving space for conflicts of interests, or not have it at all. It is true that one hand confidential information might allow credit rating agencies to mind the issuers interests, but it is as well true that by removing it nothing better is obtained. If the subscriber paid model was proposed to reduce these kinds of conflicts, it must be stated that there is no comparison between the benefits and cons of the two. In terms of rating availability, the issuer paid model is definitely a better solution being that it is available to all investors at no cost at all for them and at the only cost of the issuer. In terms of rating objectiveness instead, as previously stated, ratings can be inflated in both of the models. The only thing that changes is which counterparty gains the benefits.

The random selection model and the alternative user paid model

If the subscription paid model presents problems in the free access, in the deflation and in the loss of confidential information an alternative must be presented. The choice of putting both of these models in the same section has been done because the first introduces while the second one elaborates the same ideology: making an independent entity choose the NRSRO rather than the issuer. If the issuer paid model presented the possible conflict in inflating ratings and the subscription paid model in deflating them, an independent entity who chooses the NRSRO could solve both problems.

The random selection model works in the following way: “A ratings clearinghouse randomly would select NRSROs to rate a new issuance in this proposed model. The clearinghouse could be a nonprofit, a governmental agency such as SEC, or a private-public partnership that would design the criteria by which new entrants could qualify as a credit rating agency. All issuers or sponsors that wanted ratings for their issuances would request them from the clearinghouse, which would use a random number generator to assign an NRSRO registered in the relevant asset class to produce the rating. The clearinghouse would notify the NRSRO of the opportunity to rate the issuance and provide basic information on the type of issuance but not the issuer’s name. Not until the NRSRO agreed to complete the rating would the clearinghouse identify the issuer and details of the issuance. If the selected NRSRO agreed to rate the issuance, the issuer would pay a fee to the clearinghouse. The issuer also would pay to cover clearinghouse costs on top of those required to rate the security. Upon completion of the initial and maintenance ratings, the clearinghouse would distribute the fees to the NRSRO. The clearinghouse would set the ratings fees for the NRSRO depending on the type of security issued, but the letter rating would be free of charge to the public.” 26

The clear advantage of this model is that it eliminates the ratings shopping problem. In fact, contrary to what happens in the issuer paid model, by assigning a random NRSRO to the issuer, the faculty of choosing which credit rating agency to pay to assign ratings would be removed. While on one hand this would bring benefits in the objectiveness of the rating, on the other hand it the issuer paid model would be kept. This poses the question of why an issuer should pay for the service. While today’s issuer paid model works because the incentives of the issuer and the rater are aligned, in this model they are not. It is true that credit rating agencies help issuers raise capital, yet the issuers in this case would not have the faculty of choosing the best option available for the service needed. Imagine being the issuer and all of a sudden the business relations with one of your key partners is cut off. A rating agency like the S&P or Moody’s disposes of all the historical information of your company: it has helped you in previous market forecasts, estimates of economic trends, pricing analysis, or other general data analysis. Now a new NRSRO comes and needs to rate your debt. Will they be capable of doing such thing? Here the first problem of the model is presented. The first concern that arises when dealing with the random selection model stands in the term random. It must be understood that the duopoly that S&P and Moody’s have created is not caused only by the fact that their interests might coincide with the ones of the issuers, it has been created because they definitely have a competitive advantage over the other NRSROs. While all of the other NRSROs have

been established after the 2006 credit agency reform act, these two agencies have a strong history of credit rating behind their shoulders. Many of their ratings have been proved correct and have helped investors achieve returns based on their risk profile. The decision of choosing NRSROs randomly must therefore be questioned. It is true that through this choice competition barriers reduce, leaving space to the new entrants but it is as well true, that there is the risk that new entrants might render a service which is of lower quality with respect to the one made by the principals.

While the random selection model tries to reduce conflict of interest by making a governmental agency choose the NRSRO randomly, the alternative user pays model pools investor resources to issue securities ratings through a competitive bidding process. The independent governmental agency will choose the NRSRO by considering factors like price, extent of diligence and disclosure the NRSRO proposed to undertake.

The clear advantage of this model is therefore that it eliminates the problem of randomness by choosing NRSROs based on their competences. This, for example, could allow little NRSROs to specialize in some forms of debt, improving the current rating available. In addition this model changes the modality of payment. This is because as the term “user” suggests, the expenses would be paid by the investors. The agency or board would solicit ratings before the debt issuance and then pay for the expense and related administrative costs through the user fee”. If the random selection model was not able to align the incentives of the counterparties this model does. This is because if we recall the subscription paid model, one of the main problems was asymmetric information where only large investors with a lot of capital at disposal could afford the rating. Through this grouping system of payment instead, each investor pays a small percentage offering the opportunity to everyone to have a credit rating. What seems perfect is the fact that information would be available to everyone while keeping the rating objective. Yet also this model presents problems.

Unfortunately the difference between this model and the subscription paid model is that whereas in the subscription paid model investors could still count on multiple ratings, this model doesn't allow such practice. Investors will have to use the only NRSRO rating selected for them independently, reducing the amount of analysis which is currently available for individual securities. While on one hand one single rating presents benefits because little investors do not need to understand the reason why discrepancies between the agencies arise, on the other hand it is also true that having multiple ratings presents its advantages. In fact

having more than one rating reduces the volatility of the security. This is not only beneficial for the investors, but also for the issuer. A sudden downgrade in a security could not only make investors lose money, but it would also force many pension funds to a forced sell the security due to capital requirement constraints. This therefore might result in a further decline in price beyond the fundamental value change causing serious disequilibrium in the market. Another problem is that the profits of the big three would be reduced. This is because while today the three rate nearly all of the securities in the market with this model only one designated NRSRO would rate a specific security. Although the issuer may still choose to hire additional rating firms outside the purview of the Oversight Entity to provide a rating, it is questionable if it would be convenient for the principal to do so. This is because issuers which choose to hire an additional firm to provide a rating could be required to: "1) delineate which ones were randomly selected by the Oversight Entity and which one(s) were selected by the issuer and 2) could be required to disclose at least the same information to the randomly selected agencies as the solicited agency to avoid information (dis)advantages". Issuers under these conditions would have no interest in paying another agency for another rating which doesn't bring them any kind of benefit. All of this Implies that revenues fall by so much that it would lead to a reduction in capital at disposal of the CRAs to conduct in depth analysis.

Summing up what previously stated the main problem of this model is the reduction of ratings available for investors which consequently brings a reduction in the earnings of the credit rating agency. Two questions therefore remain: 1) are investors willing to abide multiple ratings for one objective rating? 2) are issuers willing to rely on a governmental agency for the choice of whom is going to rate their debt and more importantly is this entity able to understand which NRSRO is more appropriate?

Conclusion

This thesis has attempted to understand if the problems of rating shopping, rating inflation, and competition in the issuer paid model could be avoided in other models. While returning to a subscription paid model would not solve any of these three problems, the improved version of the random selection model, namely the user paid model manages to address two of these conflicts: rating shopping and rating inflation. Thanks to an independent entity providing the choice of the NRSRO to the investors, neither issuers nor investors have the power to influence the credit rating agency. This could possibly provide financial markets with an apparently more objective rating. The term apparently has been specifically used because it must be understood if the governmental agency has the competences to manage the power of such choice. The preparation of the analysts who deal with this choice should in fact be higher than the one of the analysts of S&P and Moody's today. Understanding which NRSRO suits best for an issuer requires a lot of expertise. Even so this model doesn't manage to reach the problem of competition which is present in any model analysed. It is true that the user paid model enhances it by providing a competitive bidding process where the best amongst all NRSROs is selected, but it is also true that the competitive advantage of the big 2 like in any other model still remains. Moody's and S&P have ramified so well in the industry that it results difficult to break the duopoly. Another new problem that this model presents is the fact that this model does not enable free access for all investors. In fact by not aligning incentives between the issuers and the credit rating agencies, it would require fees from the part of the users. Today instead credit ratings are available to everyone for free. This could question whether the current model with new typologies of regulation could be implemented . No analysis of new regulation that could be presented to solve the current issuer paid model has been proposed in this thesis. It therefore leaves space for analysis, yet a consideration must be made. We might be induced thinking that strengthening regulations could bring to a better financial market but the truth is that also regulation has its downsides. The heftier the regulation the higher is the competitive disadvantage in the global economy for a nation. Companies migrate where they are better off and nothing can be done about it. The Sarbanes-Oxley weakened America's leadership in the financial service industry because the restrictions the legislation imposed increased the cost of performing audits. ²⁷ The same would be valid for credit rating agencies: if they face higher costs due to increased regulation, then they might charge issuers more for their ratings leading to disequilibrium. If instead regulation is aimed to achieve higher liability for market participants also this would present problems. Liability is a term that immediately pops into

our mind when dealing with responsibility. In the case of situations like the 2008 financial crisis, common sense assumes that someone must pay for the damage created. Stealing in a supermarket holds liable the subject for his act and is a criminal persecution, while entities who manage billions of dollars and have the power to influence the labor force of nations pay a total fine of 2% of the damage (321 billion dollars on a 16 trillion dollar) and are free to continue living in liberty. The reason is that the thin line of liability is very difficult to paint in financial markets. Reforms that attempt to increase liability must therefore require careful attention. For every increase or decrease in liability a reaction in the incentives of decision making occurs. While increasing liability should reduce the willingness of people to commit wrongful acts it could bring serious consequences in the equilibrium of financial markets. Pessimistic bias would in fact induce credit rating agencies to give lower ratings to good debt in turn making it more difficult for issuers to raise capital, leading to a direct consequence in the global economy. A financial analyst could in fact be more concerned of the liability he is facing when giving high scores rather than doing his job in a correct way.

If one conclusion can be therefore brought to this thesis is the fact that no matter the model or the regulation the credit rating industry will always present its problems. Not everyone, has the time or will to master financial knowledge in order to translate it to investments. It is estimated that approximately 3.5 billion adults in the world lack an understanding of basic financial concepts, and this understanding does not even go close to the analysis of bond and debt quality. This demonstrates that although the internet has given access to free resources not everyone is willing to use them. Investors therefore still demand a standard credit rating for most of the debt they hold in their portfolios. For understandable reasons their own investors and regulators would like to see summary statistics on the creditworthiness of their holdings. This creates a steady demand for the product that rating agencies sell. Even though credit rating agencies failed stunningly in their evaluation of subprime mortgage securities their ratings still carry considerable weight with investors. Even those investors who perform their own credit analysis may still need to provide understandable summary statistics on the risks of their portfolio, something their own credit analysis may not produce. Ratings may be flawed, but for a wide range of investors the agencies' ratings are better than no ratings at all.

Bibliography

1. Finney, D., 20ⁱⁱⁱ22. A Brief History Of Credit Rating Agencies. [online] Investopedia. Available at: <<https://www.investopedia.com/articles/bonds/09/history-credit-rating-agencies.asp>>
2. Securities and Exchange Commission, [Release Nos. 33-8570; 34-51572; IC-26834; File No. S7-04-05], Definition of Nationally Recognized Statistical Rating Organization, Proposed rule.
3. J.White, L., 2022. A Brief History of Credit Rating Agencies: How Financial Regulation Entrenched this Industry's Role in the Subprime Mortgage Debacle of 2007 - 2008. [online] Mercatus Center. Available at: <<https://www.mercatus.org/publications/monetary-policy/brief-history-credit-rating-agencies-how-financial-regulation>>
4. B. Bonsall, S., Pundrich, G., So, E. and R. Gillette, J., 2021. Conflicts of Interest in Subscriber-Paid Credit Ratings. [online] Warrington.ufl.edu. Available at: <<https://warrington.ufl.edu/accounting-current-students/wp-content/uploads/sites/53/2021/09/Conflicts-of-Interest-in-Subscriber-Paid-Credit-Ratings-BonsallGillettePundrichSo.pdf>>
5. Fsb.org. 2015. Code of Conduct Fundamentals for Credit Rating Agencies. [online] Available at: <<https://www.fsb.org/2015/03/code-of-conduct-fundamentals-for-credit-rating-agencies/>> [Accessed 9 June 2022].
6. Segal, T., 2022. Identifying Conflict of Interest. [online] Investopedia. Available at: <<https://www.investopedia.com/terms/c/conflict-of-interest.asp>> [Accessed 9 June 2022].
7. Becker, B. and Milbourn, T., 2011. How did increased competition affect credit ratings?. *Journal of Financial Economics*, 101(3), pp.493-514.
8. Mahlmann, T., 2022. Do bond issuers shop for a better credit rating?. [online] Bis.org. Available at: <<https://www.bis.org/bcbsevents/rtf06maehlmann.pdf>> [Accessed 9 June 2022].
9. Corporate Finance Institute. 2022. Dotcom Bubble. [online] Available at: <<https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/dotcom-bubble/>> [Accessed 9 June 2022].
10. Lieberman, J., 2002. Rating the Raters: Enron and the Credit Rating Agencies. [online] Hsgac.senate.gov. Available at: <<https://www.hsgac.senate.gov/imo/media/doc/lieberman032002.pdf>> [Accessed 9 June 2022].
11. THE TECHNICAL COMMITTEE OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, 2003. REPORT ON THE ACTIVITIES OF CREDIT RATING AGENCIES.

12. Moody's Investors Service, 2022. *Moody's Investors Service Best Practices Guidance for the Credit Rating Process I*.
13. Luther, W., 2012. All the Devils are Here: The Hidden History of the Financial Crisis - By Bethany McLean and Joe Nocera. *Economic Affairs*, 32(1), pp.85-86.
14. Hill, C., 2010. Why Did Rating Agencies Do Such a Bad Job Rating Subprime Securities?. [online] Scholarship.law.umn.edu. Available at: <https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1084&context=faculty_articles> [Accessed 9 June 2022].
15. Ec.europa.eu. 2022. Study on the State of the Credit Rating Market. [online] Available at: <https://ec.europa.eu/info/sites/default/files/state-of-credit-rating-market-study-01012016_en.pdf> [Accessed 9 June 2022].
16. The Securities and Exchange Commission, 2003. Report on the Role and Function of Credit Rating Agencies in the Operation of the Securities Markets.
17. Everycrsreport.com. 2022. Credit Rating Agencies and Their Regulation. [online] Available at: <<https://www.everycrsreport.com/reports/R40613.html>> [Accessed 9 June 2022].
18. Sec.gov. 2022. SEC. 15E. REGISTRATION OF NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS.. [online] Available at: <<https://www.sec.gov/ocr/sea34-15e.pdf>> [Accessed 9 June 2022].
19. Martin Neil Baily, Aaron Klein and Justin Schardin, 2017. The Impact of the Dodd-Frank Act on Financial Stability and Economic Growth. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 3(1), p.20.
20. Sec.gov. 2022. SEC.gov | Office of Credit Ratings. [online] Available at: <<https://www.sec.gov/page/ocr-section-landing>> [Accessed 9 June 2022].
21. Partnoy, F., 2017. What's (Still) Wrong with Credit Ratings. *SSRN Electronic Journal*,.
22. Sec.gov. 2019. Background Information Meeting of the Fixed Income Market Structure Advisory Committee Panel on Alternative Compensation Models for Credit Rating Agencies. [online] Available at: <<https://www.sec.gov/spotlight/fixed-income-advisory-committee/fimsac-110419-background-alternative-compensation-nrsros.pdf>> [Accessed 9 June 2022].

23. J. Rhee, R., 2022. *Incentivizing Credit Rating Agencies under the Issuer Pay Model Through a Mandatory Compensation Competition*. [online] Digitalcommons.law.umaryland.edu. Available at: <https://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=2471&context=fac_pubs> [Accessed 9 June 2022].
24. BECKER, B. and IVASHINA, V., 2015. Reaching for Yield in the Bond Market. *The Journal of Finance*, 70(5), pp.1863-1902.
25. United States Government Accountability Office, 2012. *Alternative Compensation Models for Nationally Recognized Statistical Rating Organizations*, GAO-12-240.
26. Rockness, H. and Rockness, J., 2005. Legislated Ethics: From Enron to Sarbanes-Oxley, the Impact on Corporate America. *Journal of Business Ethics*, 57(1), pp.31-54.
27. Foster, B., 2022. *The Financial Crisis*. [online] Bill Foster.com. Available at: <<https://billfoster.com/issue/the-financial-crisis/>> [Accessed 9 June 2022].

•

i

ii

iiiiiiii