European Master in Law and Economics
Academic Year 2010-2011
Master Thesis

The case for reducing regulatory reliance on credit ratings:
Restoring the strength of reputational concerns

Bianca Mostacatto Sampaio de Andrade

Supervised and Examined by
Jun. Prof. Dr. iur. Patrick Leyens
Universität Hamburg

Examined by
Prof. ______________________
____________________________

Hamburg, August, 2011
# Table of Contents

Authorship Declaration .................................................................................................................. iii
Abstract and Key Words ................................................................................................................ iv
Abbreviations ................................................................................................................................ v

**Introduction** ............................................................................................................................... 1

A. Origins of Ratings: The Information Asymmetry Problem ..................................................... 4
B. Economics of the Ratings Business: The Reputation Mechanism .......................................... 9
C. Governmental “Intervention” in the Market for Ratings .......................................................... 19
D. Effects of the Introduction of Ratings-dependent Regulation for the Functioning of the Reputation Mechanism and the Accuracy of Ratings ......................................................... 22
E. Possible Remedies for the Distortions Created by Ratings-dependent Regulation and their Limitations ...................................................................................................................... 31
F. Eliminating Regulatory Reliance on Ratings ......................................................................... 42

**Conclusion** ................................................................................................................................. 48

**Appendix I** ................................................................................................................................. 49

**Bibliography** ............................................................................................................................... 52
Authorship Declaration

I hereby declare and confirm that this thesis is entirely the result of my own work except where otherwise indicated. I acknowledge and thank for the supervision and guidance I have received from Jun. Prof. Dr. iur. Patrick Leyens. This thesis is not used as part of any other examination and has not yet been published.

Hamburg, August 15, 2011

______________________________
Bianca Mostacatto Sampaio de Andrade
The Case for Reducing Regulatory Reliance on Credit Ratings:

*Restoring the strength of reputational concerns*

Bianca Mostacatto Sampaio de Andrade

**Abstract:** This work aims at demonstrating why reputational concerns do not provide a sufficient incentive for ratings accuracy in the existence of a regulatory framework based on ratings. It also analyzes possible alternatives for securing ratings accuracy – including regulation and oversight of rating agencies, increased competition and civil liability – and their limitations, as well as the reasons why restoring the strength of the reputation mechanism, including by reducing regulatory reliance on ratings, is the only effective measure. It then draws from this analysis to extract lessons that regulators should observe when eliminating references to ratings from their rulings.

**Key words:** credit rating, credit rating agencies, regulatory reliance, reputation, reputation mechanism, governmental intervention, captive demand, regulatory arbitrage, oversight, competition, innovation, civil liability, ölflecktheorie.

[Word count: 15.971, including Appendix I]
**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>asset-backed securities</td>
</tr>
<tr>
<td>CDO</td>
<td>collateralized debt obligation</td>
</tr>
<tr>
<td>CDS</td>
<td>credit default swap</td>
</tr>
<tr>
<td>CEO</td>
<td>chief executive officer</td>
</tr>
<tr>
<td>CRA, CRAs</td>
<td>credit rating agency (ies)</td>
</tr>
<tr>
<td>CRARA</td>
<td>Credit Rating Agency Reform Act</td>
</tr>
<tr>
<td>ECAI</td>
<td>external credit assessment institutions</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>Fitch</td>
<td>Fitch Ratings</td>
</tr>
<tr>
<td>Moody’s</td>
<td>Moody’s Investors Services</td>
</tr>
<tr>
<td>NRSRO</td>
<td>nationally recognized statistical ratings organizations</td>
</tr>
<tr>
<td>RMBS</td>
<td>residential mortgage-backed securities</td>
</tr>
<tr>
<td>S&amp;P</td>
<td>Standard &amp; Poor’s</td>
</tr>
<tr>
<td>SEC</td>
<td>U.S. Securities and Exchange Commission</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States of America</td>
</tr>
</tbody>
</table>
Credit rating agencies are creatures of the market. They arose to provide, for a profit, an alternative solution for the basic problem of information asymmetry in the relationship between issuers of debt securities and investors. As competitors to other producers in the business of information intermediation, they differentiated themselves by translating extensive and complex information regarding the relative credit quality of an issue or issuer into a single, simple and standardized letter-grade. By doing so, they made debt instruments all over the world – be it corporate, sovereign or structured finance – comparable as to their credit risk. To the extent that rating agencies were deemed independent from the issuers whose securities they rate, ratings were viewed as an easy and useful source of information.

These characteristics made ratings a success among investors from their inception. Also attracted by these same qualities – simplicity, comparability and independence – governments soon started to adopt ratings in their regulations

Today, the use of ratings in regulation is widespread in the U.S. and, to a lesser but still significant extent, internationally. It ranges from the assessment of regulated investors' capital requirements or permissible investments to the definition of issuers' access to less stringent disclosure or registration requirements, in the banking, securities and insurance sectors, to name a few. The regulatory use of ratings eased oversight over regulated institutions, insofar as it allowed supervisors to outsource risk analysis by making use of third parties' judgments. From the perspective of market participants, it

---

1 In this paper, “regulation” is used in a wide sense, to comprise any law or rule prescribed by a governmental authority, including the Legislature and special sector regulators such as the securities commission or banking supervisors.
had the advantage of reducing regulators’ discretion, making the process more objective and less prone to corruption or arbitrariness.

However, ratings-based regulation presupposes that ratings are accurate, otherwise the goals regulation aims at achieving are compromised and the regulatory use of ratings becomes counterproductive. Such accuracy is said to be secured through reputational concerns: rating agencies depend on their reputation to survive and, therefore, have enough incentives to continue to accumulate reputational capital and avoid actions that would risk it. This idea was well-expressed by Thomas McGuire, former executive vice-president of Moody’s, who said: “What's driving us is primarily the issue of preserving our track record. That's our bread and butter”\(^2\). Yet, contradictorily, the world has seen in the past decades repeated examples of ratings inaccuracy. The last financial crisis provides a recent illustration and led U.S. Representative Henry Waxman, in his capacity of chairman of the House of Representatives Committee on Oversight and Government Reform, to declare that “The story of the credit rating agencies is a story of a colossal failure”\(^3\).

This work aims at demonstrating that, under the current system, the reputation mechanism cannot be counted on as a constraint for ratings inaccuracy and that the governmental use of ratings is in great part responsible for it. It also claims that regulation and oversight of rating agencies are imperfect in securing ratings accuracy and that only the restoration of the reputation mechanism –including through the elimination of ratings-based regulation– is capable of achieving this goal, while also promoting innovation and competition in the informational business and, thus, improving the management of risk by (regulated and non-regulated) investors.

\(^2\) Becker and Milbourn (2010), pp. 6-7. The authors also quote the statements that “reputation is more important than revenues” and “we are in a business where reputational capital is more important”, attributed, respectively, to people from Standard & Poor’s and Moody’s.

This is done as follows: Section A provides an overview of the origins of ratings as a market solution to the problem of information asymmetry. In Section B, a closer look is taken at how the reputation mechanism works as a constraint to ratings (especially intentional) inaccuracy, as well as general limitations to the effectiveness of this mechanism in the ratings business. Section C briefly reports how indirect governmental intervention in the ratings market, through ratings-based regulation, took place, also providing an overview of current regulatory uses. Section D follows, analyzing the effects of these regulations to the functioning of the reputation mechanism and the accuracy of ratings. In Section E, the main policy routes to improve ratings accuracy are analyzed, including regulation and oversight of agencies, increased competition, civil liability of agencies and reduction of regulatory reliance. It is then sustained that the latter is a superior means to ensure agencies’ honesty and ratings accuracy. Section F draws from the previous analysis lessons that regulators should keep in mind when eliminating references to ratings from regulation, besides proposing an alternative that takes such lessons into account. This section is followed by the conclusion.
A. Origins of Ratings: The Information Asymmetry Problem

Information asymmetry refers to the situation in which one of the parties to a transaction possesses more or superior information relatively to the other, an imbalance that can be potentially exploited by the better-informed party to the detriment of the less-informed. In financial markets, information asymmetry appears in diverse forms, such as quality uncertainty and moral hazard and affects different market players in different points in time relatively to the consummation of the transaction. For example, in an issuer-investor relationship, an investor may be *ex ante* uncertain about the quality of a bond offered and the chances that it will be repaid. *Ex post*, the uncertainty may involve the actions of the issuer that investors are unable to observe without close monitoring, as well as the impact of such actions on the issuer's paying ability and the level of risk to bondholders. In any of these cases, information asymmetry might result from the nonexistence or incompleteness of information about the issuer, its financial situation and its operations, but also from investors' inability to correctly assess the value of the information eventually provided.

Investors may deal with the uncertainty arising from information asymmetry in different manners. They may choose not to invest at all, or to invest solely in instruments from issuers specifically known by them or who were able to build a solid reputation in the market. They may require higher returns to compensate for the uncertainty or simply incur in average pricing, by which investors' willingness to pay is tied to their perception of what constitutes the average level of risk in securities investments.

In all the above examples, market failure exists. In the first two, either all or
a subset of issuers are excluded from the market. In the last, as Akerlof has demonstrated with his influential Market for Lemons paper, there is a potential for adverse selection, with issuers of superior quality being encouraged to pursue other sources of financing as a result of their unduly high cost of capital in the securities market. Ultimately, this adverse selection could lead to the disappearance of the market itself.

Fortunately, as markets developed, market participants devised new and diverse ways of dealing with the problem of information asymmetry, both from an ex ante and an ex post perspective. Signaling and screening, for instance, are two possible ex ante alternatives carried out by the parties themselves. An issuer can signal its superior type by providing additional information to investors and reducing the informational imbalance. An investor can condition investment on the obtainment of sufficient information through own research or by inducing the issuer to disclose.

Though methods such as signaling and screening reduce the problem of information asymmetry, they do not eliminate it. Even if issuers provide considerable information, some uncertainty still remains, as investors cannot be sure of how complete or accurate it is. Some investors may also not have the necessary expertise to process complex information. Furthermore, research and analysis costs can be prohibitively high, especially to investors who are not large enough to enjoy economies of scale. In these cases, the investment benefits to each individual investor

---

4 Akerlof (1970) has analyzed the problem on quality uncertainty in the market for used cars, demonstrating that, when quality is not completely observable, buyers' best guess for any given car is that it is of average quality and, therefore, its price should not exceed that of a car of known average quality. This drives out of the market cars of superior quality, whose owners are unable to receive a price that makes sale worthwhile. This withdraw of higher-quality cars reduces the average quality of cars in the market and, as a result, the average price, thus driving out other cars, with quality superior to the new average. Ultimately, the market itself disappears.

5 Stiglitz and Weiss (1990) differentiate “screening” games from “signaling” games based on which of the players moves first: in the latter, the informed party moves first, by choosing actions that signal its type; in the former, the uninformed party is the one who first moves.
may be insufficient to offset the high costs of research and analysis and, although all could benefit from a collective action, lack of coordination and investors' incentives to free ride make it impossible to be implemented.

However, where there is a problem, there are also opportunities. Accordingly, information asymmetry gave rise to a number of businesses whose existence relies, to varying extents, in their ability to efficiently reduce informational uncertainty in market transactions.

Credit rating agencies are in the business of reducing information asymmetry for a profit. They do so by gathering and analyzing information regarding issuers and issues, and by ranking them in accordance with their relative credit risk. When considering rating agencies' reports in their decision-making, investors borrow the agencies' expertise and save the associated costs of research and analysis. From a social perspective, the potential waste resulting from repeated research costs is avoided. By categorizing issuers and issues in accordance with their relative credit risk, ratings also increase comparability and, thus, make it easier for investors to diversify and choose investments suitable to their risk appetite. Moreover, rating agencies allow investors to reduce ex post monitoring costs by keeping rated debt under surveillance until it is paid or ceases to be rated. From the perspective of issuers, this reduction in information asymmetry allows many of them to borrow at a lower cost and to have access to a wider, global market. This, in turn, benefits once more investors, who are provided with more liquidity to their holdings.

Yet, rating agencies are not alone in the business of reducing informational problems, nor were they the first ones to enter it. Capital markets have existed for many centuries before the first bond ratings were issued in 1909 by John Moody and Richard Sylla, NYU Professor of the History of Financial Institutions and Markets, explains that:
some sort of informational intermediation has long been in place. Other suppliers of informational services include financial analysts and advisers, financial publishers and auditors. In a different manner, investment bankers have historically helped investors to overcome information asymmetry problems by using their reputational capital to certify the quality of bonds and other securities through the underwriting process\(^7\).

Credit ratings agencies originated in the United States, where the expansion of the bond market was significantly fostered by the issuance of securities to finance the large-scale railroad development in the 19\(^{th}\) century. Sylla (2001) notes that the U.S.' bond market, at the time already “much larger than elsewhere”, further expanded as result of a growing state and local bond issuance, issues by utility and manufacturing firms and expansion of the investors base due to an increase in average levels of income and wealth\(^8\). This expansion, naturally, accentuated the need for solutions for the basic informational problem in the issuer-investor relationship. Not surprisingly, the 19\(^{th}\) century witnessed what Sinclair (2008) called “an information explosion”:

*Poor's American Railroad Journal* appeared in the mid-1850s. This was followed by *Henry V. Poor's History of the Railroads and Canals* of the United States of America in 1860. His book detailed the track length of railroads, enumerated investors’ share capital, and provided a record of the railroads’ profit and loss, among other things. Many of these highly detailed records gave a useful picture of investment in American infrastructure. [...] In 1868, Poor's produced the first *Manual of the Railroads of the United States*. By the early 1880s, this publication had five thousand subscribers.

---

When the business of bond credit ratings by independent rating agencies began in the United States early in the twentieth century, bond markets—and capital markets generally—had already existed for at least three centuries. Moreover, for at least two centuries, these old capital markets were to an extent even ‘global.’ That in itself indicates that agency credit ratings are hardly an integral part of capital market history.


7 *Id.*, p.10.

8 *Id.*, pp. 21-22.
John Moody first entered the business with the publication of an industrial statistical manual in 1900. But it was only later, in 1909, that he begun publishing the presently well-known bond ratings in his *Analysis of Railroad Investments*, an idea largely based on the mercantile credit agencies existing at the time, which provided customers ratings to merchants. Within the next few years, he was followed in the rating business by Poor's Publishing Company (1916), Standard Statistics Company, Inc. (1922) and Fitch Publishing Company (1924). After a few reorganizations, these enterprises from the early 20th century gave rise to the current famous “Big Three” in the credit rating business: Moody’s, Standard & Poor's and Fitch.

Originally, the business was financed by investors through the payment of subscription fees and the publications were limited to the compilation of available information regarding issuers and issues. However, as result of an “expanded demand for information free from conflicts of interests” following the financial crisis of 1907, agencies evolved from “issuing compendiums of information” to “actually making judgments about the creditworthiness of debtors”. Decades later, in the late 1960s and early 1970s, rating agencies changed their business models and begun to charge issuers for ratings. This development is sometimes attributed to the expansion in the use of photocopies about that time and the inability of agencies to impede the free dissemination of copies of their publications, resulting in reduced revenues. Cantor and Packer (1994) explain, furthermore, that the default of Penn Central in 1970 was “a catalyst in the transition to charging issuers”, because the decline of confidence

---

9 For a historical account of the origin of credit rating agencies, see, e.g., Harold (1938); Sylla (2001); Sinclair (2008).
10 Harold (1938).
13 *Id.*, p.29.
from investors lead issuers to seek ratings as a way of signaling quality and it soon became established market practice for new issues to receive at least one rating\textsuperscript{14}.

\textbf{B. Economics of the Ratings Business: The Reputation Mechanism}

Depending on investors' size and degree of sophistication, credit ratings will have a greater or smaller informational value to them. Large sophisticated investors are likely to use credit ratings as a useful second opinion or a first screening of investment opportunities, but not as the sole or main source of their analysis. As size (and therefore the ability of enjoying economies of scale in research and analysis costs) and sophistication decrease, the reliance on ratings tend to increase, as ratings become an important way of outsourcing. In any case, the intrinsic value of ratings to investors\textsuperscript{15} depends on its potential accuracy, which in turn depends basically on two conditions: expertise and independence.

Rating agencies – as other information intermediaries – accumulate a reputation for expertise mainly based on past performance and the quality of the information provided. But the analysis embodied in ratings are to a great extent qualitative and, therefore, subjective\textsuperscript{16}. This subjectivity makes accuracy difficult to assess, since an opinion may be valid at the time it was issued, but still be proven wrong lately, especially when it involves predictions about the future. Add to this the fact that ratings are issued based on probabilities and, therefore, cannot be proved wrong for any particular issue, but only considering the overall number of defaults \textit{ex post}.

\textsuperscript{14} At p. 4.

\textsuperscript{15} I focus on the value of ratings to investors because, both under the issuers-pay or investors-pay models, this value is what is ultimately important. Investors are the end-consumers of ratings, even when they are bought by issuers, due to their informational role. Independently of the model, demand on ratings depend on ratings' value to investors.

While this qualitative and probabilistic nature renders ratings unable of being perfectly-tested for accuracy, it also makes rational investors more willing to accept non-frequent errors in evaluations that do not result from flagrant incompetence or conflicts of interest. In other words, because future predictions are not “rocket science”, an agency may err without jeopardizing its reputation for expertise, as long as the opinion was substantiated and the error was perceived as unintentional.

In contrast, a reputation for independence is essential for the rating business and, under normal circumstances, does not allow exceptions. By outsourcing risk analysis to ratings agencies, investors aim to reduce the principal-agent problems associated with information asymmetry in the investors-issuer relationship. However, as Leyens (2011) puts it,

Mandating an intermediary leads to an additional layer of information asymmetries and is an additional origin of agency problems. The goal of intermediation will not be reached where the intermediary opportunistically exploits the information gaps of the offeree.

The subjectivity of the rating analysis, though, leaves scope for this exploitation, because raters may, without jeopardizing their reputation, potentially use the room for prediction “errors” existent in ratings’ qualitative and probabilistic content to favor their own interests. This exploitation can occur either by a reduced level of effort costs or via intentional inaccuracies in exchange for additional gains. It is in the latter case that independence plays a major role. The requirement of independence aims at assuring that raters will not have an interest in providing an intentionally inaccurate rating, including by means of exploring the aforementioned qualitative gap, which would make detection and punishment much more difficult. Independence allows investors to trust ratings and allows raters to continue to accumulate reputational capital even in face of inaccuracies, as long as they do not
result from flagrant incompetence (in which case the reputation for expertise, equally important, would be jeopardized).

Evidently, the incentive of raters to maintain independence and accumulate reputational capital depends on the economic value of the latter to them, comparatively to the economic value of any gains arising from the pursuit of conflicted interests. Investors can expect rating agencies to be independent when they have too much to loose and relatively less to gain from non-independence. Since the gains accruing from the accumulation of reputational capital continue to be realized as long as the agency is on business, but an intentional inaccuracy that is detected threatens all those future gains, the comparison is said to be basically between “short term profits” and “uncertain but theoretically larger returns that building and preserving a strong reputation would produce”17.

The basic functioning of the rating business could be modeled as a simple game with two players, “rating agency” and “investors”, in which the former can opt between the strategies “Honest Rating” or “Dishonest Rating” and, the latter, between “Trust Rating” or “Not Trust Rating”. As shown in Appendix I, in a one-shot game in which investors can only ex post verify accuracy, the agency would have a dominant strategy to provide dishonest ratings, which increases its payoff by the gain received in exchange to provide the inaccurate rating. Knowing this, investors would not trust ratings to start with and there would be no rating business. A repeated game, however, allows agencies to overcome the credibility problem over time by building up a reputation for honest ratings. In every round, investors have the opportunity of punishing dishonesty by stop trusting ratings if they are found unreliable, which would cease the agency’s ability to earn future profits. Because the time-frame is ad

infinitum, the tit-for-tat strategy works and the rating business develops on the basis of reputation.

The result becomes less clear and intuitive if we add to the analysis the probabilities with which the dishonesty may be detected or not, the expected payoffs in case of detection and non-detection and possible damages or other penalties to be paid by the agency in case of fraud.

Assuming an extreme case in which, if the complot is found out, the agency will be forced out of the market à la Arthur Andersen (therefore future profits equal zero) and be forced to pay damages, whereas otherwise the life-expectancy of the agency would be infinite, the possible payoffs to the agency can be described as follow:\textsuperscript{18}:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Payoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishonest</td>
<td>$G + p(0) + (1 - p)(\delta_1 \Pi_1 + \delta_2 \Pi_2 + \cdots \delta_n \Pi_n) - D$, i.e.: $G + p(0) + (1 - p) \sum_{i=1}^{\infty} \delta_i \Pi_i - D$</td>
</tr>
<tr>
<td>Honest</td>
<td>$\delta_1 \Pi_1 + \delta_2 \Pi_2 + \cdots \delta_n \Pi_n$, i.e.: $\sum_{i=1}^{\infty} \delta_i \Pi_i$</td>
</tr>
</tbody>
</table>

where

$G$ = gain received as a result of the dishonest rating.

$p$ = probability that the dishonesty will be detected and a reputation loss will occur, with consequent revenue loss.

$\Pi$ = profit in the future consecutive periods of time 1, 2, 3… $n$.

$\delta$ = discount factor for the future consecutive periods of time 1, 2, 3… $n$.

$D$ = expected damages or penalties incurred by the agency in case fraud is detected.

\textsuperscript{18} For simplicity, present profits (not including $G$), which would appear in both strategies (Honest x Dishonest Rating) is not shown.
and proven\textsuperscript{19}, as well as defense costs.

As a result, providing a dishonest rating is a dominant strategy for the rating agency if

\[
G + p(0) + (1-p)\sum_{i=1}^{\infty} \delta_i \Pi_i - D > \sum_{i=1}^{\infty} \delta_i \Pi_i
\]

and providing an honest rating is a dominant strategy if the previous inequality does not hold true.

Even without quantifying the variables above, a few conclusions can be easily inferred from the equation:

First, the strategy of issuing an inaccurate rating in exchange for an additional gain has a value which is dependent on, at least: (i) magnitude of the additional gain; (ii) the estimated probability of being detected; (iii) the expected revenue loss in case of detection; (iv) expected damages and penalties, which refers to the probability of, once detected, being obliged to compensated others for losses or being punished (either by a court or in an administrative proceeding) and possible amounts.

Second, any factors that increase (i) or decrease (ii), (iii) or (iv) will increase the overall value of issuing a dishonest rating.

\textsuperscript{19} D's value depends, among other factors, on the probability that dishonesty will be detected and proven, as opposed to the revenue loss which may occur, independently of proof of misbehaviour, when investors stop trusting and demanding ratings. For simplicity, \( D \) was not broken down into probabilities and amounts, but its probabilistic nature must not be forgotten.
These observations are important because, for the reputation mechanism to work as described above, there must be a clear preference for the “Honest Rating” strategy, i.e., a significant difference in payoffs that makes investors sure that the balance tilts to the side of cooperation instead of defection. This is normally assumed to be the case, under the argument that the amounts paid by any issuer to the agency are likely insignificant relatively to its total revenue\(^\text{20}\).

Nevertheless, the power of factors (ii), (iii) and (iv) above, or even factor (i), of tilting the balance to defection must not be underestimated.

First, the probability of being detected is greatly reduced by several facts. Even if a rating is intentionally inaccurate, investors will only suspect it in the most flagrant cases. Default may actually occur and still not raise suspicious because even AAA-ratings have a positive probability of default, hence the default of any one issue can always be perceived and justified as consistent with the given rating. It is only when, \textit{ex post}, the number of actual defaults is verified to be greater than the one predicted to a certain level of rating that a potential reputation loss may occur\(^\text{21}\).

However, as said before, ratings are not “rocket science” and their subjective, qualitative nature allows agencies to justify any error as a good faith opinion rather than an intentional misstatement. Absent a clear “smoking gun”, these characteristics of ratings have the potential to undermine any suspicion of dishonest behavior and, thus, the probability of being detected, reducing the potential for a reputation loss.

\(^{20}\) For example, Sinclair (2008, p. 29) states:

It has been suggested that charging fees to bond issuers constitutes a conflict of interest. This may indeed be the case with some smaller, lower-profile firms desperate for business. With Moody’s and S&P’s, ‘grade inflation’ does not seem to be a significant issue. Both firms have fees incomes of several hundred million dollars a year, making it difficult for even the largest issuer to manipulate them through their revenues.

\(^{21}\) Even in this case, as Cifuentes and Cruz (2011) emphasize, because ratings’ parameters are defined by the rating agency, the latter may alter the probability of default (or expected loss rate, in case of Moody’s) in order to accommodate the error and, thus, avoid inaccuracy to be detected.
Moreover, the complexity – and, in some aspects, secrecy – of the rating process makes it difficult for most investors to verify even if the quantitative part on which the agency supposedly bases its opinions is accurate, and to what extent this quantitative part is relied on. This obscurity is especially true in case of the highly complex structured finance products, where the ability of even sophisticated investors to exert market discipline might be undermined by a lack of full understanding. Add to all this the fact that probabilities are always difficult to assess and subject to errors and biases that may lead to its underestimation.

Second, although in the example above it was assumed that, if detected, future gains would be immediately reduced to zero, this is not always the case. Besides the fact that detection itself will probably only be suspected later in time (when the issue defaults), the agency may implement and announce changes designed to regain investors confidence and, doing so, be able to avoid the loss of a significant part or its entire market share. This strategy has been used in the past, following events that cast a shadow on agencies’ reputation. More importantly, the existence of ratings-based regulation also has a significant negative (from investors’ perspective) impact on this factor, as will be shown in Section D.

Third, expected damages may be close or equal to zero. Rating agencies have been successful in their defenses, avoiding liability in the United States, likely the

---

22 For example, Sinclair (2008, p. 27), quoting a newspaper article of January, 2002, reports that (... after the Asian financial crisis of 1997-98, Moody’s corporate culture became less secretive. Enron’s bankruptcy in 2001-2002 accelerated this switch at Moody’s, prompting the previously guarded institution to ‘invite comment’ from market stakeholders on proposed improvements in the rating process.

23 Although agencies have most notably avoided liability based on First Amendment defenses (e.g., Jefferson County Sch. Dist. v. Moody’s Investors Servs., Inc., 10th Cir. 1999; In re Enron Corporation Securities, Derivative & “ERISA” Litigation, S.D. Texas, 2005), some cases fail on diverse grounds. A recent example is In re: Lehman Brothers Mortgage-Backed Securities Litigation et al, 2nd U.S. Circuit Court of Appeals, 2011 (finding that ratings did not qualify as underwriters or control persons for purposes of liability under the Securities Act of 1933).
most litigation-prone jurisdiction due to established institutions such as the class actions. Moreover, even though the Dodd-Frank Act lifted the privilege that exempted rating agencies from being considered “experts” in the context of securities offerings\textsuperscript{24}, the SEC – under pressure when agencies refused to allow the use of their ratings in such context – has in fact sustained the privilege (at least in the asset-backed securities market, where offerings previously required the disclosure of ratings) for an indefinite period through recent “no action” letters\textsuperscript{25}. In the face of the last financial crisis, the SEC was said to contemplate civil fraud charges against some agencies due to their conflicted participation in the design and rating of structured products\textsuperscript{26}, but, to date, no official action has been taken and, even if it is, its success is uncertain. In countries other than the United States, litigation or administrative action are even less likely to occur, absent future change.

Fourth, even the gain resulting from inaccurate ratings may be substantial, as the last financial crisis clearly demonstrated. Rating agencies earned massive profits with the growth of structured finance products\textsuperscript{27}, a growth that would not have been possible without the high ratings attributed to them, since the high complexity of these products made them unmarketable without such quality certification. If accurate ratings would have prevented this market – and the profits accruing from it – from existing, the potential gain from its development might have encouraged an

\textsuperscript{24} Rule 436(a) of the U.S.’ Securities Act of 1933 requires issuers to file the written consents from experts or counsels whose reports or opinions are quoted or summarized in registration statements or prospectuses. Rule 436(g) specifically exempted ratings of nationally recognized statistical rating organizations (NRSROs) from being considered a part of the registration statement prepared or certified by a expert, which precluded lawsuits against NRSROs under Section 11 of the Securities Act. The Dodd Frank Act repealed such exemption in its Section 939G.

\textsuperscript{25} SEC No-Action Letters to Ford Motor Credit Company LLC (July 22 and November 23, 2010), available at \url{www.sec.gov/divisions/cf-noaction/2010/ford0722-1120.htm}.


\textsuperscript{27} Benmelech and Dlugosz (2009).
intentional issuance of more “lenient” ratings\textsuperscript{28}. This line of argument is consistent with empirical findings by Ashcraft, Goldsmith-Pinkham and Vickery (2009), according to which ratings became “progressively less conservative around the MBS market peak between 2005-07”, i.e., when agencies’ revenue from these products was higher. Bar-Isaac and Shapiro (2011) also find that ratings are less accurate when fee income increases in booms.

In addition, the relative value of short-term gains may increase as the expected value of long-term revenues decrease. As Bonewitz (2010) wrote,

> Rating agencies fearing a market collapse, a regulatory crackdown, increased competition or any factor that would diminish the prospect of future economic rents, have less incentive to invest in reputation, and may even be induced to jeopardize their reputations.

The expectation that future rents will decrease may acquire especial importance since, at least since Enron, regulations have been proposed to increase competition (thus reducing monopolistic rents and revenue per agency), regulate agencies (therefore increasing their costs) and reduce the use of ratings on regulation (which in turn could possibly decrease agencies' future demand). Once these measures are anticipated by rating agencies, there is a decrease in expected future profits and the value of gains from inaccurate ratings increases relatively to them.

Gains from inaccurate ratings may also not be simply one-time gains. A rating agency may be encouraged to issue inflated ratings due to competitive forces,
either to gain or not to lose market share. In this case, rating inflation occurs persistently and the resulting gains are realized over time, impacting the future expected revenue factor. Becker and Milbourn (2010) found empirical evidence that increased competition from Fitch coincides with lower rating quality from S&P and Moody’s in the corporate bond market: rating levels rose, correlation with bond yields decreased and ability to predict default as well.

Lastly, it is important to notice that the same trade-off – equated above – faced by the agencies is faced, at the individual level, by the individual raters who participate in the rating process. But at the individual level, the incentive problems described above become much more accentuated. Because decisions are made by individuals, the reputation mechanism may in fact function more poorly than it is usually assumed. Depending on their compensation scheme, analysts’ profits may depend to a greater or lesser extent on the bulk of issues rated (by him individually or by the agency in total) and they may find it difficult to incur in actions – such as issuing low ratings – that may lastly dry up the source. Moreover, they are not likely to be held personally liable or to incur in personal losses in case the agency has to pay damages or suffer other penalties. The probability for each analyst of loosing his job is very low if rating inflation is part of the industry culture, or at least a practice disseminated within the agency. And their time-horizon is significantly shorter than the agency’s itself, not only for the human causes of death and retirement, but especially considering the high turnover of professionals in the industry.

29This short-term horizon becomes evident in the now famous e-mail in which a S&P analyst asserts “rating agencies continue to create an ever bigger monster, the CDO market. Let’s hope we are all wealthy and retired by the time this house of cards falters”. U.S. House of Representatives (2008), p. 69.
C. Governmental “Intervention” in the Market for Ratings

Economists normally use the term “intervention” to designate governmental action in a market in order to achieve certain public objectives. But governments may intervene in a market indirectly and even unintentionally, when governmental actions inadvertently change the behavior of market participants.

This is the meaning with which the term “intervention” is used here. Governments have not directly or deliberately, until recently, intervened in the market for ratings. However, through intervention in other markets – via legislation, regulation, or other regulatory means, by own initiative or to implement internationally agreed policies – governments have been altering for decades the incentive structure of participants in the ratings market. The purpose of this section is to provide an overview of these governmental actions, for analysis of its effects in the functioning of the reputation mechanism in Section D.

Indirect interference in the ratings market started in 1931, when the Office of the Comptroller of the Currency, in the U.S., distinguished between bonds rated at or above BBB (or equivalent) and lower-rated bonds, to establish that the latter would have to be written down by banks to market value and capital would have to be held against 50% of the resulting book losses. Harold (1938) reports that similar rules incorporating ratings were adopted in the following years in several states and, in 1935, national banks were prohibited by the Banking Act to purchase securities that did not fit the definition of “investment securities” given by the Comptroller of the Currency, a rule that was later extended to state member banks by the Federal Reserve Act.

In 1936, the Comptroller of the Currency issued a ruling prohibiting banks

from purchasing “distinctly or predominantly speculative” investment securities, or of a lower standard. A footnote to the rule clarified that the terms employed could be found in “recognized rating manuals” and, if the eligibility of a security was doubtful, at least two rating manuals should support it. According to Hickman (1958), “[t]he footnote was subsequently attacked as placing too much authority in the hands of the investment agencies, and was deleted under a revision effective July 1, 1938.” Unofficially, though, the practice persisted.

Decades later, in 1973, the U.S. Securities Commission issued a rule that essentially placed on rating agencies the same sort of authority that the revocation of the aforementioned footnote aimed at avoiding. SEC rule 15c3-1 allowed broker dealers to apply smaller “haircuts” (percentage deduction of market value for the calculation of the net capital requirement) to certain securities based on ratings assigned by “nationwide recognized statistical ratings organizations” (NRSROs). As Partnoy (1999) explains, the term “effectively froze the then-approved credit rating agencies (e.g., S&P, Moody’s, Duff & Phelps and Fitch) as acceptable for rating purposes and severely limited the possibilities for new entrants.” No process for the recognition of agencies as NRSRO was established at the time, and throughout the next three decades the SEC has recognized as NRSRO just a handful of agencies through no-action letters.

Following the SEC’s 1973 ruling, the practice of adopting regulation with reference to ratings, and especially NRSRO ratings, soon became widespread. Cantor and Packer (1994, p. 7) notice that “each new regulatory use seems to have

---

31 Hickman (1958), pp. 144--145.
32 Id., p.145.
33 Id.
34 At p. 691.
encouraged other regulators to expand their reliance on ratings”. The use of ratings has first greatly expanded within the U.S.\textsuperscript{35} and, afterward, with the increasing internationalization of financial markets, also in other countries. This international expansion was further fostered by the Basel II framework, which allows banks to use ratings of “External Credit Assessment Institutions” (ECAI) to determine risk weights in the standardized approach\textsuperscript{36}. The framework has been implemented in several jurisdictions to varying extents. In Europe, it was implemented by the Capital Requirements Directive\textsuperscript{37}.

In 2009, a survey was carried out by the Joint Forum comprised by the Basel Committee on Banking Supervision, the International Organization of Securities Commissions and the International Association of Insurance Supervisors. The resulting report, based on the answers provided by 26 agencies from 12 different countries, confirmed the diffuse use of ratings in worldwide regulation, but especially in the United States. It has also identified five key purposes for such use, which is dominant in the banking, securities and insurance sectors:

(a) determination of net or regulatory capital requirements, e.g. by the assignment of different risk weights or capital charges depending on ratings;

(b) identification of permissible investments or permissible asset

\textsuperscript{35} For an overview of the historic development of ratings-based regulation in the U.S., see Cantor and Packer (1994) and Partnoy (1999). Partnoy notes at p.691 et seq. that since 1973, there have been credit-rating dependent rules and regulations promulgated under the Securities Act of 1933, the Securities Exchange Act of 1934, the Investment Act of 1940, and various banking regulations. NRSROs even have been cited in a few federal district court opinions. The resulting web of ratings-based regulation is so thick that a thorough review would occupy hundreds, perhaps thousands, of pages.

\textsuperscript{36} The framework does not contain a definition of an ECAI, but sets forth the criteria to be observed by national authorities for the recognition of rating agencies as such. The same is done by the European Capital Requirements Directive of 2006. These standards are further complemented by the “Guidelines on the recognition of External Credit Assessment Institutions” of the Committee of European Banking Supervisors (CEBS).

concentrations by regulated institutions;

(c) assessment of the credit risk related to a securitization or covered bond offering, e.g. by establishing that only rated securitizations can be offered to investors (or to some specific types of investors) or by using ratings to determine the credit quality of securitization positions;

(d) determination of disclosure requirements and exemptions, e.g. by mandating the disclosure of ratings in certain offerings;

(e) determination of eligibility to use certain kinds of prospectus (e.g. “short-form” prospectuses) in the context of a securities offering.\(^{38}\)

In most cases in which regulation refers to ratings, it is to grant a privilege to highly-graded securities unavailable to lower-graded ones. For example, an investment grade issue allows banks to hold less capital against it, allows pension funds to invest or have a higher concentration of it, permits its issuer to make use of an expedited registration process etc. In other words, what most of these regulations have in common is that, depending on how high a certain rating is, it may result or not in a benefit being granted to certain market participants.

\(38\) Joint Forum (2009), pp. 3-9.
the paying model, if investors do not trust ratings, ratings are not purchased and there is no ratings market. This threat is indispensable for the reputation mechanism to work.

It has also been shown that the success of the mechanism depends on the perceived dominance of the “Honest Rating” strategy, which in turn is influenced, among other factors, on the expected loss of revenue that will result to the agency in case of detection.

Once the framework is set, it becomes clear one way through which ratings-based regulation negatively impacts the functioning of the reputation mechanism. Regulation has created a captive demand for ratings, i.e., a demand that is not based on free choice, but on the necessity of complying with regulation. If investors – as the end-consumers of ratings – are left free to choose, they will only rely on the ratings of agencies who enjoy a reputation for accurate ratings, a reputation that is build over time and might be lost at once (or reduced) if dishonesty or incompetence are revealed (or suspected). Regulation, however, deprives investors of their most effective – if not only – weapon to prevent dishonest ratings and encourage accuracy: the ability to retaliate, by not trusting ratings anymore. Regardless of how they perceive ratings to be, ratings must be purchased (by issuers, under the current paying model) because regulated investors can only comply with regulation by taking into account the ratings of the securities they invest in.

One could argue that regulated investors could still retaliate any particular defecting agency by shifting its demands to the ratings of a cooperative one. However, such line of reasoning ignores another way by which regulators held demand as hostage of incumbent agencies: by placing for decades severe barriers to entry in the market for ratings, through the NRSRO denomination. The creation of this special
category of rating agencies, coupled with ratings-based regulation, ensured three results: (i) high concentration in the market for ratings, (ii) no competition to rating agencies from other information intermediaries such as financial analysts, advisers and publishers\textsuperscript{39}, and (iii) lower innovation in the business of reducing information asymmetry\textsuperscript{40}. Therefore, the few incumbent agencies do not face much competition within the ratings industry or from (existing or potential) producers of substitutes to ratings. As a consequence, investors’ ability to retaliate by choosing another incumbent (or even, in the case of non-regulated investors, other information intermediaries) is severely limited.

On the other hand, inaccurate ratings in a ratings-based regulatory scenario create arbitrage opportunities – explained later in this Section – that regulated investors are more likely to explore than to punish (even if they could).

Evidently, the rationale of a captive demand is not applicable to the entire demand for ratings. Some investors are not subject to ratings-based regulation and, therefore, the reputation mechanism could still work (partially) through the threat of their retaliation. However, in addition to the argument above regarding the possible lack of substitutes induced by regulation, a couple of other reasons make it hard to believe that this actually occurs.

\textsuperscript{39} Contrarily, Rhodes (1996, p. 21) writes that “specialized rating agencies, financial and securities analysts, and financial newspapers compete [with the rating agencies] to provide investors with information”. However, this is not true at least to regulated investors, who cannot substitute NRSRO ratings for the information provided by other information intermediaries to comply with regulation. Besides, the regulatory use of NRSRO ratings provides these products with a “public quality certification” that is not granted to potential substitutes, thereby reducing their ability to effectively compete with ratings.

\textsuperscript{40} The same reasons that insulate NRSRO from competition from other rating agencies and information intermediaries also discourage innovation in the business of reducing information asymmetries: the fact that part of the potential demand, comprised of regulated investors, is largely limited to the use of NRSRO ratings and the quality certification effect of the use of such ratings in regulation. As a result, it is likely that innovation in this scenario is lower than in a scenario without NRSRO and ratings-based regulation, where new products from different firms would actually be able to compete with ratings.
First, under the current issuers-pay model, demand for ratings would only decrease as a result of the lack of trust of non-regulated investors if regulated-investors represented only a fraction of the market that is too small to justify the cost an issuer would incur to obtain a rating. This not being the case, issuers will still have an incentive to purchase ratings, in order to have access to the larger pool of investors, including regulated ones. In some cases, issuers are actually required by regulation to purchase ratings as a precondition to access capital markets, as it occurs with some securitization products, so a reduced reliance from non-regulated investors would likely not impact significantly the demand for ratings.

Second, a tendency to herding behavior and informational cascade\(^{41}\) may cause even sophisticated investors (or, in case of institutional investors, their employees) to look at what large regulated institutions are doing when making their investment decisions and, more specifically, when deciding whether to rely on ratings. Following others’ signals may be a rational strategy since acquiring information is costly\(^{42}\). Thus, once observing that ratings are adopted by regulators and other sophisticated investors, investors may find relatively safe to rely on them and save the associated costs of obtaining own information as to ratings’ accuracy. Moreover, absent clear red flags, herding with the majority or a qualified minority has the advantage of providing a plausible justification for one’s action if its results are subsequently proven disadvantageous. If this tendency may exist even for sophisticated investors, it is obviously much greater with regard to less sophisticated

\(^{41}\) Informational cascade occurs “when it is optimal for an individual, having observed the actions of others ahead of him, to follow the behaviour of the preceding individual without regard to his own information”. BIKHCHANDANI, Sushil; HIRSHLEIFER, David and WELCH, Ivo. “A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades”, The Journal of Political Economy, v. 100, issue 5 (October 1992), pp. 992-1026.

\(^{42}\) A recent World Bank’s Policy Research Paper reported empirical evidence that even pensions funds tend to herd, contrary to what would be expected from large sophisticated investors with resources to gather private information (Raddatz and Schmuckler, 2011).
ones (who, in any case, tend to be more reliant on ratings\(^{43}\)).

These reasons imply that, even in the presence of non-regulated investors, demand for ratings will not be substantially reduced (if at all) even if ratings are de facto inaccurate, as long as regulation continues to reference them and sustain barriers to entry in the ratings market. This, in turn, impacts the payoff of issuing a dishonest rating (described in Section B) by decreasing the expected revenue loss in case dishonesty is detected. The greater the amount agencies are likely to receive with probability \(p\) (i.e., once intentional inaccuracy is revealed), the greater the payoff of the strategy “Dishonest Rating”. If demand is expected to substantially remain the same and no or low damages and penalties are expected to be paid (which has been the case in the past, as described in Section B), “Dishonest Rating” becomes a dominant strategy even if the gains from dishonesty are not so large.

While it is true that the threat of a regulatory change – and consequent return of agencies to the market test – could potentially discipline them to issue honest ratings, this potential is reduced the more embedded in regulation ratings are. Whether the change requires only the action of a regulator such as the securities commission or the central bank or the action of both houses of the Congress, regulatory change of any sort is time- and cost-consuming, and may face several obstacles, including political opposition (sometimes influenced by strong lobbying). The lack of a perfect substitute – coupled with the perceived need for one – makes the process even harder and lengthier. Meanwhile, ratings agencies can search for alternatives that allow them to survive regulatory change or even make the argument for change weaker, such as

\(^{43}\) However, as explained by White (2010, p. 4), “bond markets are overwhelmingly an institutional market, where the buy and sell decisions are made by bond managers at financial institutions and not by retail investors”.
promoting changes to their processes aiming at regaining public confidence\textsuperscript{44}. Even if regulatory change is at last achieved, considering that the use of ratings – promoted by regulation – is already widespread and to a great extent part of the investment culture, rating agencies have great chances of being given “a second chance” and continue in business (though this time – if regulation is indeed changed in its totality – under a proper functioning reputation mechanism).

Another kind of regulatory change threat is the possibility of regulation and oversight of agencies. However, the perspective of such change has an ambiguous effect. On the one hand, if regulation was passed, it would increase agencies’ cost and, thus, reduce expected future profits. For this reason, agencies would have an incentive to avoid it. On the other hand, an expected reduction in future profits increases the relative value of present gains, which may then increase the payoff of dishonesty. Moreover, regulation after a reputation loss may help agencies to overcome the credibility problem resulting from such loss. For example, the agencies themselves may, to regain public confidence, announce changes in policies regarding conflict of interests and increase disclosure. But having these measures mandated by the State has the advantage of a public certification. Investors are then encouraged to continue to rely, because now the Government is taking care to avoid that the old problems repeat themselves.

For all these reasons, the threat of regulatory change was possibly never an important force to discipline rating agencies.

The arguments contained here are somewhat complementary to those long defended by Partnoy (1999), who developed what he termed “the regulatory license view” of credit ratings. While I argue, in section B, the reasons that could lead the

\textsuperscript{44} For an example of such move in the past, see supra footnote 22.
reputation mechanism not to work in the ratings industry and, in this section, why ratings-based regulation has significantly worsened the problem, Partnoy approached the issue from a different angle, by searching for a justification for what he later called “the paradox of credit ratings”\textsuperscript{45}: the fact that rating agencies have survived and increased in power, even though there was a decrease in the informational value of ratings. In his own words:

The regulatory license view is quite simple. Absent regulation incorporating ratings, the regulatory license view agrees with the reputational capital view: rating agencies sell information and survive based on their ability to accumulate and retain reputational capital. However, once regulation is passed that incorporates ratings, ratings agencies begin to sell not only information but also the valuable property rights associated with compliance with that regulation\textsuperscript{46}.

And, in conclusion:

(…) credit rating agencies have thrived, profited and become exceedingly powerful because they have begun to selling regulatory licenses, i.e., the right to be in compliance with regulation\textsuperscript{47}.

In addition to making the reputation mechanism dysfunctional and, thus, reducing the incentive for accurate ratings, the regulatory use of ratings promote distortions that actually encourage inaccurate ratings.

If regulated investors must consider ratings as a measure of risk when making investment decisions, they may simply rely on ratings (which in many cases is enough to comply with regulation) or still carry independent analysis, including by comparing them to other measures of risk. In the former case, ratings are not tested for accuracy. In the latter, ratings are tested and may be deemed accurate or not. Once realizing that a certain rating is probably inaccurate, rational investors will still invest

\textsuperscript{45} Partnoy (2001).
\textsuperscript{46} Partnoy (1999), p. 682.
\textsuperscript{47} Id., p. 711.
in the security only if they are properly compensated for the additional risk. Although this may make sense under an economic perspective, such behavior might actually result in regulated investors assuming more risk than is allowed by regulation, without the appropriate precautions. In other words, in this case, as well as in the case in which an inaccurate rating is simply relied on, there would still be formal compliance with regulation, but not substantive compliance.

This regulatory gap may be intentionally exploited by investors with a risk appetite greater than the one allowed by regulation. This appetite for risk might result from the interests of regulated investors' personnel or management, depending on agreed compensation schemes. Either at the institutional or individual level, it is economically rational to explore this gap when properly compensated with sufficiently higher returns, while at the same time being shielded from liability or any penalties because regulation is formally complied with. For the individuals involved in making this kind of decision, the temptation is even stronger if there is a high probability that the dangers resulting from the higher risk assumed will only materialize in the future (perhaps when they are no longer employed with the entity).

With this arbitrage opportunity created by ratings-based regulation and the difference between ratings and actual level of risk, demand for inaccurate ratings may increase. Put it differently, not only regulated investors do not exert market discipline on credit rating agencies, but they may actually prefer inaccurate ratings, without which the additional gains from riskier investments may not be realized. 

48 Regarding the role of rating agencies in the 2007-2009 financial crisis, Calomiris (2010, p. 27) wrote:

I doubt that rating agencies were deceiving sophisticated institutional investors about the risks of the products they were rating; rather they were transparently understating risk and inflating the grading scale of their debt ratings for securitized products so that institutional investors (who are constrained by various regulations to invest in debts rated highly by NRSROs) would be able to invest as they liked without being bound by the constraints of regulation or the best interests of their clients. (...) Ratings grade inflation was demand-driven.
Issuers obviously benefit from the rating inflation. First, because high ratings provide access to a wider demand of investors, including regulated investors interested in regulatory arbitrage\textsuperscript{49}. Second, as long as yields are high enough to induce investors to purchase the securities even though ratings are deemed inaccurate, but lower than the yield that would have to be paid in case ratings were accurate, issuers benefit from a reduction in their cost of capital.

If rating agencies also reap additional benefits from issuing inaccurate ratings – either from increased rating fees, or from consultancy services revenue, or yet from the continuation of services that would not be possible in the absence of high ratings, e.g. structured finance products –, then all involved win. More than that, absent outright provable fraud, it is a \textit{win-win} situation to all involved\textsuperscript{50}. Investors (i.e., their managers) are protected from liability because they trusted ratings and complied with regulation. Issuers were doing nothing more than they were supposed to do: trying to reduce their cost of borrowing, to the benefit of their shareholders. Rating agencies can escape liability because they only issue “opinions”, which are constitutionally protected and, even if not, are close to impossible to be proven wrong for any given issue\textsuperscript{51}.

It is important to notice that no express collusion among market participants is required for this outcome to occur. Although an agreement could be reached by strategic interaction, a tacit agreement is not even necessary: the desired outcome is

\textsuperscript{49} According to Fleischer, “Regulatory arbitrage exploits the gap between the economic substance of a transaction and its legal or regulatory treatment, taking advantage of the legal system’s intrinsically limited ability to attach formal labels that track the economics of transactions with sufficient precision” (Fleischer, 2010, p. 3).

\textsuperscript{50} Except, probably, the ones “at the bottom”: small investors with long term horizons whose economies are invested in some of the regulated entities (mainly households) and taxpayers, who end up paying the bill for losses incurred by financial institutions as result of more than optimal risk-taking, as the last financial crisis demonstrated.

\textsuperscript{51} See arguments on Section B.
reached when market participants simply pursue their own interests in exploring the opportunities opened by ratings-based regulation. And in the absence of an express agreement, fraud becomes even harder to prove.

In sum, the use of ratings in regulation significantly alters the incentive structure of market participants in the ratings-market and favors rating inaccuracy. On the one hand, it causes the reputation mechanism to fail, by barring *ex ante* the ability of regulated investors to retaliate, by indirectly discouraging discipline by other investors and, thus, by increasing the payoff of inaccuracy through the guarantee of a demand for ratings. On the other hand, it fosters changes in the interests of some of the end-users of ratings, which in turn encourages rating inflation. As properly put by Calomiris (2008):

> The regulatory use of ratings changed the constituency demanding a rating from free-market investors interested in a conservative opinion to regulated investors looking for an inflated one.

### E. Possible Remedies for the Distortions created by Ratings-dependent Regulation and their Limitations

Saying that the reputation mechanism does not work properly under the current ratings-dependent regulatory framework does not mean that ratings will necessarily be inaccurate. It only means that reputation may not be a real constraint for intentional inaccuracy, contrary to the common belief.

Evidently, the trade-off discussed in Section B will still influence agencies’ decision-making. Even if demand is captive or partly driven by the opportunity of regulatory arbitrage, agencies are likely not to commit flagrant inaccuracies, because this would increase probability of detection and punishment (besides the probability of regulatory change), which, in turn, would decrease the payoff of inaccurate ratings.
Nevertheless, within the room of the subjective (qualitative) analysis, there is margin for plausible and unpunishable discrepancies between an honest and a given rating. This margin increases, the more complex and *sui generis* the product rated is. And, the greater the gains from inaccuracy, the greater the incentives to use it.

In such a scenario, the dangers posed by situations with inherent conflicts of interests are intensified. The issuers-pay model, *per se*, is not a problem if investors demand accurate ratings and are able to detect and retaliate inaccuracy, or if agencies could otherwise be punished. Likewise, agencies are the ones interested in abstaining from rendering advisory services or implementing and disclosing effective Chinese walls between their rating, consulting and sales departments if not doing so would raise investors’ suspicious and cause them to search for substitutes for ratings. It is only in a scenario where agencies are unconstrained by reputational concerns that these conflicts become a source of problems for the accuracy of ratings.

Rating inaccuracy has been long debated by academics, politicians and regulators. A number of remedies have been suggested and among the favorite ones are: (i) regulation of and oversight over agencies; (ii) measures to increase competition in the sector; and (iii) measures to increase the potential for liability of agencies. Reducing regulatory reliance on ratings has also been discussed, though this policy route is frequently justified on grounds other than inaccuracy, such as the need to prevent cliff effects and systemic risk.\(^{52}\)

Regulation and direct oversight, has been the main policy route chosen by jurisdictions around the world in the recent years (lead by example by the EU and the U.S.), especially following the last financial crisis. However, also the other measures have been or are being, to varying extents, implemented.

\(^{52}\) E.g.: Financial Stability Board (2010).
In the U.S., since 2006 the SEC has been empowered by the Credit Rating 
Agency Reform Act (CRARA) to regulate (albeit limitedly) rating agencies. The 
Dodd-Frank Act has expanded such powers and ensured that the SEC may punish 
non-compliant agencies and their employees. Moreover, the Act mandated the 
production of several new rules by the SEC, which, together with the Act’s 
immediately effective rules, aim at improving ratings accuracy either indirectly (by 
imposing adequate management of conflicts of interest by agencies and promoting 
transparency of ratings processes and fundamentals in order to allow investors’ 
evaluation of their quality) or directly (e.g., by imposing a look-back requirement and 
professional standards for analysts, in addition to requiring consistency in the 
application of letter symbols across all types of securities and consideration of 
information from sources, other than the issuer, found credible by the agency). The 
Act also attempts to improve accountability, not only by lifting the exemption 
contained in Rule 436(g) (a measure currently suspended in practice, as mentioned in 
Section B), but also by reinforcing the role of and imposing independence 
requirements to the compliance officer, by imposing independence requirements and 
specific responsibilities to the board of directors and by requiring CEO certification in 
the agency’s annual internal controls report to the SEC. The SEC has, on May 18th, 
2011, submitted proposed rules to market participants’ comments53.

While the scope and the pervasiveness of these rules are quite impressive, 
only one conclusion can be drawn with certainty from their analysis: they are very 
costly. To the undoubtedly high costs of such comprehensive and detailed rule-making 
(at the statutory and regulatory levels) are added obviously large (and difficult to 
measure) costs of government oversight and ratings agencies’ compliance. Yet, their

potential to ensure ratings accuracy might be overestimated.

The rules briefly described above adopt two kinds of approach: on one side, they try to curb opportunities in which an agency could be tempted to favor its own conflicted interests by issuing a dishonest rating (e.g., by the separation of sales and marketing activities); on the other side, (applying the framework laid down in Section B) they attempt to decrease the payoffs associated with issuing a dishonest rating, thus discouraging this behavior. They do the latter in two main ways:

First, by improving transparency through diverse disclosure obligations, there is an increase in the probability that inaccuracy and dishonesty are detected (i.e., an increase in $p$), either by investors or by the SEC.

Second, by granting the SEC the power to punish rating agencies and lifting the liability exemption of Rule 436(g), the U.S. Congress attempted to ensure that $D$, which refers to damages or penalties incurred by the agency once dishonesty is revealed, has a positive value. It can be argued that also the corporate governance provisions increase $D$, to the extent that they increase accountability.

Other things being equal, these measures are likely to work in practice just in the most flagrant cases. Increasing the probability of detection is effective to the extent that investors and/or supervisors are able to punish opportunistic behavior. However, as discussed in Section D, investors’ ability is greatly constrained by ratings-dependent regulation and its consequences, such as the concentration of the ratings market and the apparent lack of close substitutes\textsuperscript{54}. On the other hand, the

\textsuperscript{54} “Apparent” is used here to emphasize that the perception that there are no substitutes to ratings may not be real. In current times, access to information is considerably cheaper and easier than when rating agencies first appeared, due both to mandatory disclosure requirements and to the easiness of the dissemination of information through the internet, with the emergence of websites such as, for example, “Yahoo finance”, that provides investment information for free. However, investors may be lead to a perception that rating agencies are superior providers of information, among other reasons because of their use in regulation and, consequently, by large institutional regulated investors.
punishment carried out by the SEC is restricted to procedural failures, i.e., when the agency does not observe any of the procedures or limitations imposed by regulation or when it fails to comply with its own policies or methodologies, as defined for registration purposes. As to the substance of ratings, the SEC’s ability to review and punish was constrained by the Act and, even if it was allowed, the subjective content and probabilistic nature of ratings would greatly undermine this power. Independent of the nature of the wrongdoing to be punished, punishment by the supervisor or by a court in cases of fraud is less effective than the one applied by investors through the market for at least one reason: it requires proof of misbehavior.

Put differently: one fact that has been underlined throughout this paper is the subjective, judgmental content of ratings and the difficulty to prove any one rating wrong, due to the fact that ratings are based on probabilities of default (or expected losses). Add to this the fact that some of the data an agency bases its analysis on is confidential and, therefore, cannot be disclosed. These characteristics make ratings practically judgment-proof. As long as there is no clear evidence of intention or gross negligence (e.g., as in the case in which an agency expressly relies on an assumption that it knew or should have known was incorrect), every rating may be justifiable within the domains of the inexact qualitative analysis, or based on its probabilistic nature or, yet, on the basis of confidential information an agency may have had access to. The bottom line is that the quality and accuracy of ratings (or lack thereof) are not fully observable and much less provable. This makes any punishment that requires a minimum level of evidence – either through a judicial lawsuit or an administrative

55 As Moody’s says in its website: “Confidential information will not be publicly disclosed, but, if relevant, will be used in the formulation of the public rating opinion”. In other words, a rating may contain or not confidential information and no one knows it, except for the rating agency and the issuer. This leaves an enormous room to justify any difference between a given rating and the market evaluation of the risk involved, or the actual outcome of the investment.
Punishment by the market, when possible, is much more sensitive. If not constrained by the effects of ratings-based regulation, ratings consumers may simply turn their back to rating agencies when facing even a small suspicion of inflation. This very high standard – where an appearance of dishonesty is enough, no proof being required – is what can set the right incentives to rating agencies to pursue maximum accuracy and disclose information necessary to convince users that no conflicts of interests exist. In such a scenario, agencies know that they must not just be honest; as Caesar’s wife, they must be above any suspicion.

This is not to say that increasing the potential for rating agencies’ liability – as occurs with other gatekeepers – is dispensable. On the contrary, responsibility for one’s acts is one of the postulates of the freedom to do what one wants. Any immunity from this responsibility is undesirable. If currently artificial barriers to litigation are removed, investors are encouraged to sue when dishonesty is suspected and the expected benefit of litigation exceeds expected costs to plaintiffs. Since litigation is costly regardless of who wins, the mere expectation of more frequent litigation increases the value of $D$ and provides rating agencies with increased incentives to pursue accuracy and avoid suspicions of dishonesty. However, civil liability (correctly) requires proof – e.g., of a misstatement, of negligence etc. Investors will usually only sue if they have or expect to obtain enough evidence to substantiate their

56 The Dodd-Frank Act confers to the SEC the power to, after notice and opportunity for hearing, suspend or revoke the registration for a particular class or subclass of securities of a NRSRO that “does not have adequate financial and managerial resources to consistently produce credit ratings with integrity”, taking into account “whether the nationally recognized statistical rating organization has failed over a sustained period of time, as determined by the Commission, to produce ratings that are accurate for that class or subclass of securities” (Section 932). Failure over a certain period of time is an objective criterion that could be used to punish more effectively and provide the right incentives for agencies to seek accuracy. However, the reference to “integrity” (i.e., honesty) undermines the objectivity in the application of the rule and the requirement of a lack of “financial and managerial resources” undoubtedly favors large agencies.
claims. In this sense, as explained above, civil liability may also not be as effective as market-based retaliation to punish more subtle misbehavior in which procedures were not disobeyed nor falsities stated.

In Europe, since 2009 regulation is even more invasive, pervasive and probably expensive from both public and private perspectives than in the U.S. (even considering the changes implemented by the Dodd-Frank Act). Regulation (EC) No. 1060/2009, amended partly by Regulation (EU) No. 513/2011, has to a large extent detailed how rating agencies must conduct their business in order for their ratings to qualify for regulatory uses (i.e., compliance with the community law). It prohibited agencies from rendering consulting or advisory services to rated entities or related parties (especially regarding structured finance products) and from issuing ratings in certain circumstances (e.g., when there is a lack of “reliable” data or the complexity of the financial instruments undermines the agency’s ability to issue credible ratings; when the agency has a financial interest in the rated entity etc). It also mandated extensive disclosure regarding methodologies, models, assumptions, compensation arrangements, largest clients, ancillary services, ownership structure, policy on conflicts of interests and other matters (such as publication of ratings and record-keeping), staff and their expertise, outsourcing arrangements etc. Moreover, in addition to corporate governance rules (including, e.g., an administrative or supervisory board with a minimum number of independent directors, as well as a compliance officer), a number of specific operational rules were mandated, such as, e.g., the establishment of a “review function” to periodically review models, methodologies, assumptions etc and the obligation to keep (for at least 5 years) detailed records regarding a rating (who were the analysts involved, if it was solicited or not, amount of fees paid, procedures and methodologies used, analysis reports and
Although the EU regulation establishes that supervisors shall not interfere with the contents of ratings or methodologies, it also imposes a number of substantial requirements, such as that the methodologies must be subject to validation based on past experience and must consider the impact of macroeconomic or financial market conditions on ratings, besides being “rigorous”, “systematic” and “continuous”. All the obligations established in the regulation, even when inexact, are subject to the application of penalties, including fines, by the European Securities and Markets Authority – ESMA.

The same arguments regarding the limits of supervisory oversight, as opposed to investors’ discipline, apply here. However, it seems that one effect of the EU regulation (especially by the requirement that methodologies are subject to validation based on past experience) may be to limit the scope of the qualitative analysis and to make ratings more “objective” in nature. To the extent that this occurs, ratings will be more effectively subject to review and this may discourage the intentional issuance of inaccurate ratings. Nonetheless, it is doubtful if a return to objective ratings is indeed desirable. As mentioned in Section A, the early transition to providing qualitative analysis was demand-driven. Incentives to provide accurate ratings do not necessarily have to come at the expense of this valuable (when honest) qualitative analysis. It is more efficient, and less costly, to implement measures designed to gradually restore the functionality of the reputation mechanism, which can effectively encourage accuracy.

In addition to being costly, the aforementioned regulations have established detailed procedures (e.g. for corporate governance or management of conflicts of interests) that agencies either already adopted or could adopt in order to effectively
compete on the basis of reputation. The problem is that, by hard-wiring such procedures in legal diplomas, innovation and differentiation are again discouraged. The process of gradual discovery of better (but not yet known) methods, which is promoted by competition and the need to respond to consumers’ demands, is then hindered\textsuperscript{57}.

Another effect of regulation of credit rating agencies is that it renews public confidence on ratings (perhaps deliberately) and reinforces the role of agencies as primary sources of credit risk information, in spite of the fact that there has been evidence of persistent rating inaccuracy. Regulation and oversight serve as a renovated public certification of the quality of ratings. Reliance on ratings is fostered by the perception that any problems that occurred in the past were now solved by the government’s comprehensive intervention. This, in turn, favors incumbent agencies and discourages the entry of new rating producers, who could take the opportunity of an incumbent’s failure to enter the market by differentiating themselves, besides discouraging innovation through the development of substitutes to ratings.

Somewhat contradictorily, a further policy route that has been pursued is exactly the increase of competition in the ratings market\textsuperscript{58}. Increasing competition, other things being equal, at first seems to cause an ambiguous effect: on the one hand, it decreases expected future revenues, therefore increasing the relative value of any present gains from inaccuracy and also increasing competitive pressures to please

\textsuperscript{57} The idea of competition as a discovery process comes from Hayek (1968), to whom competition “is a procedure for discovering facts which, if the procedure did not exist, would remain unknown or at least would not be used” (Hayek, 1968, p. 9).

\textsuperscript{58} In the U.S., recent (small) improvements came as result of the aforementioned CRARA of 2006, which introduced a formal registration procedure and criteria to become a NRSRO. As a result, there are currently ten NRSROs (http://www.sec.gov/answers/nrsro.htm, accessed on August 11, 2011). In Europe, a list published by the recently created ESMA in August 4, 2011 (http://www.esma.europa.eu/popup2.php?id=7692) indicates eight registered and certified agencies and does not include the Big Three, whose applications are still pending.
issuers (under an issuers-pay model) to maintain market share. On the other hand, it increases the number of agencies investors can turn to in case any one of them is perceived as inaccurate, thereby allowing one way of retaliation to inaccuracy to take place. Empirical studies indicate that the former effect has prevailed in the past\(^59\). However, it is possible that ratings-based regulation coupled with the very limited number of NRSRO played a role in it: incumbent agencies could afford risking reputation losses to preserve or gain market share because investors could not simply turn out to other agencies (for lack of options) or stop using ratings (for reason of regulatory compliance). Besides, as discussed, ratings-dependent regulation create arbitrage opportunities that market participants are more likely to explore than to punish.

For the benefits of increased competition to be realized, the removal of barriers to entry in the ratings market must be accompanied by an equally important measure: the restoration of investors’ ability and incentives to punish inaccurate ratings “with their feet”\(^60\). This can only be achieved through the elimination of ratings’ captive demand and the privileges conferred to highly-graded instruments. Additionally, it must be stressed that competition must not necessarily come from new rating agencies, but also from providers of different products in the informational business. Even without ratings-based regulation, public certification of the quality of ratings – through regulation and oversight – decreases the chances that these other providers may actually compete with agencies.

As mentioned, investors’ oversight, once proper incentives are in place and

---

59 E.g., Becker and Milbourn (2010).
60 An analogy is made to citizens’ or investors’ ability to “vote with their feet” to stress the possibility of a \textit{de facto} punishment of non-cooperative agencies by “exiting” the market for ratings or, at least, the demand of particular agencies.
possible constraints are removed, is superior to regulators’ oversight because it is more sensitive to inaccuracies and dispenses proof of wrongdoing. Moreover, it is decentralized and counts with the input of all market participants, not just a group of regulators. Even comprehensive regulations will always contain loopholes that smart market participants sooner or later will discover and begin to explore. It is, thus, more effective and much less costly to restore the strength of the reputation mechanism than to try to achieve equivalent results by means of regulation.

In sum, the ideal would be to “undo” what governmental intervention in the market for ratings, as described in Section C, did for the last decades (i.e., it guaranteed/fostered demand for ratings, raised barriers to entry and distorted market participants’ incentives) and subject rating agencies again to the market test. May they survive if they prove to be fit; otherwise, let new producers and new products emerge to provide alternative solutions to the information asymmetry problem in capital markets. Of course, though, this cannot be done at once, considering path dependence, the pervasiveness of such governmental interventions and their effects. In this sense, legislators and regulators might have done the only thing they could do at this point in time.

Fortunately, steps in the right direction have started to be taken. In 2010, the Financial Stability Board has issued a report setting out broad principles for reducing reliance on ratings, including the objective of removing, when possible, references to ratings, in standards, laws and regulations. Shortly after, the European Commission launched a public consultation to, among other things, debate the need and means to reduce overreliance on external credit ratings, although no change has been made to date. The Dodd-Frank Act, on the other hand, has effectively eliminated statutory references to ratings and mandated U.S. regulators to do the same in their own rules.
U.S. supervisors are now seeking to implement such changes\textsuperscript{61}.

Often, though, justifications for reducing regulatory reliance lie at the risk of systemic instability due to herding behavior and cliff effects or at the necessity of preventing the mismanagement of risk by regulated institutions when rating inaccuracy occurs. This work attempts to reinforce the urges for reducing regulatory reliance based on a simple, but decisive argument: the usefulness of ratings for regulatory purposes requires accuracy, but the use of ratings in regulation causes the reputation mechanism to fail and there are no superior alternatives to substitute this mechanism in encouraging accuracy.

Once ratings-dependent regulation is changed and barriers to entry removed, de-regulation of the ratings industry should take place, in order to eliminate the public certification character of regulation and oversight, discourage investors’ reliance and allow real competition from producers of new informational products as substitutes to ratings.

\textbf{F. Eliminating Regulatory Reliance on Ratings}

As discussed in Section C, the use of ratings in regulations attends to a variety of purposes, from capital requirements to access to less onerous registration forms. Pointing out alternatives for the elimination of references to ratings in statutes, regulations and other legal documents would require the analysis of each of them, including, among other factors, the goals that each specific use of ratings aims at achieving\textsuperscript{62} and the incentive structure of the market participants involved. This in

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{61} See, for instance, SEC’s new rules for issuers’ access to short-term registration, issued on July 26, 2011 (footnote 62).
\item \textsuperscript{62} For example: the SEC, as mandated by the Dodd-Frank Act, has on July 26, 2011, adopted new rules to eliminate “investment-grade” ratings as one of the requirements for an issuer’s eligibility to use “short-form” registration statements (form S-3 or F-3). In proposing the replacement of ratings
\end{itemize}
\end{footnotesize}
itself could be the subject of a whole paper (or more), and doing so would go beyond
the purpose of this particular work.

However, this paper would be incomplete if it withdrew from inferring a few
lessons that legislators and regulators should keep in mind when designing
alternatives for ratings-based regulation.

First, it was demonstrated that the first governmental “interventions” in the
market for ratings were, in fact, not at all directed at this market. Yet, they provoked
distortions that, now, governments all around the world are trying to cope with by
introducing more and costly regulation. The history of the ratings market seem to
provide a perfect illustration of the Ölfpktheorie (literally, “oil spill theory”), an
expression used by the German financial press to describe a problem that Mises had
already referred to in 192963: the fact that each governmental intervention provokes
unintended consequences that governments tend to deal through more and more
interventionism, resulting in a highly regulated economy.

Rating agencies have emerged as a market solution for the problem of
information asymmetry in capital markets. If not for regulations that ensured a captive
demand for rating agencies and simultaneously restricted entry in the ratings market
and discouraged the development of substitutes, it is difficult to imagine that they
would have achieved the prominence they currently enjoy. A prominence that is prone
to be used by agencies to foster their own interests, as demonstrated by the recent

by a criteria based on the dollar volume of recent non-convertible securities issuances, SEC
Commissioner Luis Aguilar has explained that “this appears to be an appropriate substitute, because
it would replace one proxy of wide market following, an investment grade rating, with another, a
significant amount of already outstanding debt” (SEC Open Meeting held on February 9, 2011.
Speech by SEC Commissioner Luis A. Aguilar: “The Search For an Appropriate Substitute to

63 MISES, Ludwig von. A critique of interventionism (originally published in 1929 as Kritique des
critique.pdf.
episode in which the largest rating agencies effectively froze the ABS market by refusing to allow their ratings to be used due to the liability threat opened by the Dodd-Frank Act (the SEC, hostage of the situation, then waived the ratings requirement for a indefinite period, resulting that, in practice, agencies are still shielded from this kind of liability\textsuperscript{64,65}.

The fact that regulation may have such unintended consequences must be considered when assessing the need for regulation. Moreover, the costs with the regulation of the ratings market must be considered as indirect costs of the regulation of institutions such as banks, pension funds, insurance companies etc, as long as the latter reference ratings and create the necessity for the former. Such costs may only be reduced through de-regulation of the ratings market, which in turn requires that especial sector regulators reduce their own reliance on ratings and, by doing so, encourage the use of ratings by market participants only when this use is efficient, i.e., when ratings pass the market test for reliability and accuracy.

A second lesson refers to the way regulation – if deemed necessary – must be structured to be effective and the dangers of establishing regulatory safe harbors to liability. Once safe harbors are established, the goal of regulated market participants may turn from complying with the substance of regulation (in order to avoid liability) to exploring the opportunities opened by each safe harbor (thus engaging in regulatory arbitrage). If regulation is deemed necessary, it is most effective when it closes regulatory arbitrage opportunities and holds decision-makers – individuals and the institutions they act on behalf of – responsible for their own decisions.

\textsuperscript{64} See footnotes 25-26.  
\textsuperscript{65} Another example (this time of abuse, instead of simple use, of agencies’ power) might be found in the accusations against Moody’s that it has used the threat of unsolicited lower ratings – and its consequences for issuers’ cost of capital – as means to oblige issuers to pay fees (Klein, 2004).
The use of ratings in regulation allows the best of the worlds for market participants interested in exploring regulatory gaps. It allows all of them to escape liability even when there is clear non-compliance with the substance of the law, as long as its letter, as defined by credit rating agencies, was complied with. At last, the blame can be put on the rating agencies, which can hardly be held accountable due to the difficulty of proving any of their “opinions” wrong and, therefore, have incentives to participate in the gains of regulatory arbitrage, instead of intercepting it. The recent financial crisis provided an example of the lack of accountability promoted by ratings-based regulation.

To be clear, what is proposed here is not that regulated institutions and investors do not make use of ratings in making their investment decisions. It is that they do it at their own risk, without being able to transfer potential liability to third parties. This would make sure that investors demand accurate ratings, punish inaccuracy and be attentive to red flags such as conflicts of interests and how agencies deal (or not) with them. In sum, that investors adopt an efficient level of care and avoid overreliance or regulatory arbitrage. Centralized government oversight could then be substituted by decentralized market discipline over rating agencies, which is only possible if investors have restored their ability of stop demanding ratings.

A third aspect to be considered by regulators is that regulation must not discourage innovation, competition from new producers within or outside the ratings business, and the possibility of agencies to differentiate themselves, gaining market share based on its ability to better attend investors’ (not issuers’) preferences.

Some commentators recommend the use of credit spreads, credit-default swaps or other market-based measures of risk\textsuperscript{66} in substitution to ratings. But before

\textsuperscript{66} E.g., Partnoy (1999, 2001) has long identified the problem caused by ratings-based regulation and defended the substitution of ratings for credit spreads. In later works, he extended his
looking for a mere substitute for ratings, it is important to first assess if the underlying regulation is indeed indispensable (taking into account its direct and indirect costs) and, only if the answer is affirmative, if there are alternative ways of achieving the pursued goals that do not involve the use of any specific measure of credit risk. For instance, when removing the ratings requirement from its regulation regarding access to short-form registration, the SEC, considering the original purpose of such requirement, substituted it for another proxy of wide market coverage, instead of for another measure of risk\textsuperscript{67}.

If measures of credit risk are deemed indispensable, an advantage of the use of market-based ones is that they are much more difficult to manipulate, therefore making it less likely that any market participant will be able to opportunistically explore the benefits of granting regulatory licenses. In this particular sense, they are an alternative superior to ratings. However, it cannot be deducted simply from this fact that they are superior to ratings as to accuracy or that regulatory arbitrage will be prevented. Among the main shortcomings of market-based measures is their susceptibility to factors non-related to credit quality, resulting that they can inaccurately measure credit quality\textsuperscript{68}. Moreover, if regulators choose any specific measure, at least four negative effects seem possible to occur: (i) overreliance on such measure; (ii) regulatory arbitrage when such measure is not accurate, resulting in substantive non-compliance with the law, while its letters are still complied with; (iii) lower incentive for the development of other, more accurate, measures of risk, since potential demand for new products is limited by regulation; (iv) when innovation eventually occurs, regulatory lag in risk assessment; (v) development of an artificially

\textsuperscript{67} See footnote 62.

\textsuperscript{68}High volatility and, especially, limited coverage are other major criticisms.
inflated demand for suppliers providing this kind of data\textsuperscript{69}, insulated from competition from substitutes.

Regulation should avoid hard-wiring the use of any particular measure of risk, being flexible enough to allow regulators, investors and issuers to make use of future new products.

Instead of mandating rating agencies to disclose their methodologies, assumptions etc and then punish them if such methodologies are not complied with, regulators could impose directly to regulated investors this sort of duty and eliminate the need for costly regulation of the middle-man. In other words, oversight could be directly over regulated investors’ investment policies, in which they would have to list and justify the measures considered to evaluate risk and the extent to which they are relied upon. Regulators could require that, as part of their risk analysis, regulated investors consider market-based measures and independent third parties’ assessments, without, however, relying in any of them exclusively. And, in any case, these investors should not be shielded from responsibility for their decisions: they could respond not only for failures in complying with their announced methodologies (unless to adopt more conservative behavior), but also, for example, for continuing to place great reliance on one or more external measures of risk even in the presence of red flags. When such conflicts exist and are properly acknowledged by investors, they should be required to disclose how they deal with that potential source of inaccuracy, e.g., by comparing the measure with alternative sources not subject to the same kind of conflict.

A solution in this line has the advantage of eliminating the excessive public

\textsuperscript{69} According to Standard & Poor’s (2010, p. 8), “the cost to acquire bond and CDS data and then build a system to store and analyze the data can run into the millions of dollars. Few investors are willing to spend the money and time necessary to build such a system.”
and private cost of regulating rating agencies, while it also releases agencies’ current captive demand to use different products and services, thus restoring the strength of the reputation mechanism and favoring innovation, competition and better risk management by regulated and non-regulated investors.

Conclusion

This paper aims at strengthening the case for eliminating ratings-dependent regulation. Regulatory use only makes sense if ratings are accurate but, as shown, ratings-based regulation jeopardizes the chances that accurate ratings will be issued, by reducing the functionality of the reputation mechanism and by opening regulatory arbitrage opportunities.

Saying that the reputation mechanism does not work does not necessarily imply that inaccurate ratings will be issued. However, once economic incentives to issue inaccurate ratings are large enough, it is unlikely that the complex, qualitative and probabilistic nature of ratings will not be opportunistically explored. This may explain why, although some rating inflation has long been detected for corporate bonds, it was only with the growth of structured finance (and of agencies’ revenues as a consequence) that it became so flagrant.

Section B of this paper, obviously, did not attempt to provide an economic model for the functioning of the reputation mechanism in the ratings market in view of ratings-based regulation, but solely to show the basic trade-off agencies face, in the view of the author. It would be interesting to see the insights here described properly developed in an economic model and tested empirically by professionals of these areas.
Appendix I

The Rating Business game

Game: one-sided, strategies and payoffs non-symmetrical

Strategies:
- CRA → honest rating; dishonest rating
- Investors → trust rating; do not trust rating

Assumptions:
- Ratings are purchased (by investors or issuers) and investors can only ex post observe its quality.
- Players know each other’s payoffs and strategies. CRA moves first and issue rating. Investors move subsequently, but cannot observe the quality of the rating until after investment is made.
- If ratings are accurate, Investors who trusted ratings make correct investment decisions and realize the gains thereof.
- If ratings are inaccurate, Investors who trusted ratings make wrong investment decisions and suffer losses.
- If investors do not trust ratings, their payoffs are unknown (they may or not invest, earn gains or suffer losses).
- CRAs incur in costs $c$ to issue ratings.
**One-shot game**

In a one-shot-game, CRA could have 2 possible payoffs:

- Honest rating $\rightarrow$ normal profits (i.e. price for rating minus costs)
- Dishonest rating $\rightarrow$ normal profits + gain from dishonesty

The strategies and payoffs available to the players could be described as follows:

<table>
<thead>
<tr>
<th>Rating Agency</th>
<th>Trust Rating</th>
<th>Do Not Trust Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honest Rating</td>
<td>Normal Profits; Gains from 'right' investment</td>
<td>- $c$; ?</td>
</tr>
<tr>
<td>Dishonest Rating</td>
<td>Normal Profits + Gain; Losses from 'wrong' investment</td>
<td>Normal Profits + Gain; ?</td>
</tr>
</tbody>
</table>

Figure 1. One-shot Rating Game. Payoffs (Rating Agency; Investors)

*Dishonest Rating* is a dominant strategy to Rating Agency. Knowing this, Investors choose *Not Trust Rating* from the beginning. Because Investors choose *Not Trust Rating*, Rating Agency cannot sell ratings and there is no rating business.

**Repeated infinite game**

In addition to assumptions above: (i) Investors start by choosing the *Trust Rating* strategy without knowing the strategy chosen by CRA; (ii) Investors learn about the accuracy of the rating before the next round; (iii) if CRA once issue a *Dishonest Rating*, Investors will choose *Not Trust Rating* in all subsequent periods and there is no rating business.

---

70 E.g.: extra consulting services, higher price for inflated rating, bribery.
The strategies and payoffs available to the players could be described as follows:

### Investors

<table>
<thead>
<tr>
<th>Rating Agency</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
<th>Round 4</th>
<th>Round n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honest Rating</td>
<td>Normal Profits; Gains from 'right' investment</td>
<td>Normal Profits; Gains from 'right' investment</td>
<td>Normal Profits; Gains from 'right' investment</td>
<td>Normal Profits; Gains from 'right' investment</td>
<td>Normal Profits; Gains from 'right' investment</td>
</tr>
<tr>
<td>Dishonest Rating</td>
<td>Normal Profits; Gain; Losses from 'wrong' investment</td>
<td>0;?</td>
<td>0;?</td>
<td>0;?</td>
<td>0;?</td>
</tr>
</tbody>
</table>

Figure 2. Repeated Rating Game. Payoffs (Rating Agency; Investors)

Provided that Gain is expected to be much smaller than the sum of the present value of Normal Revenue in each future round, Honest Rating is a dominant strategy to CRA in every round. Investors know this and, therefore, continue to choose Trust Rating. CRA's commitment problem is then overcome.


BECKER, Bo and MILBOURN, Todd. “How did increased competition affect credit ratings?”, Working Paper, September 2010.


JOINT FORUM (Basel Committee on Banking Supervision, the International Organization of Securities Commissions and the International Association of Insurance Supervisors), “Stocktaking
in the use of credit ratings”, June 2009.


