Journal of Economics and Development Studies

December 2014, Vol. 2, No. 4, pp. 165-183

ISSN: 2334-2382 (Print), 2334-2390 (Online)

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Published by American Research Institute for Policy Development

DOI: 10.15640/jeds.v2n4a12

URL: http://dx.doi.org/10.15640/jeds.v2n4a12

The Business Model of Rating Agencies between Asymmetric Information and Financial Crises

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Abstract

This paper intend to analyze the characteristics of the business model of the rating agencies in the world focusing on their role in the financial market and their responsibilities in the financial scandals that have affected economic systems. The analysis focuses on the three major international rating agencies such as precisely as Fitch, Moody 's and Standard&Poor's, taking care to represent their historical development and business models used as well as economic relations and corporate. The analysis of these elements has highlighted conflicts of interest exist and the presence of information asymmetries that affect the proper functioning of the market. Considering the context in which rating agencies operate and the power they wield in determining the returns on financial assets and expectations we wanted to examine the role that these agencies have in the international economic and financial system emphasizing some of the critical issues in their business model. The analysis finally allows to highlight the causal link between the economic and financial crisis in the economies of most developed countries and the rating systems used. Finally, this document is to highlight the importance of the rating system as a means of assessing the dynamics of the global financial and economic market but, given its importance and recent experiences, also the need for policies and regulatory instruments both models business methods of application of the ratings as unbiased as possible.

Keywords: Rating Agencies – Financial Crises – Information asymmetries – Conflicts of interest - Subprime

1. Introduction

The credit rating agencies are today, in the light of the recent crisis of the financial markets, one of the "hot topics" of the economic and political debate.

The purpose of this document is to analyze the characteristics of the main business model of rating agencies focusing on their role inside the financial market and their responsibilities in the light of financial scandals that have affected the economic and financial systems of the major developed economies. The rating agencies are specialized financial intermediaries in the collection, processing and provision of information. The activity of these subjects is embodied in the assessment of the credit risk of an issuer of financial instruments. Through their activities, rating agencies should help to mitigate the informational asymmetries by the activities of signaling and monitoring, which carry out on behalf of financial operators.

The main agencies, in terms of market share and influence on judgments, are essentially Fitch, Moody 's and Standard & Poor's, who often are called the "three sisters" - or the rating "big three".

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They use rating scales which, although with some slight differences, have now become of worldwide importance. The creditworthiness assessment takes place according to stages and processes almost similar for all three agencies, despite of individual peculiarities inherent in the three different realities. The analysis of the business model of these rating agencies and their procedures for assessing the creditworthiness have highlighted the numerous existing conflicts of interest and the presence of real information asymmetries that affect the proper functioning of the global financial market. This has helped to highlight the causal link between the recent economic and financial crisis in the economies of most developed countries, and these rating systems currently in use.

2. The Birth and Development of Credit Rating Agencies

The rating is an assessment of the suitability of an issuer to provide, in accurate manner and timely, in both the repayment of capital equpment and the payment of interest concerning one or more issues of debt securities. This assessment is expressed by an external and independent subject as the rating agency, also called rater. The types of judgment are divided into various categories, depending on the assessment of the creditworthiness refers to the issuing entity, to the individual issue and/or to specific aspects of both. The different assessments are subject to periodic revisions or made on the basis of the occurrence of new events. The rating agency, assessing the creditworthiness of an issuer of bonds, provides a judgment about his ability to generate the resources necessary to face the taken commitments towards the creditors who have relied on it.

One of the most important types of credit rating that has taken a leading role in the global financial system, are the assessments made on the debts of nations. The growing importance of this last species concerned, not only the increasing needs of sovereign states to raise funds from investors to finance deficit spending policies, but also for all the political-economic implications that arise from this. The issuance of a grade following a procedure that takes into account not only the financial aspects of the company in question, but also a number of quantitative and qualitative aspects of the organization that involve an elaborate multi-dimensional and multi-periodic estimate by the rating agency. This process, although articulated, must follow a mirror procedure for each agent rating that is advertised as a form of guarantee for investors who rely on it.

The rating agencies may therefore be described as "agents of gathering information". They acquire and process information but do not operate in the same way as banks. While banking institutions take on their relationship and/or financial contribution to the debtor, the rating agencies do not take any responsibility for the financial analysis of securities debt and, therefore, do not have a direct incentive to offer the best possible service.

Despite several proposals in recent years, up to now, there are no explicit regulatory mechanisms that controls the rating agencies directly and the verification of the quality of the rating is only possible *ex post*. Despite that, rating agencies are considered essential to achieve the goal of "financial stability", precisely founded on the confidence in the system by all the economic and financial operators. The ratings, therefore, help to increase the "confidence" activity of playing an important influence on the behavior of traders in financial markets.

In addition, in the last twenty years, the certification of the credit rating, for all potential issuers and for all issues of debt securities, has been considered as a necessary condition for success in the financial markets to obtain financing at low cost.

Despite this and the important role played within the financial system, the major rating agencies continue to give definitions of their business that actually exclude them from any liability attributable.

From this paradox arise proposals for major reform and regulation of credit rating agencies that would like a review of the entire conception of the rating, favoring the emergence of new forms of monitoring and reporting, no longer based on the oligarchic market of the three U.S. agencies.

Another aspect concerns the actual reliability of the ratings on the creditworthiness of the issuer, as well as the transparency and clarity on the methodologies adopted. Given the harsh criticism accumulated over the past twenty years, the rating agencies, to prove their reliability, have begun to make public the so-called default studies, real published reports, ex post, that link each credit assigned with default rates actually occurred over the projection horizon. It remains undeniable, given the discretionary nature of the assessment, the lack of any real explanation of the reasons and motivation of the assignment of a judgment. Although the preparation and implementation of quantitative models is a step forward towards transparency in the rating industry, the most widely used procedure for assessing the merits of an issuer to meet its obligations is always predominantly subjective.

Given the close examination of all of these elements of the rating industry, it is clear that one of the main issues that the new european and american regulation will solve, at first, the rise of firms operating in the sector so that to improve the quality of the rating. This is necessary because the three major agencies, Moody 's, Standard & Poor's and Fitch, are responsible to provide a rating of 96% of issued financial products. Even if there are other rating agencies, in the world there are about 74², the three major agencies hold 96% of the global market. The largest share of the market is held by Moody 's and S & P with about 80%, while Fitch has gained significant market share only since 2000, controlling 16% of the market. Moody's and S & P are agents of American origin, while Fitch is the largest subsidiary of Fimalac, a French company.

However, for the sake of completeness, the rating market, even though dominated by the giants of the U.S. S&P and Moody's, has a highly dynamic as result of attempts to smaller agencies to grab slices increasingly high of the market. It is therefore important to mention the role played by the Canadian rating agency DBRS, which, through asset-building policies and imitative strategies, has gradually extended its influence achieving their global recognition.

The DBRS, until now, may be mentioned as the fourth largest global rating agency after obtaining the qualification of ECAI³ (Exteral Credit Assessment Institution) within the EU.

Ultimately it is evident, therefore, beyond a few attempts still evolving, that the industry's rating is a business of a global character controlled by only a few players whose market power has been increased thanks to the American regulation, first, and European thenafter.

² For a complete list, see IMF, Annex 3.1., P.118, 2010

³ The recognition of ECAI allows to identify the eligible subjects to issue credit ratings for the calculation of minimum capital requirements provided for in the Basel II. To obtain such approval is necessary to comply with stringent requirements such as: objectivity, independence, access to international credit ratings, transparency, information disclosure, financial resources, etc.

3. Credit Rating Agencies: Characteristics and Organization Model

The most reliable and prestigious research, even dated, which has surveyed the rating agencies is the one conducted by the Basel Committee on Banking Supervision (BSI) in 2000⁴. This study, despite its age, may still be considered valid or at least a good starting point. The research conducted by the BSI has summarized the active agencies through new criteria such as the type of activity, geographical coverage or products offered on different markets. An important distinction that research suggests is that the agencies can be divided between those that issue ratings to a limited number of subjects and those which, instead, issue ratings to a large number of subjects using models based mainly on statistical criteria⁵. The second class of agents, particularly in Sweden, generally uses publicly available data that can be collected relatively easily, it does not require a large number of experts in order to assign the ratings. The main focus of this class of agents is to have a full coverage for a particular sector or activity subject to their direct control.

Following the latter approach, rating agencies are then divided into three groups: national agencies, those of a regional nature and those with global presence at last.

From this division, it is clear that only the agencies that operate globally play a primary role in the allocation of credit ratings. In Table 1⁶ you can identify which are the major rating companies active in the world according to data compiled by the Basel Committee.

Name	Employe es	Rating Assigne d	Properties	Country
A.M. Best Co.	> 400	5.400	Indipendent	USA
Bonniers Kreditfakta I Norden AB	20	780.000	The Bonnier Group	Sweden
Canadian Bond Rating Service	35	>500	Private	Canada
Credit Safe AB	21	>700.00	Norweigan Company	Sweden/Norw
		0		ay
Dominion Bond Rating Service	30	>500	Private	Canada
Dun & Bradstreet	11000	53.000		USA
Egan-Jones credit rating Co.	-	2.000	-	
Euro Ratings AG	7	-	Indipendent	Germany
Fitch IBCA	400	10.163	Fimalac	France
Instantia Creditsystem AB	5	780.000		Sweden
Italratig DCR S.p.A.	-	53	50% Investment Bank 15% Duff&Phels	Italy
JCR Agency, Ltd.	74	600	Istitutional investor	Japan
Japan Ratig and Investment Information, Inc.	140	1.100	Nikkei Newspaper	Japan
KMV Corporation	-	-	Indipendent	USA
Moody's Investors Service	1500	9.000		USA
Neufeld's Credit Information AB	2	>200	Private	Sweden
Standard & Poor's	1000	6092	McGraw-Hill	USA
SVEFO Sverige AB	30	780.000	Tealia AB	Sweden

Table 1 - Rating Agencies Active in the World

Source: Basel Committee on Banking Supervision, 2000.

⁴ See Basel Committee on Banking Supervision, Credit Ratings and complementary Sources of Credit Quality Information, Basel, www.BIS.org, 2000.

⁵ See D. Paparotti, Credit Rating, and the role of the ECAI Standard Approach, University of Trieste, 2011.

⁶ Table 1 represents an extrapolation of the processed data from the study conducted by Basel Committee on Banking Supervision, Credit Ratings and complementary Sources of Credit Quality Information, Basel, www.BIS.org, 2000.

From the table above clearly emerge two important aspects: on one hand, it is possible to note the exiguity of rating companies in the world; on the other hand, it shows a strong concentration of agencies in the United States while other countries, even the most industrialized ones, have a small presence. From these elements it is clear that, even after the poor global relevance of the national agencies, the power of S&P, Moody 's and Fitch, (although the latter in a more reduced way and in recent decades) has grown significantly.

Sweden also has five agencies, the highest number in absolute terms, but which have no relevance at the global level being characterized by a strong territoriality and an evaluation process connected to the display of publicly collected data and entered into the database on which predominantly they made statistical analysis. We must also highlight how the agency Dun&Bradstreet, even if a society a part, can be traced to Moody's as a result of the demerger in 1999, aimed to divide the two production lines and to maximize the economic value of the enterprise⁷. Since 2000, when it was officially announced and completed the spin-off transaction, Moody's began to deal exclusively with the assignment of overseeing the rating "rating business unit", while Dun&Bradstreet continued the traditional activities of analysis of the financial information dealing with the "business information unit". This subdivision has not substantially changed the business operations of Moody's, being the credit rating always based on a procedure that involves the conduct of continue inspections in the institutions to be analyzed⁸.

Given that the rating activity involves comparison of a plurality of financial instruments, which often differ not only in the issuer but also by size, sector of activity and associated risks, and that this high heterogeneity of items corresponds to a diversification of ratings issued, the business model of industrial organization and the rating agencies appears to be conditioned by the different business areas. In almost all cases, the agencies that face a different application tend to be structured within them inner in different functional areas, which, although separate from a formal point of view, remain in contact with each other to thin the informative business transmigration. The divisional organization of work appears common to the three major global agencies. In addition to Moody's, in fact, Standard & Poor's and Fitch have adopted a divisional organization of work.

More specifically, Moody's, in addition to perpetuate a choice of divisional management company, has also adopted a functional approach within each division⁹.

In this way, the American agency, tried to attach greater importance to the quality and professionalism to every internal division, in order to guarantee the greatest possible reliability and efficiency to the judgment issued. In support of a structure so identified there is also the creation of a single central database, which includes data from different functions allowing a greater operational flexibility, obtaining strong economies of specialization as well as a qualitative improvement of the data subjected to analysis after the refinement of the parameters. Standard&Poor's has followed a divisional organization of work in a more hierarchical sense. It provides two cross consulting bodies that tend to perform support functions to the whole organization. Specifically, the legal and strategic planning and development, which assist the different sections of the agency.

⁷ See Moody's http://www.moodys.com.

⁸ See V. D'Apice, Financial markets and rating agencies, 2001.

⁹ In total there are five different groups that tend to lead several economic sectors. In detail these are: 1. Industrial group, which deals with the automotive, energy, high technology, aerospace, basic industry, consumer goods; 2. Financial Institutions Group, which analyzes banks, insurance companies, leasing companies, investment companies and brokerage; 3. Group public utility; 4. The Sovereign States Group; 5. Structured Finance Group; V. D'Apice, Financial markets and rating agencies, p.82, 2001.

It will be then each section in its inner itself, to divide the different areas of credit rating and identify *senior analists* who will respond directly to the board of directors about the work of his section. Through this arrangement, Standard&Poor's has managed to create an efficient combination between divisional model and hierarchical labor, exceeding the critical aspects typical of these forms. This solution is also able to impact positively on reducing costs, especially those concerning the selection and training of personnel and costs related to the definition of criteria for the evaluation of new issues, which represented a high expenditure of resources for society. Finally, Fitch's current industrial organization can be linked to pondered choices in the late '90s, when the agency, through multiple corporate transactions was acquired by IBCA Group in London, and at the same time gave birth to the mergers with American companies specialized in offering financial services and credit rating services. These operations of international importance led Fitch to the strengthening of the position of the third largest global player in the field of credit rating.

Ultimately all three major rating agencies have an identical business model. The divisional appearance seems to be prevalent as a result of the highly specific application to face. Furthermore, the three big companies have been able to meet the challenges from the financialization of the economy. The divisional element may, therefore, be considered as a success factor that has allowed the rating agencies to oversee the various business areas also optimally responding to the specific needs of a differentiated demand.

Also examining the geographies pertaining to each agency we note that geographically the three agencies have always avoided radicalize the competition in the various markets, preferring to influence policies in different geographical areas. Looking at the concentration of the ratings in terms of geography, the influence of Moody's is more prevalent in Asia while S& P is more geared toward the Latin American market and Fitch tends to have a greater presence in Europe where competitors play a more marginal role. However, not losing sight of the fact that all three agencies maintain valid and important garrisons in the areas pertaining to competitors, as happens for example in the case of judgments about government issues. This subdivision is a further evidence of how the rating industry is now characterized by oligopolistic elements not only for the small number of actors, but especially for the high cooperation they tend to establish. Cooperation which becomes much more evident in the establishment of *joint ventures* for the penetration of new and emerging markets not yet "assigned". If on one hand cooperation could be read as a form of pure communication, for the obtaining of the maximum cognitive potential for the issuance of a judgment, on the other hand it can revealed real forms of limitation for competitiveness suitable to obtain an unjust concentration of the industry for maintaining leadership positions. Such oligopolistic behavior, however, must always be refered to the regulatory framework that favored the maintenance of a reduced number of operators in the ratings.

4. The Economic Performance of the Rating Agencies

A further aspect to consider to understand the behavior of rating agencies is concerning the cost - revenue structure of the rating. In the past, the structure of revenues showed a strong concentration in the sales of publications containing the ratings and other supplied information. In this way, the agencies obtained revenues directly from customers interested in the opinions and economic and statistic material connected. From the 1980s the assessed clients pay the ratings with a profound change in the structure of revenues. The reversal of the payment model, however, should not lead us to believe that the rating activity was reduced to the simple application of a standard price able to cover costs and generate a profit. The analysis for the assignment of a rating will always be a differentiated evaluation activities which, in the case of the private sector, is based on a plurality of information not only current, but also perspective. For these reasons the cost of the rating tends to be higher as the growing of the sizing both corporate and of the issuance.

At the level of charged fees there was a discrepancy between the three main agencies. While S&P and Moody's apply similar fees, Fitch is characterized by a much lower income commission also related to the different weight given to his judgment¹⁰. According to White¹¹, Moody 's and S & P should have the possibility to request higher fees than those applied, due to the oligopolistic nature of the market. According to the author, in fact, being mainly the rating market monopolistic, an increase in the price of the rating could lead, given the decreasing demand curve, to a reduction in the number of customers but also to maximize their profits. According to White, it would then apply the theory of monopoly market rating since the companies that operate there tend to deal with the costs of fixed emissions ratings and marginal costs which depend on the number of transactions established with the customer. Ultimately, a reduction of the customers made through an increase in the price of the rating might still reach the point of maximum profit.

The counter to White's assumptions deduces that it is not said that the demand curves credit rating firms have to face have such a slope and that will be constant. A substantive change of the trend of the demand curve could result in a fall in profitability as a result. In addition, as further criticism, a policy of raising prices not followed by a cooperation between the rivals could lead to an elastic demand curve. A third objection to the thesis of White can be traced back to the fact that a rise in the price of the ratings required by the issuers can not be considered in isolation, ie without considering the effects generated within related markets, mainly in not required ratings. An excessive rise in prices, therefore, may generate a decline of the demand for credit ratings and an increase in unsolicited ratings by issuers who are no longer willing to pay a mark considered too excessive compared to the benefits arising from the judgments required. Finally, we must remember that the rating agencies, because of their characteristics and the activities they do, they might be able to implement price discrimination in respect of its customers, as a result of the informational advantage they have.

Through price discrimination, rating companies could maximize their profits and avoid losing certain customers and failing to find the maximum willingness to pay of their client.

From an analysis of the economic performances are emerging highly positive results for all three agencies. The most significant indicator is the operating profit as a percentage of recorded revenues, which amounted to 38% for the S&P, Moody's at 50% and 27% for the European Fitch¹². In the latter case the smaller percentage may be justified, for example, from a smaller share of the market, from a most recent input of the rating in the world or a more restricted geographical localization, which partially limits the operation. The rating industry is a highly profitable market for the main operators that fail to achieve economic performance quite difficult to find in other productive sectors. Another indicator is the rate of sales growth that in 2012 for the S&P stood at 19.70%, 11% for Fitch, and Moody's revenue growth, compared to 2011, is equal to 33%. The growth rate of net profit, in this case also shows broadly positive values being of 26.07% and 30.19% respectively by Moody's and Fitch. This is the data recorded by the consolidated companies in the fiscal period that runs from the 31st December 2011 to 31st December 2012. Finally, from the comparison of the gross profits of the rating agencies and the growth of structured finance, which characterized the early 2000s to a peak in 2006, there was a strong interrelationship between the economic performance of the rating agencies and the expansion of finance structured, as represented in figure 1¹³.

¹⁰ Generally, the judgment issued by Fitch on corporate bond is processed when arise substantial differences between the judgment issued by S & P and by Moody's. As regards the publication of the judgment it is recalled that Fitch, issuing ratings only on request, does not make public the proceedings without the consent of the customer. For all these reasons, there is a different commission margin applied.

¹¹ See L.J. White, The credit rating industry: an industrial organization analysis, www.worldbank.org, 2001.

¹² F. Pavesi, "Moody's, S & P and Fitch: Here's who's in charge in the rating agencies," II Sole 24 ore, 2010.

¹³ See P. Deb, M. Manning, G. Murphy, A. Penalver and A. Toth, Whither the credit ratings industry?, 2011.

On the contrary, the graph also shows how the rating industry has suffered a reduction in profits as a result of the crisis of 2007.

US\$ millions 4,500

4,000

3,500

3,000

2,500

2,000

1,500

1,000

1998 99 2000 01 02 03 04 05 06 07 08 09 10

\$\infty\$ \$\infty\$ \$\infty\$ Fitch

Figure 1 - Evolution of Profits Rating Agencies

Source: Deb et al. 2011

These positive economic indicators also help us to understand the internal relationships developed between the company and its lenders. It develops in fact a virtuous circle in which better economic performances of the agencies urge shareholders to provide them with more resources, both monetary and non-monetary. The contribution of resources is transformed into stock dividends that exceed expectations and more and more of these analysts' forecasts. The three major credit rating agencies registered, in the five years preceding the crisis, an average return per share higher than that of other *competitors* in the financial sector and not (fig. 2)¹⁴.

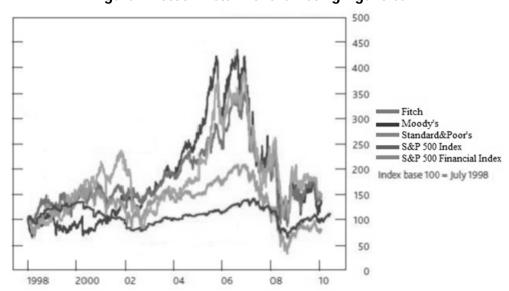


Figure 2 - Stock Return of the Rating Agencies

Source: Capital IQ and Thomson, 2011.

¹⁴ See Capital IQ and Thomson Reuters Datastream, 2011.

Figure 2 shows how the difference between the dividend yield of the three main rating agencies and those of competitors has widened especially in the period from 2002 to 2007, ie before the outbreak of the financial crisis. Unlike the rating agencies the average values of the performance of the equity other financial companies have remained constant over the period, with a downturn in 2008-2009.

Finally, despite the industry 's rating has suffered repercussions as a result of the financial crisis occurred in 2008-2009, the sector still remains very profitable. After declining during the crisis, the data show a general recovery to pre-crisis values, even if with a different temporal lag, more quick about profits, less for the dividend yield. Phase shift attributed to the different variables that affect the data including the distribution policies of dividends and corporate image.

5. The Social Structure of the Main Rating Agencies

To understand the business model of the major rating agencies is necessary to analyze their company structures as well as the numerous blide areas that often constitute obvious conflict of interest.

The rating agencies, despite born with the aim to reduce uncertainty and information asymmetries in the markets, as time goes by, they began to diversify its business through a number of financial transactions aimed at diversifying business areas. The events occurred following the sub-prime mortgage crisis of 2007 and the subsequent global financial and economic crisis of 2008-2009, have enhanced the awareness that the same rating agencies have fueled the speculative bubble in order to obtain economic benefits. The main criticisms raised to Moody's, S&P and Fitch are primarily derived from the presence, in their respective corporate capitals, of institutional investors and mutual funds that give rise to many doubts on the ability to properly handle certain situations of conflict of interest in issuing judgments. Several members of the Boards of Directors of banks, industries and financial intermediaries generally sit at the same time the highest level of rating agencies and " there are also found executives of banks who have been or who are heavily exposed in finance transactions derivative and structured, a consideration that opens and amplifies the suspicions about the possibility of speculation against heavily indebted countries, and that should be protected from attacks by the operators" 15.

More in detail, we can see from Figure 3¹⁶, as the capital of Standard&Poor's consists mainly of *floating*, or by the outstanding shares that are available for sale in the market and that do not constitute participation. A percentage of 4.7% of the share capital is held by a single entity that is Harold McGraw III, who is now the head of the U.S. giant McGraw -Hill, a leader in the publishing world. All the remaining part of the capital, however, is held by institutional investors or funds, including Word Capital Investors, Black Rock, State Street, who respectively owns 12.45% the first one, 5.44% the second one and 4.3 % the third one. Then there are additional fees that are minority. From an initial analysis the social capital of S & P seems to be so similar to the McGraw–Hill's one, which is at the moment owned mainly by the three funds just mentioned below. The fortunes of the two companies are closely related also to the representatives of the Board of Directors, which are present in many other multinational companies, and especially in major banking institutions such as Citigroup¹⁷.

¹⁵ See P. Gila, M. Miscali, The Lords of the rating, Bollati Boringhieri, 2012.

¹⁶ Cfr. Capital IQ and Thomson, Reuters Datastream, 2013.

¹⁷ See G. Achilli, Problems and Proposals for Reform of the Rating Industry, Department of Business and Management, 2012.

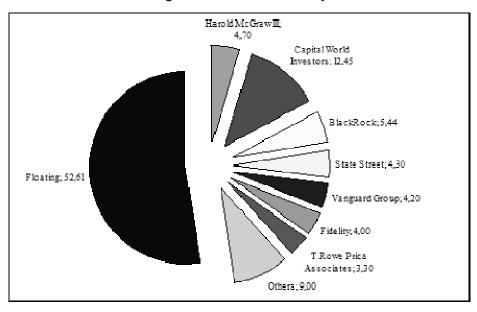


Figure 3 - S&P Ownership

Source: Capital IQ and Thomson 2013

In Figure 4¹⁸ you can see the corporate structure where Moody's, excluding the so called *floating*, which generally has little interest in participatory, the largest shareholder appears to be the fund Berkshire Hathaway of the U.S. tycoon Warren Buffet. The remaining shares are held by major Capital World Investors with 12.30%, with 6.6% BlackRock and T. Rowe Price Associates with a share of 5.60%. Residual can be considered as the other shares of the capital divided into a plurality of funds and among managers. Also for the management of Moody's, Standard&Poor's as well as can be found deep interconnections with the banking and industrial sectors.

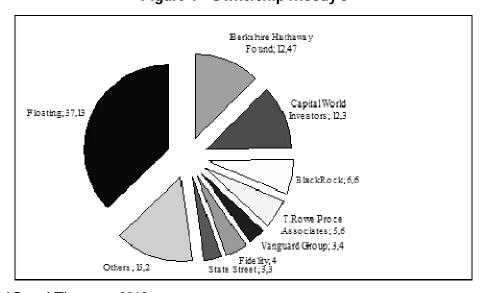


Figure 4 - Ownership Moody's

Source: Capital IQ and Thomson 2013

 $^{^{\}rm 18}$ See Capital IQ and Thomson Reuters Datastream, 2013.

From one although cursory comparison between the shareholders of the S&P and Moody's strong connections are evident also considering that the main shareholders of the S&P are, at the same time, the unitholders of the relevant share capital of Moody's as well making reference to the shares owned by large investment funds such as Capital World Investors, BlackRock, T. Rowe Price Associates, Vanguard Group and State Street. It is quite clear that behind the two leading rating agencies are present a small group of international investors who at the same time have equity partecipation in other companies that are constantly evaluated.

The Finch's social structure, represented in Figure 5¹⁹, though at first glance may appear less structured than that of other agencies, hide otherwise the high brilliance of all those processes of mergers and acquisitions that characterized the 1990s and the beginning of 2000s. Such operations were directed first of all to acquire strategic importance in the rating industry, implementing mergers with companies that own already operating in the sector and could provide an adequate portfolio of clients, allowing to increase the market share of satisfied.

Figure 5 shows how, as the company is in possession of a French group, wills can be defined, up to day, the only agency recognized all over the world. Although the market share of Finch appears today to be equal to 16%, against the 39 % of S&P and the 40% of Moody's, it must certify that the aggressive strategy adopted has allowed the agency to constantly increase its relative share.

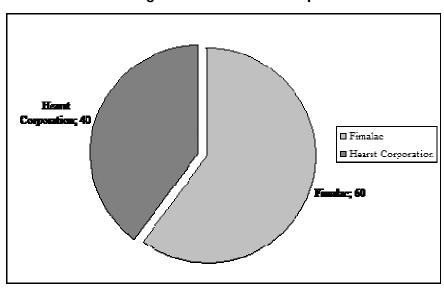


Figure 5 - Fitch Ownership

Source: Capital IQ and Thomson 2013

Fitch is mainly controlled by the French Fimalac and the American publishing giant Hearst. President and CEO of the company is the French entrepreneur Marc Ladreit de Lacharriere, former head of numerous giants across the Alps such as Air France and France Telecom, with numerous interconnections with Telecom Italy; the Italian phone company that has within its social structure the investment fund Black Rock, which also owns significant shares of the other two rating agencies.

¹⁹ Cfr. Capital IQ and Thomson, Reuters Datastream, 2013.

6. The Global Crisis and the Rating

The fundamental logic behind the use of credit ratings is to achieve economies of scale in terms of collecting and analyzing information and solve problems arising from information asymmetries among market participants.

Mainly as a result of the introduction of the ratings in the regulatory level, we however have witnessed an exponential growth of their influence, but even more a strong pressure on the part of the agencies to cover an increasingly wide range of issues.

Only after the *sub prime* mortgage crisis in the U.S. credit rating agencies have been widely criticized for issuing assessments unable to reflect the actual degree of risk. The criticism, in addition to being directed towards the analysis methods adopted, have focused on the existence of conflicts of interest in business models overseen by the rating agencies. The fact that garnered more hype comes from the fact that the agencies provide advice to issuers and intermediaries in the process of structuring of transactions including the issuance, as in the case of securitization transactions where they are typically paid directly by the originator. The fact that the three main players in the rating industry is located primarily in the United States²⁰, although the rating companies emit judgments on a global scale, it highlights particularly the need for a new regulation of international importance for the adoption of consistent standards on qualified agencies to operate on a global scale.

In the first quarter of 2007, some investors, especially institutional one, have begun to question the accuracy of the ratings assigned to certain structured financial instruments and, in particular, the securitization of residential mortgage loans, the so-called RMBS (Residential Mortgage Backed Securities), as well as debt securities guaranteed bonds - CDO (Collateralized Debt Obligations). In its final report on the *sub prime* mortgage crisis developed by International Organization of Securities Commissions - IOSCO, it has been argued that these doubts about the quality of ratings by the agencies and the integrity of the rating process have greatly exacerbated the liquidity crisis in the financial markets which occurred in August 2007²¹.

The main causes of the financial crisis of 2008 can be traced back to the first years of the new century, when there has been an exceptional expansion in credit growth and the use of debt in the financial system.

This expansion has been fueled mainly by a long period of favorable economic conditions, such as low interest rates and high liquidity, which led to an increase in the amount of risk that borrowers were willing to pay, not only from a psychological point of view but also economic, followed by a rapid development of financial innovation. The demand for higher-yielding assets with low default rates also encouraged a loosening of credit standards, especially in the U.S. *sub prime* mortgage market, increasing the number of loans granted to households and greatly reducing the liquidity in circulation. The subsequent deterioration in underwriting standards of the so-called *sub prime* mortgages and the rise in default rates is due to the so-called irrational exuberance²². Krugman argues that American families under the pressure of the financial world have decided to invest in the real estate market without worrying about their real capacity to repay the loans contracted in the short term. The lenders, on the other hand, at a time when housing prices continued to rise, decided to further expand its turnover by offering variable rate loans even to borrowers without any security.

http://www.iosco.org/library/pubdocs/pdf/IOSCOPD273.pdf, May 2008.

²⁰ For a survey on the structure of the largest rating agencies, their affiliates and subsidiaries and agencies in Europe, see: Commission Staff Working Document, Proposal for a Regulation of the European Parliament and of the Council on Credit Rating Agecies - Impact Assessment, http://ec.europa.eu/internal_market/securities/docs/agencies/impact_assesment_en.pdf, November 12, 2008.

 $^{^{\}rm 21}$ IOSCO, Final Report on the subprime crisis, pagg. 2 e ss.,

²² PR Krugman, The return of depression economics and the crisis of 2008, Garzanti, 2009.

The phenomenon of *sub-prime* mortgage originates mainly as a result of the creation of SIV, *Special Investment Vehicles*, companies established by credit institutions in order to be able to escape from their balance sheets large bundles of mortgages that had a high degree of risk; a demonstration of this is the fact that the active sheet of SIV was mainly composed of riskier securities and used to issue structured notes, CDOs, with the aim of repaying the credit institutions for counter- packages of mortgages granted. To make it more palatable these securities and to obtain a greater number of subscriptions, the bonds were divided into two tranches of payment, the first one with priority of repayment, the second one with a right of reimbursement subject to the payment of the previous. With this trick the rating agencies have assigned to the prime rate a very high rating, although the latter rate had a much more negative opinion due to the greater risk assumed by the underwriters. Also thanks to the high ratings, hedge funds have in turn created new packages of CDOs that had as underlying CDOs had sub-prime mortgages, further complicating the systemic link between the various intermediaries; as well as Swaps, they should have to provide adequate guarantees to cover the risk they are recognized entirely inefficient.

Ultimately, lenders have launched without too much concern in the purchase of sub-prime securities based on the belief that the U.S. housing market would continue to maintain high housing prices and not worrying instead of the quality of the securities that underwrote.

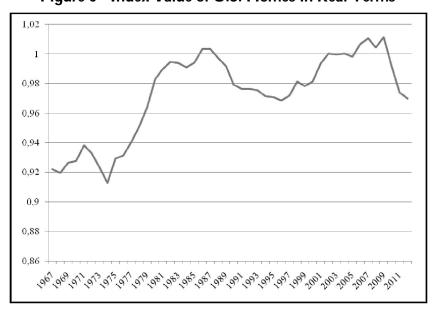


Figure 6 - Index Value of U.S. Homes in Real Terms

Figure 6 shows the trend of the value of American houses, in real terms from 1967 until 2012. Diagram was obtained starting from the range of home prices in nominal terms, the *consumer price index for all urban consumers*: housing, divided by the price index of American houses, *consumer price index for all urban consumers: all items.* For both series was used as a base 100 during the same period, ie the period from 1982 to 1984²³.

Until the last quarter of 2006 the prices of American houses tended to rise despite some fluctuations in price, while maintaining the growth trend. From 2007 begins to take shape the turning point of the trend with strong positive impact on the industry.

²³ The data represent the personal elaborations from the series published by United States Departement of Labor - Bureau of Labor Statistics, Databases, Tables & Calculators, http://data.bls.gov/pdg/SurveyOutputServlet, 2013.

From that moment, in fact, the value of housing starts to decrease until reaching 15% in 2008. Simultaneously, in order to contain inflation, the Federal Reserve decided to raise the cost of borrowing from 1% to 5.25 %, raising dramatically the interest and mortgage repayments. Already in the first quarter of 2006, we recorded an increase in payment default of the sub-prime borrowers. Since 2007, the problems in the sub-prime market gave the impetus to a reversal in taking risks: the delay in downgrading of structured finance products caused a general reluctance of investors, not only on products but above all on the opinions expressed by the rating agencies²⁴. As well as low risk premiums, lower costs of collection and extensive leverage had initially fueled the increase in liquidity and credit. The subsequent sharp decline of these parameters caused diametrically opposite effects, and much more amplified as a result of fears of sale of structured products. Even banks, primarily those of investment, had to face the grim reality of having to revise a lot of downward pressure on their investment portfolios, at the same time becoming more fearful about the financial strength of other credit intermediaries. Because of the accumulated deficiencies in risk management and underwriting standards, and more simply by reason of the adjustment required, the attempts by individual institutions to hold their own risk exposures have resulted in dynamic of amplification systemic risk.

As always happens in the financial world, what has transfered the instability of financial institutions to non-financial ones was the general confidence crisis of investor that brought down the Stock Exchange, hitting not only the listing of "speculative" securities but also the equity of productive enterprises. The fear of joint failures between banks, which blocked the inter-bank transfers, is then poured on the real economy as a result of the credit crunch, leading in turn to heavy deficit of liquidity in the market, especially in those sectors of the economy traditionally based on exploitation of short-term bank credit to meet the liabilities. The vehicle-societies, that had enjoyed strong gains through leverage, multiply the losses and the banks were forced to intervene incorporating the losses themselves. In a situation defined as catastrophic for the entire global economy only the use of rescue operations by national policy makers and the major central banks managed to avoid the collapse of the entire system.

7. The Role of the Rating Agencies During the Crisis of 2008-2009

One of the main brakes to the development of the financial markets is surely represented by information asymmetries existing between operators. To overcome this deficit, the rating is set up as an information tool of efficiency, theoretically capable of supporting the rationality of markets and operators and therefore allow a Pareto efficient allocation of resources. Consistent with this objective, the rating agencies should operate with a logic constant search of the best information on the market and not with the goal of profit maximization. While acting as private persons totally justifies the search for maximum profit, it is important to remember, however, that through the expression of ratings agencies change the structures of the market, creating substantial alterations in the efficiency of self-regulating mechanisms, which consequently would require greater attention and professional ethics by the raters. Working at the request of the customer is reasonable to think that the agencies present themselves as the central vision of customer satisfaction, overstating the creditworthiness and taking away the usefulness of the rating. The logic of *customer satisfaction* is well-founded even in the moment in which the credit rating agencies allocate negative ratings because the customer's satisfaction increments when a better rating towards the real one is assigned; moreover, any discrepancies in assigned ratings, compared with the real market, are too often traced to qualitative analysis data, even when the quantitative data shows a business situation guite different from that described in the judgment. At the same time the agencies, where they can exercise greater market power, may specially underestimate the creditworthiness of the issuer to press him to take advantage of the services supplied, or push the issuer to pay a higher price to get a higher quality rating.

²⁴ Financial Stability Forum, Strengthening the resilience of markets and intermediaries, April 7, 2008.

And even here, given the vastness of the field of analysis of the agencies, justifications can be found in various types of risk controlled such as country risk.

Demonstration of this phenomenon were the dowgrading suffered by the main Italian credit institutions in the summer of 2011, by S&P, Moody's and Fitch as a result of the deterioration in country risk, although banks have also successfully passed the stress tests. Indeed, the *core tier* 1, the main indicator of financial soundness of the banks, till 2011 amounted to 8,9% for Intesa Sanpaolo, to 7.4% for UBI Banca and 6.7% for the Monte dei Paschi, despite the minimum limit is 5%²⁵.

It rises then natural to ask, in the light of the deficiencies highlighted, what is the real level of accuracy and effectiveness of the external rating. As well as the logic of reputational capital, which is the self-selection mechanism of the market due to the reputation, it does not seem to be as strong as in the past as a result of progressive regulatory use of the fact that the legislature has an external rating.

Although the origins of the crisis can be traced to the excessive use of structured finance instruments and their excessive risk, however, even the undoubted responsibility of rating agencies in the valuation of securities derivatives can not be denied. Although the entire financial system has proved blind to the increasing risk-taking and the artificial creation of liquidity, the question is whether it is still valid the help function of ratings. Agencies should intervene where the shadow areas of finance are greater and where there are the most short-sighted operators without drawning into errors so coarse as those committed during the last crisis. The instrument rating should, in fact, be helpful when assessments of operators are more uncertain and more complex the frameworks of risk assumed. Coming less this utility the rating becomes merely a tool to assist in the economic cycle to accommodate the different stages that occur from time to time, becoming pro-cyclical expansions and recessions.

Although the causes of the financial crisis of 2008-2009 should be traced to a variety of actors, including national governments, it can not be denied the undoubted responsibility of the three major rating agencies, having played a key role in expanding and worsening crisis. In the United States, as a result of consistent and in-depth analysis of doctrine and case law, the issue of accountability of credit rating agencies for damages caused by their rating has become ever more pressing, so much so to lead the American legislator to intervene putting an end to 'egal immunity due to Moody's, Standard & Poor's and Fitch, due to their status of mere disseminators of opinions. The charges to the work of development agencies have found then also in Europe, although only in the period immediately posthumously to the crisis.

From a theoretical point of view, it is fair to say that the types of liability which may be called upon to answer the rating agencies are essentially two: the first relied on by the judged subject, while the second from investors.

However, despite a number of cases of disputes opened in the U.S., the ratings were considered merely as a disclosure of economic information protected by the freedom of the press, associated therefore, by analogy, to the activities protected by the First Amendment of the U.S. Constitution regarding the protection of freedom of the press²⁶.

²⁵ P. Pica, "Italian banks exceed the stress tests," Corriere della Sera, July 15, 2011

²⁶ As this regard, famous is the judgment of Jefferson County School District v.. Moody's Investors Service, Inc., 1999; In this case, the school district of Jefferson County in Colorado claimed compensation to the well - known rating agency, guilty to have issued in retort a low rating on the balance sheet and financial situation of the district, which needed an increase in interest to be paid on securities issued. It is alleged that the rating, unsolicited, was in retaliation for the fact that the district availed itself of the advisory services of another rating agency to take its place. The Court of Appeal of Colorado, pronouncing a verdict in favor of Moody's, in its judgment declared subsisting the protections provided by the First Amendment for the rating agencies.

The first and most important case to sue rating agencies dates back to 2009, when a well-known U.S. law firm asked the judges to assign objective responsibilities to rating agencies for negligence in the bankruptcy of financial giant Lehman Brothers. The prosecution had specifically requested to see recognized the crime of corruption because it was felt that the rating agencies agreed with the bank, behind substantial remuneration such toxic assets, should be placed on the market of course giving it a high rating. As proof of what the prosecution carried the triple-A, the highest degree of creditworthiness assigned to the bonds associated with the sub-prime mortgages that had notoriously high rates of default and therefore remuneration of the capital invested. A second case dates back to 2010 when the big three credit rating were called to trial on charges of causing losses of millions of dollars to five pension funds distorting information about the actual safety of the securities in which the funds were invested. Even in this case, the defensive strategy of the agencies was to attribute any responsibility to investors and their over-reliance on credit ratings; in this sense, the investors overestimated the value of the instrument having a wrong perception of the rating and the latter being only "Credit ratings are opinions about credit risk²⁷". Recently, however, the invincibility of the rating agencies in court seems to have suffered significant setbacks.

Some U.S. Courts have, in fact, started to feel guilty for the raters' judgments issued definitively negating the defense strategy based on both the First Amendment of the Constitution and the excessive reliance of investors. Well-knowin at this regard is the judgment of the State of New York that was between the Abu Dhabi Commercial Bank against Morgan Stanley & Co.

The Court was asked to rule on the placement of derivative securities implemented by Morgan Stanley, through a special vehicle society to which Moody's and S&P had given a high rating, but in reality it was shown as a toxic asset and much more risky than they certificate²⁸. In such circumstances, the Court sanctioned for the first time the responsibilities of a rating agency, since the judgments issued related financial instruments placed with institutional investors and not available to all market participants; judgments that did not represent an opinion and then having public importance but simply confidential information between individuals, and therefore not protected by the First Amendment of the U.S. Constitution. Also, the U.S. reform of the rating industry has provided for the allocation of a liability regime of the agencies compared to that of auditors.

In 2011 the statements made by the former head of Moody's, William Harrington called at the hearing before the SEC created quite a stir. Harrigton, in fact, highlights the fallacious *modus operandi* of his former company, especially with regard to the management of conflict of interest. As stated by him within the giant U.S. credit rating there are incentives for analysts who tend to give more positive assessments against companies more generous towards Moody's²⁹. The statements made by Harrignton, of course, take into account primarily the *modus operandi* and the structure the analyst belonged to, that is Moody's, but it is clearly recognizable how such "truth" could be extended by analogy to other two giants of the world ratings. To demonstrate this we can cite a number of elements that characterize the sector and the same methods by which judgments are issued, which effectively delineate a sector characterized by excessive opacity and subject to serious conflicts of interest.

²⁷ See Standard & Poor's, The ABCs of S & P Ratings Scales, 2013, but similar definitions are given by the other two agencies.

²⁸ J. Crawford, How Recent Lower Court Cases Help Realingn Incentives in the Credit Rating Industry, 2009.

²⁹ "The salient conflict of interest confronting Moody's employees is that which arises simply from being employed by Moody's. This conflict of interest permeates all levels of employment, from entry-level analyst to the Chairman and Chief Executive Officer of Moody's Corporation. However, the nature of the conflict-of-interest differs by levels of employment. An entry level analyst balances conducting her committee responsibilities with integrity while staying on sides of management. The Chairman and Chief Executive of Moody's Corporation balances preserving the independence of committee proceedings at Moody's with receiving increased remuneration as Moody's business grows. Analysts and managers at the intervening levels confront both conflicts of interest each time that they participate in a committee or evaluate an analyst.", Comment on SEC Proposed Rules for NRSRO, File Number S7-18-11, William J. Harrington, p.10, http://www.sec.gov/comments/s7-18-11/s71811-33.pdf, 2011.

The logic to satisfy the wishes and the decisions of customers is the obvious choice inherent in the pursuit of maximum profit typical of all private companies, as the main agencies that operate globally.

In this sense, resurrected the traditional trade-off statement between the desirability of more market or more public sector, especially in the United States which represent the traditional homeland of deregulation and economic liberalism.

8. Conclusions

From the analysis just made, it is clear that the rating agencies have enormous power in the distribution of private capital flows and the determination of the yield on the activities and expectations. As a matter of fact, through changes in judgments about the riskiness of the investment rating agencies may decrease or increase the inflows with the simple announcement of a revision of the rating. Their behavior in the latest crisis has been pro-cyclical, exacerbating the economic conditions of the countries that passed through periods of financial difficulty over than justified on the basis of the deterioration of macroeconomic fundamentals.

From the most recent research has been recognized the central role that the three major rating agencies have played in the recent financial crisis, as well as any liability including criminal penalties that may arise in court. As are undoubted the responsibility of policy makers in the over-reliance on credit ratings of these agencies, but without determine the actual validity of the assessments issued. The effects of such judgments, in terms of the real economy, would have been significantly scaled down if there had been a closer watch on the sector even due to the recognition, by numerous studies, of the pro cyclical nature of these judgments.

The judicial events and numerous errors of judgment expressed during the crisis of 2008 -2009 led to distrust more and more of the work and especially the organizational structures of these agencies. It is reasonable to assume, in the light of the business models used and the related problems that emerged, that behind these agencies there were lobbies with significant financial interests and speculation. Assumptions not unfounded also due to the lack of operational transparency of the agencies themselves. In such a scenary, it is necessary an incisive regulatory intervention to correct the distortions and inefficiencies that plague the industry's rating and the worldwide economic and financial system, restoring transparency and investors' confidence, also proposing models business respecting the autonomy of management and ownership.

This document has considered the ratings not as the sole causal element of the economic crisis, being this latter the result of an intricate process of deregulation and excessive use of financial engineering; but as an additional element that has contributed to exacerbate the negative effects and asymmetries arising from the crisis.

A further conclusion to advance, in the light of the found evidences, is that the rating agencies do not seem to have superior information or, at least, not different from those that have professional investors to determine the risk of *soverign default* especially for emerging markets. It would seem therefore appropriate for the establishment of rating agency, at European level, going to increase transparency and market efficiency by freeing the use distorted and "normative" of the rating of the "big three".

References

Anonim, Agenzie di Rating: S&P, Accuse prive di ogni fondamento, www.la Repubblica.it, 2012.

Achilli G., Criticità e Proposte di Riforma dell'Industria del Rating, Dipartimento di Impresa e Management, 2012.

Accuity Bankers Almanac Credit Risk, User Guide to Credit Risk, 2013.

Akerlof G.A., The market for "Lemons": Quality Uncertainty and the Mechanism, 1970.

Altman E.L. Kao D.L. The Implications of Corporate Bond Ratings Drift, Financial Analyst Journal, 1992.

Altman E.I, Rijken H.A., How Rating Agencies Achieve Rating Stability, Journal of Banking and Finance, n.28, 2004.

Amato J.D., Furfine C.H., Are Credit Ratings Procyclical?, Journal of Banking and Finance, n. 28, 2004.

Banca d'Italia - Servizio Informazioni Sistema Creditizio, La nuova disciplina prudenziale (Basilea 2): gli adeguamenti alla documentazione, Gruppo di Lavoro Puma2, Roma, 2007.

Banca d'Italia, Comunicazione 30 Dicembre 2008, Valutazione del merito creditizio, Bollettino di Vigilanza, Roma, 2008.

Basel Committee on Banking Supervision, Credit Ratings and complementary Sources of credit Quality Information, Basel, 2000.

Basel Committee on Banking Supervision, The New Basel Capital Accord, art.356, Basel, 2003.

Blume M.E., Lim F., MacKinlay A.C., The Declining Credit Quality of US Corporate Debt: Myth or Reality, Journal of Finance, n. 4, 1998.

Bufacchi I., Arriva il calendario per i rating sovrani, Il Sole 24 Ore, 2013.

Camera di Commercio Cosenza, Crisi, Barroso: agenzia di rating europea, ipotesi allo studio, 2012.

Capital IQ and Thomson, Reuters Datastream, 2011.

Capital IQ and Thomson, Reuters Datastream, 2013.

Carlton D.W., Perloff J.M., Organizzazione Industriale, seconda edizione, McGraw-Hill, 2005.

Comment on SEC Proposed Rules for NRSRO, File Number S7-18-11, William J. Harrington, 2011.

Cometto M.T., I rating? Inutili e dannosi, aboliamo la loro dittatura, Corriere Economia, 2012.

Commission Staff Working Document, Proposal for a Regulation of the European Parliament and of the Council on credit Rating Agecies - Impact Assessment, 2008.

Crawford J., How Recent Lower Court Cases Help Realingn Incentives in the Credit Rating Industry, 2009.

D'Apice V., Mercati finanziari e agenzie di rating, 2001.

De Bellis M., La nuova disciplina europea delle agenzie di rating, Giornale di diritto amministrativo, 2010.

De Santis R. A., The Euro area sovereign debt crisis safe haven, credit rating agencies and the spread of the fever from Greece, Ireland and Portugal, Working Papers n. 1419, European Central Bank, 2012.

Dagong Global, Building a New Sovereign Rating Standard, 2012.

Dagong Global, Reform the International Rating System to Promote the World Economic Recovery, 2012.

Deb P., Manning M., Murphy G., Penalver A., Toth A., Whither the credit ratings industry?, 2011.

Dittrich F., The Credit Rating Industry: Competition and Regulation, 2007.

Draghi M., Attività conoscitiva preliminare all'esame del Documento di programmazione economico-finanziaria per gli anni 2010-2013, 2009.

Fairchild L., Flaherty S.M., Shin, Yoon S., Analysis of Unsolicited Credit Ratings in Japan: New Evidence from Moody's, Review of Pacific Basin Financial Markets and Policies, vol.12, pp. 103-123, 2009.

Ferri G., Lacitignola P., Le agenzie di rating, Mulino, 2009.

Ferri G., Lacitiquola P., Concorrenza e agenzie di rating: il dibattito economico, Università di Bari Aldo Moro, 2012.

Financial Stability Forum, Rafforzare la Solidità dei Mercati e degli Intermediari, 2008.

Fitch, 2012 Form NRSRO Annual Certification, 2012.

Fitch Ratings, Fitch Ratings Definitions - Understanding Credit Ratings - Limitations and Usage, 2013.

Fridson M., Why do Bond Rating Agencies Exist?, Merrill Lynch Extra Credit, 1998.

Friedman T., The MacNeil/Lehrer Newshour, PBS television broadcast, 1996.

Gila P., Miscali M., I Signori del rating, Bollati Boringhieri, 2012.

Heinke V.G., Steiner M., Event study concerning international bond price effects of credit rating actions, International Journal of Finance and Economics, n. 6, 2001.

Hunt J.P., Credit Rating Agencies and The Worldwide Credit Crisis: The limits of reputation, the insufficiency of reform, and proposal for improvement, 2009.

IOSCO, Final Report on the subprime crisis, 2008.

Krugman P.R., Il ritorno dell'economia della depressione e la crisi del 2008, Garzanti, 2009.

Krugman P.R., Gli errori degli economisti, Internazionale, 2009.

Leftwich R. W., Hand J., Holthausen R.W., The effect of bond rating agency announcements on bond and stock prices, Journal of Finance, n.47, 1992.

Linciano N., L'impatto sui prezzi azionari delle revisioni dei giudizi delle agenzie di rating. Evidenza per il caso Italiano, Quaderni di Finanza CONSOB n.57, 2004.

Mannucci D., L'impatto del rating sul mercato finanziario. Studi teorici ed evidenze empiriche, Finanzacademy, 2012.

Miscali M., La vulnerabilità finanziaria e il dominio delle agenzie di rating, Atlante Geopolitico, 2013.

Moody's, Moody's Rating Symbols & Definitions, 2013.

Molinari I., Agenzie di rating, ecco chi sono e perché Olli Rehn parla di conflitto di interesse, Panorama Economia, 2012

Nori G., La sovranità degli Stati, il rating e le regole sulla concorrenza, 2012.

Onado M., I nodi al pettine. La crisi finanziaria e le regole non scritte, Laterza, 2009.

Paganin M., Basilea II. Le variabili rilevanti nel rating esterno. Un'applicazione alle imprese italiane, 2009.

Paparotti D., Credit Rating ed il ruolo delle ECAI nell'approccio Standard, Università degli Studi di Trieste, 2011.

Parmeggiani F., La funzione economica e la regolazione delle agenzie di rating, Università degli Studi di Siena, Dipartimento di Diritto dell'Economia, 2010.

Partnoy F., Overdependence on Credit Ratings was a Primary Cause of the Crisis, University of San Diego, School of Law, 2009.

Pavesi F., Moody's, S&P e Fitch: Ecco chi comanda nelle agenzie di rating, Il Sole 24 ore, 2010.

Pica P., Le banche italiane superano gli stress test, Corriere della Sera, 2011.

Reisen H., Von Maltzan J., Boom and Bust and sovereign ratings, OECD Development Centre, 1999.

Ricci M., Vivere senza Standard&Poor's: ecco regole e prassi da cancellare, La Repubblica, 2012.

Roveda D., Buffet: Moody's sbaglia come tutti, Il Sole 24 Ore, 2010.

Rutigliano V., Rating alle banche, una mail accusa S&P, II Sole 24 Ore, 2012.

Schwarcz S.L., Private Ordering of Public Markets: The Rating Agencies Paradox, University of Illinois Law Review, 2002.

Senato della Repubblica, "Mozioni sulle agenzie di rating", Legislatura 16^a - Aula - Ordine del giorno delle sedute n. 686, 687, 2012.

Shiller R.J., Irrational Exuberance, 2nd. Edition, Princeton University Press, 2013.

Standard&Poor's, Corporate Ratings Criteria, 2008.

Standard&Poor's, The ABCs of S&P Ratings Scales, 2013.

Standard&Poor's The High level Group on Financial Supervision, Report, 2009.

United States Departement of Labor - Bureau of Labor Statistics, Databases, Tables & Calculators, 2013.

Vilardo A., Draghi, Bisogna imparare a vivere senza agenzie di rating, MilanoFinanza, 2012.

Wansley J.W., Glascock J.L., Clauretie T.M., Institutional bond pricing and information arrival: The case of bond rating changes, Journal of Business Finance and Accounting, n. 19, 1992.

White L.J., The Credit Rating Agencies, Journal of Economic Perspectives, 2001.

White L.J., The Credit Rating industry: an industrial organization analysis, The World Bank, 2001.

White A., Hull J., Predescu M., The relationship between credit default swaps spreads, bond yields, and credit rating announcements, Journal of Banking and Finance, n. 28, pp. 2789-2811, 2004.