Study on the State of the Credit Rating Market

Final Report

MARKT/2014/257/F4/ST/OP

DISCLAIMER

The information and views set out in this study are those of the authors and do not necessarily reflect the official opinion of the European Commission. The European Commission does not guarantee the accuracy of the data included in this study. Neither the European Commission nor any person acting on the European Commission's behalf may be held responsible for the use which may be made of the information contained therein.

DOI: 10.2874/625016

ISBN: 978-92-79-50594-2

Table of Contents

Abstract

The Credit Rating Agency (CRA3) Regulation focused on enhancing competition in the credit rating market, further addressing conflicts of interest and enhancing disclosure on structured finance instruments.

The CRA market is highly concentrated, both overall and at the individual product category level. The measures introduced by the CRA3 Regulation (and, indeed, measures still to be introduced like the European Ratings Platform) need more time before the effects are apparent. Our view of the possible future impact of the CRA3 measures on competition and concentration is that in a scenario where it has impacts at the high end of what is possible will it drive a (small) decline in the market share held by the Big 3 CRAs by 2020. Further change in this timeframe is unlikely given investors' conservatism.

Whilst high market concentration could drive increased risk, this is secondary to factors such as investors' over-reliance on ratings, product complexity and others.

This study also identifies potential measures that could improve competition such as a harmonised credit rating scale across CRAs, developing a track record score, making amendments to the ECB's selection of approved CRAs, and issuers appointing CRAs by competitive tender.

Executive Summary

Disclaimer

"The information and views set out in this study are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein."

Motivation for study

The key provisions of the last reforms of the Credit Rating Agency (CRA3) Regulation focused on:

- Enhancing competition in the credit rating market.
- Further addressing conflicts of interest.
- Enhancing disclosure on structured finance instruments.

The aim of this study is to take stock of the current situation and recent developments in the credit rating market, and assess the impact and effectiveness of a range of measures contained in the CRA3 Regulation in achieving these overarching objectives. The work also identifies potential additional measures or amendments in relation to selected areas and assesses the potential impacts and feasibility of these.

Methodology

In undertaking this study we performed various analytical and information gathering tasks:

- Literature review. This includes the academic literature, as well as policy statements and working papers prepared by both regulatory bodies and the industry. We also had access to the European Securities and Markets Authority's (ESMA's) Technical Advice to the European Commission. A bibliography of sources is included in the Appendix.
- We developed an analytical framework describing the *potential* impacts, both negative and positive, of the CRA3 Regulation, with particular reference to the impact upon competition. This framework, initially at least, aimed to be comprehensive in its coverage of possible impacts, capturing competing hypotheses for the outcomes of the CRA3 Regulation. Notwithstanding the limited post-implementation time period, we then sought out evidence to support or disprove particular impacts. As with the literature review, we were aided in this work by our academic collaborators, namely Dr Dion Bongaerts, Dr Nelson Camanho and Dr Sandra Einig.
- Fieldwork. We circulated surveys and conducted interviews with the credit rating agencies (CRAs), investors and the issuers/ sponsors of rated products. We also engaged with national authorities.
- Data collection and analysis. This includes the analysis of data from CEREP, kindly made available to us by ESMA.

Findings and conclusions

Competition and concentration

The CRA market is highly concentrated, both overall and at the individual product category level (corporate and sovereign bonds, and Structured Finance Instruments, SFIs). Measures of market share and HHI based on total revenues (from rating activity and ancillary services) imply slightly lower levels of concentration compared to measures based on revenue from credit rating activity alone. However, this is likely to be driven, at least in part, by different definitions and treatment of 'ancillary services' across CRAs in their Transparency Reports, from which we have sourced the data for our analysis. That said, this could also indicate that smaller CRAs rely less on rating revenues than the larger CRAs.

The evolution of concentration for the total CRA market (based on all revenue measures) shows a small increase over the short time for which we have data, and the same applies to all corporate bonds (ratings revenue only). Concentration in the SFI and sovereign ratings has declined slightly over between 2012 and 2014. While the current data suggests that the last revision of the CRA regulation has not so far had an effect on market concentration, to fully appreciate the effects of the recently introduced measures (and, indeed, measures still to be introduced such as the European Ratings Platform) more time is required.

Regarding rating quality, we did not find signs of ratings inflation or gaming of ratings. Still, there are signs that at least some 'entrants' have suffered teething problems with the quality and accuracy of their ratings methodology.

Risks posed by high concentration to financial stability

The influence of high concentration of the CRA market on financial stability could be significant if CRAs observe each other's behaviour and respond by posting similar opinions about the creditworthiness of issuers and instruments within a short timeframe. Such behaviour could promote pro-cyclicality. However, there is little evidence of such 'herding' among CRAs. Any apparent herding (or responding to the signals of other CRAs) could anyway be explained by several other factors, in particular the broadly equivalent processing of the same pieces of information, similar business strategies, or a phase of the business cycle. Given limited evidence, our view is that market concentration could drive increased risk, but that this is per se likely to be secondary to factors such as over-reliance, product complexity and others.

Analysis of impacts of the CRA3 Regulation

COMPETITION IN THE CREDIT RATING MARKET

Article 8c has had some impact on the industry. However, the nature of any impact on competition in the credit rating market remains unclear. While the impact might be larger when the second rating is publicly available, because of investors' general preference towards large CRAs, as well as already established relationships between issuers and incumbent CRAs, the extent to which this provision would enable smaller CRA to enter and/or expand is likely to be limited.

The effectiveness of **Article 8d** seem to be diminished by the fact that small CRAs do not (as yet, at least) have sufficient reputation among mainstream market participants for issuers to voluntarily choose them (or even consider them) as providers of the second rating. At least in the case of corporate bonds, we expect this provision to have limited impact on market entry and expansion. However, it is possible that Article 8d in conjunction with Article 8c have increased the demand for small CRAs for SFI ratings.

Because of the common view among investors (and also issuers) that small CRAs provide lower quality ratings compared to large CRAs, the extent to which they would be actively comparing ratings between smaller and larger agencies is likely to be small. As such, the immediate impact of **Article 11a** is likely to be limited. Nevertheless, a majority of regulators participating in our survey expected Article 11a to have a positive impact on the competition in the market and on enhancing investors' ability to make good investment choices.

Finally, the extent to which information required to be disclosed in **Article 11(2)** would impact competition in the market, and what other consequences this provision might have, are not entirely clear. The extent of the comparability of data between CRAs would be an important feature that would enable the success of this provision. Our own experience of analysing CRAs' transparency reports shows that there are a number of factors that can undermine the comparability of information, even within fairly specified frameworks.

CONFLICTS OF INTEREST

CRAs and issuers indicated that none of the requirements related to conflicts of interest affected them in a significant way, and as such they cannot be described as either positive or negative. While the views among investors were somewhat varied, regulators expressed a consistently positive opinion on the impact of all three provisions on the market, i.e. expecting a long-term positive impact on the market in preventing rating inflation and increasing the confidence of market participants. A provision that might create some negative consequences is the rotation mechanism for rating analysts, which might impede the process of gaining experience by analysts and cause a deterioration in ratings quality.

ROTATION

The hard evidence of the impact of the rotation provision on the market is extremely limited because of few issuances of re-securitised instruments over the last years and also some confusion amongst market participants regarding the meaning of its final formulation. While, in general, market participants assess negative consequences (such as increased volatility and higher costs to issuers) as more likely than positive ones (e.g. reducing conflicts of interest or promoting competition), most of our respondents were not directly affected by the provision. Despite some differences between large and small CRAs, in general CRAs (as well as investors and regulators) do not expect this provision to have a very significant impact on the market. Moreover, to the extent that some respondents had in mind the previous, stronger formulation of the provision, the impact on the provision in its current formulation is likely to be even smaller.

DISCLOSURE OF INFORMATION

The views on the disclosure requirements varied among market participants – CRAs, investors and regulators generally welcomed the provision and expected it to be beneficial for investors, whereas issuers seemed to be much more sceptical of its effectiveness. Keeping in mind differences in perspectives of issuers (who will bear the burden of the requirement) and other market participants (who are generally not aware of the cost of compliance and are likely to welcome the provision of *all* information) feedback from our fieldwork is not sufficient to draw any firm conclusions on the effectiveness of the disclosure provision.

Extension of the CRA3 Regulation

The rationale used in the case of SFIs for imposing disclosure requirements on issuers seems to be less applicable to other instruments. Compared to SFIs, corporate bonds are less complex and, historically, credit ratings have performed well in capturing their

riskiness. Moreover, the overall cost borne by issuers is likely to be much higher because of a significantly larger number of issuers active in the corporate bonds market compared to SFIs. Furthermore, corporate bonds are to a larger extent also bought by less sophisticated investors who are unlikely to use the additional information in their investment decisions. Nevertheless, extending the disclosure requirement to corporate bonds could benefit sophisticated investors, and potentially enhance competition between CRAs through increased investors' scrutiny.

In terms of complexity, covered bonds seem to be a better candidate for the potential extension as their structure is more complex than that of corporate bonds. However, the dynamic character of corporate bonds would likely undermine investors' ability to make use of the additional information, and would impose additional burdens on issuers who would have to frequently update the disclosed information.

Any extension of Rotation to other market segments is likely to create significant difficulties in the implementation of the provision as the likely number of issuances each year would require a far greater number of CRAs than currently exist in the market.

Remuneration Models

There has been little change in the use of remuneration models since the implementation of the CRA Regulation, i.e. despite the variety of possible remuneration models, issuer-pays remains the dominant business model.

In the issuer-pays model CRAs are paid by issuers who wish to solicit credit ratings for their investment products. The main advantages of the model are: credit ratings are free for market participants (as the cost is borne by issuers); it encourages creating long-term relationships and thus, enabling CRAs to obtain private information about the issuers of the securities they rate; the model avoids free-riding, which was a feature of the previously dominant investor-paid model.

The biggest shortfall of the model is the inherent conflict of interest resulting from the fact that CRAs might not remain unbiased if their main source of income relates to issuers' fees. However, in practice, the extent to which this conflict of interest affects the CRAs' willingness to deviate from revealing true information might depend on several factors, such as availability of relevant information and investors willingness to use the information, phase of a business cycle, complexity of the rated product, extent of economies of scale in CRA sector, the distribution of quality among issuers, the number of CRAs in the market.

The real or theoretical alternatives – Investor-pays, Skin-in-the-game, platform-pays, non-profit ratings Pay-for performance compensation – can individually partly resolve some of these shortfalls, but not without costs. These costs can be drawbacks not present (or less present) in the issuer-pays model or else the diminution of some of the advantages of that model.

Future competition and concentration

Past and future evolution of competition in the CRA market

Our analysis of the EU-wide credit rating market does not show any trend toward decreasing concentration. While our fieldwork shows that since 2010 stakeholders have noticed an increase in the number of CRAs within the corporate bond rating and structured finance instrument rating markets, the impact of market entry on competition was limited. Barriers to entry (such as insufficient demand for additional rating agencies, high switching costs for issuers, and administrative / regulatory barriers) may act to inhibit further competition.

Based on the nature of the market, whereby issuers and investors place a high value on the reputation and expertise of CRAs, measures that force the selection of CRAs beyond what otherwise would be chosen by issuers, or valued by investors, (such as the rotation provision, the requirement to appoint two CRAs, or the requirement to appoint a smaller CRA) can lead to unintended consequences, or simply have limited effectiveness in promoting true market entry. However the Regulation may have benefits in terms of promoting greater competition *within* the market, e.g. enabling competitive pressure to be maintained on the larger CRAs.

We have considered three scenarios for the possible future impact of the CRA3 measures on competition and concentration. Based on these we think the likely evolution through to 2020 is as follows:

- *Low and medium impact scenarios.* In SFI, market shares between Big 3 and the rest likely stable. No change in other markets (bonds, re-securitisation).
- *High impact scenario.* In SFI, market share held by Big 3 sees small-scale decline (up to 1-2 per cent). Whilst gainers are likely to be the larger 'small' CRAs the 10 per cent market share threshold is unlikely to be breached by these CRAs and therefore unlikely to 'move up' the selection ranks. Any effects likely to be limited to the SFI market. Further changes in market shares unlikely to be notable in this timeframe given investors' conservatism. Similarly, changes in market shares in response to a well-designed ERP unlikely to occur in this time-frame, although reputation of small/new CRAs could slowly increase. The rotation principle may have some impact on market shares in the re-securitisation market, but given the likely scale of the market within five years this would most likely be concentrated among the Big 3.

Identification of alternative measures to foster competition

Given the importance of the expertise and reputation of CRAs effective measures to foster competition should encourage and facilitate developing these strengths among CRAs. Ways to foster competition could include: developing a track record score for CRAs, making amendments to the ECB's selection of approved CRAs rating SFIs, and appointing CRAs by means of some form of competitive tender.

Another measure that could help in market participants' assessment of CRA quality would be a harmonised credit rating scale across CRAs. If each rating grade had the same interpretation (e.g. AAA or the equivalent highest scale across CRAs = always meant 1 in 1000 chance of default) then market participants would have an objective way of assessing the quality of the ratings as they would know the relevant parameters. This would increase the ability of market participants to identify the quality of CRAs, which could expedite the process newer CRAs need to go through in earning reputation in the market.

1. Introduction

This presents Europe Economics' final report for the study "MARKT/2014/257/F Lot 2: Study on the State of the Credit Rating Market."

Background

The European Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies (CRAs) recognises the fact that CRAs play a crucial role in the global securities and banking markets. A significant number of financial institutions ranging from investment firms to institutions for occupational retirement provision use these credit ratings as a way of estimating their capital requirements for solvency purposes or for evaluating risks by their investment division. Due to the vital role that credit rating agencies have to play in the healthy operation of the financial system their activities should be conducted in "accordance with the principle of integrity, transparency, responsibility and good governance."

The 21 May 2013 Amendment to the above regulation states that:

"The entities referred to in the first subparagraph of Article 4(1) shall, make their own credit risk assessment and shall not solely or mechanically rely on credit ratings for assessing the credit worthiness of an entity or financial instrument"

The above provision shows the intent that institutions should rely less on CRAs. Named institutions include:

- Credit institutions.
- Investment firms.
- Insurance undertakings.
- Reinsurance undertakings.
- Institutions for occupational retirement provision.
- Management companies.
- Alternative investment fund managers.
- Central counterparties.

At the same time, the same amendment to the regulation states that:

"sectoral competent authorities in charge of supervising the entities referred to in the first subparagraph of Article 4(1)shall, taking into account the nature, scale and complexity of their activities, monitor the adequacy of their credit risk assessment process, assess the use of contractual references to credit ratings and, where appropriate encourage them to mitigate the impact of such references, with a view to reducing sole and mechanistic reliance on credit ratings, in line with specific sectoral legislation."

The Commission has reached the above decisions following an informal meeting with the Ecofin Council on the 30th of September where it was agreed that more effort should be placed in reducing over-reliance on credit rating agencies. The main issues that concern the European Commission with respect to credit rating agencies include:

- Conflicts of interest due to the issuer-pays model.

- Conflicts of interest due to the remuneration model of credit rating agencies.
- Disclosure for structured finance instruments.
- Transparency.
- Procedural requirements and the timing of publication specifically for a reasonable period of time.

Issuer-paid credit rating agencies have strong incentives to issue overly complacent ratings (i.e. neither objective nor accurate) for the issuer (who is also the customer) in order to maintain a long-standing and profitable relationship. The benefits of issuing such ratings include guaranteeing current revenues and securing additional work and revenues in the future. The Commission therefore believes that it is crucial to reinforce the independence of credit rating agencies to increase the credibility of these agencies.

One of the main objectives of the last revision of the CRA Regulation was to enhance competition in the CRA market. It is widely recognised that the credit rating market is currently dominated by three large firms, namely Moody's, S&P and Fitch. It was considered that more competition could enhance the number of views on credit risk available to market participants and reduce at the same time the reliance on a few credit rating agencies. In turn, competition may also encourage innovation in the form of more appropriate methodologies for rating certain instruments (in particular structured finance instruments). To that end a number of provisions were introduced to encourage market entry of credit ratings agencies. These include a requirement for issuers to consider employing a small credit rating agency in the event that more than one CRA is employed; the use of double credit ratings in the case of structured finance instruments; and a rule requiring issuers to periodically rotate the agencies they use to rate certain structured finance instruments.

Since the first CRA regulation entered into force there are now 40 registered and certified CRAs in the EU market, 17 of which are part of the groups of the three largest CRAs operating globally. In other words, there can be seen to be 26 competing entities in the market,[1] however many CRAs remain relatively small in market share and have sometimes only local operations. To date, none of the new market entrants have developed into a true competitor of the dominating agencies. In light of this, a key objective of this study is to evaluate the evolution of competition and understand the competitive dynamics in the credit ratings market so as to analyse the impacts of the CRA Regulation on competition and identify and assess alternative measures to foster competition.

Objectives and terms of reference

The key provisions of the last reforms of the CRA Regulation focused on:

- Enhancing competition in the credit rating market.
- Further addressing conflicts of interest.

[1] See information on CRA authorisation on ESMA's website: https://www.esma.europa.eu/supervision/credit-rating-agencies/risk. The numbers are based on the list updated on 1 December 2015. The count excludes 4 CRAs residing outside Europe.

- Enhancing disclosure on structured finance instruments.

The aim of this study is to take stock of the current situation and recent developments in the credit rating market, and assess the impact and effectiveness of a range of measures contained in the CRA3 Regulation in achieving these overarching objectives. The work also identifies potential additional measures or amendments in relation to selected areas and assesses the potential impacts and feasibility of these.

The topics assessed in this study, and how they relate to the key reforms, are described below.

Concentration and competition in the credit rating market — Articles 8c, 8d, 11a

The credit rating market has an oligopolistic structure and is dominated by three large global agencies. This results in limited choice for both issuers and investors. The CRA Regulation aims to enhance competition in the credit rating market by introducing a number of measures, namely:

- European Rating Platform (Article 11a) — the central platform operated by European Securities and Markets Authority (ESMA) which will publish all available credit ratings issued by authorised CRAs which will allow investors to consult and easily compare all available credit ratings for all rated instruments.
- The requirement for double ratings for structured finance instruments (Article 8c).
- The requirement to consider appointing one smaller CRA (with less than 10 per cent of the total market share) in case of multiple ratings on a 'comply or explain' basis (Article 8d).
- Specific exemptions to the general requirements to alleviate the compliance burden for smaller CRAs.
- The regime of registration and supervision by ESMA of CRAs to guarantee minimum standards of quality among new entrants.

Our report analyses this topic under the following themes:

- An analysis of the impact of the various CRA3 Regulation provisions related to competition on the CRA market. Our analysis also makes reference to interactions with other provisions that are the subject of this report.
- A description of the level and nature of concentration and competition in the CRA market and the evolution in recent years, and an estimation of the evolution in the medium to longer term.
- An analysis of the risks posed by high concentration in the rating market and the systemic impact of this on financial stability.
- The identification and analysis of alternative measures to foster competition.

Conflicts of interest — Articles 6, 6a and 7

The majority of CRAs operate under an 'issuer-pays' model. This may create conflicts of interest as it may compromise the independence and objectivity of the CRA. For example a conflict of interest would arise from an investor that owns a significant part of the CRA and also has a large share in another company rated by the CRA. The investor could push the CRA to inflate the rating on his portfolio companies to increase

his portfolio value. A similar conflict of interest exists if a CRA also rates its mother company.

The CRA Regulation contains rules to address conflicts of interest, covering governance and internal procedures (cf. Article 6); rating analysts (Article 7); and shareholding limitations (Article 6a). The CRA Regulation also prohibits ownership of five per cent or more of the capital or the voting rights in more than one CRA, unless the agencies concerned belong to the same group.

The specific provisions we analyse are:

- Article 6: governance and internal procedures that CRAs are to undertake to ensure that the issuing of a credit rating or a rating outlook is not affected by any existing or potential conflicts of interest. This includes prohibiting CRAs from providing ratings of any person or any financial instrument issued by a person that owns shares of the CRA, or directly or indirectly controls the CRA.
- Article 6a: Shareholders who hold at least five per cent of capital or voting rights in an agency are prohibited to hold more than five per cent of capital of voting rights in another CRA.
- Article 7: requirements for CRAs concerning their employees, in terms of the nature of and activities performed by the employees, and CRAs' performance evaluations. E.g.: a rotation mechanism for rating analysts and people approving ratings.

Our report provides an analysis of the implementation of these articles and their impact and effectiveness in mitigating conflicts of interest. Particular attention is paid to the assessment of the impact of the requirement in Article 6a on investments in CRAs, including changes in shareholdings/investments since 2009.

Enhancing disclosure on structured finance instruments — Article 8b

As identified following the financial crisis, credit ratings do not always accurately reflect the creditworthiness of financial instruments. Therefore the CRA Regulation aims to improve the ability of investors to make their own informed assessment of the creditworthiness of structured finance instruments by providing them with sufficient information on a range of opinions on the creditworthiness of these instruments.

Article 8b provides for the issuer, the originator and the sponsor of all structured finance instruments who are established in the EU to jointly publish information on these instruments and the performance of their underlying assets. This information shall be published on a website to be set up by ESMA. This article is not yet in force.

Our report provides the following:

- An analysis of the implementation of this provision to date and the impact on the CRA market.
- The identification and analysis of other financial credit products to which the disclosure requirements could be extended (for example, covered bonds, corporate bonds etc.).

The mechanisms of rotation for CRAs — Article 6b

Further aimed at addressing conflicts of interest and promoting competition is Article 6b of the Regulation:

- Article 6b: An outgoing CRA would not be allowed to rate re-securitised products with underlying assets from the same originator for a period equal to the duration of the expired contract, though not exceeding four years.

Our study provides the following:

- An analysis of the impact of the rotation provision to date, and likely impacts in the future, in terms of addressing conflicts of interest and the feasibility of implementation.
- The identification of other asset classes to which the rotation mechanism could be extended and an assessment of the feasibility of such an extension. We also conduct analysis on the supply of CRAs needed (and available) to implement the rotation requirement for other asset classes.

Remuneration models

The common 'issuer-pays' remuneration model is a key source of potential conflicts of interest. Our report provides a description and analysis of all existing remuneration models, including issuer- and investor-pays models, and assesses the impacts and effectiveness of these models on conflicts of interest. We look at the feasibility of the implementation of these models, and the evolution of their use.

Our report also identifies and assesses alternative models of remuneration.

Methodology

In order to carry out this study, we undertook a number of analytical and information gathering tasks:

- Literature review. This includes the academic literature, as well as policy statements and working papers prepared by both regulatory bodies and the industry. We also had access to ESMA's Technical Advice to the European Commission. A bibliography of sources is included in the Appendix.
- We developed an analytical framework describing the *potential* impacts, both negative and positive, of the CRA3 Regulation, with particular reference to the impact upon competition. This framework, initially at least, aimed to be comprehensive in its coverage of possible impacts, capturing competing hypotheses for the outcomes of the CRA3 Regulation. Notwithstanding the limited post-implementation time period, we then sought out evidence to support or disprove particular impacts. As with the literature review, we were aided in this work by our academic collaborators, namely Dr Dion Bongaerts, Dr Nelson Camanho and Dr Sandra Einig.
- Fieldwork. We circulated surveys and conducted interviews with the CRAs, investors and the issuers/ sponsors of rated products.
- Competent authority engagement.
- Data collection and analysis. This includes the analysis of data from CEREP, kindly made available to us by ESMA.

Structure of the report

Our report presents our analysis and findings across the following sections:

- Overview of competition and concentration in the CRA market – presents our analysis of data regarding the nature and evolution of competition in the CRA market to date, the factors affecting competition, and the likely implications of concentration for financial stability.
- Analysis of impacts of the CRA3 Regulation – draws together our literature review, analytical framework and the results of our information gathering and covers all of the provisions which form the subject of this study. It includes an analysis of the practical impacts of the Regulation and the feasibility of implementing the various measures.
- Identification of other financial products to which CRA3 Regulation could be applied – addresses the feasibility of extending the Rotation and Disclosure of Information to other financial products.
- Remuneration models – includes the analysis of various remuneration models and the assessment of alternative models.
- Future competition and concentration in the CRA market – presents our analysis of the likely evolution of competition and the identification of alternative measures to foster competition.

2. Competition and Concentration in the CRA Market

Introduction

In this chapter we present our analysis of the evolution of competition and concentration in the CRA market to date. We consider the following:

- Market shares of CRAs based on revenues from credit rating activities and ancillary services.
- Market shares based on revenues from credit rating activities only, broken down by instrument type (namely corporate bonds, sovereign bonds and structured finance products).
- Market shares based on outstanding ratings, by instrument type.

We also consider the impact of market entry on the ratings market in terms of ratings accuracy and quality, based on analysis of outstanding ratings from the CEREP database.

We note at the outset that the length of time since the introduction of the CRA3 Regulation and the systematic collection of data (since 2009 at the earliest) does not provide a long time series, and that visible impacts of the CRA3 Regulation will be limited.

The economics of credit rating

We begin with an overview of the economics of credit rating. A credit rating represents the evaluation of the probability of default of a security by an external agency. When a creditor (e.g. investor) is offering a loan to a debtor (e.g. issuer), the creditor is generally unaware of the likelihood of being repaid (adverse selection) or whether the debtor will use the funds received from the creditor as agreed in the original agreement (moral hazard). The creditor might be able to determine the type of debtor by screening him through a variety of well-designed mechanisms. Moreover, the creditor may engage in monitoring efforts to ensure that the debtor puts the funds received to productive use as agreed upon. However, screening and monitoring efforts can be very costly for a creditor. Moreover, a creditor with only a small stake may try to free-ride on monitoring efforts from parties with a larger stake.

Absent a mechanism to overcome the adverse selection and moral hazard described above, debtors will be constrained to apply for credit from a small range of highly specialized creditors. The loans they have with the creditors will then be extremely illiquid, because market participants would expect these specialized creditors to be better informed and hence fear adverse selection when buying a loan in the secondary market.

Outsourcing screening and monitoring to CRAs can serve as a relatively inexpensive mechanism to overcome adverse selection and moral hazard. Outsourcing screening to one or a few parties with ample experience ensures that screening is done in a cost-effective manner and prevents market parties from reinventing the wheel. Outsourcing monitoring effort again allocates the monitoring task to an experienced party and solves the free-rider problem. Hence, ratings can potentially reduce information asymmetry between issuers and investors in a cost-effective way.

When ratings are informative and are disclosed to the larger investment community, they can level the playing field among holders of the rated instrument. Therefore, these investors need to worry less about trading with a better informed counterparty. As a result, the secondary market for debt issues becomes much more liquid. In addition, reduced information asymmetry among market participants will increase the willingness of less sophisticated parties to invest and thereby mobilize capital for businesses. Finally, the increased mobilization of capital leads to a relief of credit constraints and therefore less monopoly/oligopoly power for traditional creditors such as banks.

The lower costs of reducing information asymmetry combined with the higher liquidity and increased investor participation lower the cost of debt for debt issuers. As a result, lower revenues are required to make economic activities profitable, and hence, output increases.

Credit rating agencies employ both qualitative and quantitative information in assessing a debtor's capability to repay his loans. The outcomes of such evaluations include a rating of a debtor's ability to honour his loans within the agreed time period. Credit ratings are very common for corporate and government bonds.

Following the recent financial crisis, the literature's consensus has been that shortcomings in CRAs' business models may have in part facilitated or exacerbated the sub-prime crisis in the US and the EU sovereign debt crises as the agencies failed to signal potential weaknesses in the fundamentals of various debt and credit investments.[2] The use of ratings from a small number of CRAs would have coordinated market behaviour, increasing systemic risk. It follows that a reduction in reliance on credit ratings and/or the use of ratings from a wider pool of agencies would attenuate such effects.

It is also noteworthy that the performance of CRAs has not been uniform. Corporate bonds ratings have performed reasonably well. This may well have inspired market confidence in the ratings on structured products. This generalization turned out to be a mistake. Ratings on structured products fared very poorly. This poor performance is partly due to the novel and complex nature of the products, and the endogenous structure to target ratings.

There therefore remains a debate as to the extent to which this simply reflects the CRAs response to the potential conflicts described above, or whether it reflects fundamental weaknesses in the CRAs' approach (i.e. they tried, but failed). The continued importance of CRAs in capital markets may be indicative of either market or regulatory failure (or both) or on the contrary, it may indicate the value created by credit rating agencies for issuers and investors.

Evidence of rating shopping and rating catering

One of the objectives of the CRA Regulation is to address inaccuracy in ratings that could stem from those conflicts of interest inherent in the issuer-pays model, whereby CRAs potentially focus on attracting and retaining clients at the expense of good quality ratings, or else issuers can choose ratings most favourable to them. Specific forms of this include 'rating shopping' or 'rating catering'.

[2] Hunt (2009) "Credit rating agencies and the worldwide credit crisis: the limits of reputation, the insufficiency of reform, and a proposal for improvement" *Columbia Business Law Review*, No (109).

Rating shopping is the situation where issuers solicit ratings from multiple agencies and then choose the most favourable one. This phenomenon naturally leads to rating inflation even if CRAs produce unbiased ratings, as the issuer is able to consistently choose the most favourable rating. (This is provided, of course, that the CRAs have methodological differences that can generate divergent ratings). Further, an expectation that rating shopping is desired by issuers could incentivise CRAs to relax their standards and issue more favourable ratings in order to compete with higher ratings from other CRAs (i.e. 'rating catering'), and this may lead to a race to the bottom (i.e. a reinforcing reduction in quality and rating inflation). This mechanism could be especially pronounced in buoyant markets where the lack of critical approach from market participants allows CRAs to dismiss reputational concerns to some extent and focus on competing for market shares.

While the assessment of ratings shopping and rating catering is not straightforward (any empirical evidence of changing ratings is complicated by the existence of many competing explanatory factors), there is some evidence suggesting that this has occurred at least in some parts of the market.

He et al. (2012) examine the relationship between ratings errors and issuer size and the business cycle, using a large sample of mortgage-backed securities (MBS) tranches sold between 2000 and 2006 and the corresponding ratings from Moody's, S&P and Fitch. The hypothesis is that if large issuers have the leverage to be able to persuade CRAs to give them higher ratings than they would have received according to the rating methodology, then over time the price of securities sold by large issuers should drop more than the price of securities sold by small issuers (all else equal).[3] The results of the analysis do indeed suggest that larger issuers received more favourable ratings than small issuers. Moreover, the effect was stronger during the market boom (2004-2006) compared to the earlier period (2000-2003). The study states that "[a]s of April 2009, prices of tranches sold by large issuers drop by 15 percentage points more than those sold by small issuers [whereas prices changes in tranches originating in non-boom period were similar for large and small issuers]. These results suggest that, conditional on the rating, tranches sold by large issuers perform more poorly than those sold by small issuers, especially during the market boom period."[4] [5]

Hau et al. (2013) focus on ratings given to banks. The analysis is based on a sample of 39,000 quarterly bank ratings from the period 1990–2011 from Moody's, S&P, and Fitch.[6] The findings of the paper are the following:

- Large banks obtain systematically more favourable ratings. This is consistent with the hypothesis that large issuers can use their bargaining power to obtain higher

[3] The study examines the *ex post* performance of AAA-rated MBS securities by looking at price changes between the origination date and April 2009.

[4] He et al. (2012) "Are all ratings created equal? The impact of issuer size on the pricing of mortgage-backed securities" *The Journal of Finance*, No 67(6), p 2097-2137.

[5] This conclusion was strengthened by the nature of the market during the boom where, unlike the corporate bond market, a small number of large issuers of MBS brought many deals to the ratings agencies and thus had substantial bargaining power over them.

[6] Hau et al. (2013) "Bank ratings: what determines their quality?" *Economic Policy*, No 28(74), p 289-333.

credit ratings. The authors controlled for other factors likely to affect ratings levels.[7]

- Moreover, banks that provided large securitisation business to the CRA were given systematically more favourable ratings. This is consistent with the hypothesis that the conflict of interests affects the quality of the ratings.
- The informativeness of credit ratings was higher during banking crises. This is consistent with the hypothesis that the incentives to cater ratings are higher during booms when the risk of reputational loss is lower.
- The ratings in the upper investment grade range do not reflect expected default probabilities, i.e. higher rating does not necessarily correspond to a lower risk of default.

Griffin & Tang (2009) analyse the rating process for collateralised debt obligations (CDOs) in the period 1997-2007. They show that the correlation between the proportion of the CDOs eligible for a AAA rating under the CRA credit risk model and the proportion of CDOs that actually received AAA rating was only about 50 per cent (i.e. more AAA ratings were given than was predicted). To a large extent such a low correlation could be explained by subjective, (net) positive adjustments outside the model. Such adjustments might reflect reasonable factors that affect the creditworthiness of a company that are not included in the model (such as collateral manager experience, insurance, liquidity etc.). However, the authors found that none of these factors were able to explain the large adjustments. Further, the study found that the scale of adjustment at the time of issuance was positively related to future *downgrades*. This evidence suggests that (a) the initial adjustments were not sufficiently justified and that (b) they were inaccurate. Finally, the authors estimate the cost of those adjustments to investors. Since an inflated rating — at least to the extent that this is relied upon — means that the security would be perceived by investors as less risky than it actually is, they would be willing to pay more for it. Griffin & Tang suggest that "[f]or the sample of 916 CDOs this cumulates to $38.7 billion in cost to investors. Most of the valuation impact is driven by adjustments. While these value differences are considerable, they are likely a large understatement, as we scrutinize only one aspect of the credit rating process". However, it should be noted that these findings do not prove rating catering *per se* as they could be explained be erroneous judgment rather than intentional bias.[8]

The incentive to cater ratings might be stronger not only for particular types of issuers, but also for particular types of loan/ debt contracts. Kraft (2015) analyses whether CRAs provide more favourable ratings to issuers with rating-based

[7] The authors do note that conflicts of interest with big bank clients may not be the only interpretation of the strong size influence on the bank rating. "An alternative interpretation could relate this bias to the 'too big to fail' privilege of big banks. […]Cross-country differences in governments' ability to bail out banks are captured by country fixed effects and should not affect our results. However, the implicit government support for banks might protect creditors of big banks more than those of small banks – something that the rating agency might account for in its rating process."

[8] Griffin and Tang (2009) "Did subjectivity play a role in CDO credit ratings?" The *Journal of Finance*, No 67(4), p 1293-1328.

performance-priced loan contracts[9] compared to issuers with contracts based on accounting ratios and other loan agreements. In particular, Kraft (2015) argues that the nature of rating-based contracts provide an incentive for issuers to ask for a higher rating. The study examines adjustments to ratings, i.e. the difference between actual rating and the hypothetical rating implied by reported financials. The study finds that, after an adverse economic shock, the adjustments made for firms with rating-based contracts are more favourable than for firms with other types of contracts. This finding is consistent with the hypothesis of rating catering and suggests that reputational concerns are not sufficient of fully eliminate this phenomenon. However, Kraft finds that when the reputational concerns are higher, the evidence for rating catering is weaker.[10]

The literature does provide evidence for a relationship between inflated ratings and issuers' size or type of contract which are at least consistent with the incentives of CRAs to cater ratings. However, much of the evidence (a) draws on US/ global experience, and, more importantly, (b) shows correlation rather than causation, and also does not directly show that issuers engage in ratings shopping. Ascertaining the likely frequency and scale of rating shopping and rating catering across the CRA market is therefore not straightforward.

Our fieldwork did not provide evidence of rating shopping or catering. The majority of issuers tend to use one or two CRAs only rather than a range and their choice is largely driven by a CRAs' acceptability in the investor market. Certain issuers specifically noted that they choose particular CRAs because of investor demand, even when other CRAs may have a preferable and more favourable methodology (e.g. CRAs that include euro-denominated risk in their assessments would lead to less favourable ratings than CRAs that do not do this, but the former offer ratings on a much broader range of institutions for investors to compare, which makes them preferred by investors). Other types of respondents (issuers and CRAs) were unable to judge whether ratings inflation took place.

Our empirical analysis later in this section also does not find evidence of ratings inflation, albeit this analysis was conducted subject to data limitations that would severely restrict the ability to detect such inflation.

Cost impacts on small CRAs

Our fieldwork assessed the extent to which regulatory and administrative costs impact the overall costs of small CRAs, and whether these costs could act as a barrier to competition for small and new CRAs. Many of the concerns raised by stakeholders were in relation to the proportionality of the various regulatory costs for small CRAs. Where these costs have a fixed element, they represent a much larger share of overall costs for small CRAs. For example, the requirement to have an independent review board made up of full-time employees imposes a relatively high resource cost on smaller CRAs – for a typical small CRA with perhaps around 20 employees this could account for around 15 per cent of salary expenditure. The addition of a full-time

[9] Rating-based contracts are defined as debt contracts that include provisions that are based on the issuers' public credit rating. This might mean that the costs of repaying the loan for issuer would get higher after a rating downgrade, and lower after a rating upgrade. As such, issuers would have a clear incentive to ask for a higher rating from a CRA.

[10] Kraft (2015) "Do rating agencies cater? Evidence from rating-based contracts" *Journal of Accounting and Economics*, No 59(2), p 264-283.

compliance officer, to deal with the many other regulations, could increase this to 20 per cent. The reporting and disclosure requirements were also seen as a significant, largely fixed, cost, with few perceived benefits to the market given the low volumes of ratings undertaken by small CRAs.

Some respondents considered that some of the regulations mirrored best practice and thus were not all additionally burdensome, for example provisions governing transparency and quality of staff. However, ensuring and demonstrating compliance could be costly if it necessitated additional documentation, record keeping, or supervisory oversight (in addition to the costs of employing dedicated compliance officers).

Where thresholds exist above which additional regulations are applicable, these were seen as potential barriers to expansion. For example, CRAs with fewer than 50 employees are exempt from certain provisions, such as regarding the role of the independent members of the board, the requirement for an independent and permanent compliance function, and the analyst rotation mechanism.[11] Supervisory fees are also waived for those with revenue below €10 million. These provisions are seen as sufficiently costly to deter CRAs from expanding beyond 50 employees, unless this is likely to be a sufficiently large expansion to subsequently justify the additional costs. CRAs are likely to decide, as part of their business plan, to remain below these thresholds (although this may not be an issue for many if market conditions prevent them from growing anyway).

A final cost area which may inhibit expansion and competition is the requirement for CRAs to inform rated entities before the formal release of ratings. For those CRAs providing ratings on an investor-paid or else on an unsolicited basis, this can impose a significant administrative cost burden of identifying correct contacts at all rated entities (many of which the CRA would not have direct access to as would be the case with issuer-paid ratings) and managing the notification process – estimates of up to eight per cent of ratings revenue have been cited by small CRAs. Unsolicited and investor-paid ratings are often a key way in which new CRAs seek to enter markets and demonstrate their quality and skill, so such administrative costs could impede market entry.

Market share and HHI calculations

Market shares and the Herfindahl-Herfindahl Index (HHI) provide an indication of concentration within markets, with an HHI over 1,000 generally considered to be concentrated. Drawing on the annual transparency reports produced by CRAs, we calculated market shares and HHI scores based on CRA's revenues. Our methodology for extracting data from the transparency reports is presented in the Appendix.[12]

---

[11] Concerns were also raised regarding the types of employees considered towards the threshold. For example, support staff which make the business more efficient (e.g. data source providers) would be counted towards the total even if this did not imply an expansion in the volume of credit rating business.

[12] Calculating these market shares from CRA's transparency reports is not a trivial exercise. There are significant differences in reporting across the CRAs (including definitions of revenue, disaggregating revenues across product types, and reporting time periods) as well as data gaps makes comparing the results across CRAs somewhat challenging. We have therefore made a number of assumptions and extrapolations which we describe in the Appendix.

Market shares based on revenue from rating activity and ancillary services

Our calculation of market shares based on total revenue is analogous to the market share calculations carried out by ESMA for the purposes of Article 8d of the CRA Regulation.[13] Whereas ESMA's analysis is currently available only up to the year ended 2013, we are able to include data for the year ended 2014.

Interpretations of market shares based on revenue from credit rating activity and ancillary activity need to be made with care. According to the CRA Regulation, 'ancillary services' are products or services that are not part of credit rating activities and include market forecasts, estimates of economic trends, pricing analysis and other general data analysis as well as related distribution services. CRAs have different definitions in the Transparency Reports for these services; some name them 'ancillary services' and others names then 'non-rating activities (whilst it is clear from further descriptions that these are in fact 'ancillary' services in the meaning of the Regulation).[14] Indeed, ESMA, in its Technical Advice to the Commission, notes that the definition of ancillary services has not been consistently applied by CRAs.[15] Some CRAs also include in their reports revenues from 'other' activities which are neither credit ratings activities nor ancillary services.[16] Where these are reported separately we exclude them from the total revenue figure. However, some CRAs (notably Moody's and Standard and Poor's) bundle together revenues from 'ancillary' and 'other' services – in these cases we have included this combined figure as the ancillary revenue for our calculations.[17]

We use the market shares to calculate the Herfindahl-Herfindahl Index (HHI) of concentration in each market, from 2012 to 2014 (data from the transparency reports are limited before 2012). The tables below show the results of our analysis. As can be seen the markets are very concentrated, with the HHI well over 1,000. Market concentration has increased between 2012 and 2014.

[13] See ESMA (2014) "Credit rating agencies' 2014 market share calculations for the purposes of Article 8d of the CRA Regulation" for the calendar year 2013.

[14] Examples of definitions of 'non-rating services' which are similar to the CRA Regulation definition include: "The non-rating activities relate primarily to the support of the CRA (data analysis, methodological support) and services in connection with the development of scoring systems and technical support for exchanging data"; "Non-rating activities primarily include market studies, analyses and key figures workshops and events." and "Among the non-rating activities include above all the creation of credit ratings and investor services."

[15] See ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", Page 68.

[16] An example from one transparency report included "software".

[17] For example, these have been defined as "Non-Credit Rating Services": Ancillary and other permissible services."

Table 1: Market shares for credit rating activity and ancillary services

CRA	2012	2013	2014
Moody's	36.69%	36.38%	36.99%
Fitch	17.67%	16.47%	18.40%
S&P	32.88%	36.00%	38.43%
Sub-total	***87.24%***	***88.85%***	***93.82%***
Euler Hermes Rating GmbH	0.24%	0.26%	0.25%
Feri EuroRating Services AG	0.84%	0.78%	0.76%
BCRA-Credit Rating Agency AD	0.02%	0.03%	0.00%
Creditreform Rating AG	0.51%	0.54%	0.51%
Scope Ratings AG (previously PSR Rating GmbH)	0.10%	0.20%	0.17%
GBB-Rating Gesellschaft für Bonitätsbeurteilung GmbH	0.34%	0.34%	0.33%
ASSEKURATA (Assekuranz Rating-Agentur GmbH)	0.30%	0.31%	0.27%
ARC Ratings, S.A. (previously Companhia Portuguesa de Rating, S.A)	0.04%	0.03%	0.02%
AM Best Europe-Rating Services Ltd. (AMBERS)	0.75%	0.73%	0.47%
DBRS Ratings Limited	0.82%	1.23%	1.39%
CRIF S.p.A.	0.35%	0.77%	0.07%
Capital Intelligence (Cyprus) Ltd	0.00%	0.00%	0.03%
European Rating Agency, a.s.	0.00%	0.00%	0.00%
Axesor SA	1.85%	1.41%	0.73%
The Economist Intelligence Unit Ltd	6.48%	4.41%	1.05%
Dagong Europe Credit Rating Srl (Dagong Europe)	0.01%	0.01%	0.01%
Spread Research	0.09%	0.09%	0.13%
EuroRating Sp. z o.o.	0.01%	0.01%	0.00%
Sub-total	***12.76%***	***11.15%***	***6.18%***
HHI-index	**2,787**	**2,916**	**3,189**

Source: Europe Economics' analysis of CRAs' transparency reports.
Note: We exclude the revenues from CERVED and ICAP as these provide a large number of credit scores primarily on small local corporations, and are not directly comparable to other CRAs.

As noted above, we have excluded revenues generated by CERVED and ICAP. On a combined basis these two firms accounted for about 0.8 per cent of total revenues from rating and ancillary activity in 2014 and slightly over two per cent in 2012 and 2013. As such the overall position and the HHI are not significantly affected by this treatment.

We have also compared the results of our analysis to ESMA's market shares calculated for 2012 and 2013.[18] The inclusion by ESMA of CERVED and ICAP naturally drives small differences. The difference in data source (ESMA does not rely on the Transparency Reports) also results in slightly different results (the most substantial differences, and the only ones above 1 per cent, relate to the share attributed to S&P

[18] ESMA (2014) "Credit rating agencies' 2014 market share calculations for the purposes of Article 8d of the CRA Regulation".

which is about four per cent lower in our table, and the share of the EIU which is about four per cent higher). This means that the reported HHI in our analysis is slightly below that calculated by ESMA – although the interpretation remains that the HHI indicates a highly concentrated market.

Using total revenues also does not enable a consideration of market shares for different instrument groups, or geographic areas.

Market shares based on credit rating activities only

In order to achieve a more granular picture of concentration, we first consider the overall picture focusing solely on revenue from ratings activity. In order to avoid any distortions from varying definitions of ancillary services, we calculate market shares based only on revenues from credit rating activities, using data from the transparency reports.

As before, we have not included revenues generated by CERVED and ICAP as these firms provide a large number of credit scores primarily on small local corporations, and, in our understanding, are not therefore directly comparable to the revenues generated by the other registered CRAs.

We describe below the revenues generated from credit ratings activity in each of the segments, as well as the overall position. The split between the segments has been relatively stable over this period.

Table 2: **Revenues for credit rating activities only, 2012-2014**

	2012		2013		2014	
Corporate	608,821,532	68.9%	638,564,716	69.0%	696,453,677	69.8%
Structured	175,280,298	19.8%	184,060,592	19.9%	188,755,084	18.9%
Sovereign	99,437,969	11.3%	103,295,525	11.2%	112,886,067	11.3%
Total	883,539,799	100.0%	925,920,833	100.0%	998,094,828	100.0%

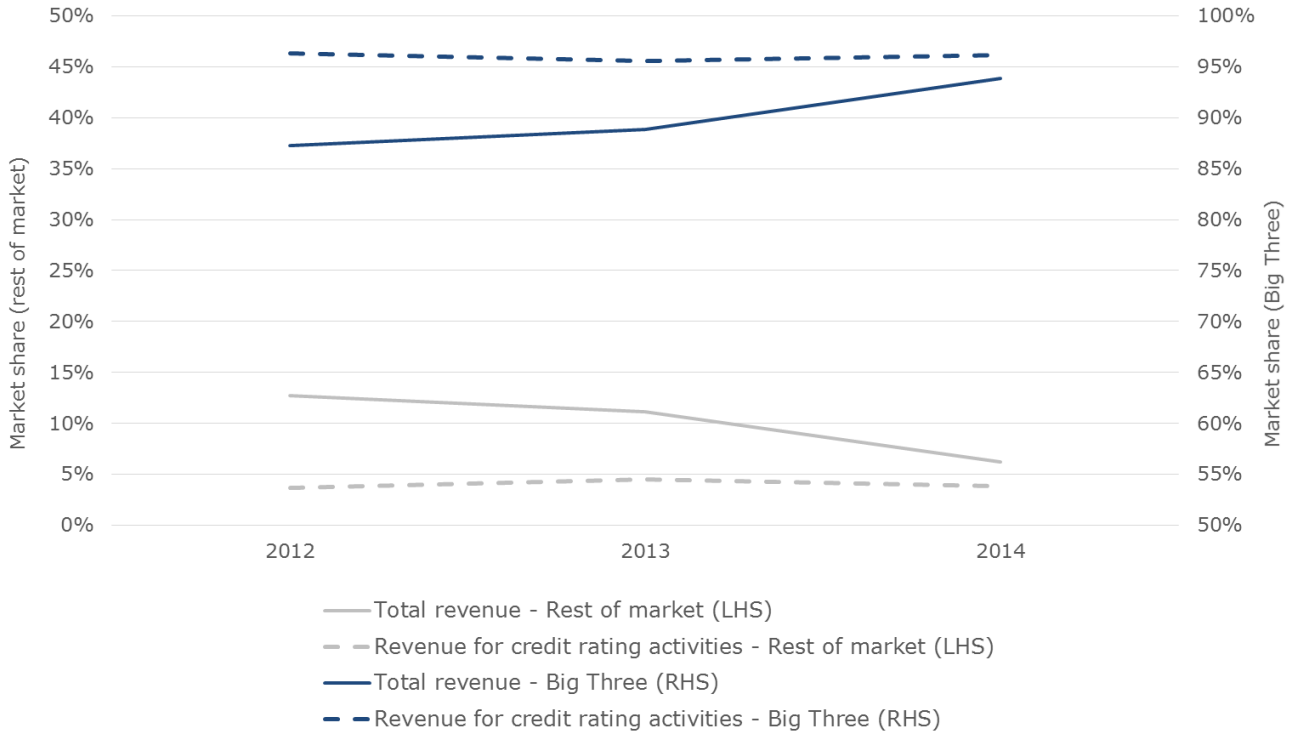
Table 3: Market shares for credit rating activities only, all instruments.

CRA	2012	2013	2014
Moody's	39.18%	37.51%	36.50%
Fitch	20.37%	18.44%	19.47%
S&P	36.80%	39.58%	40.17%
Sub-total	***96.35%***	***95.53%***	***96.14%***
Euler Hermes Rating GmbH	0.26%	0.28%	0.25%
Feri EuroRating Services AG	0.02%	0.04%	0.05%
BCRA-Credit Rating Agency AD	0.02%	0.04%	0.00%
Creditreform Rating AG	0.31%	0.32%	0.30%
Scope Ratings AG (previously PSR Rating GmbH)	0.11%	0.21%	0.16%
GBB-Rating Gesellschaft für Bonitätsbeurteilung GmbH	0.34%	0.34%	0.31%
ASSEKURATA (Assekuranz Rating-Agentur GmbH)	0.29%	0.29%	0.22%
ARC Ratings, S.A. (previously Companhia Portuguesa de Rating, S.A)	0.05%	0.03%	0.02%
AM Best Europe-Rating Services Ltd. (AMBERS)	0.49%	0.43%	0.49%
DBRS Ratings Limited	0.95%	1.38%	1.48%
CRIF S.p.A.	0.29%	0.63%	0.05%
Capital Intelligence (Cyprus) Ltd	0.00%	0.00%	0.03%
European Rating Agency, a.s.	0.00%	0.00%	0.00%
Axesor SA	0.00%	0.01%	0.03%
The Economist Intelligence Unit Ltd	0.40%	0.38%	0.39%
Dagong Europe Credit Rating Srl (Dagong Europe)	0.01%	0.01%	0.01%
Spread Research	0.05%	0.05%	0.05%
EuroRating Sp. z o.o.	0.05%	0.05%	0.02%
Sub-total	***3.65%***	***4.47%***	***3.86%***
HHI-index	**3,306**	**3,317**	**3,328**

Source: Europe Economics' analysis of CRAs' transparency reports.

The market shares for three largest CRAs and the rest of the market are summarised in the figure below. The figure shows market shares based on total revenue (i.e. revenue from credit rating activities and ancillary services) and on revenue from credit rating activities only.

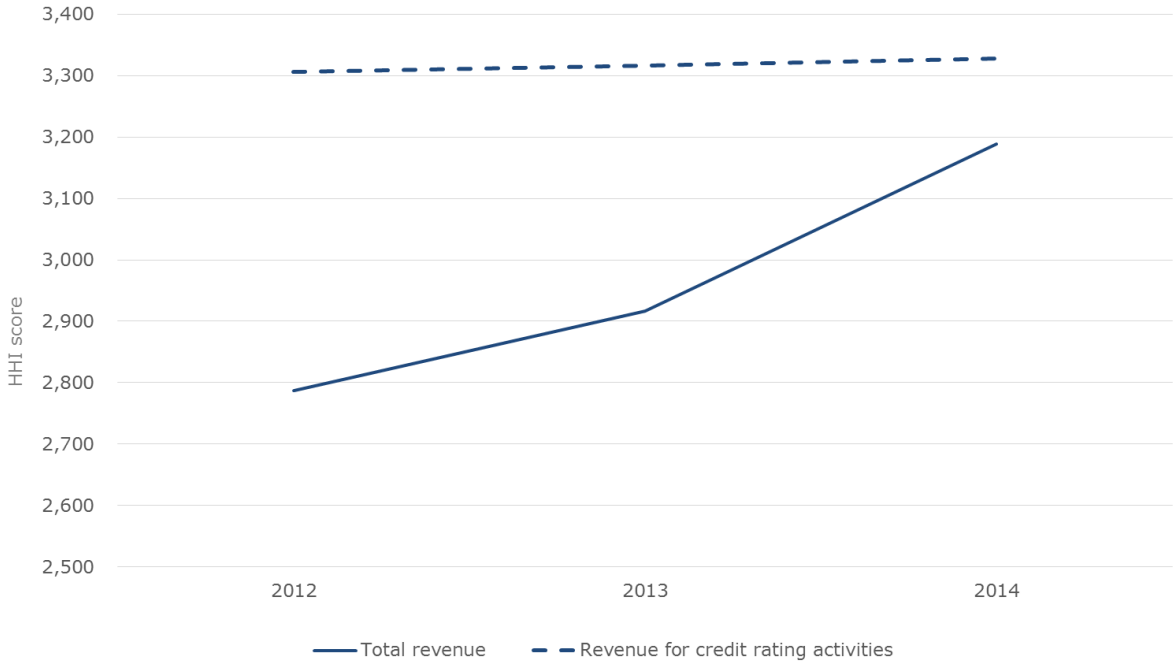
Figure 1: Market shares based on total revenue and revenue from credit rating activities only for the 'Big Three' and rest of market (2012-2014).



Source: Europe Economics' analysis of CRAs' transparency reports.

The evolution of the HHI based on total revenue and revenue from credit rating activities is summarised in Figure 2 below.

Figure 2: HHI based on total revenue and revenue from credit rating activities only (2012-2014).



Source: Europe Economics' analysis of CRAs' transparency reports.

Most of the market share gains made by smaller CRAs relate to the corporate bond market. However, in contrast to the sovereign and SFI segments no market participant outside the 'traditional' three CRAs operating on a global level has achieved an overall market share above one per cent. We do note that some at least of the smaller CRAs have achieved more within specific market niches (e.g. of smaller issuers based in particular Member States).

Table 4: Market shares for corporate bond ratings, ratings revenue only.

CRA	2012	2013	2014
Moody's	38%	36%	35%
Fitch	18%	16%	16%
S&P	41%	44%	45%
Sub-total	**96.73%**	**96.14%**	**97.02%**
Euler Hermes Rating GmbH	0.34%	0.37%	0.33%
Feri EuroRating Services AG	0.00%	0.03%	0.05%
BCRA-Credit Rating Agency AD	0.03%	0.05%	0.00%
Creditreform Rating AG	0.43%	0.44%	0.40%
Scope Ratings AG (previously PSR Rating GmbH)	0.09%	0.17%	0.11%
GBB-Rating Gesellschaft für Bonitätsbeurteilung GmbH	0.50%	0.49%	0.44%
ASSEKURATA (Assekuranz Rating-Agentur GmbH)	0.42%	0.42%	0.32%
ARC Ratings, S.A. (previously Companhia Portuguesa de Rating, S.A)	0.07%	0.04%	0.03%
AM Best Europe-Rating Services Ltd. (AMBERS)	0.70%	0.62%	0.71%

DBRS Ratings Limited	0.10%	0.15%	0.32%
CRIF S.p.A.	0.43%	0.91%	0.07%
Capital Intelligence (Cyprus) Ltd	0.00%	0.00%	0.04%
European Rating Agency, a.s.	0.00%	0.00%	0.00%
Axesor SA	0.00%	0.01%	0.05%
The Economist Intelligence Unit Ltd	0.00%	0.00%	0.00%
Dagong Europe Credit Rating Srl (Dagong Europe)	0.01%	0.01%	0.01%
Spread Research	0.08%	0.08%	0.08%
EuroRating Sp. z o.o.	0.07%	0.07%	0.03%
Sub-total	**3.27%**	**3.86%**	**2.98%**
HHI-index	**3,423**	**3,490**	**3,571**

Source: Europe Economics' analysis of CRAs' transparency reports.

The above table shows the pan-EU position. Some of the smaller agencies have larger market shares in particular niches, e.g. amongst SMEs in particular countries. Similarly, AM Best's activity is focused upon insurers' bond issuance.

Only a small number of CRAs are active in the SFI segment. It is noteworthy however that DBRS has built market share over the past few years.

Table 5: Market shares for structured finance products, ratings revenue only.

CRA	2012	2013	2014
Moody's	38%	37%	39%
Fitch	28%	25%	26%
S&P	29%	31%	28%
Sub-total	**95.15%**	**92.93%**	**92.72%**
Euler Hermes Rating GmbH	0.10%	0.11%	0.11%
Feri EuroRating Services AG	0.00%	0.00%	0.00%
BCRA-Credit Rating Agency AD	0.00%	0.00%	0.00%
Creditreform Rating AG	0.08%	0.08%	0.11%
Scope Ratings AG (previously PSR Rating GmbH)	0.23%	0.44%	0.43%
GBB-Rating Gesellschaft für Bonitätsbeurteilung GmbH	0.00%	0.00%	0.00%
ASSEKURATA (Assekuranz Rating-Agentur GmbH)	0.00%	0.00%	0.00%
ARC Ratings, S.A. (previously Companhia Portuguesa de Rating, S.A)	0.00%	0.00%	0.00%
AM Best Europe-Rating Services Ltd. (AMBERS)	0.00%	0.00%	0.00%
DBRS Ratings Limited	4.41%	6.42%	6.62%
CRIF S.p.A.	0.00%	0.00%	0.00%
Capital Intelligence (Cyprus) Ltd	0.00%	0.00%	0.00%
European Rating Agency, a.s.	0.00%	0.00%	0.00%
Axesor SA	0.00%	0.00%	0.00%
The Economist Intelligence Unit Ltd	0.00%	0.00%	0.00%
Dagong Europe Credit Rating Srl (Dagong Europe)	0.02%	0.02%	0.02%
Spread Research	0.00%	0.00%	0.00%
EuroRating Sp. z o.o.	0.00%	0.00%	0.00%
Sub-total	**4.85%**	**7.07%**	**7.28%**
HHI-index	**3,106**	**2,990**	**3,002**

Source: Europe Economics' analysis of CRAs' transparency reports.

As with the SFI segment, very few CRAs report notable revenues attributable to sovereign bond ratings. The EIU is the only CRA, outside the three largest, global CRAs, with market share above one per cent here.

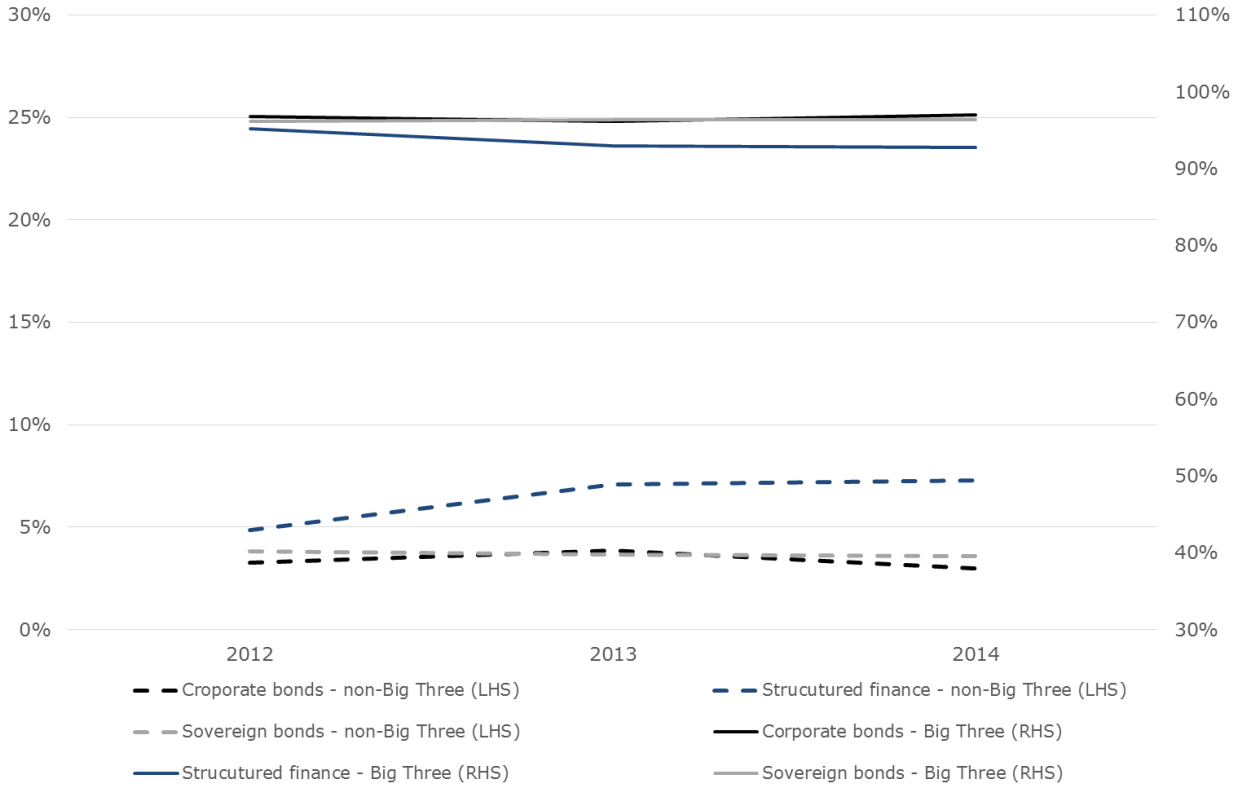
Table 6: Market shares for sovereign bonds, ratings revenue only.

CRA	2012	2013	2014
Moody's	48%	48%	40%
Fitch	21%	19%	28%
S&P	27%	29%	28%
Sub-total	**96.17%**	**96.34%**	**96.41%**
Euler Hermes Rating GmbH	0.00%	0.00%	0.00%
Feri EuroRating Services AG	0.21%	0.20%	0.14%
BCRA-Credit Rating Agency AD	0.02%	0.01%	0.00%
Creditreform Rating AG	0.00%	0.00%	0.00%
Scope Ratings AG (previously PSR Rating GmbH)	0.00%	0.00%	0.00%
GBB-Rating Gesellschaft für Bonitätsbeurteilung GmbH	0.00%	0.00%	0.00%
ASSEKURATA (Assekuranz Rating-Agentur GmbH)	0.00%	0.00%	0.00%
ARC Ratings, S.A. (previously Companhia Portuguesa de Rating, S.A)	0.00%	0.00%	0.00%
AM Best Europe-Rating Services Ltd. (AMBERS)	0.00%	0.00%	0.00%
DBRS Ratings Limited	0.00%	0.00%	0.00%
CRIF S.p.A.	0.00%	0.00%	0.00%
Capital Intelligence (Cyprus) Ltd	0.00%	0.00%	0.00%
European Rating Agency, a.s.	0.00%	0.00%	0.01%
Axesor SA	0.00%	0.00%	0.00%
The Economist Intelligence Unit Ltd	3.56%	3.42%	3.41%
Dagong Europe Credit Rating Srl (Dagong Europe)	0.04%	0.03%	0.03%
Spread Research	0.00%	0.00%	0.00%
EuroRating Sp. z o.o.	0.00%	0.00%	0.00%
Sub-total	**3.83%**	**3.66%**	**3.59%**
HHI-index	**3,508**	**3,521**	**3,199**

Source: Europe Economics' analysis of CRAs' transparency report.

The shares for each of the three products are illustrated in Figure 3 below.

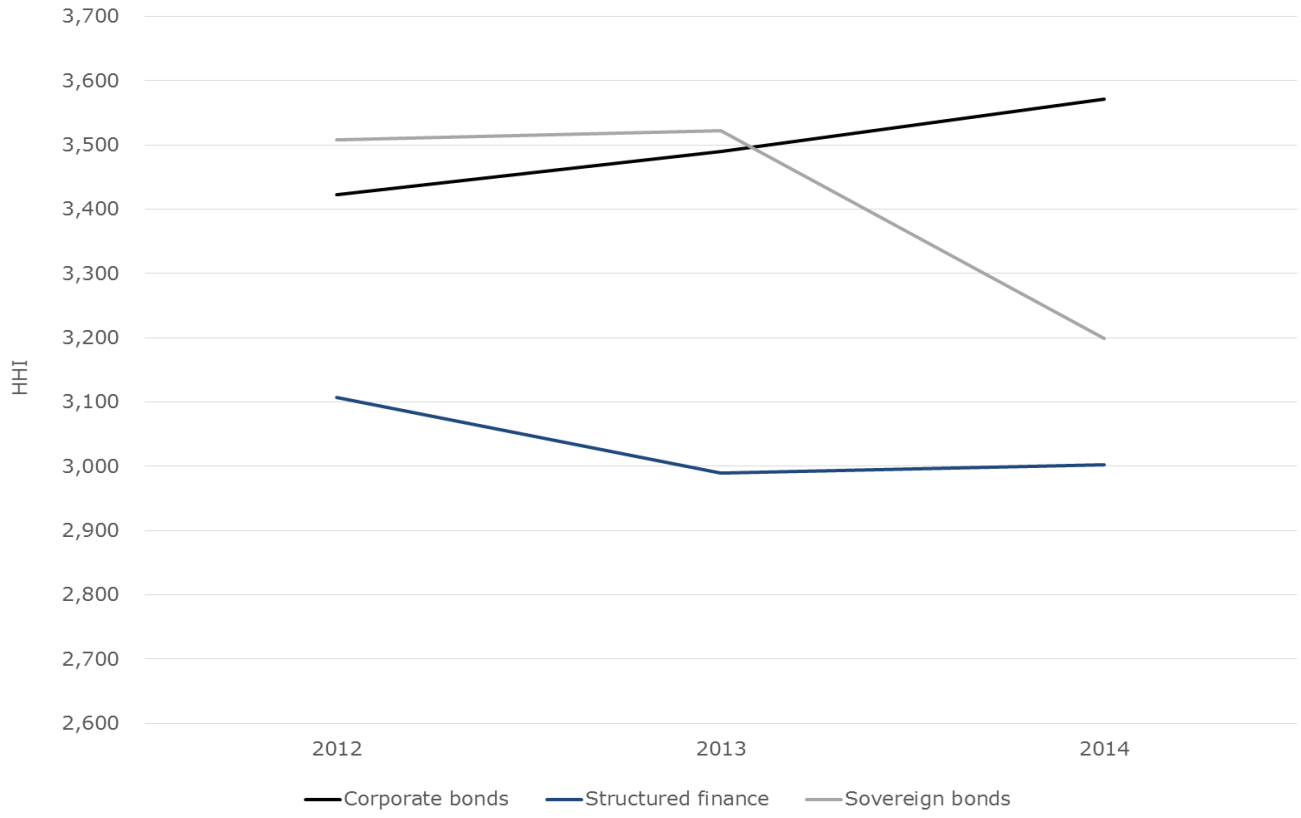
Figure 3: Market shares for Big Three and non-Big Three CRAs by product (2012-2014), ratings revenue only.



Source: Europe Economics' analysis of CRAs' transparency report.

Figure 4 illustrates trends in the HII for each of the three products.

Figure 4: HHI by product (2012-2014), ratings revenue only.



Source: Europe Economics' analysis of CRAs' transparency report.

Market shares based on outstanding ratings

As an alternative measure, we also used the data on outstanding ratings from CEREP to calculate market shares and HHI concertation scores, focussing on ratings provided in the EU. Market shares calculated on ratings rather than revenues can provide a clearer picture of the share of supply held by each CRA in various instrument markets (notably as it is more straightforward to separate out ratings compared to revenues). There are however a number of features of ratings data collected for the CEREP database which should inform the interpretation of market shares.

Data reported for SFIs and covered bonds is at the issuance level, but all other categories of credit ratings are reported at issuer level. This means that only one rating per entity is reported for corporate financial, non-financial and insurance entities as sovereigns. The impact of ratings issued in respect of large corporations is therefore likely to be understated. Similarly, the market share of CRAs that rate a large number of small entities will be overstated.[19]

[19] As with previous market shares, we exclude ICAP and CERVED from our analysis.

The table below presents the evolution of HHI scores for each rating type from 2008 to 2014.[20]

Table 7: HHI scores for EU ratings.

Rating type	2008	2009	2010	2011	2012	2013	2014
Financial	2,661	2,641	2,468	2,459	2,472	2,518	2,419
Non-Financial	2,958	3,042	2,959	2,904	2,779	2,802	2,844
Insurance	3,817	3,608	3,614	3,636	3,623	3,688	3,762
Sovereign	2,903	3,058	3,180	3,259	3,165	3,140	3,142
Structured finance	3,310	3,304	3,288	3,198	3,137	3,091	3,025

Source: Europe Economics analysis of CEREP data.

We compare these concentration scores with those available from the USA. As can be seen, the HHI scores tend to be somewhat similar in the USA (although at face value those for financials' corporate bonds are notably higher in the USA). In all cases, moreover, the HHIs indicate that all of the markets are highly concentrated. However, drawing definitive comparisons should be avoided given the scepticism around the reliability of outstanding ratings as a measure of market structure.

Table 8: HHI scores for the USA.

Rating type	2009	2010	2011	2012	2013	2014
Financial	3,370	3,720	3,850	4,160	4,020	3,990
Non-Financial	3,270	3,790	3,180	3,020	3,000	3,030
Insurance	4,020	4,050	3,840	3,760	3,720	3,680
Sovereign	2,350	2,830	2,650	2,470	2,500	2,460
Structured finance	2,710	2,820	3,180	3,380	3,440	3,480

Source: U.S Securities and Exchange Commission (2014) "Annual Report on Nationally Recognized Statistical Rating Organizations".

Summary of market share calculations

The market share calculations and HHI scores show that the CRA market is highly concentrated, both overall and at the individual product category level. Measures of market share and HHI based on total revenues (from rating activity and ancillary services) imply lower levels of concentration compared to measures based on revenue from credit rating activity alone. However, this is likely to be driven by different treatment of 'ancillary services' across CRAs. For example, Fitch's market share based on credit rating activity alone is notably greater than when based on all revenue, as Fitch does not provide any ancillary services and thus its 'total' revenues are not comparable to other CRAs. That said, the lower levels of concentration based on total revenue could also indicate that smaller CRAs make up proportionately more of their revenues from ancillary services than the larger CRAs, possibly as a means of gaining

[20] ESMA's Technical Advice to the Commission presents the market shares for different ratings types and geographic areas based on outstanding ratings, and we do not repeat that analysis here.

access to and acceptance by the market. For instance, the combined market share of the three biggest CRAs based on total revenues (87, 89 and 93 per cent between 2012 and 2014) is notably lower than that based on rating activity only (98, 96 and 96 per cent across the same period).

Concentration also varies by the type of rating, with corporate bonds being the most concentrated, followed by sovereigns and then SFIs (see Table 4, Table 5 and Table 6).

Looking more closely at the different ratings types (this time based on outstanding ratings), financial and non-financial bonds are the least concentrated, followed by SFIs and sovereign, and lastly insurance bonds (see Table 7). However, we note that comparing concentration measures based on outstanding ratings may be misleading as CEREP data record ratings per issuance for SFIs and covered bonds, but per issuer for all other bonds.

The evolution of concentration for the total CRA market (based on all revenue measures) shows an increase over time, and the same applies to all corporate bonds based on revenues. Concentration in the SFI and sovereign ratings has declined slightly over between 2012 and 2014. Interestingly, Table 7 shows that between 2009 and 2014 concentration has declined slightly for most rating types, with the exception of sovereign bonds.

Impacts of market entry

Many of the provisions of the CRA Regulation seek to encourage competition, e.g. through market entry. There are a number of hypotheses about the impacts of increased entry and competition in the CRA market, which we seek to analyse in the following section. In this section we present the analysis of CEREP data we undertook to investigate whether there is evidence to answer the following research questions.

- Does market entry lead to ratings inflation on the part of incumbents? This could arise in a situation where CRAs compete for market share and use ratings inflation to attract new / secure existing issuers.
- Are new entrants more or less lenient (favourable) in their ratings compared to incumbents?
- Does market entry lead to improved accuracy and quality of ratings? This could arise where CRAs compete on quality and new entrants are of sufficiently high quality to pose a threat to incumbents.

We used data on outstanding ratings from the CEREP database up to September 2015, which were kindly provided to us as an extraction by ESMA. A description of our approach to using these data is presented in the Appendix. A key limitation of the data available to us is that ratings are not identifiable on an issue or issuer basis, and thus it is not possible for us to compare ratings over time and across different CRAs for the same issuances or issuers. This limits the ability to detect, for example, ratings inflation or a change in the quality of ratings, as any visible changes in average ratings scores, or default and downgrade rates could be driven by changes in issues or issuers rated rather than a fundamental change in CRA behaviour.

Another limitation is the length of time series – the time periods before and after market entry points are very limited and do not provide enough data points to reveal clear trends. Further, in some markets there are very few active CRAs which also makes it difficult to identify clear trends.

Notwithstanding these limitations, we have analysed the impacts of market entry on the specific market segments (e.g. different type of corporate bonds, different sub-

assets of SFI etc.). The analysis below focuses upon non-financial corporate bonds, because there have been more entrants here in the last few years. As noted the CEREP data probably has too short a history and the CRA3 Regulation is probably too recent to find any strong effects. Moreover, with so much new regulation coming out, and ongoing economic conditions that can be somewhat volatile, there are likely to be plenty of confounding effects as well. This means that accuracy will be very hard to measure over such a short time period.

Summary of our approach

In order to answer the research questions we created a set of variables to proxy each question. Rating accuracy is measured by the frequency and size of subsequent ratings revisions in terms of the number of downgrades and defaults before and after entry. The same variables (downgrades and defaults) are used to look at whether entry is associated with ratings inflation in the market.

To evaluate whether entrants are more lenient than the incumbents the average ratings for entrants and incumbent (weighted to the size of the CRAs) have been compared across time. This is a fairly crude measure since it does not take into account the differences between the instruments they have been rating which can result in systematic differences in the average ratings between the groups.

The variables are defined and described in more detail in the Appendix.

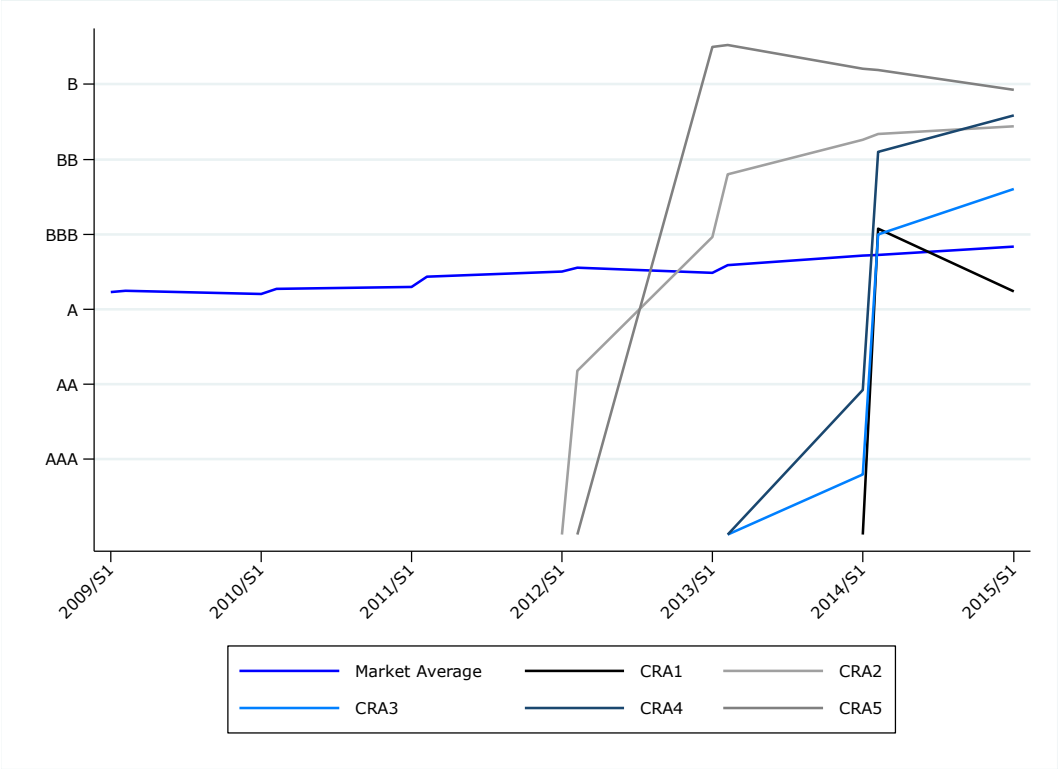
Impacts of market entry on non-financial corporate bonds

Our results suggest that entrants in some instrument sub-groups are not tending towards higher ratings than the overall market average. This is most clearly seen in corporate bonds – Figure 5 below shows the results in the non-financial corporate ratings market (the results are somewhat similar across the other markets such as in the market for financial corporates, covered bonds and sovereign).

However, it is also possible that, when entrants' ratings are below those of the overall market, rather than being less lenient, new entrants may simply be more likely to rate issuers of poorer quality compared to incumbent CRAs, thus showing lower average ratings. This means that we also need to consider subsequent downgrades to assess the original accuracy.

It is also worth noting that the path of the 'incumbents' in the market is largely stable.

Figure 5: Average ratings and entry in non-financial corporate ratings market.

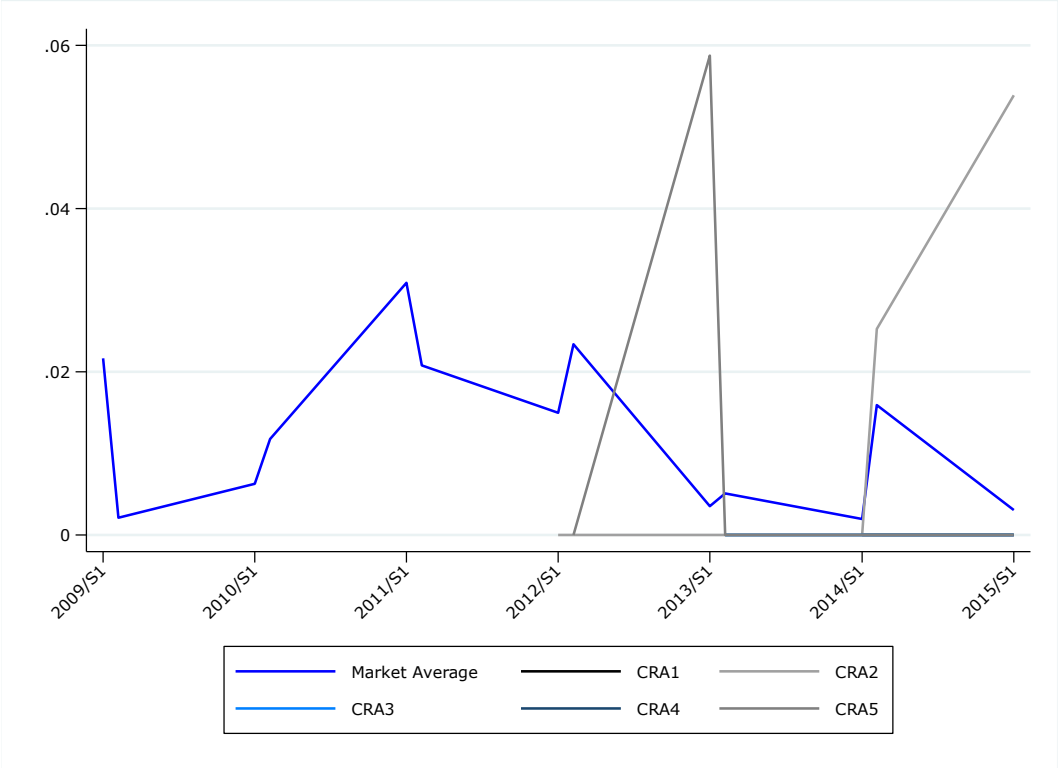


Source: Europe Economics' analysis of CEREP data.
Key: Market entrants identified by individual CRA lines. The "Market Average" represents the average of all incumbent CRAs else.
Note: the entrants' lines begin at the date of market entry (not at the date of the provision of the first rating), hence appear to jump from '0' on the x-axis.

We now consider the rate at which downgrades have been made. Due to the limitations in the data available to us we are not able to trace individual instruments or issuers from first rating through to the earlier of maturity or June 2015. Instead, we consider the frequency with which a non-financial corporate bond of a given notch at the start of each six month period suffers a downgrade during those six months.

In 'AAA' and 'AA' ratings classes, the entrants' ratings have not as yet suffered a downgrade. Given a maximum subsequent period of no more than three years this is perhaps not wholly surprising, but obviously does not speak to inherently low rating accuracy. We set out below the position with 'A' notched bonds.

Figure 6: Downgrades of 'A' rated non-financial corporate bonds.

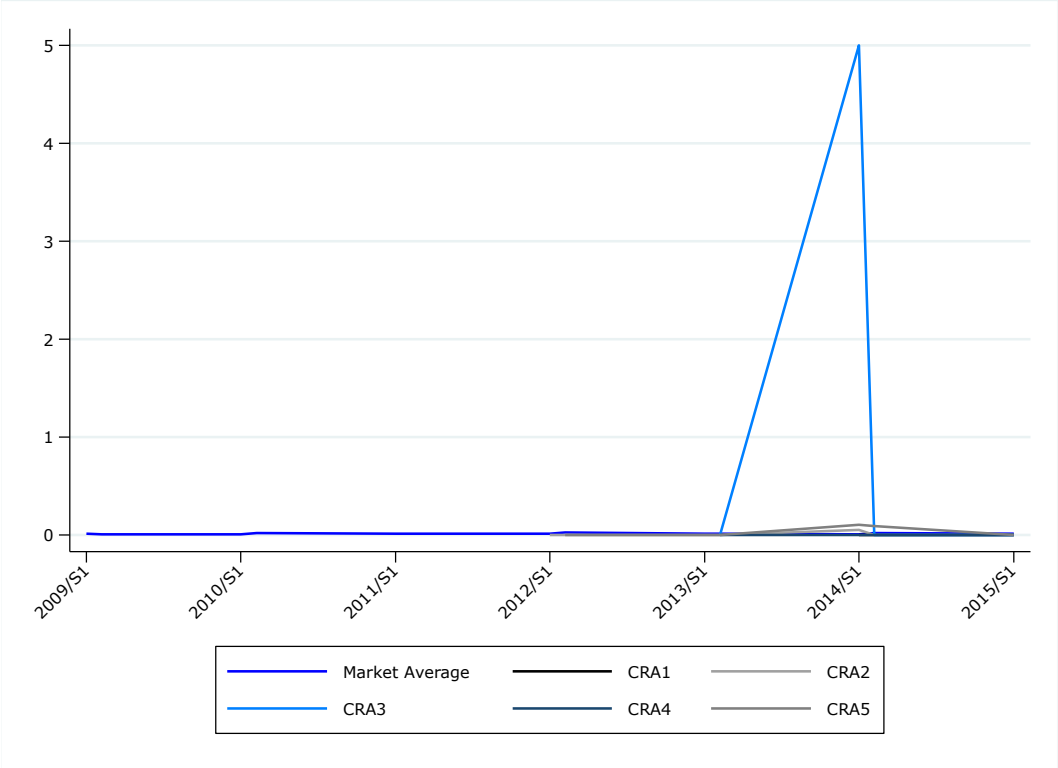


Note: The y-axis represents the total number of ratings that were rated 'A' in the BOP that have been rated worse than 'A' in the EOP by a CRA, divided by the total number of ratings for that CRA, i.e. the percentage of downgraded 'A' ratings for each CRA. The percentage was scaled up by 100.
Source: Europe Economics' analysis of CEREP data.

The pool of bonds in the 'market average' group are likely to have been originated before those of any of the 'entrants' (because bonds tend to a maturity of above three years). In addition, the data are clearly quite volatile (which in part is due to the relatively small number of ratings being made by the 'entrants'. Nevertheless, the results are weakly suggestive (no more) of at least some accuracy issues. There is no strong sign of deterioration in the rating performance of the 'market average' group, who largely represent the 'incumbent' CRAs. (And, indeed, if anything the opposite is suggested).

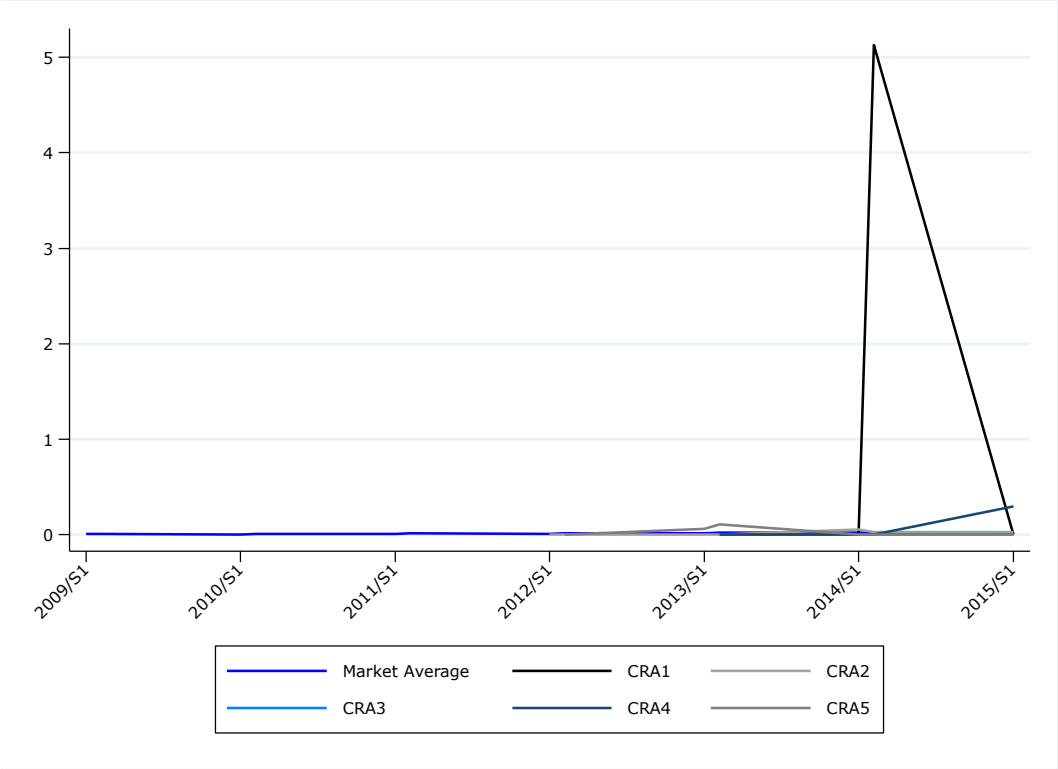
We now look below at the downgrade rates around the boundary between investment and non-investment grades (where the pay-off to an issuer in terms of the par yield on the bonds is likely to be greater).

Figure 7: Downgrades of 'BBB' rated non-financial corporate bonds.



Note: The y-axis represents the total number of ratings that were rated 'BBB' in the BOP that have been rated worse than 'BBB' in the EOP by a CRA, divided by the total number of ratings for that CRA, i.e. the percentage of downgraded 'BBB' ratings for each CRA. The percentage was scaled up by 100.
Source: Europe Economics' analysis of CEREP data.

Figure 8: Downgrades of 'BB' rated non-financial corporate bonds.



Note: The y-axis represents the total number of ratings that were rated 'BB' in the BOP that have been rated worse than 'BB' in the EOP by a CRA, divided by the total number of ratings for that CRA, i.e. the percentage of downgraded 'BB' ratings for each CRA. The percentage was scaled up by 100.
Source: Europe Economics' analysis of CEREP data.

The frequency of downgrades on both sides of this boundary tend towards the 'entrants' having higher frequency of downgrade performance. If this was concentrated only above the boundary it could speak to some element of gaming in ratings, or ratings inflation. Whilst this is partly the case for at least one of the CRAs, the number of ratings produced here is low, i.e. there is a real danger of over-interpretation. That the increased frequency across all the entrants tends to both above and below this boundary is more suggestive — again weakly, given the numerous confounding factors — of at least some of the 'entrants' suffering teething problems with the quality and accuracy of their ratings methodology.

We do not show the defaults analysis, as the number of defaults is extremely low, and we do not judge it to add significantly to the information above.

We also analysed the changes in the transition matrices of incumbent CRAs before and after market entry to see whether entry affected incumbents' rating behaviour. We also considered entrants' transition matrices. Transition matrices show the percentage of ratings in each rating category which have been downgraded within a specified period (i.e. from the Beginning of the Period (BOP) to the End of the Period (EOP)).

We selected a single market entry point – 2012/S1 – and calculated the average transition percentages for the three largest CRAs[21] before entry and after entry.[22]

Figure 9 below illustrates our findings for the "BBB" ratings category. This shows the percentage of bonds that started the BOP as BBB-rated (or equivalent[23]) and ended the period as either still BBB-rated or another rating. This transition between BOP and EOP is shown for both before and after market entry. As can be seen, in the period before market entry around 60 per cent of incumbents' BBB-rated bonds began (in 2009/S1) and ended (2012/S1) the period as BBB-rated; just over ten per cent began as BBB-rated and were downgraded to BB. Similarly, after market entry around five per cent of incumbents' BBB-rated bonds at the BOP (2012/S2) were downgraded to BB by the EOP (2015/S1). This can be compared to entrants: in the period after entry around nine per cent began the period as BBB and were downgraded to BB at the end of the period.

Similar charts were generated for other ratings categories, but as these tell a similar story we have not included these here. An exception was for bonds rated AAA, as shown in Figure 10 below, where there were no entrant ratings.

Our analysis shows that in general the proportion of downgrades over the period after entry is lower than before entry among incumbents. This may simply reflect easing market conditions. There is no evidence to suggest that after market entry, incumbent CRAs inflated ratings as a defensive strategy against the entrants. Rather, the larger CRAs provided (marginally) more accurate ratings than the entrants. Therefore the data do not provide evidence for ratings inflation after market entry; if this were the case we might expect to see a higher proportion of downgrades in the period after market entry.

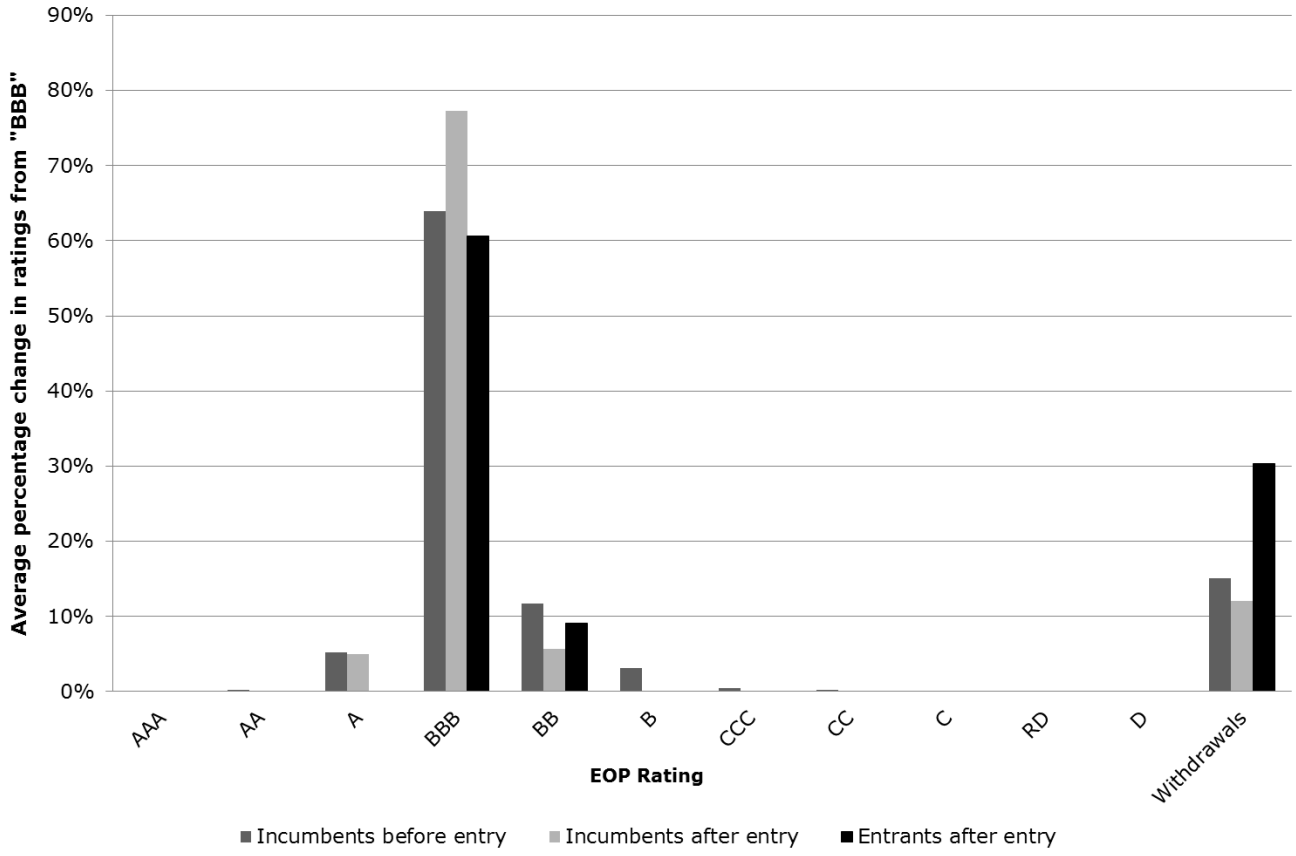
As with pervious analysis, as we cannot trace the same bonds over time it is likely that any trends are also influenced by external market conditions and therefore drawing strong conclusions about the impact of market entry is not possible.

[21] We chose the three largest CRAs as these were active throughout both before and after entry periods. Given the market share of these CRAs, the exclusion of other non-entrant CRAs will not make a difference to the outcomes.

[22] The "before entry" period was 2009/S1 – 2012/S1 and the "after entry" period was 2012/S2 – 2015/S1.

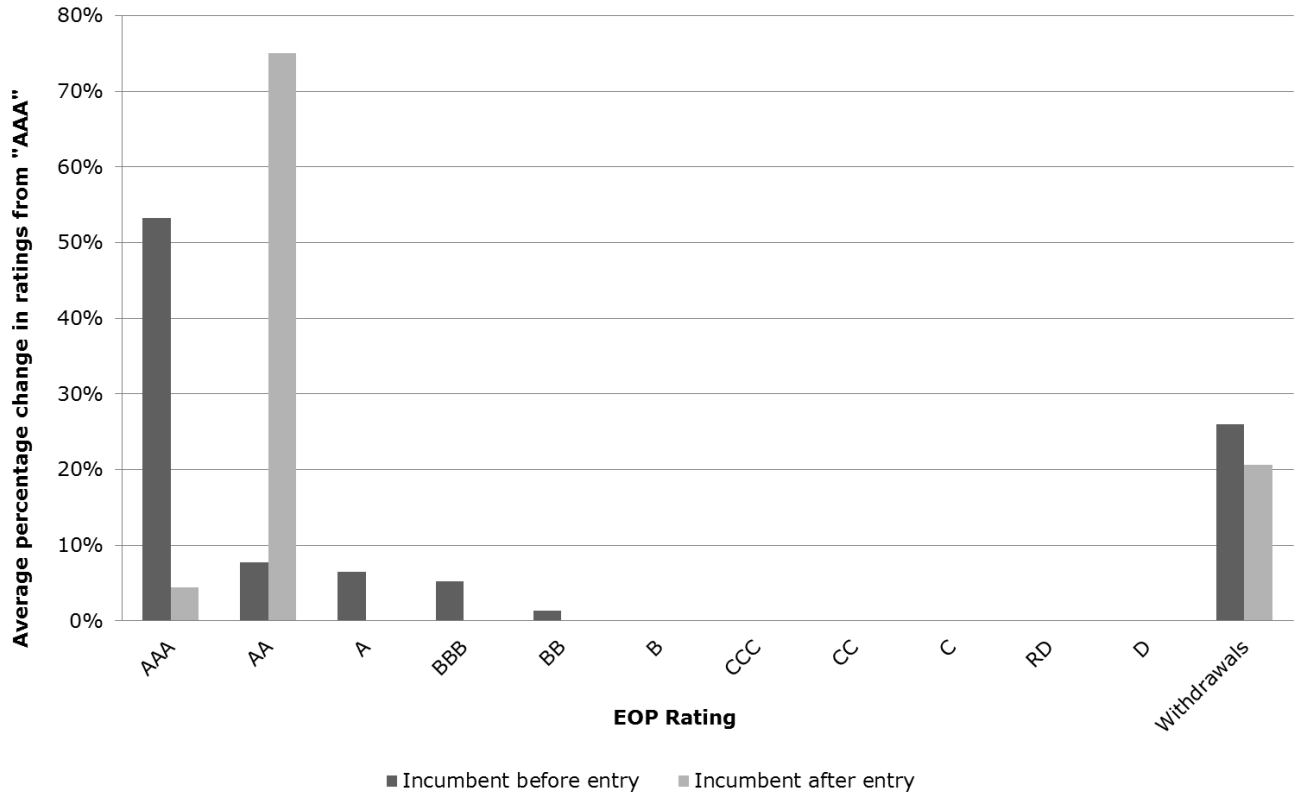
[23] Each CRA has a different ratings scale; the ratings shown in the chart align with the equivalent rating scale for each of the large CRAs.

Figure 9: Transition percentages of "BBB" rated bonds before and after market entry in non-financial corporate bonds, averaged across largest 3 CRAs and new entrants.



Note: "Before entry" = BOP 2009/S1 and EOP 2012/S1; "After entry" = BOP 2012/S2 and EOP 2015/S1.
Source: Europe Economic analysis of CEREP data.

Figure 10: Transition percentages of "AAA" rated bonds before and after market entry in non-financial corporate bonds, averaged across largest 3 CRAs.



Note: No entrants had rated AAA bonds in this period.
Source: Europe Economic analysis of CEREP data

Summary of CEREP data analysis

As noted above there are various confounding factors that limit interpretation of the analysis of the CEREP data. The data probably have too short a history and the CRA3 Regulation is probably too recent to find any strong effects. Moreover, other regulation coming out, and ongoing economic conditions will generate significant noise as well.

This, combined with the inability to compare ratings for the same issues and issuers across CRAs means that any conclusions drawn from our analysis should be treated with caution. (Our analysis perhaps highlights the value of collecting ratings information for individual issuances or issuers, with a standardised identification format across CRAs).

Notwithstanding the above, there are signs that at least some 'entrants' have suffered teething problems with the quality and accuracy of their ratings methodology. Further, we do not detect signs of ratings inflation or gaming of ratings, i.e. there is no evidence to date that ratings quality has been negatively affected following the entry of new CRAs to the market.

Factors influencing competition

In order to obtain a picture of the market as complete as possible, we have collected data from various market participants (CRAs, investors, corporate issuers, public

issuers and regulators) using a survey, as well as conducted structured interviews with CRAs, investors and issuers, where respondents had more flexibility in answering the questions. The first source of information provides a framework for our analysis, while the second offers more qualitative and nuanced views.

According to the CRAs that participated in our fieldwork the most important factors on which they compete are:

- Industry experience – Industry experience seem to be somewhat more important for structured financial instruments (SFI) than for corporate bonds. For SFI, all responding CRAs stated that industry experience is very important.
- Quality of rating processes – For both corporate bonds and SFI, all CRAs bar one stated quality of the rating processes as a very important factor on which they compete.
- CRA's relationships / reputation amongst investors – As in relation to the quality of rating processes, for both corporate bonds and SFI, all CRAs bar one stated reputation amongst investors to be a very important factor on which they compete.

Interestingly, the basis of competition presented by CRAs does not wholly tally with that presented by issuers. From the issuers' perspective CRAs compete predominantly on:

- The agency's reputation in the market (specifically the reputation amongst issuers), and
- The existing relationship with issuers, and hence the CRA's knowledge of the issuer.

Additional — less important — factors identified by issuers by which CRAs compete to win business are:

- Geographical coverage,
- The agency's rating methodologies, and, to a lesser extent,
- Cost.

Based on our work, public issuers have similar views to corporate issuers. The most important factor for them is an agency's reputation in the market, as this enables them to reach as wide an investor base as possible for the purposes of raising debt. Other key factors include the agency's knowledge and expertise, and their assessment of the agency's rating methodologies. Again, cost is of lesser importance.

It is worth noting the low weight of price as a competitive factor in the above. ESMA, in its Technical Advice,[24] notes that issuers would be very unlikely to change CRA in response to a 5–10 per cent price increase. An additional salient factor, over and above the discussion to date, is the relatively high switching cost identified by issuers as being associated with such a change of CRA.

The discrepancy between the answers of the CRAs and the issuers (both corporate and public) is likely to reflect the difference in objectives and incentives they face. While

[24] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraphs 140-143.

CRAs claim to focus on the quality of the services they provide, issuers point out that what is important for them are reputation among investors, the relationship with the CRA and a 'good' assessment of their own credit quality. If the issuers' answers, to our fieldwork and also to ESMA, to are more reflective of the real factors affecting competition, then they support the hypothesis that (at least to some extent) issuers do consider very closely the likely rating to be provided — given the capital cost impact of a notch change in rating this is wholly unsurprising. The importance of the better assessment of credit quality in the process of choosing a CRA by an issuer shows that there is scope for rating shopping and rating inflation — but without proving its existence. However, this mechanism is limited by reputational concerns – both issuers and CRAs acknowledge the fact that CRAs' reputation is crucial. As such, rating inflation might occur only to the extent to which it does not cause suspicion among investors, which has a link to the economic cycle.

This raises the question about what affects CRAs' reputation and how investors evaluate the quality of ratings produced by CRAs. According to our fieldwork, many investors focus on ratings from the three largest CRAs only. This finding was further supported by CRAs, issuers and investors. The dominant view was that end investors prefer ratings from the Big Three. This was either explained by a long historical record these agencies have or by the fact that their methodologies are already known to investors. The latter implies that investors are in general not willing to put extensive effort into familiarising themselves with methods and jargon used by other CRAs. Regarding the former, the historical record is particularly important for long-term investors for whom it is an indication of future sustainability and continuity of rating.

Moreover, according to investors, a long track record would allow the comparison of performance between 'new' CRAs and the established agencies. Additionally, the fieldwork suggested that many investors do not — as yet — trust the quality of ratings produced by smaller CRAs. This is partly due to a perceived insufficiency in track record (e.g. ratings not covering a full credit cycle) and also concerns around a lack of underlying process and predictability, i.e. ratings from smaller agencies were perceived by investors to be overly dependent on the analyst. The investment required of smaller CRAs to overcome such views would be substantial, with the future pay-offs uncertain. Investor scepticism about whether smaller CRAs will have the patience and resources for this, when looped back to issuers, is obviously unhelpful to these CRAs growing market share outside of particular areas of existing advantage (e.g. geographic niches, such as SME issuers in a particular country).

While the quality of ratings could, in time, be verified by undertaking an independent credit assessment, it is unlikely that smaller or less sophisticated investors have the capacity to conduct such analysis – at least much of the time (i.e. such analysis might be reserved for particularly material investments). At the same time, the interviews with (larger) investors indicated that even though they have internal models for assessing credit risk (and thus, are able to see whether the quality of ratings produced by large CRAs is actually high), many end investors usually rely much more on the ratings produced by the large agencies than their own analysis. As such, even if issuers solicit ratings from smaller CRAs, it is not clear that this would affect investors' choices in any way.

Our fieldwork showed that even when prompted by regulation to consider the use small CRAs, issuers generally have chosen / intend to choose the 'explain' route, and solicit ratings from the largest CRAs. A majority of regulators who responded to our survey agreed that issuers choose the 'explain' exemption, with only two (from eight respondents) suggesting otherwise, i.e. that small CRAs are being / would be appointed in response to Article 8d. The remaining regulators did not have any experience on that issue and thus were unable to assess the likelihood of increasing demand for small CRAs.

In terms of issuers' views on small CRAs, they were more likely to agree with the following statements:

- Small CRAs have an insufficient reputation among investors,
- Their geographical coverage is insufficient, and
- Investment in a relationship with a new CRA is likely too costly.

The statement from our survey which appears to have the least support from issuers is that small CRAs have too high fees. This is unsurprising in that entrants would likely need to price at a discount to the three main agencies. But, again, not a significant one as price is treated as a signal of quality – or at least, a low price can be seen by market participants as a signal of a likely low quality rating process.

The lack of sufficient reputation of small CRAs has also been confirmed by public issuers. All of our respondents stated that they agree or strongly agree with the statement that small CRAs have insufficient reputation among investors. Another key concern was that the quality of ratings coming from smaller CRAs has not yet been tested (eight out of ten public issuers agreed with this statement). This speaks to the view mentioned above that for investors historical record is one of the most important factors when choosing a CRA.

Similar findings stemmed from the corporate issuers. Apart from the fact that they are limited in their choice of a CRA by investors' preferences, an important factor for choosing a CRA seems to be coverage – either in terms of rated instruments or geographical span. Some issuers even suggested that having a broad coverage of comparable institutions (i.e. from the same sector) is more important than rating methodology per se. This means that the biggest agencies are likely to have an inherent advantage over the smaller ones. The cost of obtaining a rating was a less important consideration than the high costs of establishing relationships with new CRAs. Overall, it seems that mainly due to investors' preferences issuers are unlikely to solicit ratings from smaller CRAs.

A consequence of the above is that price is not the primary factor affecting competition between CRAs. While the number of responses we received on this topic from investors and issuers was limited, all indicated that the price elasticity regarding CRAs' fees is relatively low. Because other considerations (such as reputation, coverage, quality etc.) are more important, and because CRAs' fees account for a relatively small part of the total cost of raising debt (at least for larger issuers), issuers are not very sensitive to changes in price.

Price sensitivity may be greater among smaller issuers, whereby CRAs' fees are likely to represent a greater proportion of revenues. Further, smaller issuers may be more likely to consider appointing smaller CRAs over whom they may have more bargaining power (under the assumption that the very large CRAs may be less interested in obtaining business from small issuers).

The second rating price sensitivity might be slightly higher. However, with quality still being an important factor, a very low price might raise suspicion of lower standards, which would limit the extent to which issuers would actually choose cheaper rating services from smaller CRAs.

Investors can also be customers of the rating agencies: in particular, buying additional research and also, at least above set thresholds, often paying for the use of ratings in regulatory reporting. Investors again viewed themselves as fundamentally 'price takers', with limited scope for negotiation, as far as the largest CRAs are concerned.

Investor preferences are also a key element in the nature of competition in the credit rating market. The primary reason issuers seek out ratings from CRAs is to make their

debt offerings as attractive to investors as possible. Many issuers state they are advised by their investment banks as to which CRAs to obtain ratings from, based on the nature of the investor market. Our fieldwork strongly indicates that mainstream investors, although a heterogeneous group, strongly prefer ratings from the large, well-established CRAs. The reasons include:

- familiarly with existing CRA's methodologies and the costs associated with extending this to newer CRAs;
- risk-averse attitudes and the lack of historical track-records of newer CRAs; and
- external influences such as regulatory requirements driving decisions to only invest in assets rated by certain CRAs.

These factors apply to both end investors (for example, insurance or pension funds) and asset managers for whom the former are likely clients.

Among insurers, which represent a large proportion of the institutional investor space, Solvency I requirements (combined with national approaches to implementation) are considered a notable barrier to investing in assets rated by new CRAs. These impose strict limits on the credit quality that insurers could invest in, and stipulated approved CRAs.

Solvency II is more flexible and places no direct limitations on the types of investments insurers can engage in. There is also separate legal text (to be finalised shortly) that sets out a mapping between Solvency II's "Credit Quality steps" (the levels that determine the capital requirements) and all ESMA approved CRA ratings scales, such that insurers will know the capital requirements implied by all credit ratings from all CRAs. At the beginning of Solvency II deliberations such mapping was only available for the bigger CRAs. As such, when calculating capital requirements to date insurers in general only considered ratings from these CRAs so that they knew exactly where they stood in terms of Solvency II's credit quality steps. However, in the final version the mapping will cover all CRAs and therefore investors will be able to compare the different ratings scales in terms of the credit quality steps. There is therefore no 'mandate' to only invest in products rated by a selection of CRAs.)

The above leads to a conclusion that factors affecting competition are, by nature, structural. Both reputation and wider coverage require time to be established. Moreover, even if investors were encouraged to learn the terminology and methodology used by new entrants, this will also take time. Finally, as emphasised by the issuers, establishing a relationship with a new CRA is very costly and time consuming. As such, issuers and investors suggested there is unlikely to be any significant change in terms of market concentration and reliance on the large CRAs.

However, small CRAs might still enter or thrive in the market in one of the following two ways. First is to provide services in niche markets, where the large CRAs are not active (e.g. geographically defined sub-segments, such as smaller corporate bond/ paper issuers in a particular country) or else not established (e.g. new product categories). This could allow small CRAs to build reputation organically, but at a small scale. For investors that require from a CRA expertise regarding a particular region or product, such 'local' CRAs could be preferable to large, global ones. The second option is to enter the market as a member of a larger group offering non-rating (bit still relevant) services. This could give the entrants credibility from the start – even with little previous record the CRA could use the brand name (and associated reputation) of its mother company to appeal to investors and hence issuers. Moreover, assuming the group has a long track record, investors are likely to be slightly less concerned with risks related to long-term sustainability of ratings.

Implications of market concentration for financial stability

A highly concentrated CRA market, as evidenced above, may have implications for financial stability.

The Financial Stability Board has noted that:

"The "hard wiring" of CRA ratings in regulation has been incorrectly interpreted as providing those ratings with an official "seal of approval" and has reduced incentives for firms to develop their own capacity for credit risk assessment and due diligence. As demonstrated during the financial crisis, reliance on external credit ratings to the exclusion of internal credit assessments can be a cause of herding behaviour and of abrupt sell-offs of securities when they are downgraded ("cliff effects"). These effects can amplify pro-cyclicality and cause systemic disruption".[25]

ESMA identify a risk that CRAs could observe each other's behaviour and respond by posting similar opinions about the creditworthiness of issuers and instruments within a short timeframe. This could promote pro-cyclicality (as the ratings would move together with the economic cycle) and hence systemic risk. Sy (2009) uses the Asian crisis as an example where ratings were not dictated by the fundamentals and rating methodologies but by herding behaviour: "[f]or instance, although CRAs identified weaknesses in the financial systems of a number of Asian countries before the crisis, the maintenance of investment-grade ratings for many countries and the subsequent sharp downgrades during the crisis have been seen by some observers as imparting a pro-cyclical element, exacerbating herding behaviour before the crisis and contributing to massive turnaround in capital flows."[26] The author concludes that such unanticipated abrupt downgrades are shocks in themselves and can affect not only the downgraded issuer but the wider economy.

ESMA also notes that increased transparency introduced by the CRA3 Regulation could heighten this risk. On the other hand, given the current environment of increased scrutiny of CRAs the incentives to collude or relax quality standards should be lower than before. We have not identified evidence for any general relaxing of quality standards by CRAs, at least in corporate bonds.

Moreover, there is little evidence of herding behaviour among CRAs in the literature other than Sy. Kuvikowa (2015) argues that there are significant differences between the ratings of S&P and Moody's. These differences vary with the sector – the agencies seem to agree regarding the credit risk in the technology and communication sectors, but disagree in other sectors with Moody's being more conservative in rating other non-financial industries, and S&P being more conservative in rating financial sectors. The author concludes that "[t]hese results might be explained by the difference in rating methodologies or the higher costs of overrating financial institutions for S&P."[27] Moreover, Kuvikowa (2015) suggests that the differences have been deepening since 2005, as the statistical significance of the discrepancy between Moody's and S&P has increased over time. The author also suggests that the two agencies differ on the level

[25] Financial Stability Board (2014) "Thematic Review on FSB Principles for Reducing Reliance on CRA Ratings" Peer Review Report. Retrieved: http://www.financialstabilityboard.org/wp-content/uploads/r_140512.pdf.

[26] Sy (2009) "The systemic regulation of credit rating agencies and rated markets" *IMF Working Paper*, WP/09/129.

[27] Kuvikowa (2015) "Credit ratings and their information value: evidence from the recent financial crisis" *CERGE-EI Working Paper Series*, No 544.

of assigning investment and non-investment grade. The evidence, thus, suggests that the large CRAs, at least, are unlikely to simply mimic each other's behaviour.

Furthermore, Boumparis et al. (2014) argue that there are differences in the models used for rating sovereign bonds. The authors found that in this context "Moody's appears to be placing more weight (compared with the other CRAs) on fiscal stance developments".[28] Together with the conclusion from Livingston et al. (2010) that investors place more value on ratings from a more conservative agency, Boumparis et al. (2014) suggest that Moody's might indeed have a stronger impact on the Eurozone market than other CRAs. This however, does not seem to be related to market concentration but rather to the perceived value of the methodology used in the rating process.

Kuvikowa (2015) also analyses the impact of Fitch's entry on the discrepancies in ratings produced by Moody's and S&P. The author shows that as Fitch was increasing its market share the split between Moody's and S&P's ratings in the non-financial sectors was growing (there was no significant impact on the financial sectors). One explanation of this phenomenon could be that Fitch's entry induced Moody's and S&P to re-evaluate their ratings, which lead to a wider split between their opinions. Another explanation offered in Kuvikowa (2015) is that a new entrant provoked divergent strategies among the incumbents with some competing on quality (and thus becoming more conservative in their ratings) and some competing on market shares (and thus inflating ratings to attract more business). We should also note that the entry of Fitch as a well-founded new competitor in the market is quite unique. As such any extrapolations from its entry on other smaller CRAs should be treated with some caution. While the article indicates that competition triggers rating re-assessment and a reduction in quality of the existing ratings, the evidence is not sufficient to conclude how a further increase in the number of CRAs would affect the quality of credit ratings.

A more innocent interpretation of a degree of apparent herding (or responding to the signals of other CRAs) would be that such moves are broadly equivalent processing of the same pieces of information, at least in crisis conditions. It could also be explained by arguing that CRAs, due to similar incentives, have similar business strategies. Trouillet (2015) argue that "it may be better for a CRA to enjoy a high level of reputation by being lax and to be too severe when reputation falls".[29] This could explain a co-movement of CRAs' decisions along the business cycles without adhering to a herding hypothesis. As such, we believe that ESMA's analysis is not wholly compelling here. Nevertheless, we do recognise that some form of such an effect is conceivable.

Spillover effects, i.e. situations where a downgrade (upgrade) of one sovereign bond affect the ratings of sovereign bonds in surrounding countries, could be seen as another type of herding behaviour that affects financial stability. There is some evidence in the literature that such spillover effects exist.[30] However, the literature offers alternative explanations as to why they occur. For example, Ismailescu &

[28] Boumparis et al. (2014) "Has the crisis affected the behavior of the rating agencies? Panel Evidence from the Eurozone" *Economics Letters*, No 136, p 118-124.

[29] Trouillet (2015) "Credit rating agencies, shock and public expectations" Paris Dauphine University.

[30] Baum et al. (2014) provide a useful summary of other relevant papers. For more details see: Baum et al. (2014) "Credit rating agency downgrades and the Eurozone sovereign debt crises" *Economic Institute*.

Kazemi (2010) suggest that at least to some extent the spillover effect is transmitted through the common creditor.[31] They argue that "CDS premiums of non-event countries decline significantly in response to a positive event occurring in a country that shares the same lending bank."[32] Moreover, they recognise that enhancing the trading market in one country is likely to have a positive impact on neighbour countries. In such cases, spillover effects could, at least partly, be explained by CRAs incorporating additional information in the ratings rather than pure herding behaviour.

On the other hand, Afonso et al. (2012) claim that the fact that both downward and upward revisions are mostly not anticipated (i.e. the information is not incorporated by sovereign yield and CDS markets) may suggest that "in some cases rating events go for some reason astray of the underlying macro and fiscal fundamentals perceived by markets' participants".[33] The authors further argue that the impact of ratings spreads beyond the new information about the fundamentals, and that CRAs are not independent form each other in their ratings' adjustments.

Rating quality may not only be cyclical but also asymmetric in its response to changing fundamentals, depending on the phase of the cycle. Broto & Molina (2014) compare the development of sovereign ratings with the underlying economic fundamentals. They find that downgrades tend to be deep and quick, while upgrades are slow and gradual, and that good fundamentals slow the path of downgrades but have no impact on the path of upgrades. Broto & Molina (2014) conclude that "the reaction of the agency to the macroeconomic developments is noticeably different during downgrade and upgrade periods. Downgrade phases would have a pro-cyclical character, although lagged, whereas upgrade periods would tend to be sticky."[34] (We return to this discussion in Chapter 3). Any link between this and the existing market structure is, however, uncertain.

We note that many of the findings from the literature discussed in this section refer to sovereign debt. It may be that the nature of sovereign ratings is different from corporate bonds ratings (e.g. due to political influence). As such, we cannot exclude the possibility that in the case of corporate bonds or financial instruments apparent herding cannot be explained in a similar manner.

The critical 'cliff effect' event related to SFIs in the credit crunch, where over-reliance by investors looks to have been high, and the quality of ratings often low (e.g. high default rates in investment grade-rated SFIs, at least in the USA). Coval et al. (2008)

---

[31] As the paper explains, "a positive credit event would enable the common lender to allocate more funding to its borrowers, improving their financial condition. The increased access to capital reduces the likelihood of a government's default, its borrowing cost, and ultimately the CDS premium on its debt". See: Ismailescu and Kazemi (2010) "The reaction of emerging market credit default swap spreads to sovereign credit rating changes" *Journal of Banking & Finance*, No 34(12), p 2861-2873.

[32] Ismailescu and Kazemi (2010) "The reaction of emerging market credit default swap spreads to sovereign credit rating changes" *Journal of Banking & Finance*, No 34(12), p 2861-2873.

[33] Afonso et al. (2012) "Sovereign credit ratings and financial markets linkages: application to European data" Journal of International Money and Finance, No 31(3), p 606-638.

[34] Broto and Molina (2014) "Sovereign ratings and their asymmetric response to fundamentals".

argued, even before the crunch, that "small errors that would not be costly in the single-name market, are significantly magnified by the collateralized debt obligation structure, and can be further magnified when CDOs are created from the tranches of other collateralized debt obligations, as was common in mortgage-backed securitizations". Ratings catering effects here have been attributed to product complexity (e.g. by He 2012, as we noted earlier in this chapter). It is not clear that either of these effects (over-reliance and ratings catering) stem directly from the high degree of market concentration amongst CRAs.

Where there is an exogenous shock of a significant magnitude, this would act as a coordinating event for both investors and CRAs anyway. Where stability is threatened by more secular trends, there is greater scope for CRAs, individually or as a group, to act as early warning indicators. Market concentration inevitably makes the biggest players more influential and likely also more authoritative in the eyes of investors. This could mean that an early warning from one of the more globally significant CRAs would carry particular weight, whereas a 'coordinated' movement by all of them heightened risk. But it may well be that increased market share does not breed increased confidence in making such idiosyncratic calls, but rather increased reticence to make them due to the high reputational capital at risk. On the other hand, a smaller, 'entrant' CRA could see a heightened pay-off to such a call and with relatively less valuable reputational capital to risk — albeit its pay-off would be potentially enhanced reputation effects post-crisis.

Our view is that market concentration could in the above ways drive increased risk to financial stability, but that this is per se likely to be secondary to factors such as over-reliance, product complexity and others.

Summary of competition and concentration

Competition and concentration

Our analysis shows that the calculated market shares and HHI scores indicate a CRA market that is highly concentrated, both overall and at the individual product category level (at least those for which we have data). Measures of market share and HHI based on total revenues (from rating activity and ancillary services) imply slightly lower levels of concentration compared to measures based on revenue from credit rating activity alone. However, this is likely to be driven, at least in part, by different definitions and treatment of 'ancillary services' across CRAs in their Transparency Reports, from which we have sourced the data for our analysis. That said, this could also indicate that smaller CRAs rely less on rating revenues than the larger CRAs. This is possibly a by-product of their market position, or else perhaps a means of gaining access to and acceptance by the market.

Moreover, the evolution of concentration for the total CRA market (based on all revenue measures) shows a small increase over the short time for which we have data, and the same applies to all corporate bonds (ratings revenue only). Concentration in the SFI and sovereign ratings has declined slightly over between 2012 and 2014.

While the current data suggests that the last revision of the CRA regulation has not so far had an effect on market concentration, to fully appreciate the effects of the recently introduced measures (and, indeed, measures still to be introduced such as the European Ratings Platform) more time is required.

Regarding rating quality, evidence from the available data did not show signs of ratings inflation or gaming of ratings. Still, there are signs that at least some 'entrants' have suffered teething problems with the quality and accuracy of their ratings

methodology. However, due to data limitations, the conclusions drawn from our analysis of ratings quality should be treated with caution.

Risks posed by high concentration to financial stability

The influence of high concentration of the CRA market on financial stability could be significant if CRAs observe each other's behaviour and respond by posting similar opinions about the creditworthiness of issuers and instruments within a short timeframe. Such behaviour could promote pro-cyclicality. However, there is little evidence of such herding among CRAs. A degree of any apparent herding (or responding to the signals of other CRAs) could anyway be explained by several other factors in particular the broadly equivalent processing of the same pieces of information, similar business strategies, or a phase of the business cycle. Given limited evidence, whilst market concentration could drive increased risks, this is likely to be secondary to other factors (e.g. over-reliance on ratings).

3. Analysis of impacts of the CRA3 Regulation

Introduction

One of the main tasks for this study is the analysis of the impacts of various Articles of the CRA3 Regulation on the CRA market. As set out in the TOR, we approach this on a topic basis, as follows:

- Concentration and competition in the credit rating market — Articles 8c, 8d, 11a.
- Conflicts of interest — Articles 6, 6a and 7.
- Enhancing disclosure on structured finance instruments — Article 8b.
- The mechanisms of rotation for CRAs — Article 6b.

In order to provide a comprehensive analysis of the possible impacts, we begin with a review of the relevant literature for each topic. In some cases, the literature is based directly on the provisions of the CRA3 Regulation; in others, we draw on literature from analogous sectors or regulations.

Drawing from the literature review, and our internal analysis with our expert advisers, we develop an analytical framework for assessing the impacts of the provisions. As the length of time in which the provisions have been in place is relatively short (and some have not yet come into practice), *ex post* evidence of their impact is inevitably limited. The value of the analytical framework is that it provides a clear set of mechanisms through which the provisions could be *expected* to impact the market.

The analytical framework includes various competing hypotheses of impact, which depend on underlying features of the market (i.e. how various market participants really behave). The final stage of the analysis is to draw together the findings from our fieldwork and data analysis – which provide insight into the true underlying features of the market – and use this evidence to draw conclusions about which of the hypotheses in the framework is most likely. The value of conducting analysis in this way is that the main focus of the stakeholder survey is gathering information about the nature of the market, rather than asking for views about the impact of the provisions (which reduces the risk of respondents gaming their answers).

That said, direct views from respondents are still valuable, and we present these for each topic when assessing the practical implications of the various provisions.

Competition in the credit rating market

Literature review

As explained in Camanho et al. (2011) the degree of concentration in the market, as well as the level of reputation enjoyed by the market incumbents and the new entrants, affect the choice of any given agency. New entrants might either increase the overall welfare in the financial industry, but they might also exacerbate the current

problems, such as the temptation CRAs may have to rate credit products better than the fundamentals suggest.[35]

First we note, after Mariano (2012), that a CRA's decision to produce high quality ratings and maintain good reputation on the one hand, or to accommodate issuers' needs and increase the market share on the other, will impact the overall efficiency of the agency, and the market as a whole. Mariano states that when CRAs choose reputation, they are contributing to the overall welfare of the industry through providing quality material information for investors and regulators. However, when CRAs choose to compete on market share, they can lower the welfare of the industry, since choosing short-term profits typically leads to less-accurate, low-quality assessments (favourable to issuers), and as a result a misallocation of capital.[36]

What is interesting is that competition does not necessarily have a monotonic effect on the industry, i.e. the phenomenon of rating inflation could be mild in a monopolistic setting, then increase when the number of firms increases, and then decline again as the number of firms passes a certain threshold. A model consistent with such predictions is provided in Bar-Isaac (2005). The paper argues that there are several variables that could be impacted by competition in a different way depending on the number of CRAs in the market (i.e. on the level of competition). Competition could work through the following mechanisms:

- It could drive the price down as issuers can choose freely between many CRAs and thus pressure CRAs to lower their charges. This means that the discounted value of maintaining high reputation in the future will decline because the future revenue would be smaller. This, depending on what drives costs, might encourage CRAs to choose short terms gains rather than long term reputation.
- Issuers (and other clients) have more CRAs to choose from. This implies that if a CRA loses its reputation in the market it would also lose its customers as they would be able to switch to other agencies. As such, having competitors in the market increases CRAs' incentives to compete on reputation.[37]

If there are already many CRAs in the market before additional market entry (i.e. if the market is already operating in a competitive way), the scope for further price reductions after new firms enter the market is likely to be very small.[38] As a result the first mechanism described above would be weaker, i.e. there would be no additional incentive for CRAs to inflate ratings as the basic trade-off between short term gains and long term losses will not have changed. The second mechanism would still be present meaning that those CRAs that choose to inflate ratings can expect to suffer reputational losses and lose business in the future. Altogether, when there are

[35] See Camanho et al. (2011) "Credit rating and competition" *AFA 2011 Denver Meetings Paper*. The mechanism creating this temptation is discussed in more details in the following section on the conflicts of interest.

[36] Mariano (2012) "Market power and reputational concerns in the ratings industry" *Journal of Banking & Finance*, No 36(6), p 1616-1626.

[37] Bar-Isaac (2005) "Imperfect competition and reputational commitment", *Economics Letters*, No 89(2), p 167-173.

[38] Although there would be some price decrease, i.e. economic profits would have had to have existed in order to attract market entry.

sufficiently many firms in the market increasing competition is likely to induce firms to compete on reputation rather than market shares.

On the other side of the spectrum we could analyse a case where there is only one CRA in the market. Short term gains from accommodating issuers' needs are likely to be very small as the incumbent already has the entire market. At the same time, introducing a new entrant in the market means that if the incumbent CRA loses its reputation it risks losing all of the market it had. As a result, with very few agencies in the market increasing competition could be beneficial.

In the middle of the spectrum, there could be cases where the threat of a price decline and loss of market share could be kept at bay by some form of cooperation between CRAs to keep the *status quo*.

Clearly, the underlying assumption of the above analysis is that while issuers (and investors) do not observe ratings' quality immediately, they ultimately learn which CRAs produce accurate ratings. If the quality of produced ratings is not observable (or observable only in a very long term) then the incentive to inflate ratings and seize the short terms gains related to that is stronger (as the punishment is more delayed). Additionally, we may note that the extent to which investors engage in independent assessment of ratings' quality might depend on various factors such as economic cycles, or complexity of the product. These factors are discussed further at the end of this section (grouped under "Other factors affecting competition").

The role of reputation

Since the market has recently evolved to contain more participants, academics have had the opportunity to study the evolution from a market with very low level of competition (where firms could be supposed to choose to compete on reputation) to one with moderate competition (where firms are predicted to maintain or gain market share, possibly through ratings inflation). A potential explanation of different dynamics observable in the market has been proposed in Camanho et al. (2011). It is argued in the paper that the effect of introducing new entrants in the credit rating market would depend on their reputation. If market entrants have high reputations among other market participants (who are assumed to value high quality ratings), incumbents will feel pressure to supply the same level of quality in their ratings and will therefore commit to higher degrees of accuracy. This is a disciplining effect of increasing competition. On the other hand, if market entrants have low or no reputation, the effect will be radically different. Incumbents will feel the need to defend their market shares rather than their reputation, and will engage in ratings inflation in the hope of gaining enough revenue to drive the new entrants out of the market. This is called a market-sharing effect – the potential loss of future profits to the new firms will encourage ratings inflation and a decrease in due-diligence by the incumbents, which would make the ratings less accurate and informative.[39]

Both of these scenarios have occurred in the credit rating market over recent years, and have been found to validate the theoretical predictions from Camanho et al. (2011). In particular, when firms such as Egan-Jones – a well-known subscription-

[39] Camanho et al. (2011) "Credit rating and competition" *AFA 2011 Denver Meetings Paper*.

based credit rating agency, and S&P's – one of the market leaders in the industry, have entered new or previously monopolistic ratings markets, they have caused the incumbents to strengthen their ratings processes. Doherty et al. (2012) focus on S&P's entry into the insurance market, which was previously solely rated by AM Best. When S&P began to rate the companies with more stringent methodologies and standards, firms which believed themselves to be above average insurers began to seek out a second opinion from S&P, thinking it would give them extra credibility in the market. This subsequently led AM Best to increase its own standards of rating, for fear of a reputational blow for low-quality ratings in comparison to the new entrant.[40]

A similar situation occurred when Egan-Jones entered the corporate bond market, which was previously dominated by S&P. Egan-Jones had been known to provide more accurate, timely ratings than the market leader, and the entry of the firm posed a threat to the incumbent's reputation. As a result, S&P's rating levels began to shift downward, representing a more strict rating system or a correction of inflation, and were found to be more responsive to changes in the issuer's market and market-based risk measures.[41] An extension of the theory presented in Camanho et al. (2011) can be found in Fong et al. (2014). The authors found that bond analysts (which can be viewed as high-reputation market entrants) kept credit rating agencies honest when providing credit assessment to the same companies. This effect was reversed when bond analysts stopped covering the firms – with only the initial group CRAs active in the market the related ratings began to inflate. This indicates that the disciplining effect of agents could be found outside the credit rating industry for further reform.[42]

An example of a firm with low to no reputation can be found in the market entry of Fitch Ratings. Fitch – a result of a series of mergers – was a previously non-existent agency that very quickly gained a foothold in the ratings market, and now controls a high share of the market. When Fitch began to expand into the credit rating market, Moody's and S&P seemingly engaged in ratings inflation in order to attract issuers to their firms and subdue Fitch's market share. In fact, as Fitch began to gain more market share, Becker and Milbourn (2011) found that a one standard deviation increase in the firm's market share would cause the average credit rating across Moody's, S&P and Fitch to increase from one tenth to half a step up. The study also found that the incumbents' ability to predict default deteriorated, and that the correlation between rating and market-implied yields fell – meaning that the firms were actively trying to provide less accurate, more positive ratings.[43] We note, however, that the case of Fitch entry could be unconventional, given Fitch's size compared to other entrants we have seen over the past years.

---

[40] Doherty et al. (2012) "Information effect of entry into credit ratings market: the case of insurers' ratings" *Journal of Financial Economics*, No 106(2), p 308-330

[41] Bae et al. (Forthcoming) "Does increased competition affect credit ratings? A reexamination of the effect of Fitch's market share on credit ratings in the corporate bond market" *Journal of Financial and Quantitative Analysis*, Forthcoming.

[42] Fong et al. (2014) "Do security analysts discipline credit rating agencies?" *AFA 2013 San Diego Meetings Paper.*

[43] Becker and Milbourn (2011), "How did increased competition affect credit ratings?" *Journal of Financial Economics*, No 101(3), p 493-514.

Cohen and Manuszak (2013) found essentially the same result when looking at the corporate mortgage-backed securities market, but did imply there was a limit to which Fitch would affect the incumbents. Essentially, when Fitch reached a market share close to Moody's and S&P, effectively becoming an incumbent itself, the firms would stop increasing their ratings.[44] Explanations given for this threshold include diminishing marginal returns from ratings inflation and weaker marginal effect on lowering Fitch's probability of being hired, as it essentially had exited the high-growth stage of its business.

It is also possible that reputational costs are not only dependent on the agency but also on the instrument rated. Bonsall et al. (2015) find that CRAs are more thorough when monitoring high-risk banks than other firms. The authors explain that this is consistent with reputational costs impacting rating accuracy – when the costs are high (as in the case of high-risk banks) the monitoring remains on a high level even over time; for other types of firms, monitoring gets lax after issuance, i.e. when the reputational costs decline.[45]

The costs of monitoring and producing accurate ratings

As noted above, the level of competition might depend on the extent to which investors monitor the market and the quality of services offered by CRAs. If investors have the skills and access to relevant information, they should be able to induce CRAs to compete on quality (assuming that quality is indeed what investors place value on).

A model of market dynamics and competition which accounts for investors' engagement in monitoring CRAs is provided in Hirth (2014). The model assumes there are two types of CRAs – honest (i.e. providing accurate ratings) and inflating, and two types of investors – trusting and sophisticated. Trusting investors do not engage in monitoring the ratings market, while sophisticated investors incur some cost of verifying CRAs' ratings. The model allows for the proportion of trusting and sophisticated investors to change – if trusting is the optimal strategy then the proportion of trusting investors will increase, and if monitoring in the optimal strategy then the proportion of trusting investors will decline.[46]

The analysis shows that the effect of new entrants on the market might depend on how costly it is for CRAs to produce accurate ratings and for investors to monitor the quality of the ratings. Increasing competition would be less effective if the costs – both to CRAs and investors – are high. Such circumstance seem more probable in the market for complex securities (e.g. structured financial instruments); and support the provision of information to investors in order to decrease the costs of monitoring and due diligence. The equilibrium in this case would be for CRAs to inflate ratings and for investors to trust the ratings. Since the costs are high, a new entrant providing high quality ratings, would be driven out of the market – the costs of producing accurate

[44] Cohen and Manuszak (2013) "Ratings competition in the CMBS market" *Journal of Money*, Credit and Banking No 45(sl), p 93-119.

[45] Bonsall et al. (2015) "The effectiveness of credit rating agency monitoring: evidence from asset securitisation" *The Accounting Review.*

[46] Hirth (2014) "Credit rating dynamics and competition" *Journal of Banking & Finance*, No 49, p 100–112.

ratings would not be recovered as investors do not invest in monitoring ratings' quality, and thus would not switch from the incumbent CRAs to the new one (i.e. would not be able to judge the better quality of the new entrant and would be put off by the potentially higher price). This indicates that lowering the monitoring costs for investors could be effective in inducing CRAs to increase the quality of ratings.

A different outcome would prevail if, say, the cost of producing an accurate rating declined (for example due to developing new technologies or maturing of a market for particular securities). Then, despite the prevalence of trusting investors who do not engage in the monitoring, a new CRA committed to providing high quality ratings might induce other CRAs to follow the same strategy. Since the cost of providing accurate ratings has gone down, introducing one high quality CRA in the market has a contagion effect on other CRAs who realise that rating inflation is no longer the optimal strategy. Hirth (2014) also notes that in reality this dynamics will depend on the number of CRAs in the market – with a larger number of ratings agencies we might expect the reputational cost to be higher (because investors have more outside options to choose from when they detect rating inflation). Relative to high reputational costs of rating inflation the effort required to produce an accurate rating would be relatively low and thus further encourage firms to provide high quality ratings.[47]

Other factors affecting competition

Regulatory certification

Bongaerts et al. (2012) provide an alternative explanation for the rise of Fitch, but not of other agencies. This might suggest that the dynamics of the credit rating market might be more complex and thus that the impact of competition could further depend on other factors. The paper indicates that Fitch became the tie-breaker when Moody's and S&P disagreed in their assessment of a firm as either high-yield or investment-grade, and saved many firms from higher borrowing rates by providing a rating in between Moody's and S&P, which the regulators chose.[48] Namely, Fitch added no additional information for investors, but played a role in regulatory certification. Since Fitch has already filled the void for regulatory certification, and low-reputation entrants will not be viewed as strong sources of material information, any further attempts to increase the number of CRAs in the market may have very limited impact in this regard. Moreover, even if issuers were obliged to obtain more ratings from different CRAs, it is possible that the quality and informativeness of those additional ratings would be low, as they would be obtained solely for regulatory reasons.[49]

Internal and external cycles

The CRA's incentive to compete on reputation could also be cyclical. The cycle could either be internal (i.e. specific to a particular CRA) or external (common to all CRAs).

[47] Hirth (2014) "Credit rating dynamics and competition" *Journal of Banking & Finance*, No 49, p 100–112.

[48] A common institutional practice for classifying rated bonds during the sample period was as follows: when two ratings were available, only the lower rating was used to classify the issue; if there were three ratings, the middle rating should be used. As such Fitch was often playing the role of a "tiebreaker". See Bongaerts et al. (2012).

[49] Bongaerts et al. (2012) "Tiebreaker: certification and multiple credit ratings" *The Journal of Finance*, No 67(1), p 113-152.

In favour of the hypothesis of the internal cycles of ratings' quality Bouvard and Levy (2009) found that firms are only incentivised to act in a reputation-building manner when immediately entering the market, or following a strong public outcry about the quality of their ratings. Once the firm has established itself as credible, or has achieved its prior reputational status, it will no longer feel the need to choose reputation over profit. Essentially, the authors argue that firms will be able to get by on their good reputation without critique for an extended period of time, and during that time will be able to lower their standards in order to seek out future business. [50]

The hypothesis presented in Bouvard and Levy (2009) could be supported by the theoretical framework laid out in Klein and Leffler (1981). When the reputational costs are higher than that of short-term profits, like in entry to a market or following a scandal, firms will engage in honest behaviour to rebuild their business. When the scale tips in profits' favour, like once a firm has gained or regained reputation, it will revert back to 'cheating' behaviour and lower the quality of their product, and so the cycle goes.[51] This could suggest that the effects of market entry as driven by the Regulation could change over time as the CRAs move through different cycles.

According to Bar-Isaac and Shapiro (2013) an external factor that could explain rating inflation are business cycles. While the authors acknowledge, to some degree, that competition has an effect on increased rating inflation activity, they argue it may not always be the main source of it. It is argued that the business cycle can be a strong indicator to the degree of inflation in the market, regardless of concentration in the market. Like other financial aspects, credit ratings are more likely to be inflated in boom periods, and more likely to be overly harsh in recessionary periods. This is partially due to the overall less critical atmosphere in the market, but also to stronger competition for the best qualified analysts, the increased level of fees and ancillary services agencies provide, and higher issuances by companies in boom periods. During downturns investors are likely to scrutinise ratings more closely; however the benefits of monitoring are smaller in boom times when the aggregate default risk is low (i.e. this is rational and not just naïve on the part of the investors). Moreover, in downturns hiring qualified applicants is likely to be easier, the workload is generally smaller, and thus the incentive to inflate ratings is weaker.[52]

Trouillet (2015) provides a model of opportunistic CRAs that might have an incentive to be more lax in their rating process in booms. This author shows the relationship between CRA's behaviour and its reputation as it changes of the business cycles. In particular, during economic growth when the reputational cost is high a CRA might give more good ratings than it should. After a shock, when some of its reputational capital is lost, a CRA is more likely to give good ratings more carefully. As Trouillet (2015) notes, "[t]his behavior may have important consequences in the movement of capital flows and return rate, which could then influence the nature of business cycles

[50] Bouvard and Levy (2009) "Humouring both parties: a model of two-sided reputation" *Job Market Paper*.

[51] Klein and Leffler (1981) "The role of market forces in assuring contractual performance" *The Journal of Political Economy*, No 89(4), p 615-641.

[52] Bar-Isaac and Shapiro (2013) "Ratings quality over the business cycle" *Journal of Financial Economics*, No 108(1), p 62-78.

(magnitude, length)." [53] The finding is based on the assumption that CRAs know more about the economy than investors, and as such they are able to take advantage of this knowledge to boost their profits. Trouillet (2015) concludes that reputation is not a sufficient incentive for CRAs to refrain from exploiting such a cyclical strategy.

As modelled in Bolton et al. (2012) reputational risk could be directly linked to investors' behaviour. The paper suggests that a larger number of naïve investors reduces reputational costs for CRAs as the likelihood of investors detecting inaccuracy in credit ratings is low. In consequence, when not monitored by investors (which more likely to be the case during economic growth) CRAs could have an incentive to relax their quality standards.[54]

Moreover, Bhatia (2002) points to the fact that CRAs are inclined toward stability more than accuracy of ratings. Because it is usually not possible to compare the rating against the 'true' measure of creditworthiness, a rating's accuracy or reliability is often based on its stability (as any change implies that the previous rating was or became inaccurate.[55] Moreover, investors are likely to expect credit ratings to provide a long term indication of the credit risk. As such, frequent changes in ratings might be perceived as a failure to incorporate all the relevant information. Thus, CRAs might have an incentive to maintain good reputation among issuers and investors by not changing the ratings despite some observed changes in the credit risk.

As we noted in the previous chapter, Broto & Molina (2014) put forward evidence suggesting that rating quality has a cyclical element. They also find that whilst downgrades tend to be deep and quick, upgrades are slow and more gradual. This paper also shows that whilst good fundamentals can slow downgrades (e.g. slow it down), they do not impact the path of upgrades.[56]

Overall, it seems that the quality and accuracy of ratings is likely to be related to business cycles. While the literature offers several explanations for such phenomenon, the idea that during booms investors are less concerned with ratings quality (which in turn reduces the risk of reputational costs for CRAs) seems the most convincing one. As discussed above, business cycle affects not only the quality but also how sensitive the adjustments in credit ratings are to the underlying fundamentals.

Complexity of assets

Another factor supplementary to competition in explaining rating inflation is proposed in Skreta and Veldkamp (2009). The paper argues that ratings inflation is exacerbated by the rise of complex assets, as firms are less likely to inflate ratings of assets easily understood due to high degrees of information on the subject. When instruments like CMBS and ABS came about, the firms rating them did not fully understand them, and relied on public opinion rather than private and historical data, due to the lack of availability. This led to firms offering overly positive ratings, up until the day of default

[53] Trouillet (2015), "Credit rating agencies, shock and public expectations" Paris Dauphine University.

[54] Bolton et al. (2012) "The credit ratings game", *The Journal of Finance*, Vol LXVII, No 1.

[55] Bhatia (2002) "Sovereign credit ratings methodology: an evaluation" *IMF Working Paper*, WP/02/170, p 38.

[56] Broto and Molina (2014) "Sovereign ratings and their asymmetric response to fundamentals".

for many of them.[57] This might suggest that competitive forces could be weaker in markets for complex assets, as monitoring the quality of ratings is likely to be less effective. It also implies that greater information disclosure is more beneficial in these markets.

Quality of assets

Finally, Bae et al. (forthcoming) believe the ratings inflation previously attributed to Fitch's entry, while definitely affected by the entrance of a new competitor, can largely be attributed to industry characteristics and the differing levels of regulation in rated markets. The paper argues that because Fitch is mostly active in rating regulated industries – like finance and utilities, the increased level of positive ratings in the credit market after Fitch's entry can be explained by the better debt-ratios usually seen in regulated industries, which were not controlled for in prior studies.[58]

To conclude, the literature shows that there are inherent characteristics of the market which are always at work regardless of the level of competition. As Rhee (2014) argues "Competition can be good or bad. A competitive race to the bottom in a frenzy for business engagements would be a bad thing. Strong competition is good only if it incentivizes a race to excel. Competition is not the end, but the means."[59] The impacts of increased competition (namely in the form of market entry) will depend of specific characteristics of the market, most importantly the dimensions on which CRAs compete and the ability for the wider market to incentivise good quality.

Analytical framework

ARTICLE 8C requires issuers to solicit double credit ratings of structured finance instruments. There are a number of ways in which this provision could impact the market, primarily depending on the status of the second rating and the industry's response. If the second rating is only a formality (i.e. the ratings are only known to the issuer who then decides which one to publish), the impact of the second rating is likely to be limited. One possibility is that issuers would continue to predominantly use the ratings from large, incumbent CRAs because smaller, newer CRAs are not considered to be viable alternatives. In this case, there would be little effect on competition as the market position of the largest CRAs would remain unchanged. However, another possibility could be that issuers are willing to use other, smaller CRAs to provide the second rating (but still as a formality, i.e. not intending to publish the ratings). Under such circumstances, the quality of credit ratings might decline if small CRAs, in an attempt to increase their market share, either compete aggressively on price or inflate their ratings. The large CRAs, in defence of their market positions, could also choose to inflate their ratings.

The effect of Article 8c could be different if the second rating is published or otherwise known to investors (i.e. treated as more than a mere formality by the issuer). In this case we might expect the CRAs' reputational costs to increase as investors and issuers

[57] Skreta and Veldkamp (2009) "Ratings shopping and asset complexity" *Journal of Monetary Economics*, No 56(5), p 678-695.

[58] Bae et al. (Forthcoming) "Does increased competition affect credit ratings? A reexamination of the effect of Fitch's market share on credit ratings in the corporate bond market" *Journal of Financial and Quantitative Analysis*, Forthcoming.

[59] Rhee (2014) "Incentivizing credit rating agencies under the issuer pay model through a mandatory compensation competition".

would be able to compare ratings for the same issues. This would be further facilitated by Article 8b (which imposes additional disclosure requirements regarding structured financial instruments on issuers) as access to detailed information might make it easier for investors to judge the quality of ratings. Large differences between ratings from different CRAs might raise doubts about the quality of the ratings of either of the two CRAs. Clearly, this mechanism is based on the assumptions that the two ratings are independent and were not chosen in a strategic way by the issuer.

If, however, issuers strategically search for two similar ratings (i.e. they are 'rating shopping'), then there would be little benefit of the second rating as it would not capture any additional information. At best, this would mean no real change in the market as rating agencies contracted to provide the second rating may simply release a rating which is exactly the same or one notch lower than the first one. But it might also lead to more inflation in credit ratings if CRAs use the opportunity of issuers actively scanning the market to attract new clients.

The model of competition entrants choose might also depend on their reputation among investors. If entrants have high reputation, then the disciplining effect on incumbent CRAs is likely to be stronger as the rating provided by the entrant is perceived as high quality. If, on the other hand, entrants have low reputation, then regardless of the quality of their ratings, they will not be trusted by the market (at least initially). This leaves incumbent CRAs (who have high reputation among investors) scope for defending their position through a temporary rating inflation or aggressive competition on cost. Before market participants realise the quality of the new entrant, incumbents might already drive them out of the market.

The impact of Article 8c would be reinforced by Articles 11a and 11(2) (discussed in more detail below) as these would make the information about the second rating publicly accessible. As such investors might be able to put more pressure on CRAs to compete on quality. It may also help the second CRA to be considered credible and therefore more than just a 'formality'.

ARTICLE 8D applies to situations where an issuer intends to appoint at least two CRAs. This provision requires issuers to solicit second rating from a small CRA (i.e. with less than 10 per cent of the market) unless they can convincingly explain why this is not justified. Similarly to Article 8c, this provision could impact the market in a number of ways depending on the expertise and reputational costs of smaller CRAs. The requirement to solicit ratings from a small CRA might have no effect if issuers could compellingly argue that small CRAs are inferior to large CRAs,[60] and that therefore it is not feasible to solicit ratings from them. In this case, the entire demand for the second rating would be captured by the large CRAs. This would lead to unchanged, or even increased concentration in the market.[61]

The outcome could be very different if small CRAs are in fact capable of providing quality ratings. There are two potential models of competition that could be employed in this case. The first one assumes that small CRAs have higher reputational costs than large CRAs because they have to prove their services are of high quality. As a result, they offer more accurate ratings in order to build a necessary reputation in the market. In response to this, large CRAs might feel compelled to improve the quality of

[60] It is often argued that soliciting a rating from a small CRA is a bad signal for the market as is likely to be avoided by high quality issuers.

[61] We discuss the implementation of this provision in later in this chapter.

their ratings as they could now be compared to high quality ratings provided by small CRAs.[62]

However, assuming a different model of competition small CRAs, rather than trying to prove their quality, would simply aim at providing ratings which are slightly higher than the ratings offered by other small CRAs (which could lead to ratings inflation) in order to attract market share. It should be noted that this strategy is likely to be effective only up to a point: a strong market position would require gaining investors' trust, i.e. convincing the market that their ratings are reliable. Otherwise, issuers would not solicit ratings from them. As in the case of article 8c, the impact of soliciting the second rating from a small CRA could be reinforced by Articles 11a and 11(2) as they would make the information about the second rating publicly accessible. As such investors might be able to put more pressure on CRAs to compete on quality.

ARTICLE 11A and **ARTICLE 11(2)** aim at enhancing competition in a different way. Article 11a pertains to setting up a website with rating information provided by CRAs to ESMA. Article 11(2) requires CRAs to publish their historical performance data. Both articles might increase the reputational costs for CRAs (their ratings and related information would be publically available, and thus comparable to other ratings solicited for the same product in compliance with Articles 8c and 8d) and provide investors with information necessary to evaluate the quality of a rating. As such, they encourage CRAs to compete on quality (e.g. through improving the methodologies used in the rating process).

Further, because both Articles 11a and 11(2) increase the amount of information available to investors, they might reduce investors' 'blind' reliance on the ratings produced by the CRAs and instead encourage a more informed assessment of the quality of the CRA and its ratings.

It is however possible that these provisions could lead to conformity bias where CRAs provide ratings which are in line with the ratings published in the past (or by other CRAs) instead of working independently.

Moreover, if not all investors are equally likely to absorb the additional data, more sophisticated investors could benefit from the information at the expense of less informed ones. In particular, Article 11a is likely to disproportionately benefit less sophisticated investors as the information provided on a website should be relatively straightforward to understand, and would reduce search costs which could be very burdensome for smaller or less sophisticated investors. (Of course, smaller investors may still be less able to adequately assess or interpret the information if they lack the necessary expertise (i.e. the information processing costs would remain unchained)). On the other hand, Article 11(2) might benefit sophisticated investors more than naïve ones. This is because, even with the data available, the comparison of CRAs' performance is not a simple task (e.g. the data formats are not always comparable), and would require a significant amount of time and skills to complete.

[62] Camanho et al. (2011), "Credit rating and competition" *AFA 2011 Denver Meetings Paper.*

Evidence and analysis

The discussion of impacts of Articles 8c, 8d, 11a and 11(2) needs to be in the context of the general picture of factors by which CRAs compete and factors that seem important for issuers and investors as these are key inputs in assessing the various hypotheses presented in the analytical framework above. These factors influencing competition has been presented in the previous chapter and they are a starting point of the analysis presented below.

ARTICLE 8C

First, let us assume that the second rating is not published, and thus just a formal requirement which does not need to have any impact on the market. As pointed out in ESMA's Technical Advice, setting aside any regulatory requirements, issuers generally seem to solicit more than one rating only in situations when it is actually useful (e.g. investors expect it, it is a new issuance, or an issuance of a complex security).[63] This suggests that forcing issuers to obtain a second rating in circumstances when it is, from their point of view, unnecessary, would not naturally induce them to look for the best quality rating. It might also indicate that in the situations where a second rating is not currently obtained by issuers, investors are satisfied with one rating; otherwise we could expect them to be more actively seeking additional ratings than they are at the moment (as evidenced by our fieldwork, which suggest that investors can 'lobby' issuers for credit ratings from additional CRAs. This is supported by evidence form ESMA's call for evidence for its Technical Advice[64]). Moreover, since the second rating would only be known to the issuer, they are unlikely to invest a lot of time or money obtaining it. That implies that issuers would either continue to use the CRAs they already use to save time needed to provide the CRA with necessary information, or they would choose the CRA that offers the lowest price.

In the first case, the second rating would be more likely provided by one of the three large CRAs. This implies that the provision would not have any strong impact on the competition in the market as no smaller CRAs would be able to enter or expand. With no risk of entry or expansion from other agencies, the three large CRAs would most probably not make any significant changes to their business models or quality of services provided.

Thus, we move to the second case, where small CRAs are used. Small CRAs might enter the market if they are able to offer similar services at lower prices or are willing to inflate ratings. While – as reflected by the survey responses – price is important for issuers, they seem to value more a better assessment of their firms' credit quality. As such, they might prefer CRAs offering a higher rating even if there are other CRAs which are cheaper. In response, large CRAs are likely to defend their market shares in a similar way by inflating ratings.

We might note that the assumption about the second rating being known only to issuers is probably too strong. If investors are aware that issuers are required to obtain the second rating, then even if there is no legal requirement to publish it, investors might request it. Securities for which the second rating is not disclosed might be perceived as lower quality than those with both ratings published. As such, investors are likely to take investors' points of view into account when choosing the

[63] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 321.

[64] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 322.

second CRA. Since responses to our survey, as well as evidence presented in ESMA's Technical Advice,[65] show that investors prefer large CRAs (as they are believed to provide better quality ratings), issuers are also more likely to choose one of the large CRAs to provide the second rating. Consequently, there is unlikely to be any major change in the number of CRAs competing in the market for SFIs and the four large CRAs would continue to dominate. In terms of potential impact on rating inflation, we might expect the incumbent CRAs to maintain the current quality of services. Since reputation is crucial for them, and there is no immediate competition from smaller CRAs, they would not need to change their business models significantly.

We now analyse a situation where issuers are legally required to disclose the second rating (as proposed in Article 11a). As above, issuers are more likely to choose a large CRA as they have a better reputation among investors. Unchallenged by other CRAs, these are likely to maintain their current business models. Moreover, as they would not have any additional incentive to provide a rating of higher quality than the one provided by the other large CRA, there is a risk that instead of producing an independent assessment of the credit risk, the second CRA provides a rating which is the same or one notch lower than the rating from the first CRA. This strategy could be aggravated if issuers proactively seek similar ratings. As such the impact of this provision on the quality and the informativeness of ratings might be very limited.

However, this scenario does not find full support in the responses to our survey. Our analysis suggests that the demand for SFIs' ratings from issuers slightly increased, mostly for smaller CRAs. Large CRAs were more likely to respond that the demand declined or remained unchanged. According to a majority of CRAs which responded to our survey, the number of CRAs rating SFI increased. Such a change was much less visible from investors' perspective as only one indicated that there are now more CRAs rating SFI than in 2010. Furthermore, some CRAs indicated that the number of CRAs used to rate SFI increased, with the remaining CRAs reporting no change. This would suggest that issuers do seek additional ratings not only from large CRAs but also from small CRAs. While we do not have direct evidence on rating inflation, we did ask respondents about average price charged for SFI rating. Based on the CRAs' responses, there is no evidence of a price reduction; some CRAs reported no change in prices, and if any change was observed it was a price increase rather than a decrease. As such, there is still a possibility that small CRAs that enter the SFI market use rating inflation to attract issuers. There is however no direct evidence of that, and with CRAs unanimously claiming to compete on quality, we cannot exclude the hypothesis that reputation concerns effectively discipline CRAs.

In a longer term, the advantage of this provision could be that small CRAs might gain some visibility. Assuming that CRAs with no reputation established in the market indeed compete mostly on quality (as stated in responses to our survey), we might expect small CRAs not to choose the immediately more rewarding strategy of rating inflation. Instead, they might take the opportunity created by the requirement to obtain and disclose the second rating to build their position in the market. This strategy, while in theory viable and consistent with CRAs responses, is a long-term one.[66] As such, the question remains for how long small CRAs would be able to sustain

[65] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 322.

[66] Indeed, responses from many CRAs highlight that market entry is a long-term process in order to build up reputation with investors, e.g. by providing a long track record of good quality analysis and interaction with investors.

high quality of services given a limited demand for their services. This might be especially challenging in the complex and relatively new market for SFI (which are currently the only securities covered by the requirement to obtain two ratings).[67]

To sum up, it seems that Article 8c has had some impact on the industry. However, the impact on competition in the credit rating market in still unclear. While the impact might be larger when the second rating is publicly available, because of investors' preference towards large CRAs as well as already established relationships between issuers and incumbent CRAs the extent to which this provision would enable smaller CRA to enter and/or expand is likely to be small. This has been also reflected in regulators' responses to our survey – with the exception of one authority all respondents expected Article 8c to have at most moderate impact on competition between CRAs in their countries.

ARTICLE 8D

The impact of Article 8d predominantly depends on whether issuers would choose to solicit the second rating from a smaller CRA or whether they would choose to 'explain' why they do not. On the one hand, the analysis of CRAs' responses to our survey shows that insufficient expertise / coverage is not perceived by small CRAs as barriers to entry or expansion. The main barriers in their view are insufficient demand for additional CRAs, the mapping of ECAI, and administrative/regulatory barriers. Both for corporate bonds and SFIs, a majority of the small CRAs that responded to our survey stated that insufficient expertise and insufficient range of instruments rated are not barriers.[68] This suggests that, at least in their own view, small CRAs are sufficiently competent to provide quality ratings of a wide range of instruments (although these CRAs would likely be unwilling to admit any limitation in expertise).

On the other hand, issuers seem to be reluctant in soliciting ratings from smaller CRAs, which is apparent from the continued low penetration in terms of revenues and outstanding ratings described in the previous chapter. According to our survey responses, the main problem with small CRAs is that they lack the reputation among investors. Moreover, according to these issuers their geographical coverage is insufficient and it is too costly to invest in a relationship with a new CRA. Other factors, such as high fees, insufficient information about the market shares of small CRAs, or insufficient record of the quality of their ratings, appear to be of less importance. Overall, the confidence in the services provided by small CRAs is not very strong among issuers. This was also supported by the responses from regulators, many of whom claimed that they do not expect issuers to use small CRAs.

The issuers' responses are to a large extent mirrored by the responses given by investors. While in theory investors indicate that they take all available ratings into account (by taking an average or the lower boundary), responses to other questions expose the fact that investors primarily value ratings from the largest CRAs only.

As a result, issuers (if given the free choice) would be more likely to solicit the second rating from one of the three (or four in some segments) largest CRAs. For issuers, this solution is not only convenient as they avoid the most costly and time consuming

[67] Our fieldwork indicates that investing in a market is very costly for CRAs, particularly at the beginning stages (e.g. providing unsolicited ratings or free analysis). CRAs with other business streams, such as an established analysis business, would likely fare better than 'standalone' agencies.

[68] In the analysis of the responses regarding rating SFI CRAs that do not rate these instruments were excluded.

phase of setting up a relationship with a new CRA, but also in line with investors' expectations. If either the lack of reputation or quality can be presented as a convincing argument for not obtaining the second rating from a smaller CRA, then we might expect a majority of issuers to use the 'explain' route and to continue using only the three largest agencies. This means that regardless of whether small CRAs have the expertise to rate certain products, they would not be used unless investors' (and issuers') perception of the quality of these services improve to overcome the cost implications of choosing a (new) smaller CRA. As a result, the impact of Article 8c is unlikely to be very significant at the moment. Assuming that in a majority of cases the second rating continues to be provided by one of the largest three or four, this provision would not affect issuers' decisions to a large extent (with the main impact being the requirement to justify the choice of the second CRA).

If, on the other hand, the lack of reputation among investors would not be an acceptable justification for using a large CRA, and the use of a small CRA becomes effectively mandatory, then both issuers and investors could likely to appoint a second CRA as a mere formality. The ultimate outcome of imposing this requirement on issuers would depend on the model of competition chosen by smaller CRAs, i.e. whether they would mainly compete on market shares (which would result in ratings inflation among small CRAs) or on quality (in an attempt to build reputation among investors).

As noted above, CRAs claim that the main factors by which they complete with each other is industry experience, quality of ratings processes, and reputation among investors. That would suggest they are unlikely to get engaged in rating inflation, and if presented the opportunity to rate more instruments they would focus on quality. In time, as investors realise that small CRAs in fact provide high quality assessments, large CRAs would have to respond in a similar matter (i.e. by increasing the quality) in order to defend their market positions. Although, as with respect to Article 8c, if investors do not trust small CRAs to provide high quality ratings, the question remains for how long small CRAs would be willing to forego an immediate benefit of higher profits in the hope to build a reputable position in the market. If investors do not adjust their views on CRAs quickly enough, then small CRAs might not engage in this strategy. The available evidence does not allow us to predict if and how quickly investors would revisit their preferences.

Finally, if using a small CRA becomes obligatory the position of the small CRAs that are already active in the market could be distorted. Currently, as it is not mandatory we could assume that where issuers choose to appoint a small CRA it is because they take them seriously and consider them to offer valuable services to investors. However, if all issuers who intend to solicit two ratings have to use a small CRA, then the second rating provided by a small CRA would be even more likely to be perceived as low quality by investors as they would not be able to distinguish instances where issuers use small CRAs because they offer valuable services from situations where the use of small CRAs is purely driven by the regulation.

To sum up, small CRAs do not have sufficient reputation among market participants for issuers to voluntarily choose them as providers of the second rating. Indeed, our survey shows that very few small CRAs observed an increase in the demand for rating corporate bonds. As such, this provision would have a limited impact on market entry and expansion – in a majority of cases second ratings would continue to be produced by the largest incumbent CRAs. However, it is possible that Article 8d in conjunction with Article 8c have increased the demand for small CRAs for SFI' ratings.

If the provision were to become mandatory, it is likely that a second rating would only be perceived as a formality. As such, neither issuers not investors would be willing to invest their time to assess its quality or validity. In such circumstances small CRAs are

unlikely to be willing to exert effort and would either engage in rating inflation to gain market share or produce ratings of poor quality. While this might not have an impact on the behaviour of large CRAs (for which the market structure and conditions would not change much) but might negatively affect other small CRAs already active in the market. As with Article 8d, this conclusion has been supported by regulators who responded to our survey – with the exception of one regulator (the same one who perceived Article 8d as effective) all authorities indicated that the extent to which Article 8c would promote competition and reduce concentration would be moderate at best. On the other hand, Moellers and Niedorf (2014) suggest that if the second rating was legally required this could break the oligopolistic structure of the market. The authors claim that by opening the market to smaller CRAs the market might benefit from increased competition and quality.[69] As noted previously, our fieldwork argues against this, at least in anything other than the short term. Whilst the brute effect would be to provide smaller CRAs with, in time, a track record and potentially a good reputation, current mainstream investor perspectives would attribute little informational value to ratings generated in this way.

ARTICLE 11A

As already mentioned, investors (and thus issuers) seem to be of a view that small CRAs provide lower quality ratings compared to large CRAs. As a result the immediate impact of setting up a website where all the ratings could be compared is likely to be small. However, as suggested by the evidence presented by ESMA in its Technical Advice,[70] this provision might increase the visibility of small CRAs in the future. As a result, the lack of trust towards them among investors might diminish, and ultimately create conditions where smaller CRAs would be able to build sufficient reputation to compete with the current incumbents. This view is broadly supported by regulators; a majority of our respondents expected Article 11a to have a positive impact on the competition in the market and on enhancing investors' ability to make good investment choices. Nevertheless, some regulators argued that the provision would have only limited impact as (even if investors do use the website) differences in methodologies between CRAs would not allow simple comparisons, and as such would inhibit the reputation-building process for small CRAs. Moreover, if comparing ratings indeed prove to be difficult, it might aggravate the discrepancies between sophisticated and naïve investors, as the former would be able to better take advantage of the additional information provided on the website.

ARTICLE 11(2)

On the one hand, responses to our survey suggest that historical performance is one of the key factors taken into account by investors when assessing the value of a rating from a CRA. On the other hand, evaluation of historical performance is a complex task and is unlikely to translate directly into investors' ability to compare the performance of different rating agencies. Sophisticated investors seem able to do such comparisons – most of them claim to carry out independent analysis of credit quality using fairly advanced models; this indicates they have skills necessary to analyse data disclosed by CRAs under Article 11(2). However, we do not have sufficient evidence regarding the behaviour of less experienced investors to conclude whether this type of information would be beneficial for them as well. As such, the extent to which

[69] Moellers and Niedorf (2014) "Regulation and liability of credit rating agencies – a more efficient European law?"

[70] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 339.

information required to be disclosed in Article 11(2) would impact competition in the market, and what other consequences this provision might have is not entirely clear. The extent of comparability of data between CRAs would be an important feature that would enable the success of this provision. Our own experience of analysing CRA's transparency reports shows that there are a number of factors that can undermine the comparability of information, even within fairly specified frameworks.

Conflicts of interest

Literature review

Several types of conflicts of interests might arise in the context of the credit rating market. The most important one is a consequence of the currently dominant CRA business model, where issuers pay CRAs for the provision of ratings. Other types of conflicts of interest might be between CRAs and shareholders, or between CRAs on a firm level and its employees (e.g. rating analysts). We will discuss these in the section below.

General issues with the issuer-pays model

An inherent feature of this model is a potential conflict of interest between issuers and CRAs – since the CRA receives revenues from the same issuers it has to evaluate, there is an incentive for the CRA to modify its criteria in order to favour the client rather than investor who is the ultimate consumer of ratings. On the other hand, there are some reputational concerns which, theoretically, may drive CRAs' behaviour in favour of public interest. This is because the threat of being detected in the act of modifying default assessments would put the CRA under negative public judgement and reduce the demand for its services, making it less attractive as a ratings provider to issuers.[71]

The information provided by CRAs has become even more important when regulators included ratings produced by CRAs in the criteria for capital requirements. The incentives for regulators to put effort in evaluating the default risks associated with complicated instruments are very low, particularly in the presence of expert agencies (CRAs) which normally do that. As such, regulators decided to rely on CRAs' ratings as an appropriate measure of the risk of default. Up to certain point, this strategy seemed to be optimal – academic studies before 2004 (i.e. before the huge increase of complex asset-backed securities in the market) provided evidence that CRAs were acting in the interests of the public. In order to test whether CRAs were driven by their client's interests or whether reputational concerns were enough to control CRAs' behaviour, Covitz and Harrison (2003) analyse the delay in the downgrades operated by CRAs in the corporate bonds market (as a delay in a downgrade would guarantee a favour to the client because of various reasons). The authors do not find any evidence that CRAs acted in favour of their clients, supporting the theory that the reputational concern could actually incentivise CRAs to behave according to the public interest.[72][73]

[71] The issuer-pays model is discussed at greater length in Chapter 5.

[72] The delay in downgrading operated by the CRA could favour the client because, for instance, the clients may have stipulated contracts with clauses related to its rating situation; in particular, lots of contracts were based on the clause that the client had

On the other hand, as indicated in the OECD (2011)[74] hearing, CRAs might accommodate issuers' needs through the conduct of insufficient due diligence. In his presentation John Coffee (Colombia University Law School) argued that because investment banks did not want adverse information about their products being examined by the CRAs, the agencies reduced the quality of factual verification of some of the key information that were fed into their rating models. To substantiate his claims John Coffee referred to SEC's "Staff Examination of Select Credit Rating Agencies" (2008), where it was found that CRAs "did not engage in any due diligence or otherwise seek to verify the accuracy or quality of the loan data underlying the RMBS pools they rated".[75]

Moreover, the conflicts of interest might be more pronounced in the market of complex structured debt instruments (such as mortgage-backed securities (MBS)), which was the main focus of the literature after the financial crisis. According to Efing and Hau (2015), evidence shows that there are particular incentives for CRAs to adjust ratings in favour of their clients in the presence of complicated and opaque markets.[76] As the complexity of debt instruments increases, ratings become more favourable. This is due to the low incentives that regulators have to identify ratings favours for complex instrument. Additionally, the complexity makes the information acquisition process more difficult for CRAs, which have incentives to produce a favourable rating, rather than spending resources to produce accurate credit risk information.

Moreover, during periods of credit booms, there are more incentives for CRAs to favour clients, since default probabilities decrease and the weight of reputational costs decline.[77]

Finally, it could be noted that in practice the conflict of interests might arise on different levels and at different stages of producing a rating. For example, it might affect the methodology and assumptions used by the CRA as a whole. It might also affect analysts or people approving ratings, as they have an incentive to please their clients in order to advance the careers in the CRA. The incentive is even stronger when their remuneration depends on the generated revenue.[78]

---

to maintain the rating of investment-grade. In the case the client was downgraded to fallen-angel, contracts would have posed on the firm major issues.

[73] Covitz and Harrison (2003) "Testing conflicts of interest at bond rating agencies with market anticipation: evidence that reputation incentives dominate".

[74] OECD (2011), "Hearing: competition and credit rating agencies".

[75] Quoted after OECD (2011), "Hearing: competition and credit rating agencies".

[76] Efing and Hau (2015) "Structured debt ratings, evidence on conflicts of interest", *Journal of Financial Economics*.

[77] For more details on the role of business cycles in rating inflation see the discussion in section 3, which is based on: Bar-Isaac and Shapiro (2013) "Ratings quality over the business cycle" *Journal of Financial Economics*, No 108(1), p 62-78.

[78] The point is based on literature on the analysts' incentives in the context of underwriting business where analysts might provide biased earnings forecasts in order to flatter potential clients. See: Hong et al. (2003) "Analysing the analysts: career concerns and biased earnings forecasts" *Journal of Finance*, p 313-351, and Chan et

Rating shopping and rating catering

The conflicts of interest faced by CRAs are related to competition in the industry. The literature discussed two main phenomena:

- Rating shopping – a situation where issuers solicit ratings from multiple agencies and then choose the most favourable one. This phenomenon naturally leads to rating inflation even if CRAs produce unbiased ratings, as the issuer is able to choose the most favourable rating.
- Rating catering – a situation strictly related to rating shopping. In the presence of rating shopping by issuers, CRAs, as modelled by Sangiorgi and Spatt (2013),[79] may have the incentive to loosen their standards to compete with more favourable ratings from other CRAs, and this may lead to a race to the bottom. This mechanism could be especially pronounced in booming markets where the lack of critical approach from market participants allows CRAs to dismiss reputational concerns to some extent and focus on competing for market shares.

Studies provide evidence that in the presence of the issuer-pays model, which currently dominates the credit rating market, the effort of the regulator to encourage competition may have counter-productive effects, since it may lead to a race to the bottom of ratings quality. Evidence shows that AAA CDOs (collateralised debt obligations) rated by both S&P and Moody's defaulted more than those with ratings from only one of them.[80] This suggests that CRAs adjusted their ratings to meet competitive pressure. Moreover, if one of the two CRAs issued an AAA rating, the other CRA issued a non-AAA rating only in 3.7 per cent of the cases.[81]

Further, as discussed in the previous section on competition some models also show that monopoly in the credit rating industry may be more efficient, in terms of social welfare, compared to a moderately competitive market. While with only one CRA active in the market there is likely to be some information loss (as the CRA does not need to compete on quality with other CRAs), a monopolistic situation may limit the extent to which the conflict of interests encourage rating inflation and, as such, lead to overall better outcomes.[82]

How rating biases change within markets and financial instruments

As already highlighted, given the difficulty in assessing the default risks of complicated instruments autonomously, conflicts of interest are particularly significant in complex and opaque markets.

---

al. (2007) "Analysts' conflicts of interest and biases in earnings forecasts" *Journal of Financial and Quantitative Analysis*, No 42(4), p 893-913.

[79] Sangiorgi and Spatt (2013) "Opacity, credit rating shopping and bias".

[80] According to Griffin et al. (2013), of all AAA-rated CDOs that were rated by either Moody's or S&P 84 per cent were rated by both of them.

[81] Griffin et al. (2013) "Rating shopping or catering? An examination of the responses to competitive pressure for CDO credit ratings" *The Review of Financial Studies*, No 26(9), p 2270-2310.

[82] Bolton et al. (2012) "The credit ratings game", *The Journal of Finance*, Vol LXVII, No 1.

Moreover, the issue of conflict of interests is also affected by the structure of the issuers market. We could expect that the more concentrated the issuing market is, the more important it would become for CRAs to secure business and, thus, the more lenient CRAs would be in order to accommodate the clients' needs. Further, the larger the issuers are, the more important they would become for CRAs.

Based on the assumption that due to their complexity MBS create a strong incentives for CRAs to cater ratings, He et al. (2012) use this market to analyse conflicts of interests.[83] In particular, the paper tries to test the above hypothesis according to which the size of the issuer affects the CRA's behaviour, using as main dependent variables the yield spread[84] and the price change between issuance and the financial crisis. In theory, rational investors should include this risk induced by the bargaining power of large issuers in their valuation of the required rate of the MBS in order to be profitable; this should be reflected in a higher yield of MBS at issuance. The empirical evidence actually shows that this hypothesis is valid, also when including various control variables – the yield on tranches sold by larger issuers is on average higher than that sold by smaller issuers during boom years.[85] Thus, investors suspected that the CRAs might have engaged in the rating catering for larger issuers and systematically assign them with higher ratings.[86]

Another source of conflict of interest analysed by He et al. (2012) is regulatory arbitrage. The arbitrage became possible as regulations based issuers' capital requirements on ratings provided by CRAs. As a result, the retention of AAA-rated MBS allowed financial institutions to hold lower amounts of prudential capital.[87] The authors find evidence that after 2004 tranches issued by banks had yield spreads 10 to 15 per cent higher than those sold by less regulated entities. This may reflect their greater incentive to securitize more aggressively to diminish the effect of regulatory capital requirements.

Finally He et al. (2012) analyse the behaviour of prices of MBS issued by large and small players both during the credit boom and during the crisis. The paper shows that

[83] He et al. (2012) "Are all ratings created equal? The impact of issuer size on the pricing of mortgage-backed securities" *The Journal of Finance*, No 67(6), p 2097-2137.

[84] The yield spread changes depending whether the MBS has a fixed or variable coupon rate, but it is in general the difference of the coupon rate and a reference rate.

[85] While this could support the hypothesis that large issuers exert larger pressure on CRAs, it should be noted that this result might also reflect other factors, e.g. large issuers might be able to better construct pools of assets that would seem safer according to the models used by the CRAs. However, the authors refer to another paper to indicate that this hypothesis is perhaps less likely than the idea that large issuers use their bargaining power to inflate ratings. Specifically, according to He et al. (2012) "a major rating agency altered model results to inflate ratings on a small sample of CDOs, though they do not link the degree of inflation to the size of issuers".

[86] This, however, does not prove that all investors were able to price the MBS correctly.

[87] Also thanks to regulatory liberalization which allowed for the creation of shadow banks, institutions with no capital requirements which could therefore increasingly leverage their positions.

the issuer's size has a negative and significant effect on the MBS performance – prices of tranches sold by large issuers fell by about 10 percentage points more than those sold by small issuers.

Thus, even if some investors suspect the impact of issuer's size on his bargaining power with the CRA, the authors argue that not all investors are sophisticated enough to include these risks in their assessments, which may lead to risk misallocations. Moreover, even sophisticated investors might not know the extent to which the ratings are biased (especially when a lot of the information necessary for risk assessment is private). Since published ratings are likely to serve as a reference point in their own assessment, the problem of ratings inflation is not entirely resolved.[88]

The role of reputation

It is often argued that the conflicts of interest between CRAs and issuers is counterbalanced by the reputation concerns. According to this hypothesis, CRAs should not be incentivised to alter their ratings in order to accommodate their clients' needs because their reputation would be affected in the case of public exposure of this behaviour and the public would cease to trust the ratings provided by the CRA.

However, academic evidence shows that reputational costs might be insufficient to discipline CRAs if there is a large number of trusting investors of limited attention or ability to process information, or if issuers and/or investors reap large regulatory benefits of biased ratings. In particular, in the highly concentrated structured debt market, where very few issuers repeatedly transact with the same CRAs, reputational concerns could be of secondary importance, compared to the more immediate concerns about the relationship ties with key issuers.[89]

Moreover, the reputation concerns work well only if a sufficiently large fraction of the CRAs' income comes from sources other than rating complex instruments. Otherwise, when rating complex products, whose quality is difficult to verify by market participants, becomes a considerable share of CRAs' revenue, CRAs become too lax and the probability of inflating ratings increases.[90] This suggests that improving access to relevant information in more complex markets might be relatively more effective than in well-established markets as in the latter investors are more likely to be able to assess ratings' quality using already available information.

On the other hand, Dittrich (2007) argues that CRAs are already one of the most scrutinised firms by the public. As a result, the incentives to collude or relax the quality standards are low. The thorough monitoring, as well as a risk of losing

[88] He et al. (2012), "Are all ratings created equal? The impact of issuer size on the pricing of mortgage-backed securities", *The Journal of Finance,* No 67(6), p 2097-2137.

[89] Efing and Hau (2015) "Structured debt ratings, evidence on conflicts of interest", *Journal of Financial Economics.*

[90] Mathis et al. (2009) "Rating the raters: are reputation concerns powerful enough to discipline rating agencies?" *Journal of Monetary Economics*, No 56(5), p 657-674.

shareholders in the case of misconduct, discipline CRAs and ensure that, at least the already reputable agencies, compete on quality.[91]

Rating-contingent regulation

Another factor that might affect the incentives of market participants is regulation. Opp et al. (2012) analyse the impact of rating-contingent regulation, such as the use of credit ratings to determine bank's capital requirements, on the quality CRAs' work. The key feature of the model presented in the paper is that acquiring information is costly and endogenously chosen by CRAs. This allows CRAs to optimise the level of accuracy depending on a range of factors, such as the distribution of quality among issuers, the complexity of securities and issuers' outside options. If information were costless, CRAs, as modelled in the paper, would disclose the information truthfully to the market.[92]

The authors argue that a preferential regulatory treatment of highly-rated securities provides an incentive for CRAs to rate more firms highly. However, depending on the distribution of quality among issuers this could increase or decrease the amount of information published by the CRAs. If issuers are more likely to be high quality, then CRAs would provide investors with more information as more firms are likely to be above the regulatory threshold. The opposite would be true if the distribution is skewed towards low quality issuers.

Opp et al. (2012) also suggest that the extent of rating inflation resulting from this type of regulation might depend on the complexity of assets. Because more complex assets are more difficult to evaluate, the reliance on credit ratings in likely to be stronger.

Finally, the authors notice the impact of the availability of outside options to issuers. Since their model assumes a monopolistic setting, outside options are a way of introducing some competition in the credit rating market. The paper shows that regulation-induced rating inflation might be reduced by increased competition.[93]

Conflict of interest between CRAs and shareholders

Another source of conflicts of interest could be resulting from shareholders' pressure. This type of conflict is directly relevant for analysing the impact of Article 6 (which prevent CRAs from rating instruments issued by a person that owns shares of the CRA).

One way such conflict may appear is when a CRA is involved in the assessment of the default risk of one of the companies which is itself one of the CRA's shareholders. Alternatively, CRAs could be rating a company controlled by one of their shareholders. In particular, the problem emerged in the case of Moody's, which is in part controlled by Berkshire Hathaway. A paper by Kedia et al. (2013) analyses the extent to which

[91] Dittrich (2007) "The credit rating industry: competition and regulation" Available at SSRN 991821.

[92] Opp et al. (2012) "Rating agencies in the face of regulation" *Journal of Financial Economics*, No 108, p 46-61.

[93] Opp et al. (2012) "Rating agencies in the face of regulation" *Journal of Financial Economics*, No 108, p 46-61.

Moody's changed its attitude towards ratings after it went public in 2000. The authors employ a difference in difference method using corporate bonds ratings issued by Moody's before and after the public offering; the counterfactual is given by corporate bonds' ratings issued by S&P during the same period.

The theory would suggest that for a publicly listed company the stock price reflects the value of the company, which among other things would be affected by the quality of offered services. As such, in order to align managers' incentives with the objectives of other stakeholders, mangers' remuneration is often linked to the stock price. However, if the quality of services cannot be immediately observed then this might give managers an incentive to prioritise short term performance (as that would give them immediate financial reward) over long term goals. In line with that argument, various comments of previous employees at Moody's have been cited to suggest that after its public listing, the focus on profits became predominant.[94]

Kedia et al. (2013), find evidence that Moody's started to issue more favourable ratings after 2000 compared to S&P. Moreover, Moody's seemed to be particularly lax towards its top shareholders when rating the company bonds.[95] The paper suggests that Moody's had a "tangible bias" in favouring firms where its two biggest shareholders (Berkshire Hathaway and Davis Selected Advisors) owned at least a 0.25 per cent stake.

Revolving doors

The role that subjectivity plays at the analyst level in the determination of ratings can creates a notable conflict of interest for analysts who produce ratings of firms which could potentially be their future employers. It is common to refer to this problem as a 'revolving door' problem, as analysts working for CRAs may be willing to inflate ratings and gain positions in firms which they rate. Such conflicts of interest could be a rationale for imposing a rotation mechanism among analysts (as required in Article 7 of the Regulation).

The structure of the credit rating market allowed Cornaggia et al. (2015) to implement a difference in difference method to analyse to what extent CRAs' analysts tend to inflate ratings of firms for which they will work. Since many firms are rated by more than one CRA, it is possible to detect whether the analysts who switch jobs have inflated the rating of their future employers. The rating on the same issuer issued by an analyst of a different CRA served in the study as a counterfactual.

The authors find evidence of rating inflation carried out by Wall Street analysts of CRAs for their future employers. This revolving door effect appears to be particularly strong when analysts switch to very lucrative businesses (e.g. managerial positions, financial institutions and investment banks). Moreover, prior to the analyst's departure

[94] Kedia et al. (2013) "Did going public impair Moody's credit ratings?" *Journal of Financial Economics*, No 114(2), p 293-315.

[95] Financial Times "Moody's in new conflict of interest claim" 30 July 2014 Source: http://www.ft.com/intl/cms/s/0/818171e0-175d-11e4-87c0-00144feabdc0.html#axzz3fsqdsGCI

his or her ratings are less informative, and after the departure CRAs revert to a lower rating.[96]

Moreover, the effect of revolving doors might impact CRAs' incentives to provide appropriate training for their analysts. As argued in Bar-Isaac and Shapiro (2011), the higher the probability that analysts will move from a CRA to an investment bank the less incentive the CRA has to invest in the analysts' training. Thus, despite the fact that qualified analysts would improve the quality of ratings CRAs do not provide adequate training as they expect a large proportion of their employees to move to more lucrative positions in the banking industry.[97]

Analytical framework

ARTICLE 6 contains two provisions which can be analysed separately.

First, CRAs must ensure that the issuing of ratings is not affected by any conflict of interests. Assuming that this provision is successfully and effectively introduced by CRAs it could have two types of impact. It might ensure their independence, and as a result improve rating quality and investors' confidence in the ratings (and the financial markets in general). It might also increase costs, and thus fees charged by CRAs. With higher fees the demand for credit ratings may fall, which implies less coverage of the market (i.e. some products would remain unrated).

However, if CRAs only superficially comply with this provision the effectiveness of it would of course be diminished. For example, if the control system is effective only in more straightforward cases, then the more complex products might still be inadequately rated. This may lead to bubbles and unexpected rating failures as investors might assume that — with the control systems in place — all ratings are reliable, while in fact some of them could still be affected by conflict of interest. Further, an unintended consequence of this provision could be a lower level of independent monitoring from investors.

Second, CRAs are prohibited from providing ratings of any financial instrument issued by a person that owns shares in the CRA, or directly or indirectly controls the CRA. On the one hand, we might expect the external pressure from shareholders to have less of an impact on the rating process. As a result, this might improve the independence of CRAs and the transparency of rating process. With the CRAs appearing to be more trustworthy, investors may feel reassured about the quality of the credit ratings and financial markets in general. It should be noted however, that the ratings provided by CRAs might be subject to less scrutiny by investors. As such, despite mitigating conflicts of interest, CRAs might not be urged to increase the quality of ratings. Moreover, this element of Article 6 might result in CRAs losing either important clients or important shareholders. However, the long-run impact of losing clients is ambiguous, and would depend on the strategy used by CRAs to accommodate clients' transfers (the strategy could be either enhancing quality or inflating ratings) and on the amount of private information incumbent CRAs have on their clients (if they have

[96] Cornaggia et al. (2015), "Revolving doors on Wall Street".

[97] Bar-Isaac and Shapiro (2011) "Credit ratings accuracy and analyst incentives" *The American Economic Review*, Vol 101, No 3, p 120-124.

information which would not be immediately obtained by a new CRA the new ratings are likely to be of lower quality).

ARTICLE 6A prohibits shareholders who hold at least five per cent of capital or voting rights in an agency from holding more than five per cent of capital of voting rights in another CRA. By limiting shareholders' impact on the industry this provision might reduce the CRAs' incentives to collude between each other, and thus might promote independence and higher quality of credit ratings. The effectiveness of this mechanism relies on the assumption that Article 6a exhausts all channels shareholders can use to influence the rating process.

This provision might also affect competition by reducing the incentives to collude between CRAs. We should note that there is no evidence of collusion, and that the large CRAs have always been separately owned.

There are three provisions included in **ARTICLE 7** that can be considered separately.

First, rating analysts, employees and any natural person whose services are under the control of the CRA should have appropriate knowledge and experience for the duty assigned. This requirement should result in the general improvement of competencies and professionalism in the industry. As such, the industry might be more able to attract talented and highly skilled employees, which may translate into a higher quality of the services offered by CRAs. However, higher qualifications might mean a higher cost of business for CRAs. Assuming that the agencies would be able to pass this cost onto consumers in the form of higher fees (and given the industry's structure, this is indeed likely), we might expect a decline in demand and a reduction in the coverage of the market and thus in the amount of information available to investors. If the higher costs of business are not passed onto consumers, the profitability of CRAs would be diminished which might appear as a barrier for new CRAs to enter the market (i.e. limiting the competitive pressure on existing rating agencies). Moreover, tighter budgets might induce the most skilled rating analysts to look for a more lucrative position outside the rating industry.

Second, compensation of analysts should not be contingent on the amount of revenue received by the CRA from issuers. One potential effect of this provision is improving the independence of rating agents by removing the incentive they might have to accommodate issuer's needs rather than focus on objective evidence. On the other hand, making compensation non-contingent on performance (as proxied by the revenue received by the CRA) can also remove incentive to exert effort. As such, rating agents might be less likely to provide high quality services as their compensation does not depend on how good their ratings are.

Third, Article 7 requires the establishment of an appropriate gradual rotation mechanism for rating analysts and people approving the ratings. There are a number of ways in which the rotation provision could impact the market. It may increase the reputational costs because incompetency would be much easier to detect. As a result, analysts and people approving ratings might have lower incentive to collude, which in turn may lead to more accurate ratings. Moreover, if any systematic mistakes appear, they would be limited in duration by the rotation mechanism. However, the rotation mechanism might increase the costs related to transferring an analyst / person approving ratings to a new portfolio. The frequent changes of products might provoke more errors in the rating process. Finally, this provision could affect not only CRAs' but also issuers' behaviour. Since issuers often view their relationship with a CRA as a

long-term investment they might not be willing to invest as much time and effort in it knowing that it is limited in duration by the rotation requirement. This might result in CRAs having only limited access to relevant information and, thus, lower quality ratings.

The staff rotation mechanism might also facilitate competition – if, due to rotation of analysts and people approving ratings, a CRA's incompetency is easier to spot then competition between CRAs for the most qualified people would increase. This might have an (indirect) impact on competition because investors would be able to observe whether ratings produced by one CRA fluctuate a lot (suggesting an uneven qualification standard within the CRA, and thus a lower average quality of ratings) or whether they are stable over time. This mechanism could be reinforced by Article 11a and Article 11(2) (both providing sources of information allowing for such comparisons).

It could also be noted that the staff rotation mechanism might be complementary to disclosure requirement in achieving the goal of lowering investors' reliance on CRAs. Assuming that with the rotation mechanism in place, the variability in the ratings of a given assets would increase (compared to the current state), investors would have to acknowledge the fact that a particular rating is only an opinion (as it might change when someone else is rating the same instrument) and other sources of information should be taken into account.

Evidence and analysis

ARTICLE 6

Of all the CRAs that responded to our survey, only a couple observed any of the negative consequences of Article 6 captured in our analytical framework. Among those who did, only one CRA claimed Article 6 significantly reduced their ability to rate and caused a loss of market share. The remaining respondents either did not observe any of the impacts or assessed them to be of little strength. This implies that Article 6 seems to have had limited impact on CRAs.

Responses from investors were mixed. Some investors agreed that Article 6 would have a very small to no effect on the independence or quality of ratings. However, there was also an opinion presented that the provision will be very effective as it would mitigate conflicts of interest and improve transparency (especially in less liquid assets).

In line with the latter view, regulators that responded to our survey appear to expect Article 6 to effectively mitigate conflicts of interests. Many argued that corporate governance and other internal procedures are key in ensuring independence and quality of ratings. Of the three provisions related to mitigating conflicts of interest, regulators assessed this one to be the most effective.

While the views regarding Article 6 are quite diverse, they are not entirely contradictory. As noted by ESMA, the provisions included in this article might not seem very effective from the point of view of market participants because many measures were already in place when the regulation was introduced.[98] This is

[98] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 189.

supported through feedback by some newer CRAs to our fieldwork, for whom the regulations were already in place when they entered the market and as such they did not experience notable additional costs. Moreover, the opinion that this provision has not changed or affected the business models in any significant way might also be a reflection of the initial perspective on the market, i.e. if for example were CRAs believed not to be a entangled in conflicts of interest in the first place, then market participants would clearly not observe any improvement in reducing those conflicts after the implementation of new requirements. This however does not prove that the provision is ineffective.

Article 6 (as well as Articles 6a and 7) has a predominantly preventive character. As such, changes might not be immediate or visible from the perspective of individual market participants. Nevertheless, as pointed out by ESMA, they are helpful in giving regulators the necessary tools to supervise and sanction CRAs that do not mitigate conflicts of interests sufficiently.[99]

Since neither CRAs nor issuers have not reported any implementation difficulties or other adverse effects of Article 6 on their businesses, the risks related to CRAs losing clients or shareholders can be excluded from our discussion. Moreover, we do not have any evidence of potential negative consequences such as deterioration of ratings' quality or an increase in the complexity in procedures within CRAs. Thus, we conclude that, as long as the provision is effectively implemented and complied with, it is likely to have a long-term positive impact on the market in preventing rating inflation and increasing the confidence of market participants.

Finally, we might note that Article 6 might impose some implementation costs on CRAs. A majority of CRAs who responded to our survey reported that they have implemented some changes to IT systems, training, compliance, and legal procedures. However, some CRAs reported that they have made minor to no changes as this article was not applicable towards their firms or they already had internal regulations implemented. For CRAs that incurred non-negligible implementation costs, the reported values for one-off costs ranged from €5,000 to €14,000, while the ongoing costs ranged from €300 (covering Articles 6, 6a and 7) to €3,000.[100]

ARTICLE 6A

Neither CRAs nor issuers reported any significant difficulties arising as a result of Article 6a. Additionally, we asked issuers whether this provision has improved the quality of the ratings processes. Their responses suggest that the impact has been limited, if any. Interestingly, CRAs did not comment on any negative impacts (which we specifically asked them about given previous concerns about potential difficulties with this provision).

Investors' responses are more varied. Some investors are of similar opinion to issuers that the impact of this provision on independence and quality has been minimal. However, there was also a voice raised that this provision would be effective as independence of rating processes would increase objectivity of the ratings.[101]

[99] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 221.

[100] All the money values referred to in this paragraph were reported by small CRAs.

[101] We recognise that additional responses from issuers and investors are needed to strengthen these conclusions.

The responses from regulators show that authorities also expect Article 6a to contribute to reducing conflicts of interests. However, of all the articles related to conflicts of interest, this one seems to have the least support from regulators.

Similarly to Article 6, we might argue that the lack of perceived impact on the market does not necessarily mean that Article 6a is not helpful. Moreover, it is not clear to what extent cross-shareholdings between CRAs were a problem before the introduction of this provision, which may further contribute to the view among market participants that there was little change. As in the discussion relating to Article 6, we argue that in the light of little to no implementation difficulties and broadly positive opinions from regulators, Article 6a may have a long-term positive impact on independence and quality of credit ratings.

Regarding the implementation costs that might be incurred by CRAs in order to company with Article 6a, several firms reported that they have implemented changes to IT systems, training, compliance, and legal procedures. However, some firms reported that they did not have to make any changes. For CRAs that incurred non-negligible implementation costs, the reported values for one-off costs ranged from around €3,000 to €5,000, while the ongoing costs ranged from €300 (covering Articles 6, 6a and 7) to €500.[102]

ARTICLE 7

As in relation to Article 6a, issuers report that the impact of Article 7 on improving quality of ratings has been limited, if any.

Investors on the other hand have a wider range of views on the impact of this provision on independence and quality. The views range from very effective, to not effective at all, to having a negative impact. The positive aspect of the requirement mentioned in responses to our survey is an improvement in transparency and a reduction in conflicts of interests. The negative view was supported by the argument that the obligation to rotate the lead rating analyst might lead to lower quality ratings as it would interfere with the process of building sufficient experience. These comments might indicate that while the rotation mechanism for rating analysts appears as more controversial, the remaining provisions (i.e. ensuring appropriate knowledge and experience, and separating analysts' compensation from revenue earned by the CRA) seem to be less likely to have negative impacts. However, they are still perceived by some investors as not particularly effective in improving independence or quality of rating processes.

Similarly to Articles 6 and 6a, we put more weight on regulators' perspective in the analysis. Responses to our survey show that regulators assess Article 7 to be quite effective in mitigating conflicts of interests. As above, this could be further supported by ESMA's Technical Advice where it is claimed that Article 7 has improved ESMA's supervisory position. Moreover, according to ESMA this provision has been effective in reinforcing segregation between CRAs' commercial and credit rating activities.[103]

To sum up, we might expect the provision regarding appropriate knowledge and experience, and the requirement to separate remuneration and CRA's performance, to have a positive impact on the market. With regulators support reflected in their responses to our survey, we believe that Article 7 is likely to improve competencies and professionalism of rating analysts. Moreover, as noted by ESMA the provision

[102] All the money values referred to in this paragraph were reported by small CRAs.

[103] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 244-246.

facilitates its role as a supervisor, which might help prevent any future erosion of quality among CRAs. The only risk raised by one of our respondents is that the rotation mechanism for rating analysts may impede the process of gaining experience by analysts and cause a deterioration in ratings quality.

Finally, there are likely to be some implementation costs incurred by CRAs in relation to Article 7. A majority of firms that responded to our survey reported that they have implemented changes to IT systems, training, compliance, and legal procedures, while one responded to make only minor changes. The reported one-off costs ranged from around €3,000 to €1.3 million, with recurring costs were estimated to range from €300 (covering Articles 6, 6a and 7) to €500.[104]

Rotation

Literature review

The introduction of a mandatory rotation between a credit rating agency and an issuer is a relatively recent phenomenon, and as a result literature discussing this regulation in a systematic way is very limited. As such, the study on potential effects of this new measure cannot be based on empirical evidence from this specific sector. However, the literature on the effects of mandatory rotation for auditing firms is richer and, given the various similarities of these two sectors, may be useful in conducting a conceptual analysis of the possible developments and effects of the new regulation imposed on CRAs.

Boylan (2011) argues that one of the main issues in the credit rating sector is the existing issuer-pays business model. The American regulation tried to address this issue with the provision of a new body in charge of assigning deals to CRAs. On the other hand, in the same article, Boylan suggests that the introduction of this intermediator could be avoided by imposing mandatory rotations between CRAs and issuers.[105]

Mandatory rotation has also been used in the audit sector. Boylan (2011) notes important differences between the audit and credit rating sectors.

- The way the two professions have been perceived by the members themselves; auditors have perceived themselves as protectors of the public trust and the auditing profession has been subject to licensing and regulation by states. On the other hand, CRAs have perceived themselves as publishers and they have been defending their opinions in courts as free speech;
- The two professions provide different types of information: the auditing profession provides a statement on backward-looking information, i.e. the financial statements (although the audit statement also includes a statement that the business is a going concern, in other words will still be around in twelve months'

[104] All the money values referred to in this paragraph regarding ongoing costs were reported by small CRAs. The range of one-off costs is based on information from both large and small CRAs.

[105] Boylan (2011), "Credit rating agency reforms: Insight from the accounting profession" *The CPA Journal*, No 81(11), p 40.

time) whereas CRAs provide forward-looking information and analysis (risk of an institutions becoming insolvent in the future);

- The two professions are characterised by different business models, with CRAs having arguably stronger incentives to generate short-term profits and, as a result, to compromise their ratings.

In addition, whilst a public statement is a feature of both, an audit report (at least, a clean one, is relatively standard). There is much more that is bespoke in a rating report, at least beyond the actual rating (e.g. AAA) itself. Therefore, whilst mandatory rotation is seeking to address somewhat similar issues: conflicts of interest, the creation of a body in charge of the oversight and control of practices, and measures for internal control, we have not sought to extrapolate the conclusions from the literature on rotation of auditing firms to CRAs.

We should note that while there is some literature on the mandatory rotation in the audit sector, the requirement for auditors seem to be stronger than the current formulation of the Rotation provision in CRA3 Regulation (which applies only to new instruments rather than imposing a general limit on CRAs' tenure). As such, we do not discuss the literature regarding the audit sector as it is not clear to what extent similar outcomes could be expected in the credit rating market.

Analytical framework

According to **ARTICLE 6B**, upon the expiration of the contract, CRAs shall not enter into a new contract for ratings on the same originator's assets for a period equal to the duration of the previous contract, but not more than four years. This provision could have three types of impacts: (a) change the time horizon of the CRAs, (b) influence the CRA's cost structure, and (c) affect CRA's sectoral knowledge. We will discuss each of these impacts in turn.

First, Article 6b could change the CRAs' perception of the relevant time horizon. As a result, the agencies may be less concerned with establishing a long lasting relationship with issuers. This could enhance their independence and reduce the incentives to inflate ratings. As such, we might expect to see an increase in the quality of information available to investors as credit ratings become more reliable. On the other hand, moral hazard might be present towards the end of the relationship, with reduced incentives to produce higher quality ratings at that point. More frequent rotation could also impose additional switching costs on both issuers and investors as both come to terms with a new methodology and set of judgements.

Second, Article 6b could impact the cost structure of CRAs. Since the initial phase of gathering information about a new issuer is likely to be the most resource intensive, CRAs would not be able to use this investment in rating another product from the same originator (at least not immediately). With no prospect of a long-term relation with the issuer (assuming that the issuer solicits ratings from the same originator), rating agencies might have insufficient incentive to exert effort in the rating process, and thus produce lower quality ratings. They might, however be able counterbalance the increase in cost in ways other than reducing quality. One example could be taking advantage of a greater churn of issuers (who have to solicit ratings from different CRAs) and engaging with more clients.

Third, Article 6b could affect the CRAs' sectoral knowledge and information about issuers. Engagement with more companies might allow them to improve their

expertise. Thanks to a greater number of sources of information available to CRAs (as the rotation would result in a greater churn of clients, and thus more experience in rating them) the quality of ratings might increase. On the other hand, it is also possible that CRAs would not have enough time to obtain relevant information about the underlying originator (i.e. a learning curve effect). In such a case, the increased churn would result in a decline in the expertise and a lower quality of the issued ratings.

Article 6b might also have a less direct impact on investors. In line with the objective of the disclosure requirement, this provision could reduce investors' reliance on ratings produced by CRAs. Assuming that with the rotation mechanism in place, the variability in the ratings of similar securities would increase (compared to the current situation), and investors would have to acknowledge the fact that a particular rating is only an opinion (as it might change when someone else is rating the same instrument) and other sources of information should be taken into account.

Regarding the interaction of the rotation requirement with other provisions, it could be noted that it is not clear whether it would increase competition between large and small CRAs. If issuers are able to rotate between the largest incumbent CRAs, there might be no impact on the market position of smaller CRAs. However, if more CRAs would be involved in rating instruments within the scope of Article 6b, then there are several potential effects on competition.

- A greater churn of issuers who have to solicit ratings from different CRAs might increase competition as the chance of winning a new client would be greater. As a result there might be a stronger incentive to compete for issuers who are obliged to change the CRA. This mechanism could be reinforced by Article 11a and Article 11(2) which would facilitate comparisons between CRAs.
- A greater churn of issuers might give some small CRAs a chance to obtain experience in a larger number of sectors. In the long term, it might increase market entry and competition between CRAs (both large and small) as more CRAs would be perceived by the market participants as reliable and competent. This argument relies on the assumption that issuers would have to use small CRAs as well as the large ones.
- A higher cost of providing ratings (as the initial phase of data gathering and analysis is likely to be the most resource intensive) might increase barriers to entry / expansion, which in turn could reduce entry and competition in the market. However, the extent to which the cost of providing ratings is increased would depend on how frequently new instruments included in the rotation requirement are in fact issued.[106]

Finally, we should keep in mind that while the evidence from the audit industry showed several negative consequences of the rotation provision, there might not have a direct bearing in the credit rating market. Firstly, despite similarities the two industries have some differences. For example, it is likely that the audit industry depends on the relation with the client and the information he or she provides to a

[106] Because Article 6b only covers new re-securitisations, rotation is not mandatory for rating the same instrument. If, as it is the case with re-securitisations, new instruments are issued only sporadically then the additional cost of the initial data gathering and analysis would not have a great impact on the industry.

larger extent than the credit rating market, where there are many, often public, sources of information that could be used in the assessment. Secondly, the rotation requirement in the audit industry is of a different nature than in the case of CRAs. Because the CRA3 Regulation imposes a weaker requirement than the one in force in the audit sector, the likely impact (both in terms of positive and negative consequences) might be smaller.

Evidence and analysis

Before analysing the impact of the Rotation provision on the market, we should make a note regarding the context around the introduction of this requirement.

One of the key considerations in the analysis of the current impact of the rotation provision is the current and future state of the market. The market for re-securitisation has declined sharply during the recent financial crisis.[107] Since re-securitised products were largely blamed for the onset of the crisis,[108] investors withdrew from the market, which did not recover to this day. As stated by ESMA's Technical Advice, the market for re-securitisation has not revived in the EU following the crisis. Limited interest in issuing re-securitised products could also, at least in part, explain why more CRAs did not enter this market.[109] The fact that the re-securitisations currently account for a very small part of the market is also reflected in AFME's response to ESMA's call for input, where they claim that "[i]t should also be noted that regulatory capital and other disincentives to discourage issuance of re-securitisations have been in place for some years (and since before the application date for mandatory rotation) such that, unsurprisingly, fewer new re-securitisation transactions have been issued in recent years."[110]

As such, the impact of the rotation provision is likely to be small as its scope is limited to products which are no longer issued in significant quantities. Given the small size of the market there are unlikely to be limitations in the number of CRAs able to rate these instruments if the rotation provision kicks in.

Data on the re-securitisation market in the EU are not readily available. This is likely to be due to the dormant nature of the market and the very broad definition of 're-securitisation' which may impede the standardised collation of data.[111] SIFMA collates mortgage-related re-securitisation data, but only for the US (the US market is

[107] While robust data are not available, such a conclusion stems from the analysis in IMF (2009) "Global Financial Stability Report", Chapter 2: *Restarting Securitization Markets: Policy Proposals and Pitfalls.* See for example Figure 2.4 for issuance on CDO^2 in Europe.

[108] See for example Beyer et al. (2013), "CDOs – A critical phenomenon of the financial system in the crisis", *Institute for Comprehensive Analysis of Economy.*

[109] See ESMA (2015), "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 16.

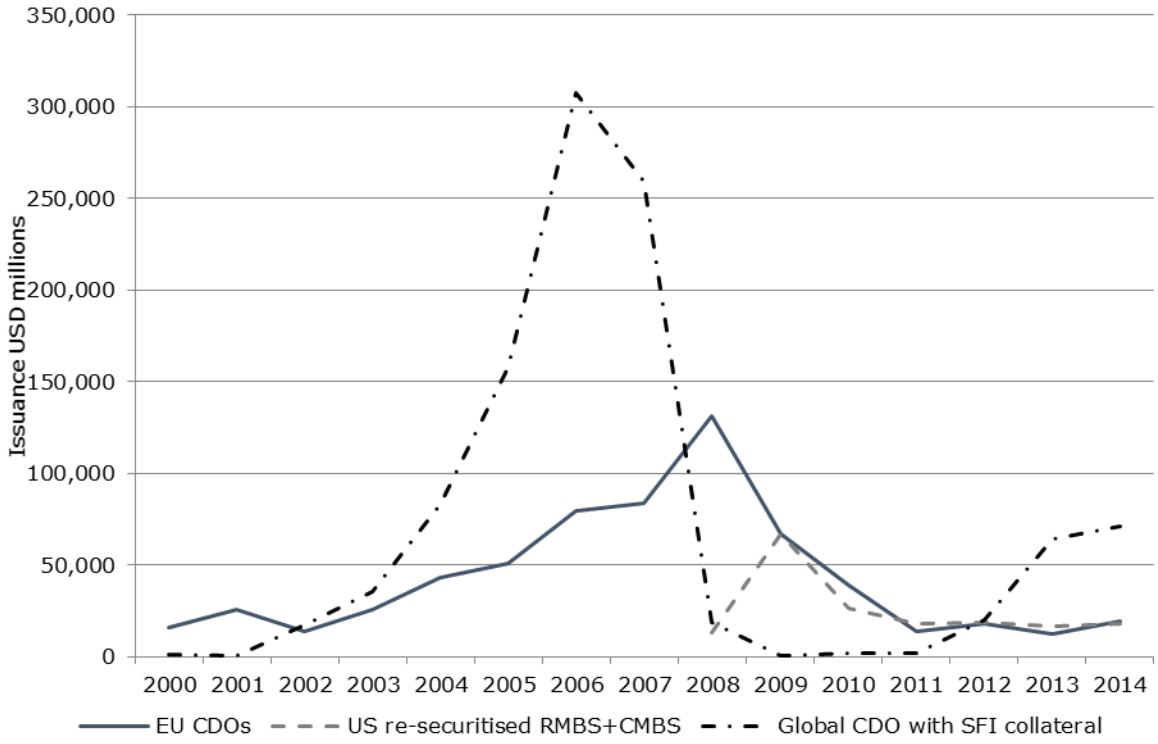
[110] Association for Financial Markets in Europe (2015) "ESMA – call for evidence– competition, choice and conflicts of interest in the credit rating industry" 30 March.

[111] For example, the Capital Requirements Regulation (Article 4(1)(63)) states that a re-securitisation is 'a securitisation where the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation position'. The definition clearly catches CDOs of ABS, but will also cover any tranched deal where the pool includes any RMBS or CMBS security or other securitisation exposure.

considered to be more active than the EU). The figure below presents this data along with other data which could proxy for re-securitisation market, namely global CDO issuance where the underlying collateral is a securitised product,[112] and all EU-denominated CDO issuance. All of these figures will over-estimate the size of the re-securitisation market in the EU, either because they include US data (the US is likely to account for the largest share of global activity) or because they include data not strictly related to re-securitisation. Nevertheless, the dramatic decline in the market is clearly illustrated, and the most recent issuance of EU CDOs in 2014 is a fraction of the total EU structured finance issuance (seven per cent), of which only a fraction again would be re-securitised product issuance.

These data are supported by anecdotal evidence received from our fieldwork as well as ESMA's research for its technical advice, which indicate negligible issuance activity in EU re-securitisations.[113]

Figure 11: Proxy data for the EU re-securitisation market, USD millions.



Source: SIFMA

Because the formulation of the provision has changed in the process of creating the new set of regulations, there is likely to be some confusion among market participants regarding the interpretation of this requirement. Our understanding is that initially the article was supposed to introduce a strict limit on the CRAs' tenure in a fashion similar to the one imposed on the audit industry. However, ultimately the formulation was changed and currently Article 6b only imposes limitations on choosing a CRA for rating *new* re-securitisations from the same originator (i.e. a cooling-off period).

[112] RMBS, CMBS, ABS, CMOs, CDOs, CDS, and other securitized/structured products.

[113] None of the CRAs able to rate SFIs have issued ratings for re-securitisations since at least 2010. Other market participants are also not away of any activity in this area.

Despite the change in the formulation, we believe that some respondents to our survey (as well as to ESMA's Call for Evidence) provided answers which are consistent with the initial formulation of this provision. This should be borne in mind when considering the analysis below.

Responses to our survey show that CRAs expect that the most likely consequences of the Rotation provision are an increase the volatility of ratings and increase the costs of ratings to issuers. While according to the CRAs these are the most likely impacts, the likelihood of such outcomes was nevertheless assessed to be moderate. Other impacts, such as an increase in the number of CRAs rating the relevant instruments, a reduction in the ability of CRAs to accumulate knowledge about the issuer, or a reduction of conflicts of interest were regarded as less likely impacts.

Views among investors, on the other hand, seem to be divided. While some believe the rotation requirement could help in reducing conflicts of interest and increasing the number of CRAs rating re-securitised instruments, the majority of investors (or asset managers) we contacted seem to expect a negative impact on the market. Many investors stated that Rotation provision will significantly increase costs (directly to issuers and/or to investors who will have to get familiar with methodologies of other CRAs). Moreover, some investors indicated that the provision will reduce the ability of CRAs to accumulate knowledge and will undermine CRA's accountability. Investors will not be able to take advantage of a long rating history as the rotation will introduce noise and volatility.

Information collected from issuers seem to support investors' view. They expect the rotation requirement to increase costs for issuers, and increase volatility.

Similar evidence is presented in ESMA's Technical Advice, where respondents said they expect the Rotation provision to cause an increase in costs for issuers, a reduction in the ability to accumulate knowledge on issuers (and as a results negatively affect the quality of ratings), and an increase in the volatility of ratings as sudden upgrades and downgrades may occur when changing a CRA.[114]

A slightly different point of view has been presented by public issuers. Based on their responses to our survey, they believe the most likely effect of the rotation requirement will be a reduction in conflicts of interest. Other possible effects include, on the upside, increasing the number of CRAs rating re-securitised products, and, on the downside, reducing the ability of CRAs to accumulate knowledge. However, we should note that these results are based on a small number of responses (four) on this topic, and on average the likelihood of the above impacts has not been assessed as very high.

Moreover, as responses to our survey suggest, regulators do not expect the provision to be very effective in promoting competition (half of the respondents suggested the provision would not be effective at all, and the remaining half expected no more than some small or moderate impact) or reducing conflicts of interest (with the exception of one authority, all regulators expected the impact to be at most moderate with many responses suggesting small to no effect). However, the belief that the provision would not have a significant impact could partly reflect limited experience the authorities had on this topic.

To sum up, if the Rotation provision were to limit the length of tenure of a CRA, then market participants share the view that it could increase volatility of ratings and

[114] ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry", paragraph 387.

increase costs to issuers. Together with the belief that there would not be an increase in the number of CRAs capable of rating re-securitised instruments (and the general attitude among issuers and investors that the quality of ratings provided by large CRAs is better than of ratings provided by small CRAs), we might expect that, to the extent possible,[115] issuers would only rotate among the largest incumbents and other agencies with which they already have existing relationships. As discussed in our analytical framework, an increase in volatility could in theory have either a positive or a negative impact. On the one hand, if due to more churn among CRAs the quality of ratings would be perceived as higher, this could give European CRAs an advantage over other agencies. On the other hand, if larger variability in ratings causes market participants to perceive ratings as lower quality, the position of European CRAs would deteriorate. The change in quality could also result from the fact that obtaining detailed knowledge about issuer takes time and resources. If CRAs cannot take advantage of this knowledge when assessing other instruments from the same originator,[116] then the costs of providing each rating would be higher. This could reduce CRAs' incentive to provide high quality services.

While the responses are not unanimous a number of respondents indicated that the provision would negatively affect the quality of ratings either because of high initial costs or because the choice of a CRA would not be based on expertise but rather dictated by availability. We should note, however, that the views in that respect seem to differ depending on the size – large CRAs appear to be more sceptical and more likely to agree that rotation would reduce quality, while small CRAs were more positive in their views. Even further, small CRAs were more likely to welcome an extension of the Rotation provision to other securities. This might indicate that small CRAs do not believe the provision to be currently effective because it is too lenient, as opposed to large CRAs which might put the ineffectiveness down to distortions caused directly by rotation. For large CRAs the rotation requirement poses a risk of losing some business so they have a clear incentive to be against it. The opposite is true for small CRAs. That being said, as discussed above, on average CRAs (as well as investors and regulators) do not expect this provision to have a very significant impact on the market. Most likely this reflects limited experience with the provision resulting from very few issuances of re-securitised instruments over the last years. Moreover, assuming that indeed most of our respondents had in mind the previous, stronger formulation of the provision, the impact on the provision in its current formulation is likely to be even smaller.

Finally, we might note that both CRAs and issuers might incur some costs related to this provision. Among CRAs, a large group of respondents to our survey stated that this requirement does not apply to their businesses. Among those who either experienced or were able to predict the implementation costs, a small CRA claimed there were/would be no additional costs resulting from the Rotation requirement, while two large CRAs described what kind of measures were/would have to be taken. One of them argued that while their experience is limited, they expect the aggregate compliance cost of implementing the CRA rotation to be high for both one-off and recurring costs. The other one claimed that the majority of the one-off costs will come

[115] Given the current volume of re-securitisation it is unlikely that issuers would be forced to use CRAs other than the ones with established reputation for rating such instruments.

[116] The provision does not impose the rotation requirement for instruments coming from the same issuer but rather from the same originator. The analysis assumes that these two are often correlated.

from internal procedural changes and changes to systems and controls, and the ongoing costs would involve monitoring and training.

Regarding issuers, based on responses to this question we might assume that this provision has not created any additional costs for issuers. This indicates that the extent to which the Rotation provision actually increases costs for issuers is likely to be small.

Critique of the Rotation provision

Since the Rotation provision raised particularly many critical comments, we discuss them thematically below. The responses analysed below come mainly from large CRAs, with some views shared by issuer trade associations. These comments are additional to those discussed above, which also incorporate views from smaller CRAs, issuers and investors – these market participants did not provide any feedback in relation to the points raised below.

Decline in ratings' quality

All large CRAs argued that the provision will lead over time to lower quality of ratings. This might be a consequence of the fact that some CRAs could simply wait for their turn to be chosen in the rotation process. As such, they would have a lower incentive to compete on quality. However, our analysis indicates in the current formulation of the provision (where it applies only to re-securitisation) this is unlikely to have a significant impact. Firstly, CRAs build their reputation based on all ratings (rather than separately for each security market), so the incentive to provide accurate ratings for re-securitisation is likely to be the same as for any other instrument. Moreover, the strategy of simply waiting for their turn would be effective only if the number of CRAs were very limited. It is true that there are currently only a few CRAs that are able to rate re-securitisation, but the Rotation provision does not inhibit competition between them; as long as there are several CRAs to choose from, they would still have to convince issuers and other market participants that they provide valuable services. Moreover, since the objective of the regulation is to encourage more small CRAs to enter the market, over time we might expect more CRAs to gain sufficient experience. As such, the incentives to compete on quality are unlikely to be reduced.

Some respondents also mentioned that the provision would increase volatility of ratings and, as a result, reduce ratings' stability (which is a desirable feature for investors, as it lowers execution and stock risk). However, we might argue that given the inherent riskiness of re-securitisation offerings more variability in ratings (to the extent justified by different methodologies) could actually help investors gain an appreciation of this risk profile. Moreover, as long as the provision applies to re-securitisation only, the impact is likely to be limited.

Based on our fieldwork, another negative consequence of the mandatory rotation could be reducing CRAs ability to perform an ongoing self-assessment of their ratings. Such an assessment is claimed to play a crucial part in the development of rating criteria and analysis. While some information about the performance of the security could be obtained by CRAs even if the instrument is rated by a different CRA, this seems to be a valid point. Again, as long as the provision is limited to re-securitisation the impact is unlikely to be large, however would require more attention if the provision were to be extended to other asset classes.

Increased costs to issuers

The main argument underlying the claim that costs to issuers would increase is that building a new relationship between a CRA and an issuer is expensive. If CRAs are unable to spread these costs across a long period of time, then issuers would have to incur those additional costs of each rating. However, as noted by one of the CRAs, this

would be much more important in the context of rating corporate bonds than rating re-securitisation, which usually has a more transactional character. As such, it can be argued that any cost increases faced by issuers would be not only limited to a very narrow segment of the market but also less pronounced than they would be in relation to other asset classes.

Another critique raised was that the rotation requirement might put European issuers at a disadvantage compared to issuers outside the EU jurisdiction. The reasoning was that because investors perceive ratings from small CRAs as lower quality, European issuers (who would be forced to use small CRAs) might find it more difficult to place their debt and thus face higher costs of financing. Clearly, if issuers wanted to have always at least one rating from a global CRA, they would not be able to obtain a rating from both S&P and Moody's (as with rotation they would not be able to use either of them for the new transaction). While we believe this to be a valid point (and a good argument against extending the provision to other asset classes) the actual impact on costs faced by European issuers remains to be seen. Regarding the limitation on the use of large CRAs implied by the provision, we might note that issuers who are particularly concerned about such situations could obtain four ratings, in which case the rotation requirement does not apply. Whilst this would obviously not be costless, it would impose an upper bound on these impacts. Moreover, if the regulation successfully promotes competition and entry in the market, then over time more CRAs would eventually be perceived by investors as providing high quality ratings. However, this could impose high transitional costs.

Finally, a more general remark was made that a range of measures have already been adopted to ensure the conflicts of interests are mitigated. As such the rotation provision would be ineffective in reducing those conflicts because the problem has been already addressed through other regulations or internal procedures.

Other impacts

Some issuers criticised the idea of handover files, which the outgoing CRA would be providing the incoming CRA with. Our respondents argued that this would violate their right to protect their intellectual property and confidentiality of information received from issuers. Moreover, it was highlighted that due to differences in methodologies the extent to which these handover files could be used by the incoming CRAs might be limited. On the other hand, one of the CRAs said that the handover files are of little importance in the case of structured finance transactions as these are usually rated on a transactional basis. As such, the incoming CRA would not actually get much useful information regarding the new transaction it was contracted to rate. Our analysis suggests that handover files might indeed have various impacts. On the one hand, CRAs do have a right to protect their intellectual property. On the other hand, the industry might benefit from more transparency around the rating processes. Moreover, while the handover file (if containing useful information) could accelerate the rating process, it might also reduce the quality of the new ratings which would be based on the information provided by the outgoing CRA rather than independent analysis. However, it seems that, as long as the provision applies to re-securitisation only, the impact on speed and quality of rating processes would be limited as the file is unlikely to contain information relevant for the new ratings.

One CRA also argued that the provision is likely to restrict information available to investors because issuers would be more willing to reduce the number of paid ratings, rather than obtain ratings from small CRAs which are not accepted by global investors anyway. We do not consider such a scenario is very likely, especially when the provision applies only to re-securitisation. Most of all, Article 8c requires issuers to obtain at least two ratings for structured financial instruments (subset of which are re-securitisations); this would prevent firms from alternating between the two largest

CRAs only and induce them to use smaller CRAs. Furthermore, we might expect that over time, as other CRAs are used to rate such instruments, issuers would have a wider choice of CRAs which are accepted by the market.

Disclosure of information

Literature review

Upon evaluation of the current credit rating atmosphere, the European Commission felt that credit rating agencies were not nearly transparent enough, and the lack of accountability in the industry was one of the main reasons for their historical issues. The focus of this section are disclosure requirements referring to issuers rather than CRAs themselves; however some arguments come from the literature discussing the general impact of higher disclosure or specifically disclosure by CRAs.

In meeting the objective of reducing the reliance on CRA's ratings, the literature regarding the topic is hesitant in calling CRA3 a success story. Avgouleas (2009) argues that despite already extensive disclosure requirements financial crisis has not been prevented. The reasons could be as follows:

"First, due to product complexity, boundedly rational investors failed to understand the mechanics and risks of shadow banking and structured credit securities. Second, because of market players' tendency to herd, responding strategically to other market actors' behaviour, these did not have the capacity or the desire to use in a rational way the disclosed information and take contrarian positions. Third, the influence of other behavioural factors such as the use of heuristics, and investor overconfidence in times of market euphoria, because of abundance of easy credit and rising market prices, meant that investors chose to ignore the warning signals in the disclosed data in favour of over-reliance on credit ratings."[117]

Pagano and Volpin (2010) provide arguments for requiring issuers to disclose all the information relevant for assessing the risk of the products (instead of requiring CRAs to disclose all the information they used). In reference to a model by Pagano and Volpin (2008), they argue that issuers might prefer to disclose less information than would be socially optimal. In theory issuers should want to provide all the information necessary for the CRAs/investors to make decisions as that should increase market liquidity. However, because only sophisticated investors are able to make use of the information provided, unsophisticated investors are at a disadvantage. For good quality products there would be a strong competition from the sophisticated investors so unsophisticated investors might be only left with the option to buy low quality products. To compensate for this unsophisticated investors would be only willing to buy investment products at a discount. As such, issuers (to avoid under-pricing) might prefer not to reveal all the information useful in assessing the quality of their

[117] Avgouleas (2009) "The global financial crisis and the disclosure paradigm in European financial regulation: the case for reform" *European Company and Financial Law Review*, No 6(4), p 440-475, see also Avgouleas (2009) "The global financial crisis, behavioural finance and financial regulation: in search of a new orthodoxy" *Journal of Corporate Law Studies*, No 9(1), p 23-59.

products.[118] Thus, Pagano and Volpin (2010) argue that a specified level (and format) of obligatory disclosure might be beneficial for the economy as a whole because "a freeze of the market for structured debt is more costly for society at large than for individual investors whenever it triggers a cumulative process of defaults and/or liquidation of assets in the economy, for instance due to 'fire sale externalities' or to the knock-on effect arising from banks' interlocking debt and credit positions."[119]

The requirements of disclosing all the information on the assets underlying structured instruments have some implementation problems. Pagano and Volpin (2010) consider that the requirements are likely to reduce the liquidity and size of the primary market for structured finance securities in comparison with the pre-crisis period. Yet, they will restore investors' confidence in the securitization process, which can still prove a valuable tool to enlarge financial markets and transfer risk from lenders to investors. These reforms will also create opportunities for specialized information processors providing healthy competition to CRAs, and sharpen the investors' awareness that they must not place blind faith in ratings alone" [120]

Transparency

There is also some literature regarding transparency (i.e. the disclosure requirements for CRAs) rather than the issuers' disclosure discussed above. While some of the arguments are specific to the transparency others seem to be general enough so that they could be successfully transposed to the issue of issuer disclosure. As such, the following analysis could be relevant not only for transparency requirement (such as those included in Articles 11a and 11(2)), but also for the Disclosure provision (i.e. Article 8b).

In particular, Avgouleas (2009) comes to the conclusion that disclosures are only as effective as they are useful and easily understood.[121] A similar view is presented in Crosignani and Shiren (2009) where it is indicated that if the required disclosures are too complex they will not encourage more informed investments (at least not among the majority of investors). Finally, more information available in the market might create a division between sophisticated and unsophisticated investors. Pagano and Volpin (2010) argue that the increased transparency means that, if given the proper evaluation by a sophisticated investor, better market decisions could be made. The problem is that the amount of time and resources needed to make these decisions is limited to the strongest players in the market, giving sophisticated investors another tool over an already disadvantaged naïve majority.

---

[118] This strategy might backfire in the secondary market, where the information not disclosed in the primary sales might be revealed in the secondary market (reducing its liquidly). However, if the secondary market is of less importance to the issuers than the primary market, they would still choose a suboptimal level of disclosure.

[119] Pagano and Volpin (2010) "Rating agencies" *Economic Policy*, April, p 401–431.

[120] Pagano and Volpin (2010) "Rating agencies" *Economic Policy*, April, p 401–431.

[121] Avgouleas (2009) "The global financial crisis and the disclosure paradigm in European financial regulation: the case for reform" European Company and Financial Law Review, No 6(4), p 440-475.

Disclosure requirements could also have some impact on competition in the market, as with more information available to market participants CRAs are less likely to be able to hide negligence or biases. However, the literature suggests that additional disclosure is unlikely to help smaller agencies gain any foothold in the market. Bai (2011) argues that the large amounts of data and policies being released by the agencies does not allow for easy identification of the high-quality, successful small firms, and is likely to only cause them to get lost in the piles of paper. The papers do supply possible changes to the regulation in an effort to help smaller firms. Specifically, Bai recommends that ESMA release a list of all registered credit rating agencies, their relevant pricing strategies, the markets they're active in, and their success rates in those markets.[122] Pagano and Volpin (2010) recommend something similar, in that all agencies should be required to place their firm's estimated margin of error next to each rating released, so the more accurate agencies could be identified easily.[123]

Analytical framework

ARTICLE 8B provides for the issuer, the originator and the sponsor of all structured finance instruments who are established in the EU to jointly publish information on these instruments and the performance of their underlying assets. This information is to be published on a website set up by ESMA.

The effectiveness of this provision relies to a great extent on whether investors would be able and willing to make use of the provided information, and the nature of the information published. The information provided by issuers would either have to be easily comprehensible by investors or there would have to be some guidance on how to interpret the new information. In such a case, we might expect investors to undertake better risk assessments of these products, thus increasing overall confidence in the market. We might also expect investors to become less reliant on CRAs' ratings.

Furthermore, providing investors with the tools necessary to evaluate the credit ratings themselves might have an impact on competition between CRAs; thanks to the additional information it would be easier for investors to distinguish between high and low quality ratings, which may induce CRAs to exert more effort in the rating process. CRAs would also have greater access to information on SFIs (both incumbent CRAs and those not currently providing ratings for issuers) – this may incentivise CRAs to improve rating methodologies to develop or retain a competitive advantage.

Moreover, the information available to investors could reduce their reliance on CRAs' ratings, which might mitigate a contagion risk (e.g. resulting from CRAs downgrading certain products). With better quality ratings and investors less reliant on the CRAs we might expect the prices of rated products to be more informative and hence facilitate a better allocation of capital in the market.

---

[122] Bai (2011) "The performance disclosures of credit rating agencies: are they effective reputational sanctions?" University of Cincinnati Research Paper Series, No 11(3).

[123] Pagano and Volpin (2010) "Rating agencies" *Economic Policy*, April, p 401–431.

Clearly, the effectiveness of the disclosure requirement would be very limited if the disclosed information is not actually used. If most of investors are not willing to spend time analysing this information or if the information cannot be easily comprehended by most, then the effect of the provision would be insignificant. Further, there might be a risk of providing more sophisticated investors with information that is not accessible for less sophisticated ones. This may lead more sophisticated investors to benefit at the expense of the remaining players in the market.

Another unintended consequence might arise if the costs to issuers and others of providing the information were very high. This might incentivise the creation of new instruments, specifically designed to circumvent the disclosure requirements. This would have the double effect of undermining the aims of the Regulation, and potentially creating even more complex instruments.

Finally, assuming investors make use of the additional information, the disclosure requirement could complement the objectives of increasing competition and mitigating the conflicts of interests. With investors being able to verify and monitor CRAs' performance, the incentive for CRAs to compete on quality (and build good reputation in the market) would be stronger (the agencies that systematically provide inaccurate ratings would not be trusted by investors, and thus not chosen by issuers).

Evidence and analysis

Based on our fieldwork, many CRAs expect the Disclosure provision to be very effective in enhancing the ability of investors (both large and small) to make their own assessments of the riskiness of the structured products. Of the CRAs who responded to our survey, only one did not expect this provision to have any impact on investors.

Similar views were presented by investors, who pointed out that it is important for market participants to have access to this type of information. Nevertheless, one of the investors noted that managing and using such data would require a lot of work and expertise.

Regulators seem to broadly agree with CRAs and investors. While there was quite a lot of variation in their responses, a majority of the authorities expect the provision to be at least moderately effective in enhancing the ability of investors to make their own assessments. A dominant view was that Article 8b would be effective or otherwise beneficial to investors (even if they do not use the additional information in full). Only one regulator claimed that the provision would not be effective as the information would not be used by investors.

On the other hand, issuers seem to be much more sceptical of the effectiveness of this provision. While in their view large investors might be more likely to take advantage of the additional information, in general the impact on investors would be limited.

In an attempt to reconcile these opposing views, we can note that the burden of Article 8d would be borne by issuers, so they have a clear interest in presenting this provision as ineffective. On the other hand, other market participants, who are unlikely to be aware of the cost of complying with this provision, might have an overly optimistic attitude, and as such present it as more effective than it would in fact be. Feedback from our fieldwork suggest that investors and CRAs welcome the provision of *all* information, and would then select that which is most useful. With no experience to date of the actual information to be provided under this provision, there is a risk that issuers would incur large costs of publishing information that is not as extensively used as it could be. Further details on the nature of this information, and the format of disclosure, would be necessary to draw any firmer conclusions.

We note here the European Commission's Securitisation Initiative published on 30 Sept 2015 contains similar transparency requirements.[124] The proposal for Transparency Rules (Article 5) ensures that investors will have all the relevant information on securitisations at their disposal. It covers all types of securitisations and applies across sectors. Originators, sponsors and SSPE's should make freely available the information to investors, via standardised templates, on a website that meets certain criteria such as control of data quality and business continuity. In practice this could allow reporting of this information to a data repository such as the "European Datawarehouse", where much of this type of information is already collected for eligibility purposes in Eurosystem refinancing operations.

It is possible that the standardised templates used for the reporting of this information could also be used for reporting under Article 8b, thus introducing positive standardisation of information to be more useful to users.

Finally, we might expect issuers to incur some costs related to the Disclosure requirement. Based on the limited evidence we obtained from our survey issuers have not incurred any significant costs related to this provision. However, it should be kept in mind that the sample of issuers who responded to these questions is very limited so any conclusions should be treated with caution.

Regardless of costs to the relevant market participants, regulators argued that the Disclosure requirements might be difficult to implement. Most of the authorities that responded to our survey agreed there are likely to be issues in the implementation of this provision, with more than half of them mentioning supervision challenges. Other difficulties indicated by the respondents included the complexities resulting from cross-border initiatives[125] and the fact that the industry will be unwilling to issue unsolicited ratings based on information published by issuers.

Summary

COMPETITION IN THE CREDIT RATING MARKET

Our fieldwork showed that **Article 8c** has had some impact on the industry. However, the impact on competition in the credit rating market remains unclear. While the impact might be larger when the second rating is publicly available, because of investors' general preference towards large CRAs, as well as already established relationships between issuers and incumbent CRAs, the extent to which this provision would enable smaller CRA to enter and/or expand is likely to be limited. This has been also reflected in regulators' responses to our survey who generally expected Article 8c to have at most moderate impact on competition between CRAs in their countries.

---

[124] COM(2015) 472 final 2015/0226 (COD) Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL laying down common rules on securitisation and creating a European framework for simple, transparent and standardised securitisation and amending Directives 2009/65/EC, 2009/138/EC, 2011/61/EU and Regulations (EC) No 1060/2009 and (EU) No 648/201.

[125] The Disclosure provision does not apply if the issuer, originator and sponsor of a given security are all based outside the EU. As such, European regulators would have no control over such instruments. Moreover, there might be coordination difficulties between European regulators if the issuer, originator and sponsor are based on different Member States within the EU, as each would fall under the jurisdiction of a different national authority.

The effectiveness of **Article 8d** seem to be diminished by the fact that small CRAs do not (as yet, at least) have sufficient reputation among mainstream market participants for issuers to voluntarily choose them (or even consider them) as providers of the second rating. At least in the case of corporate bonds, we expect this provision to have limited impact on market entry and expansion. However, it is possible that Article 8d in conjunction with Article 8c have increased the demand for small CRAs for SFI ratings.

Because of the common view among investors (and also issuers) that small CRAs provide lower quality ratings compared to large CRAs, the extent to which they would be actively comparing ratings between smaller and larger agencies is likely to be small. As such, the immediate impact of **Article 11a** is likely to be limited. Nevertheless, a majority of regulators participating in our survey expected Article 11a to have a positive impact on the competition in the market and on enhancing investors' ability to make good investment choices.

Finally, the extent to which information required to be disclosed in **Article 11(2)** would impact competition in the market, and what other consequences this provision might have are not entirely clear. The extent of the comparability of data between CRAs would be an important feature that would enable the success of this provision. Our own experience of analysing CRAs' transparency reports shows that there are a number of factors that can undermine the comparability of information, even within fairly specified frameworks.

CONFLICTS OF INTEREST

The reactions of market participants to all three provisions seem to be broadly similar. CRAs and issuers indicated that none of the requirements related to conflicts of interest affected them in a significant way, and as such they cannot be described as either positive or negative. While the views among investors were somewhat varied, regulators expressed a consistently positive opinion on the impact of all three provisions on the market, i.e. expecting a long-term positive impact on the market in preventing rating inflation and increasing the confidence of market participants. The only provision that might create some negative consequences is the rotation mechanism for rating analysts, which might impede the process of gaining experience by analysts and cause a deterioration in ratings quality.

ROTATION

The hard evidence of the impact of the rotation provision on the market is extremely limited because of few issuances of re-securitised instruments over the last years and also some confusion amongst market participants regarding the meaning of its final formulation. While, in general, market participants assess negative consequences (such as increased volatility and higher costs to issuers) as more likely than positive ones (e.g. reducing conflicts of interest or promoting competition), most of our respondents were not directly affected by the provision. Despite some differences between large and small CRAs, in general CRAs (as well as investors and regulators) do not expect this provision to have a very significant impact on the market. Moreover, to the extent that some respondents had in mind the previous, stronger formulation of the provision, the impact on the provision in its current formulation is likely to be even smaller.

DISCLOSURE OF INFORMATION

The views on the disclosure requirements varied among market participants – CRAs, investors and regulators generally welcomed the provision and expected it to be beneficial for investors, whereas issuers seemed to be much more sceptical of its effectiveness. Keeping in mind differences in perspectives of issuers (who will bear the burden of the requirement) and other market participants (who are generally not

aware of the cost of compliance and are likely to welcome the provision of *all* information) feedback from our fieldwork is not sufficient to draw any firm conclusions on the effectiveness of the disclosure provision. Further details on the nature of this information, and the format of disclosure, would be necessary.

4. Identification of other financial products to which CRA3 Regulation could be applied

Introduction

In this chapter we present our analysis of additional financial products to which the Disclosure (Article 8b) and Rotation (Article 6b) provisions could be extended. Currently, these only apply to structured finance instruments and re-securitised products and respectively.

Our approach to this analysis is as follows:

- Review the rationale for each provision, and identify the key market features influencing the application of these provisions to the asset classes in question.
- Gather and analyse data on relevant market features for alternative asset classes / instrument types and compare these to SFIs and re-securitised products.
- Draw conclusions based on the data analysis and input from our fieldwork.

Factors informing the application of the provisions

Our review of the European Commission's Impact Assessment on the CRA Regulation and other sources has highlighted the following market features of SFIs as important in the application of the disclosure and rotation provisions. We note that many features apply to SFIs in general (including re-securitised products), although some of the features are likely to be exaggerated for re-securitised products.

- **Size of the market**. With only a limited number of issuers (sponsors) in the SFI market, the conflicts of interest between them and CRAs might be stronger as issuers (sponsors) have more bargaining power, increasing the risk of inaccurate, inflated ratings. The ability of investors being able to accurately judge the quality of ratings is therefore more important (which is the aim of the disclosure of information by issuers). In as far as the Rotation principle addresses conflicts of interest, this would also be relevant to small markets. A smaller market might also suggest that CRAs have less experience in rating SFIs and thus external checks on quality by investors is important, again facilitated by information disclosure. Market size could also be proxied by the volume of ratings and the volume of issuance.
- **Complexity of the products**. The layered and complex structure of SFIs poses difficulties in accurately assessing default risk. Coval et al. (2008) argued that "small errors that would not be costly in the single-name market, are significantly magnified by the collateralized debt obligation structure, and can be further magnified when CDOs are created from the tranches of other collateralized debt obligations, as was common in mortgage-backed securitizations". As noted in the EC's impact assessment these instruments 'require special expertise', which means that investors might rely on the CRA ratings to a greater extent, rather than doing

their own due diligence on credit worthiness.[126] The information about the underlying assets (which are key in determining the overall rating) might not be easily available to the average consumer in the absence of regulation on disclosure. Another dimension of this is that SFIs are novel, so CRAs have less historic data with which to analyse them. Rating from first principles or from analogues drawn from other instruments (such as corporate bonds) could result in defective ratings (i.e. the CRAs themselves may lack the expertise to rate effectively at least some SFIs). This would mean that measures aimed at reducing investor over-reliance would be particularly important in the SFIs segment.[127]

- **The number of CRAs** rating this type of instruments — this could work in two different ways: (1) a smaller number of CRAs might mean that the threat to take business away by issuers is less credible. As a result, CRAs could resist the issuers' pressure to inflate ratings; on the other hand (2) a smaller number of CRAs might mean less competition in the market, and thus lower quality ratings. The Rotation provision theoretically provides the opportunity for more CRAs to enter the market (although with few issuers it is likely that they are able to rotate within the same pool of CRAs). The Disclosure provision enhances investors' ability to assess the performance of CRAs and to undertake their own analysis of credit risks.
- **Poor market performance,** which suggests that this is an area that might particularly benefit from the regulatory intervention to mitigate conflicts of interests and a lack of transparency.[128] Combined with this is CRAs' failure to acknowledge the risks of SFIs in the past, which is likely to be related to the point above.[129]
- **Nature of investors.** Although not a rationale behind applying these provisions to the asset classes in question, the nature of investors in the market is likely to influence the effectiveness of the disclosure provision in particular. More sophisticated investors will be able to make better use of information disclosed by issuers. These investors are likely to have their own analytical models (indeed, some mimic those used by CRAs) into which this information can be incorporated, whereas less sophisticated investors would be less able to make use of this information either in conducting their own credit assessments or in monitoring the accuracy of CRAs.

---

[126] European Commission (2011) "Impact assessment" *Commission Staff Working Paper*, p 28/193. http://ec.europa.eu/internal_market/securities/docs/agencies/SEC_2011_1354_en.pdf

[127] Coval et al. (2009) "The economics of structured finance" *The Journal of Economic Perspectives*, p 3-26. http://www.hbs.edu/faculty/Publication%20Files/09-060.pdf. The article also suggests that, for example, "a Bayesian approach that explicitly acknowledges that parameters are uncertain would go a long way towards solving this problem."

[128] Merryn et al. "United States: CRA3 – new requirements affect issuers, originators and sponsors" Last updated: July 31 2013 Retrieved: http://www.mondaq.com/unitedstates/x/255402/securitization+structured+finance/CRA3+New+Requirements+Affect+Issuers+Originators+And+Sponsors

[129] European Commission "New rules on credit rating agencies (CRAs) enter into force – frequently asked questions" Press release, Brussels, 18 June 2013. Retrieved: http://europa.eu/rapid/press-release_MEMO-13-571_en.htm

- **Geographic dispersion or concentration of the markets.**

Market data analysis

We gathered data on a range of instrument types for the key features, described above, which may influence the effectiveness and value of extending the two provisions. The instruments we investigated were:

- Corporate bonds
- Covered bonds
- ABCP
- ABS
- CDO
- CMBS
- RMBS

We note that information on re-securitised products was not forthcoming. The ratings data contained in the CEREP database does not include a sub-section for re-securitised products, and there has been almost no activity in this sector (i.e. issuance or ratings) since at least 2008.

The parameters on which we gathered information included:

- Volume of ratings
- Number of CRAs rating
- Number of issuers
- Volume of issuance
- Geographic dispersion of markets
- Type of issuers
- 'Complexity' of products
- Retail/institutional investors involved

Again, we note that for some instruments, data on certain parameters was less forthcoming. We have used qualitative sources and our judgement to fil some gaps.

The main aim of this exercise is to *compare* the instrument types across the various parameters. Therefore, in some cases it is still possible to achieve such a comparison without having directly comparable data.

The table below summarises the data available.

Table 9: Summary of market statistics across different instruments

	Volume of ratings	Number of CRAs rating	Volume of issuance	Type of issuers	Number of issuers	Geographic dispersion of markets	'Complexity' of products	Nature of investors involved (more/less sophisticated)
Corporate bonds	CEREP records around 34,641 ratings in 2014, still 3 times as many as the other products (Note: ratings based on issuers rather than issuances - total rating activity will thus be significantly higher. Important when comparing with CB and SFI which are recorded by issuance).	Almost all CRAs provide ratings for Corporate Bonds (21 out of 23 in ESMA Technical Advice).	The amount outstanding in 2014 was €8,234 billion.	Types of issuers include financial, non-financial and insurance corporations.	The number of issuers likely to extremely large, drawing from all possible corporations raising debt. Certainly larger than other instrument types	Bonds are issued in all EU Member States.	Varying complexity of analysis, but significantly less so than SFIs or covered bonds as there are no layers of underlying assets. Information about corporations is also likely to be more publically available than information about underlying assets in the other instrument classes.	Range of investor types. Greatest proportion of retail other and smaller, less sophisticated investors compared to SFIs and covered bonds. Direct retail investors are less common than indirect (e.g. through mutual fund structures). Retail bond investment more significant in particular countries, e.g. Italy.

Covered bonds	Less than Corporate bonds: volume was 13,734 in 2014 (and reflects ratings per issuance).	Only 5 among the 23 CRAs provide ratings for Covered Bonds.	The amount outstanding in 2014 was €2,261 billion, and €405 billion was issued in 2014 for EU members.	Issuers can be either private or public sector. (The ECBC presents data for 'public sector, mortgages, ships, and mixed assets')	Nine new issuers in 2014, and around 280 outstanding issuers at that time. Larger than re-securitised but far smaller than corporate bond issuer numbers.	Public Sector Covered Bonds and Mortgage Covered Bonds are issued in all EU MS except Latvia, but sub-classes like Ships and Mixed assets are only issued in 1 or 2 countries.	High complexity due to the large number of underlying assets.	Intermediate between corporate bonds and SFIs.
ABCP	The rating volume was only 10 out of 12, 752 for SFIs in 2014.	4 CRAs have rated ACBP since 2009.	N/A	N/A	N/A	Not available per sub-asset. SIFMA collects overall SFI data from 10 Member States (BE, FR, DE, EL, IE, IT, NL, PT, ES, UK)	High complexity due to the underlying assets.	Fieldwork suggests that investors in SFIs largely institutional, and thus likely to be (more) sophisticated.
ABS	The rating volume was 1, 863 out of 12,752 for SFIs in 2014.	4 out of 6 CRAs who rate SFIs rate ABS.	The amount outstanding for ABS in 2014 was €195 billion, with new issuance of €47 billion EU members.	N/A	N/A	See above	See above	See above

CDO	The rating volume was 1,262 out of 12,752 for all SFIs in 2014.	3 of the 6 CRAs who rate SFIs rate CDO.	The amount outstanding for CDO in 2014 was €110 billion and the new issuance was €14 billion for EU members.	N/A	N/A	See above	See above	See above
CMBS	The rating volume was 1,163 out of 12,752 for all SFIs in 2014.	4 out of 6 CRAs who rate SFIs rate CMBS.	The amount outstanding for CMBS in 2014 was €81 billion and the new issuance was €6 billion for EU members.	N/A	N/A	See above	See above	See above
RMBS	The rating volume was 7,609 out of 12,752 for all SFIs in 2014, which is the highest within SFI Sector.	Half of the 6 CRAs who rate SFIs rate RMBS (3 out of 6).	The amount outstanding for RMBS in 2014 was €864 billion and the new issuance was €11 billion for EU members.	N/A	N/A	See above	See above	See above

Re-securitised products	No CRA ratings given since at least 2009	Unknown, given absence of activity in this area. Qualitative information from the 3 largest CRAs indicates they would be able to provide ratings if required to by market.	Global issuance of SFI-backed CDOs (as a very broad, upper-bound proxy for re-securitisations) EUR 53 billion, but majority likely to be USD-denominated	N/A	None currently based on anecdotal evidence.	See above.	High complexity given that these products securitise exposures to products which are themselves securitised. Visibility of true underlying asset thus very low.	Unknown, but likely to be largely institutional investors and thus (more) sophisticated.

Analysis of extending the Disclosure provision

If the Disclosure provision were to be extended to corporate bonds, a far greater number of issuers would be affected compared to SFIs. The burden on issuers in the covered bond market would be felt to a lesser extent – in 2014 there were nine new issuers of covered bonds (with around 280 issuers of covered bonds with outstanding ratings). That said, a number of respondents to our fieldwork (across all groups) stated that the Disclosure provision would impose significant costs on issuers regardless of the market. One issuer stated that if the Disclosure provision required issuers to reveal private information then there could be significant indirect funding costs if issuers reduced their participation in corporate debt markets to avoid the publication of this information.

The additional value of the Disclosure requirement in the corporate bond market is also likely to be lower than in the SFI market. Corporate bonds are relatively less complex in terms of assessing credit risk, and information about the credit worthiness of the issuer is more readily available to investors. Historically the rating of corporate bonds has not suffered from the equivalent quality issues as the rating of SFIs. Feedback from our fieldwork also highlights that information disclosure is already a part of other regulatory requirements. However, additional information disclosure could be valuable particularly where the issuer is not publicly rated. In terms of investors, less sophisticated investors are likely to have a greater share in corporate bond markets compared to SFIs, and it is questionable the extent to which these investors would be able to make use of additional information disclosed by issuers. However, there are also more sophisticated investors in this market who would be able to make use of additional information.

The argument for disclosure in terms of enabling investors to better judge and monitor CRA rating quality is less strong in the corporate bond market, given the less complex nature of the products and the relatively good performance of credit ratings. That said, enhancing competition on quality through increased investor scrutiny would be as important in the corporate bond market.

Covered bonds, as more complex instruments, could benefit in the same way from disclosure as SFIs in terms of the added value of the information disclosed. However, the complexity of these products may also undermine the usefulness of information disclosure: according to the ECBC, the dynamic character of the covered bonds – where the underlying assets evolve over time – would pose a difficulty for investors to re-evaluate the rating and for the issuer to publish relevant information every time the assets change.

Our fieldwork suggests that the provision of SFI ratings is a more a 'transactional' process than for corporate bonds. Therefore it may be likely that investors can make better use of the published information disclosed by issuers for their internal rating models of SFIs. The information most important for corporate bond ratings may only be shared between the issuer and CRA as part of the ratings contractual relationship, and would not be shared under a public disclosure obligation anyway.

Analysis of extending the Rotation provision

The impacts of extending the Rotation provision to other SFIs, corporate bonds and covered bonds are not clear, given the absence of any evidence of the impacts of this Rotation as currently implemented. However, we could assume that the rationale for the Rotation principle in preventing lock-in CRA-issuer relationships and conflicts of interest would be more relevant in the corporate bond sector, where issuers tend to form long relationships with CRAs. (The Rotation principle as drafted does not preclude

long contracts, but relating the cooling-off period to contract length implies that this would have a downward pressure on contract length).

The size of the markets for covered bonds, corporate bonds and SFIs is likely to create significant difficulties in the implementation of the provision. We present our analysis on this in more detail below, which shows that the number of issuances that issuers or originators are likely to make each year would require a far greater number of CRAs than currently exist in the market. The geographic dispersion of the various markets also implies that some of the CRAs that currently provide ratings do so largely in certain jurisdictions, and would not necessarily have the expertise or capacity to provide ratings across the EU. Where issuers are obliged to obtain ratings from less experienced CRAs or those with insufficient market reputation, this could lead to a reduction in liquidity and funding capacity.

The nature of information required to provide ratings differs between SFIs more generally and corporate bonds, with the former being based on a more transactional process and the latter on the CRA understanding in more detail the operation of the issuer. The Rotation principle in the corporate bond market is likely to hinder the depth of information and learning a CRA can gain from an issuer, with a resulting greater detriment to ratings quality than in SFI market.

Number of CRAs required for the Rotation provision

As part of our analysis of the feasibility of extending the Rotation provision to other instruments and asset classes, we sought to calculate the number of CRAs necessary for the provision to succeed. This should take into account the number of CRAs in the market that are able to provide ratings on particular instruments, and also consider that there may be some CRAs with the ability to rate instruments even if they are not currently doing so. A limitation of this is that as we have seen from our fieldwork the value of credit ratings to an issuer and investors depends significantly on their expertise and reputation – just because a CRA might be willing to rate an instrument does not necessarily mean it would have the necessary expertise.

Our analysis is based on two parts of the Rotation article, namely that:

- Article 6b(1) Where a credit rating agency enters into a contract for the issuing of credit ratings on re-securitisations, it shall not issue credit ratings on new re-securitisations with underlying assets from the same originator for a period exceeding four years.

- Article 6b(3): As from the expiry of a contract pursuant to paragraph 1, a credit rating agency shall not enter into a new contract for the issuing of credit ratings on re-securitisations with underlying assets from the same originator for a period equal to the duration of the expired contract but not exceeding four years.

This means that a CRA cannot rate new re-securitisations from the same originator for the length of its current contract (which one might expect to cause contract lengths to shorten) *and* there is also a minimum cooling off period, not exceeding four years. Whilst the link between these two Articles is not wholly clear, we interpret it to mean that CRAs would not be able to rate new issuances from the same originator / issuer for approximately four–eight years.

If the provision were to be extended to corporate or covered bonds, we assume that the 'originator' would be replaced by the 'issuer' such that a CRA would not be able to rate any new issuances from the same issuer for a period exceeding four years, and then would be required to undertake a further cooling off period from that same issuer for a maximum of four years. For other SFIs we assume the reference to the originator would remain.

Information useful in assessing the number of CRAs required includes:

- The average contract length. Respondents to our survey stated that they reviewed or changed their contracts for SFI ratings every three to four years; contracts for corporate bonds were either similar or longer. Therefore the maximum time between new ratings could be around 6-8 years (although longer for long corporate bond contracts).
- The number of issuers / originators in the market (EU only). For covered bonds, data from SIFMA shows there are around 10 new issuers each year; with a current total of around 280 across the EU. For corporate bonds we estimate from CEREP data that there are likely to be around 2,000 large/medium issuers (there are likely to be many more small issuers rated by more niche, local CRAs).[130] For other SFIs we estimate that there are likely to be no more than around 50 large originators.
- The number of times an issuer would wish to have a new issuance rated. Data from CEREP on covered bonds and SFIs shows ratings per issuance which enables us to estimate the number of issuances. Between 2010 and 2014 the three largest CRAs rated on average between around 270 and 450 new SFI issuances per year, and between around 600 and 1,300 new covered bond issuances each year. We do not have data on the number of issuances of corporate bonds per year.
- The number of eligible CRAs to rate the instrument. All 23 CRAs recorded in CEREP rate corporate bonds; five rate SFIs (although the fifth, Scope ratings, has a very small market share) and four rate covered bonds (again the fourth, Creditreform, has a very small market share).

Our estimates are as follows:

- For corporate bonds, if the average period during which CRAs could not rate issues from the same issuer was eight years, then issuers would need to issue *three or fewer* each year in order to remain within the limits of the number of eligible CRAs (currently at 23). Whilst this scale of issuance might be possible for smaller issuers, it is likely that larger issuers would issue a greater volume each year. These would be unable to find CRAs to rate their new issuances that were not currently in a cooling off period or already rating an issue. Further, whilst all 23 CRAs rate corporate bonds, not all rate all types of bond (e.g. financial and insurance) which would mean that the limit of CRAs would be more quickly reached. The provision would be less restrictive if the total period during which CRAs could not rate issues from the same issuer were lower, say a total of four years. In this case, issuers could issue around five new issuances a year and still remain within the limits of the available CRA pool. Applying the rotation principle to corporate bonds would at least ensure that all CRAs were given the chance to provide ratings, as issuers would quickly be obliged to use the whole range of CRAs. The benefits of this to issuers however, and the market as a whole, would depend on the expertise each CRA had to provide good quality ratings.

[130] This is based on the number of outstanding ratings for S&P, as CEREP data on corporate bonds only shows one rating per issuer, and S&P has the largest market share in 2014. We acknowledge that this does not necessarily capture all smaller issuers, particularly those receiving ratings within specific jurisdictions.

- For Covered bonds, where there are only four CRAs that currently provide ratings, implementing the Rotation provision would be significantly challenging. Taking the number of new issuers in a year (nine in the EU according to SIFMA) and the average new ratings across the top three CRAs (between around 600 and 1,300) this implies an average issuance of 60 – 150 for each issuer. With a total period of eight years during which a CRA cannot rate a covered bond with an underlying asset from the same issuer, this implies that there would need to be in excess of 500 CRAs to facilitate the provision. Even if we assume a number of originators of 50 (in case SIFMA's 'issuers' does not refer to originators) this would imply an average of 12-28 new issues per year for the same originator, requiring around 90 – 200 CRAs to fulfil this need. If the total restricted time were four instead of eight years, there would still need to be between 50 and 100 CRAs.
- A similar result is obtained for SFIs as a group. With an average of between 270 and 450 new issues per year and an estimate of 50 main originators, this implies an average of between around five and nine issues from the same originator each year. This implies that, with an eight year total restriction period, the market would need between around 40 and 70 CRAs; and still between 20 and 30 if the total restricted time was 4 years.

The above estimates, although subject to a number of assumptions, show that in order for the rotation principle to be implemented in other markets, a far greater number of CRAs would be needed than currently exist.

Summary

The rationale used in the case of SFIs for imposing disclosure requirements on issuers seems to be less applicable to other instruments. Compared to SFIs, corporate bonds are less complex and, historically, credit ratings have performed well in capturing their riskiness. Moreover, the overall cost borne by issuers is likely to be much higher because of a significantly larger number of issuers active in the corporate bonds market compared to SFIs. Furthermore, corporate bonds are to a larger extent also bought by less sophisticated investors who are unlikely to use the additional information in their investment decisions. Nevertheless, extending the disclosure requirement to corporate bonds could benefit sophisticated investors, and potentially enhance competition between CRAs through increased investors' scrutiny.

In terms of complexity, covered bonds seem to be a better candidate for the potential extension as their structure is more complex than that of corporate bonds. However, the dynamic character of corporate bonds would likely undermine investors' ability to make use of the additional information, and would impose additional burdens on issuers who would have to frequently update the disclosed information.

Finally, the provision of SFI ratings is a more a 'transactional' process than for corporate bonds. Therefore it may be likely that investors can make better use of the published information disclosed by issuers for their internal rating models of SFIs. The information most important for corporate bond ratings may only be shared between the issuer and CRA as part of the ratings contractual relationship, and would not be shared under a public disclosure obligation anyway.

Regarding the potential to extend the Rotation, we showed that the size of the markets for covered bonds, corporate bonds and SFIs is likely to create significant difficulties in the implementation of the provision as the likely number of issuances each year would require a far greater number of CRAs than currently exist in the market. Moreover, the Rotation principle in the corporate bond market is likely to hinder the depth of information and learning a CRA can gain from an issuer, with a resulting greater detriment to ratings quality than in SFI market.

5. Remuneration models

Introduction

In this chapter we provide a description and analysis of existing remuneration models. This includes:

- A consideration of the evolution in the use of different models since the implementation of the CRA3 Regulation.
- An assessment of the potential impacts and effectiveness of these models on conflicts of interest.
- The identification of alternative models of remuneration, and the assessment of the impact of such models on conflicts of interest, and of the feasibility of implementing these alternatives.

Evolution of the use of different remuneration models

Feedback from our fieldwork shows that the most commonly used remuneration model is the Issuer Pays. Nine of the ten credit rating agency (CRA) respondents use the Issuer Pays Model, with four of these nine using Issuer Pays almost exclusively in normal operations. Most of the Investors surveyed cite Issuer Pays as the only model they use to rate issuers of Corporate Bonds (in more than 90 percent of cases), Sovereign Bonds (in more than 65 percent of cases), and Structured Finance Instruments (in more than 95 percent of cases), though one investor occasionally issues unsolicited ratings for Corporate and Sovereign Bonds. Two out of the three issuer respondents primarily use the Issuer Pays model (with occasional use of Unsolicited and Philanthropic Ratings), while the third, which focuses on Structured Finance Instruments, exclusively uses Investor Pays. However, some CRAs adopt a hybrid approach between issuer- and investor pays models, whereby they derive some of their profits from selling rating reports and data to investors, or by providing private credit ratings to specific investors. Of CRAs who use a combination of Issuer Pays and Investor Pays models, the majority only use the Investor Pays model upon request by financial institutions, investors and potential debt-holders. This is supported by ESMA's findings in its Call for Evidence, wherein, out of 23 CRA respondents, 12 used both Investor Pays and Issuer Pays, and 10 used Issuer Pays only.

Among the main reasons given by CRAs responding to our fieldwork for using the issuer pays model are the fact that the issuer pays model makes it easier to deal with the conflicts of interest inherent in both issuer pays and investor pays models and the conductivity of the issuer pays model in maximising the exposure of ratings. CRAs that use the Unsolicited Ratings model cite a need to round out coverage in under-covered sectors, efforts to increase global reputation and recognition, and efforts to build a base for solicited ratings and improve rating coverage as well as the global comparability of credit risk. Many CRAs that formerly used the Investor Pays model ceased to do so following changes in the debt market and the advancement of technology — leading to an easier dissemination of information — in the 1970s, although some CRAs will still use the Investor Pays model upon request.

There has been little change in the use of remuneration models since the implementation of the CRA Regulation. Only one CRA experienced significant change

in its implementation of the models, as it abandoned the investor pays model due to insufficient demand from investors; other CRAs have seen little to no change in their business since 2010, especially in ratings for Corporate Bonds and Structured Finance Instruments.

Currently used and alternative remuneration models

Issuer-pays

In the issuer-pays model CRAs are paid by issuers who wish to solicit credit ratings for their investment products. This is currently the dominant business model as indicated by the responses to our survey and ESMA's call for evidence. For the three most well-established CRAs, issuers' fees remain the major source of revenue.[131]

In the issuer pays model, as CRAs are being paid by the issuers of the securities they are rating, issuers can influence CRAs' work by threatening to take away business. Indeed, this pressure characterises many supplier-customer relationships, and can be a key driver of innovation and quality as suppliers strive to meet customers' needs. Whether the model gives rise to detrimental conflicts of interest thus depends on the objectives of the issuers. If issuers value the quality of the rating, then they would choose CRAs with reputations for and evidence of high quality.[132] However, issuers might be interested in obtaining a rating which is high rather than accurate, as this would allow access to a lower cost of capital. CRAs may be incentivised to provide inaccurate ratings in order to retain or gain market share.

However, even in a situation where issuers favour inflated ratings, the reputation of the CRA among investors could prevent undue influence from the issuer. If a sufficiently large group of investors believes that the ratings produced by a CRA are not accurate they would factor this belief into their investment behaviour. Since one of the main roles of obtaining a credit rating from a third party is to reduce uncertainty (as perceived by investors), issuers would avoid soliciting ratings from CRAs that are not able to do that. As long as the expected future losses from decreasing the quality of ratings are greater than current gains from slackness, CRAs should have an incentive to exert effort (which should in theory improve rating accuracy). As suggested by our fieldwork, the reputation of the CRA among investors is one of the most important factors for issuers when choosing a CRA, and reputation is an important factor on which CRAs compete.

On the other hand, the extent to which this serves as a disciplinary mechanism would depend on how investors assess a CRA's reputation. Investors themselves may favour inflated ratings if they wish to engage in excessive risk taking or wish to prevent excessive capital requirements. They may also not adequately judge a CRA's rating quality (e.g. by focussing purely on reputation or size). This may thus weaken the CRA's incentives to provide accurate ratings. If on the other hand investors' views are based on monitoring the quality of a CRA's work, they are more likely to accurately judge poor quality ratings, and signal a reduction in demand for a particular CRA's ratings to the issuer. The effort made by investors in monitoring CRAs may well vary

[131] Deb and Pragyan (2009) "Credit rating agencies an alternative model" *London School of Economics Working Paper.*

[132] This of course would be on the basis of a cost-benefit analysis, whereby the issuer would weigh up the degree of quality provided by a CRA and the associated cost. Issuers may opt for 'intermediate' quality that is more affordable.

with the market cycle (i.e. making less effort in a generally rising or buoyant market).[133]

Advantages

One of the advantages of the issuer-pays model is that credit ratings are free for market participants (as the cost is borne by issuers). As such, the information asymmetry between issuers and investors is mitigated simultaneously for all market participants who can refer to the CRAs ratings. Otherwise each investor would have to go through the same process of acquiring information independently from CRAs (or purchase investor-paid ratings), which would be inefficient, and which could either limit the investor pool or create exploitable advantages for such informed investors. Since issuers value having their products rated they solicit ratings from CRAs. This implies that the issuers may have an incentive to provide private information to the CRAs, which is then used to produce a rating. As a result, the coverage and information availability in the market increases.[134] [135]

We might expect that the quality of the information provided by issuers to CRAs would increase with the length of the relationship between issuers and CRAs. This is because obtaining all relevant information required to produce an accurate ratings takes time (both for the CRA and for the issuer). As such, another advantage of the issuer-pays model could be that it encourages creating long-term relationships and thus, enable CRAs to obtain extensive information about the issuers of the securities they rate. Given the nature of the process of providing ratings, the value of a long-term relationship is held by at least some CRAs to be more important in relation to bonds than structured finance instruments; the ratings process for the latter being characterised as more transaction-based. Alongside useful information exchange, there is, at least in theory, scope for gaming of a more durable relationship by the issuer to its own advantage. An issuer could learn during such a long-term relationship what variables, over and above those already in the public domain as being material, are most important for a better rating and potentially manipulate these to ensure artificially high ratings. The success or otherwise of such a strategy, even if attempted, would be determined by the diligence of the CRA's research, and any evolution in its methodology.

Further, the model avoids free-riding, which is a feature of the previously dominant investor-paid model, where some but not all investors, paid for the ratings. As such, it allows the CRAs to recover the cost of producing credit ratings. The free-riding problem in the context of investor-paid model is further discussed below.

Disadvantages

The biggest shortfall discussed in the literature is the inherent conflict of interest resulting from the fact that CRAs might not remain unbiased if their main source of income relates to issuers' fees. Since the ultimate goal of issuers is to raise funds through the issue of their bonds and other debt instruments at the lowest cost, they

[133] As discussed in Chapter 3.

[134] See Fennell and Medvedev (2011), "An economic analysis of credit rating agency business models and ratings accuracy", Financial Services Authority, November 2011.

[135] However, this advantage of CRAs will be undermined, certainly in the USA, by the removal of the exemption from Regulation FD for CRAs. See Securities and Exchange Commission "Removal from regulation FD of the exemption for credit rating agencies" [Release Nos. 33-9146; 34-63003; IC-29448; File No. S7-23-10] Retrieved: https://www.sec.gov/rules/final/2010/33-9146.pdf

wish the CRAs to present their issued securities as being high quality, or at least higher quality than they actually are. This is because higher ratings are associated with lower yields (i.e. there is a credit spread observable between different ratings of a particular instrument). As such, they may prefer higher, rather than more accurate ratings. This would be especially true for low quality issuers as high quality issuers are not as concerned with accurate ratings (as they are likely to be high in any case), with any such effects likely to be particularly pronounced around the investment grade/ non-investment grade boundary.

In the business model where issuers are the main source of CRAs' revenue, issuers have bargaining power which could be used to pressure CRAs into producing inflated ratings (although this may also manifest in more subtle ways). However, in practice, the extent to which this conflict of interest affects the CRAs' willingness to deviate from revealing true information might depend on several factors. It should be noted that some of the forces discussed below can be mutually exclusive.

- The strength of reputation as a disciplinary tool depends on whether investors can observe the quality of ratings and act on it. In theory, inaccurate ratings should be verified in time by market participants, and as such inflated ratings would not be a successful long-term business strategy. For example, too many defaults or downgrades of companies highly rated by a CRA may indicate that the ratings produced by that CRA are not reliable (either due to intentionally inflated ratings or else attributable to poor quality methodologies). More sophisticated investors do monitor CRA performance (i.e. they do not naïvely take the ratings at face value, and they may avoid those instruments rated by the CRAs that these investors have identified as unreliable)., When sufficient investors do monitor CRAs' performance and factor the acquired information into their demand for the rated instruments the reputational cost to CRAs of producing inaccurate ratings is high, which should mitigate the consequences of the incentives resulting from conflict of interest. This does not mean that the conflict of interest disappears but rather that in this case the issuers happen to have incentives aligned with those of the investors. For this mechanism to work there must be multiple CRAs providing ratings to choose from. First, investors must be able to compare the performance between CRAs (i.e. to assess which CRAs are more accurately rating particular instruments).[136] Second, if issuers are not in fact able to switch between CRAs then the extent to which investors' pressure could influence their choice would be limited. As such, this argument implies that competition between CRAs should induce them to produce better quality ratings. On the other hand fiercer competition among CRAs could also be detrimental for future fee revenues, and hence undermine the positive reputation effects and so creates a tension here.
- Another factor relates CRAs' behaviour during business cycles. As argued by Bolton et al. (2012) in boom times investors are more likely to be trusting and less scrupulous in analysing their investment choices. The benefits of monitoring are also smaller when the aggregate default risk is low (i.e. this is rational and not just naïve on the part of the investors). As a result their monitoring and verification of CRAs' work is weaker, which gives the rating agencies more room for rating

[136] The various provisions in the CRA3 Regulation aimed at increasing the provision of information to investors may assist in this process (for example Article 8(b) for the disclosure of information on structured finance products).

inflation induced by issuers' pressure.[137] During economic downturns investors are likely to be more cautious with their investments and thus increase their monitoring of CRA quality. Further, credit failures are more likely during these times, giving investors the evidence as to the quality of CRAs' previous credit ratings and potentially exposing practices of ratings inflation.

- The incentive to provide low quality rating could be lower for simpler and well-established products such as corporate bonds. For instruments with more easily available historical data and well-understood characteristics, the cost of obtaining relevant information is much lower. That means that it is easier both for the CRA and also for investors to obtain an accurate credit rating. As such, the savings related to a slacker credit rating process are smaller and the reputational risk is higher. On the other hand, for very complex, structured products as well as for new products historical data are usually limited and investors are less likely to be able to obtain an accurate rating themselves. In such cases, CRAs might find it more profitable to do less thorough research or succumb to issuers' pressure to inflate ratings. The implication of this argument is that more CRAs operating in the market for structured instruments might not necessarily lead to better outcomes. With investors not able to fully verify the credit ratings, small CRAs, who aim to increase their market shares, might have a strong incentive to inflate ratings to attract issuers. As a result, large CRAs, in order to defend their market position, may follow a similar strategy. Overall, more CRAs in a segment of the market which is not subject to a detailed analysis by investors might reinforce any conflict of interest.
- CRAs might benefit from economies of scale since the more experience they gain the less costly the production of an additional rating becomes. Thus, it could be argued that small CRAs, which are unable to take advantage of such economies of scale, might find it hard to compete on quality with large CRAs. As a result they may have a stronger incentive to attract issuers by offering inflated ratings (assuming that, everything else being equal, issuers prefer higher ratings to accurate ratings). An implication of this argument is that a monopolistic (or oligopolistic) model of competition between the CRAs is actually beneficial for investors.[138]
- The distribution of quality among issuers might affect the extent to which CRAs are willing to deviate from providing accurate ratings. If most of the issuers are high quality, then the incentive to inflate ratings is lower as the proportion of revenues that could be captured from low quality issuers is small. On the other hand, if issuers are generally low quality, then the incentive to cater ratings and increase market share is stronger.
- The number of CRAs in the market could also affect issuers' behaviour. Assuming again that (at least a significant number of) issuers prefer higher to accurate ratings, then if given the choice of two CRAs, they would choose the one offering the higher score. This phenomenon is known as 'rating shopping' by issuers. In the presence of rating shopping by issuers, CRAs, as modelled by Sangiorgi and Spatt (2013),[139] may have the incentive to loosen their standards to compete with more

[137] Bolton et al. (2012) "The credit ratings game", *The Journal of Finance*, Vol LXVII, No 1.

[138] This point is discussed in more detail in the section on competition, in Chapter 2.

[139] Sangiorgi and Spatt (2013) "Opacity, credit rating shopping and bias".

favourable ratings from other CRAs, and this may lead to a race to the bottom of ratings' quality. If issuers do shop for the highest rating, then the larger the number of CRAs that could be approached (i.e. the more outside options issuers have) the more rating inflation could be expected because issuers have more bargaining power over the CRAs. This argument implies that more competition in the market would make investors worse off. The FSA (now the FCA) notes (after the European Commission) that there is some evidence of shopping behaviour in the market.[140]

- Another consequence of allowing or inducing more CRAs to enter the market is that, assuming an unchanged volume of solicited ratings, the market share for each CRA would be lower. As a result, current incumbents might be more prone to rating inflation in order to protect their market share, discouraging entry to the market. This argument assumes that the incumbent(s) have well established reputations which would not be significantly affected by a period of strategically inflated ratings. It is also based on the assumption of some inertia or naïveté of investors who would not factor this rating inflation in their demand.[141]
- The incentive to provide favourable ratings to some issuers could be reinforced if CRAs, apart from providing credit ratings, offer ancillary services. These services are another, issuer-reliant source of income, and, as such, aggravate the conflict of interest. The incentives could be particularly perverse if the consulting services regard how to obtain preferred ratings.[142]
- The fact that so many factors and mechanisms could affect CRAs' incentives might, at least partially, explain the range of the views regarding the effectiveness of the issuer-pays model, with some arguing that in practice the conflicts of interest are of no concern while others claim that the recent financial crisis provides a perfect real-world illustration of these conflicts. As Fennell and Medvedev (2011) argue the extent to which the conflict of interest appears in this context is hard to assess without detailed analysis of individual actions at CRAs.

Investor-pays

In this model, investors become the customers of CRAs and pay a fee in order to discover the credit worthiness of some corporations or instruments. The main mechanism that incentivises CRAs to provide high quality ratings is the pressure from investors, who value accurate ratings over inflated ones (although this preference may not be fixed, i.e. it is weak in bull markets, but very strong in bearish markets).

Advantages

In the investor-paid model the incentives of CRAs and investors are more likely to be aligned. Thus, theoretically, this model should solve the conflict of interest problem related to issuers retaining bargaining power over CRAs.

[140] See Fennell and Medvedev (2011) "An economic analysis of credit rating agency business models and ratings accuracy" *Financial Services Authority*.; and European Commission (2008) "Proposal for a regulation of the European Parliament and of the Council on Credit Rating Agencies: impact assessment".

[141] Deb and Pragyan (2009) "Credit rating agencies an alternative model" *London School of Economics Working Paper.*

[142] Listokin and Taibleson (2010) "If you misrate, then you lose: improving credit rating accuracy through incentive compensation".

Moreover, CRAs would not only have an incentive to provide accurate ratings but would also be able to respond to demand better — thanks to a direct communication with investors, CRAs would know which products are of interest and which ratings should be kept up-to-date.

As a result, we might expect investor-paid CRAs to produce higher quality and more informative ratings. Indeed, Bhattacharya, Wei and Xia[143] provide evidence that ratings issued by investor-paid CRA have real investment value and the potential to improve the overall quality in the credit rating industry (although we note that the authors derive their results from investments in stock rather than bond markets).

Disadvantages

On the other hand, Kashyap and Kovrijnykh (2014)[144] show that it is not unequivocal whether investor-paid model would in fact lead to higher social welfare than the issuer-paid model. This ambiguity arises because, due to (say) being overly risk-averse, investors might oversubscribe to CRAs. Thus, they might ask for a rating even when a utility-maximising social planner would not. In this case, the efficiency achieved by aligning CRAs' and investors' incentives may be dissipated by an excessive demand and reliance on ratings.

Another key disadvantage is that the investor-pays model does not avoid conflicts of interest. Whilst on the one hand it seems reasonable to assume that investor and CRA incentives for accurate ratings will be aligned, investors themselves may favour higher ratings (for example to enable greater risk taking or to reduce the impacts of regulation). Particularly large investors (e.g. large hedge funds) may be able to exert significant influence over CRAs.

Moreover, the investor-paid model might suffer from a problem of free-riding by all types of market participants, i.e. investors, issuers and issuer-paid CRAs. Bongaerts (2014) questions the ability of investor-paid CRAs to thrive outside of narrow parameters as free-riding might eventually prevent investor-paid CRAs from entering the market.[145] In contrast to Kashyap and Kovrijnykh (2014), this paper looks at both models competing head-on, rather than simply comparing relative merits in isolation. We discuss the three types of free-riding identified by Bongaerts in turn.

First, free-riding by investors is a result of the fact that intellectual property rights can be hard to protect. Once a rating has been issued it could be easily shared either intentionally or unintentionally. White (2010) argues that the technological progress that allowed for easy duplication and distribution of rating manuals was likely to be one of the main reasons that induced CRAs to change their business model from the investor-paid to the issuer-paid one.[146] Moreover, investors who are not willing to pay for a rating might simply free-ride and imitate the financial decisions taken by the informed ones. Even if investors do not follow this strategy based on rational premises, they might unconsciously make very similar investment choices simply due

[143] Bhattacharya et al. (2014) "Follow the money: investor trading around investor-paid rating changes". *Available at SSRN 2474391.*

[144] Kashyap and Kovrijnykh (2014) "Who should pay for credit ratings and how?" National Bureau of Economic Research, No w18923.

[145] Bongaerts (2014) "Alternatives for issuer-paid credit rating agencies" *ECB Working paper series.*

[146] White (2010) "The credit rating agencies" *Journal of Economic Perspectives*, Vol 24, No 2, p 211-226.

to a 'herding' behaviour, where investors mimic the decision-making of other investors who are considered to be more informed. Since investors would be able to free-ride and take advantage of ratings solicited by other investors, there would be a share of the ratings issued by investor-paid CRAs that would not generate income for these CRAs. In this case, investor-paid CRAs would have to recover the cost of producing a rating from a smaller sample of investors, i.e. would have to increase fees. This would undermine the ability of investor-paid CRAs to be competitive against issuer-paid CRAs.

Second, investor-paid CRAs sell their ratings to subscribers; subscribers use the obtained information to quote interest rates to issuers. This mechanism allows issuers to detect the rating they received from investor-paid CRAs. Hence, issuers with low ratings (as produced by investor-paid CRAs) would not apply for funding and in this way they will not generate income for subscribers. This is what is identified by the author as the free-riding by issuers. Although the subscribers cannot make money from the issuers they will incur the costs of the ratings, and thus would need to charge more on the highly rated issuers which puts them at a competitive disadvantage *vis a vis* issuer-paid CRAs.

Last, as a consequence of this process, issuers can either sell their investment products to subscribing investors (given they received high investor-paid ratings) or solicit issuer-paid ratings and sell their products to non-subscribing investors. It could be argued that with issuer-paid CRAs present in the market, investor-paid CRAs are further unlikely to recover the cost of producing ratings. The line of argumentation is as follows: if issuers learn about their low investor-paid ratings and are discouraged to apply for funding to begin with, it is unlikely that they will apply for issuer-paid ratings. As a result, the pool of issuers applying for an issuer-paid rating is of high quality. Due to this positive selection, issuer-paid CRAs would be able to produce high quality ratings with relatively low effort (as even a poor rating model employed by an issuer-paid CRA would show good performance). Since the required effort is low, issuer-paid CRAs would be able to price their services more aggressively and gain market shares over investor-paid CRAs. As a result, investor-paid CRAs would be unlikely to ever become dominant, since issuer-paid competitors would always be able to price them out of the market.

Based on these arguments, Bongaerts (2014) asserts that alternatives to the issuer-paid CRA model are unlikely to take hold on their own under competitive market forces. Because producing a rating is costly (e.g. it requires qualified staff, time and experience), an inability to cover the expenses might induce the CRAs to deteriorate on quality. According to Bongaerts (2014), alternative models could thrive only if the issuer-paid business model was significantly regulated or faced an outright ban.

Fennell and Medvedev (2011) argue that free-riding by investors might imply that even in the absence of issuer-paid CRAs investor-paid model would be unsustainable. A reduction in the demand for services offered by investor-paid CRAs would undermine the coverage and profitability of producing credit ratings (which could in turn affect the quality of ratings).[147] This point is supported by the public responses to ESMA's call for evidence, where ARC Ratings (a CRA) pointed out that an investor-paid model can only be sustained with a large sample of assigned ratings to capture the interest of a significant number of investors. Indeed, investor-paid CRA initiatives from Roland Berger and Coface have both failed to achieve traction and been withdrawn,

[147] Fennell and Medvedev (2011) "An economic analysis of credit rating agency business models and ratings accuracy" *Financial Services Authority.*

and Kroll's model has changed to issuer-paid. One implication of this limitation is that smaller CRAs would be at competitive disadvantage compared to larger CRAs which could use their broader client bases. Consequently, ARC ratings believe that moving away from the issuer-paid model would be difficult for them to implement.

Similarly, lower CRA profitability might impact their ability to attract talented professionals, again leading to lower quality ratings.

Skin-in-the-game model

The name of the model indicates that the disciplinary mechanism would rely on the fact that the entity producing the rating would have — as an investor in the securities being rated — a clear interest in the accuracy of the rating.

There are several variations of this model. One is the investor-produced model, where investors produce ratings for projects they (partially) fund by holding the issued instruments. The cost of producing the rating is in this case still borne by issuers, but the ratings are produced by investors rather than CRAs. Becker and Opp (2013) discuss another possibility where the cost is borne by the regulator.

Another variation of this model was proposed in Listokin and Taibleson (2010)[148] where CRAs are remunerated in the instruments they rate which they would hold to maturity. As such, CRAs in fact become investors with a clear interest to obtain an accurate rating.

Advantages

In principle, this first variation incentivises the investor to exert higher effort in rating-production. This model also removes the conflict of interest between issuers and CRAs, as CRAs are either not involved in the process at all or else are put in the same position as investors.

As Listokin and Taibleson (2010) argue, the second model, where remuneration is in debt or equity rather than cash, could mitigate a CRA's incentive to overrate. A higher rating indicates a lower probability of default and, thus, a higher market value. As such, the CRA would be paid with a lower number of shares or bonds than if the rating was lower. The idea in that paper is that if CRAs overrate, the bonds are over-valued. If they are paid in over-valued bonds *that they need to retain for a length of time* (a key feature of the model), they suffer once the market discovers that the bonds are over-valued and the bond price adjusts.

Disadvantages

With respect to the original model where issuers pay for ratings produced by investors, Bongaerts (2014) shows that the disciplining effect of the skin-in-the-game model may not effectively work without an intervention from the regulator. As rating effort is increasing in the funding share of the rating party (i.e. the investor) and investors can freely choose their funding shares, issuers (who prefer inflated ratings) select investors that have low funding shares in order to maximize ratings inflation (as effort is proportional to the funding share). This is because the skin-in-the-game effect is stronger the larger the position is that the rating investor acquires. If the issuer has any influence on which investor will produce ratings and if investors that are willing to produce ratings compete, the issuer will select an investor that has only limited capacity for taking on a position himself and thereby reduce the disciplining effect of

[148] Listokin and Taibleson (2010) "If you misrate, then you lose: improving credit rating accuracy through incentive compensation".

skin-in-the-game. According to Bongaerts (2014), a mechanism which would require a mandatory co-investment by CRAs in issues that receive high ratings may result in the same issues.

Listokin and Taibleson (2010) also discuss several potential shortcomings of their own proposal. While CRAs themselves have no incentive to overrate instruments they would be remunerated with, they could still be influenced by issuers. If issuers are willing to compensate CRAs more generously for producing higher ratings, then CRAs might still find it profitable to inflate ratings according to issuers' desires. As such, while this model might to some extent mitigate the conflict of interest it would not remove it completely.

Instead, CRAs might have an incentive to systematically overestimate the riskiness of the rated instruments. Since they would get a larger share of more risky instruments (as their market value is lower than the market value of less risky instruments) they might initially underrate the instrument and then update the rating upwards, which would imply increasing the value of their assets. Clearly there would be a limit to this strategy as it works against issuers' objectives. To the extent that issuers are able to identify the CRAs systematically underrating debt or equity, the incentive to overestimate the riskiness of the rated instruments would be counterbalance by the risk of losing business.[149]

Another difficulty is that the payments would have to be spread in time to maintain the incentives as the issuance matures. This is not simply an issue of transition (i.e. how the CRA would fund itself whilst waiting for long-term instruments to mature). If the CRA was fully compensated after producing the first rating, it would have an incentive to upgrade the rating at the next re-evaluation opportunity, as that would increase the market value of the held securities. This introduces another level of complexity in the market.

Finally, a change in the remuneration scheme might have some wider consequences. For example, currently CRAs claim to produce ratings that account only for credit risk. However, if their remuneration were to be tied to the instruments they rate the might want to account in their rating for several other aspects such as the risk of a market value loss due to changes in interest rate or the instrument's liquidity. Since the CRAs would now be concerned with the overall value of the debt (e.g. being penalised or rewarded for things like liquidity or systemic risk) rather than simply the risk of default, the ratings produced under the new remuneration model would be inherently a different rating than before. Listokin and Taibleson (2010) do not conclude whether this is an advantage or a disadvantage of this model, but note that this new incentive should be taken into account by regulators (and, if implemented, other market participants).

As an actual example of a skin-in-the-game model where regulator pays for the rating, Becker and Opp (2013)[150] analyse a recent regulatory change imposed on insurance companies after the onset of the financial crisis. The new regulation imposed capital requirements concerning structured debt instruments that had to be based on 'expected loss' assessments provided by the two asset management firms Pimco and BlackRock and these assessments were paid for by the regulator. As such, these firms

[149] A similar effect is seen in the market for equity IPOs, as shown in the literature on IPO under-pricing.

[150] Becker and Opp (2013) "Regulatory reform and risk-taking: Replacing ratings" *National Bureau of Economic Research*, No w19257.

played a role equivalent to that of credit rating agencies by providing an assessment of the riskiness of some instruments.

This model in which the regulator pays for the ratings and CRAs are substituted by assessments produced by investors may offer a method to overcome the conflicts of interest which characterise CRAs. The new measure produced by Pimco and Blackrock did include certain information which were not contained in previous credit ratings or market prices, indicating that Pimco and Blackrock did exert effort in analysing the instruments. However, Becker and Opp (2013) did not find evidence that the new measure outperforms CRAs' ratings in predicting future defaults. A risk associated with any third-party pays model is that of price inflation, i.e. the regulator will be over-charged — with potential equity concerns dependent on how this is then ultimately paid for (e.g. by taxpayers, the financial services sector as a whole, etc.) Another risk is that investors that have a position themselves adjust the rating towards their own benefit. Becker and Opp did not find any evidence for this, but that does not rule out that it cannot happen in the longer run.

Platform-pays model (hybrid structures)

There is a further group of models that have been proposed recently to mitigate the conflicts of interest between issuers and CRAs. The overarching idea is to break up the process of choosing the CRA, funding and producing the rating by introducing an intermediary to the market. The particular characteristics of this intermediary vary from model to model.

In one of the proposed models issuers would pay into a market-wide fund from which rating fees are then paid to CRAs. CRA selection in such a system would be through a selection committee, with its members mainly selected by investors.

Chakraborty et al. (2014)[151] propose a similar model which uses trusts as intermediaries between CRAs and issuers. This option would involve a pass-through non-monitoring trust delegated by an issuer to acquire ratings from CRAs. The trust would pay outcome-contingent fees, in order to make truth-telling incentive-compatible for CRAs, so eliminating a driver of ratings inflation.

Mathis, McAndrews and Rochet (2009)[152] suggested the introduction of a model called platform-pays model. The paper is written from the perspective of the American credit rating market, where some CRAs are assigned a title of nationally recognized statistical rating organizations (NRSRO). These rating agencies have a specific regulatory role as their ratings are used, for example, to determine the level of capital reserves banks are required to keep. The Franken rule is seen as equivalent to the platform-pays rule (see Listokin and Taibleson (2010)).

When a potential issuer wants to apply for credit rating by a NRSRO it would be required to contact a platform that could be an exchange, a clearing house or a central depository. This platform would be completely in charge of the rating process and it would also provide record keeping services to the different parties. This system would cut any commercial link between issuers and CRAs. The potential issuer would pay a pre-issue fee to the central platform; the central platform would then organise the rating of the pool of loans by one or several NRSROs. The rating fees would be paid by

[151] Chakraborty et al. (2014) "The trust alternative" *SSRN Electronic Journal*, No 08/2014, DOI:10.2139/ssrn.2489471.

[152] Mathis et al. (2009) "Rating the raters: are reputation concerns powerful enough to discipline rating agencies?" *Journal of Monetary Economics*, No 56(5), p 657-674.

the central platform to the NRSROs. These fees would be independent of the outcome of the rating process and whether the issue finally takes place or not.

For simplicity, the remaining of this section refer to the intermediary as 'a platform', however, the specific solutions discussed below are not limited to the model proposed in Mathis, McAndrews and Rochet (2009).

Advantages

The advantages (and the disadvantages as discussed below) of this model greatly depend on the implementation. Since the model is novel, its efficiency and effectiveness in mitigating conflicts of interest and information asymmetry would depend on its particular design.

In general, this structure might eliminate any perverse incentives for lax behaviour by CRAs and mitigate the conflict of interest between issuers and CRAs, since the central platform's profit maximization depends on appropriately aggregating the interests of the two sides of the market.

The platform could allocate issuers among the available CRAs auctioning off several ratings licences. A systematic use of multiple ratings would also be useful, by allowing third-parties to evaluate the relative performances of different CRAs.

Because the platform acts as an intermediary, it would eliminate the ability of issuers to shop for better ratings. Chakraborty et al. (2014) believe that the surplus generated through improved ratings efficiency would ensure voluntary participation in this mechanism from both issuers and CRAs. The paper also argues that outcome contingent payments through the platform can induce CRAs to compete over accuracy of ratings, which would be welfare-enhancing.[153]

Disadvantages

As argued in Fennell and Medvedev (2011), since the model is new, there are numerous challenges regarding its design. Each decision could result in a different set of incentives and outcomes.

In particular, the selection process of CRAs that should be available via platforms would have to ensure that CRAs do not have any perverse incentives. For example, CRAs might focus on factors directly affecting whether they are accepted to enter a platform rather than on less tangible criteria such as innovation or improving methodology. This could be viewed as a type of conflicts of interest where again CRAs' incentives are not fully aligned with the investors' incentives. One way of removing such a risk would be to select the CRA in a random process. This, however, would remove not only the incentive to focus on the parameters used in the selection process, but also the incentive to provide quality ratings as the accuracy and performance have no impact on the chance to be listed on a platform. As such, it seems that there would have to be selection criteria for becoming one of the CRAs available on the platform.

Further, Bongaerts (2014) argues that, if CRAs are ultimately chosen by investors, the hybrid models might suffer from similar incentive problems to the issuer-pays model, if investors could be (directly or indirectly) influenced by issuers. If, on the other hand, investors are completely independent of the issuers, then they will opt for the most accurate rating. But this might not be economically optimal as too many

[153] Chakraborty et al. (2014) "The trust alternative" *SSRN Electronic Journal*, No 08/2014, DOI:10.2139/ssrn.2489471.

resources are used compared to the benefit of increasing accuracy.[154] In addition, if investors want the 'wrong things' (i.e., ratings inflation), it is even harder to prevent a push towards rating inflation.

Another risk related to the design of the selection criteria is producing systemic impacts in the market. For example, too stringent criteria might induce CRAs to be too conservative in their ratings, and, as a result, force firms to keep more capital than necessary. This is because ratings are used to determine the riskiness of loans made by banks and other institutions. The more risky the loans are the more reserves regulated firms are required to keep. As such, with CRAs systemically underrating securities (i.e. indicating they are more risky than they actually are) firms would be required to keep more reserves than necessary. This surplus would represent a forgone investment opportunity as assets kept as reserves do not earn any return.[155]

In line with the above arguments, platforms would require regulators either to monitor and regulate them (if they were private) or to incorporate them and run as part of the regulatory framework.

While the platform-pays model is likely to avoid the problem of issuers directly affecting the CRAs, other conflicts of interest might arise. For example, a private platform having a monopolist position would be subject to all sorts of influences and pressures from other market participants — each with their own objectives. If the platform does not remain independent, then its ability to mitigate conflicts of interest and mitigate information asymmetry would be limited. If, on the other hand, there were more private platforms in the market, issuers could shop around in a similar way as they are able to do with CRAs, i.e. they would choose platforms with the most favourable selection criteria. As such, the extent to which platforms would be an independent intermediator between issuers and investors could be limited. Finally, another possibility is that the platforms would be publically owned and governed by a public body. The conflict of interests arising in this case could be a result of political pressure, which may interfere with the aim of producing high quality ratings for sovereigns, strategic industries, or firms with large voter bases among employees.

It is also not clear how market participants would perceive the ratings provided by the CRAs listed on a platform vis-à-vis ratings provided by independent CRAs outside the platform system. Even if the ratings provided via platform were high quality and independent, issuers might still want to use CRAs outside platforms (assuming that this is allowed). For example, if a rating provided via platform was produced by a small and not (yet) reputable CRA, issuers could still shop for a higher rating among more reputable large CRAs not listed on a platform. Assuming that investors would (to certain extent) trust the rating provided outside the platform (e.g. because they irrationally trust the large and widely known CRAs more than the ratings provided via platforms), this system might not eliminate rating shopping entirely.

Another challenge is the design of the charging system as each model might entail a different set of incentives. In particular, fees based on quality of services would have different consequences than flat fees or other more flexible solutions (e.g. a bidding process). Similarly, the way the system used to pay CRAs is designed could discriminate either large or small CRAs.

[154] Bongaerts (2014) "Alternatives for issuer-paid credit rating agencies" *ECB Working paper series.*

[155] Listokin and Taibleson (2010) "If you misrate, then you lose: improving credit rating accuracy through incentive compensation".

Finally, in cases where a fast and ongoing exchange of information between CRAs and issuers is required (e.g. in structured instruments), the platform intermediation might decrease the efficiency, and thus, accuracy of such ratings. As a result, this model might discourage financial innovation.

Non-profit ratings

Credit ratings could also be produced by non-profit organisations. An example of this model is the Risk Management Institute of the National University of Singapore. Using only a small team and publically available data the Institute calculated credit ratings for 50,000 companies. The project was financed with a grant provided by Singapore's central bank.

Advantages

Since the Institute does not accept corporate donations, it seems to avoid the conflict of interest between issuers and CRAs in the issuer-paid model. Moreover, the intellectual property is not registered and can be freely used (and amended, if needed). As a result, banks and other institutions can test the methodology themselves.

Disadvantages

The model relies only on publically available data. This significantly restricts the amount of information that could be used in the process as no private information from issuers can be accessed. It also implies that this model can be used only to rate companies for which public data are available.[156] Note that the going concern of such initiatives can be an issue too. How to insure that there is sufficient funding? If government funded, how to ensure that there is sufficient innovation and quality control (moral hazard). These things are often very successful at the start because of some high-impact founders that derive non-monetary benefits from such an initiative (prestige, warm feeling). Often such initiatives deteriorate when these founders leave/retire.

Pay-for-performance compensation scheme

Rhee (2014) suggested a different solution to the conflicts of interest problem. Instead of changing the entire business model of CRAs, the author proposed adjusting CRAs' incentives by making revenue dependent on performance. In particular, Rhee argues that each CRA should be paying a fixed percentage of its revenue to a common fund, which would be paid out to the best performing CRA.

Advantages

In theory, the fund would provide an incentive for CRAs to exert effort and improve the accuracy of their ratings. This is likely to increase the quality of the ratings as the incentive to inflate ratings is counterbalanced by the incentive to gain additional revenue from the fund.

Moreover, the solution is relatively simple to implement as it does not require CRAs to change their business models completely.

Disadvantages

[156] Reuters (2014) "Singapore university seeks to break hold of credit-rating goliaths". http://www.reuters.com/article/2011/10/14/singapore-ratings-idUSL3E7LD1MQ20111014, accessed 17th September 2015.

It is not clear whether all CRAs would in fact have the incentive to increase the quality of their ratings. Since, as proposed in Rhee (2014), the fund would be given on the 'winner takes it all' basis, some CRAs might feel they do not stand a chance. In particular, small CRAs might feel they are in a disadvantaged position as one mistake would account for a large proportion of all their ratings. Contrary to that, one mistake for a large CRA would probably not affect the overall performance.

Given the orders of magnitude size discrepancy between large and small CRAs, it is not clear whether a fund value that motivates all participants would not be distortionary when awarded. In that the winner will, by definition, achieve an extreme value in performance it is likelier — all else being equal, including underlying rating quality — that a small CRA will win (and also that, another, small CRA will come last, by equivalent reasoning). The award to a small CRA could be a 'jackpot' that motivates entry, but not necessarily longevity in the market.

Moreover, performance is likely to depend on the complexity of the rated assets. CRAs rating mostly corporate bonds would likely be performing better than CRAs rating structured instruments. Even with separated awards, the instruments of some issuers (or some sectors) may be more difficult to rate, or at least more volatile, so there is a risk that some areas could become 'no go' areas for CRAs.

Finally, the measure of performance would have to be chosen very carefully. In particular, it would be crucial to choose an adequate timeframe. On the one hand, the accuracy of rating can only be assessed in a longer run. This would suggest that the timeframe should be long enough to capture how the rating performs over time. On the other hand, if the timeframe is too long, the incentive for CRAs will get weaker as their effort would only be compensated later in the future.

Summary

Despite the variety of possible remuneration models, issuer-pays remains the dominant business model. There has been little change in the use of remuneration models since the implementation of the CRA Regulation.

Issuer-pays

In the issuer-pays model CRAs are paid by issuers who wish to solicit credit ratings for their investment products. The main advantages of the model are: credit ratings are free for market participants (as the cost is borne by issuers); it encourages creating long-term relationships and thus, enabling CRAs to obtain private information about the issuers of the securities they rate; the model avoids free-riding, which was a feature of the previously dominant investor-paid model.

The biggest shortfall of the model is the inherent conflict of interest resulting from the fact that CRAs might not remain unbiased if their main source of income relates to issuers' fees. However, in practice, the extent to which this conflict of interest affects the CRAs' willingness to deviate from revealing true information might depend on several factors, such as availability of relevant information and investors willingness to use the information, phase of a business cycle, complexity of the rated product, extent of economies of scale in CRA sector, the distribution of quality among issuers, the number of CRAs in the market.

Due to the complexity of the incentives and factors affecting CRAs' work, the extent to which the conflict of interest appears in this context is hard to assess without detailed analysis of individual actions at CRAs.

Investor-pays

In this model, investors become the customers of CRAs and pay a fee in order to discover the credit worthiness of some corporations or instruments. The main advantages of this model are: the incentives of CRAs and investors are more likely to be aligned; CRAs would be able to respond to demand better; higher quality and more informative ratings.

Among the disadvantages of the model are: it is not clear whether investor-paid model would in fact lead to higher social welfare; it does not avoid the risk of investors (who may themselves favour higher ratings) exerting influence over CRAs; free-riding by all types of market participants (which might undermine the coverage and profitability of producing credit ratings, and affect the quality of ratings).

Skin-in-the-game model

There are several variations of this model. One is the investor-produced model, where investors produce ratings for projects they (partially) fund by holding the issued instruments. The cost of producing the rating is in this case still borne by issuers or regulators, but the ratings are produced by investors rather than CRAs. In another variation of this model CRAs are remunerated in the instruments they rate which they would hold to maturity.

The main advantage of the model is that it helps mitigate conflicts of interest. Among the disadvantages are: the model might require more direct regulatory supervision; the conflicts of interest are not eliminated as CRAs might still be influenced by issuers; CRAs might have an incentive to systematically overestimate the riskiness of the rated instruments (unless thoroughly monitored by issuers); complexity resulting from the fact that the payments would have to be spread in time to maintain the incentives as the issuance matures.

Platform-pays model

The overarching idea of this group of models is to break up the process of choosing the CRA, funding and producing the rating by introducing an intermediary to the market. In one of the proposed models issuers would pay into a market-wide fund from which rating fees are then paid to CRAs. CRA selection in such a system would be through a selection committee, with its members mainly selected by investors. Another model uses trusts as non-monitoring intermediaries between CRAs and issuers. The advantages (and the disadvantages as discussed below) of this model greatly depend on its implementation.

The advantages might include: mitigation of the conflict of interest between issuers and CRAs; elimination of the ability of issuers to shop for better ratings; outcome contingent payments through the platform can induce CRAs to compete over accuracy of ratings.

There are also several challenges regarding the design of this model. In particular: the selection process of CRAs that should be available via platforms would have to ensure that CRAs do not have any perverse incentives; the model might suffer from similar incentive problems to the issuer-pays model, if investors could be (directly or indirectly) influenced by issuers; the design of the selection criteria might product systemic impacts in the market; conflicts of interest other than that between issuers and CRAs might arise; risk related to the market's perception of the ratings provided by the CRAs listed on a platform vis-à-vis ratings provided by independent CRAs outside the platform system; where a fast and ongoing exchange of information between CRAs and issuers is required, the platform intermediation might decrease the efficiency.

Non-profit ratings

This model relates to credit ratings produced by non-profit organisations. The advantages of this solution are: it avoids the conflict of interest between issuers and CRAs; the intellectual property can be freely used; banks and other institutions can test the methodology themselves.

Among the disadvantages are: the model relies only on publically available data and thus can only be used to rate companies with available public data; there is no certainty over sustainability of such model.

Pay-for performance compensation

The model assumes that each CRA should be paying a fixed percentage of its revenue to a common fund, which would be paid out to the best performing CRA. The advantages of this model are: it provides an incentive for CRAs to exert effort and improve the accuracy of their ratings; it is relatively simple to implement.

Among the disadvantages are: the effectiveness of the incentive mechanism is unclear; a fund value might be distortionary when awarded; some more complex or risky products might stop being rates; the measure of performance and an adequate timeframe would have to be chosen very carefully in order to avoid undesirable consequences.

6. Future Competition and Concentration in the CRA market

Introduction

Our final chapter addresses the remaining research questions set out in the TOR, and provides an evaluation and conclusions about competition and concentration in the CRA market.

Likely evolution of competition in the CRA market

In order to assess the likely evolution of competition and concentration in the market, we draw on the following:

- Evidence of the evolution of concentration to date.
- Our analysis of the impact of the CRA3 Regulations on competition.
- Likely barriers to future market entry/expansion.
- General feedback from our survey respondents.

Our analysis in Chapter 2 does not show any trend toward decreasing concentration in the EU-wide credit rating market. There has been expansion of a fourth 'large' CRA in the SFI market (DBRS) but similar changes are not visible among other product segments. There has been some increase in market shares outside the 'big three' in more local markets, such as GBB in corporate finance bonds, Assekurata in corporate insurance and DBRS in sovereign and structured finance in Germany; and AM Best in corporate insurance (historically a key player in this area anyway) and Axesor in corporate non-financial in Spain. Based on our fieldwork it is possible that increases in market share for local CRAs will grow over time, as such niches are increasingly identified and exploited but there does not seem to be any sign of the aggregate market shares of the largest CRAs diminishing to a significant extent. Most respondents to our survey, as well as to ESMA's call for evidence, do not feel there is a shortage of CRAs – likely that most markets would only sustain 4-5 CRAs. This would correspond somewhat to the characterisation of these markets as akin to platform markets. Competition at the global stage may therefore be limited, although possibly room for more at the local / niche sector level.

Feedback to our survey shows that since 2010, stakeholders have noticed a number of changes in the market for Credit Ratings. Nine of ten CRAs note an increase in the number of firms within the corporate bond rating market and eight of ten note an increase in the number of firms within structured finance instrument rating markets as a possible result of Article 8c of CRA III. Five of ten CRAs also cite an increase in the number of analysts involved in developing ratings on corporate bonds, while six cite an increase in the number involved in rating structured finance instruments. Considerably fewer CRAs have witnessed a fall in the average price charged for ratings, with no CRAs in the structured finance instrument market seeing a fall in prices; this suggests that there has been little increase in competition on the basis of prices. Regulators have observed few changes to the level of competition since 2010, despite the fact that the number of CRAs is growing; this is largely due to the fact that CRAs have made few changes to their business models. In addition, the entry of new

CRAs into the market has had a limited impact on competition, as the Big Three maintain the majority market share.

Barriers to entry may act to inhibit further competition. Whilst some of these may be potentially be addressed by the Regulation, many relate to the economics of CRA markets and how investors and issuers behave. Firstly, the factors most important to issuers in selecting CRAs, and investors in demanding ratings by CRAs, may make it difficult for CRAs to gain market share. According to issuers, the main problem with small CRAs is that they lack the reputation among investors. Moreover, according to some issuers their geographical coverage is insufficient and it is too costly in invest in a new relationship with a new CRA. Other factors, such as fees, insufficient information about the market shares of small CRAs, or insufficient record of the quality of their ratings, are of less importance. However, it should be noted that a majority of responses is no higher than three suggesting that overall the confidence in the services provided by small CRAs is not very strong among issuers.

CRAs identified the following main barriers:

- Not sufficient demand for additional rating agencies (particularly in case of corporate bonds) – however, there seems to be some variation among CRAs; four small CRAs view insufficient demand for rating corporate bonds as a critical barrier, while other four considered it either a moderate barrier or not one at all. For SFIs, only one CRA claimed the insufficient demand to be a critical barrier (but of the CRAs that claimed it to be a critical barrier for corporate bonds, two did not respond to this question).[157]
- Mapping of External Credit Assessment Institutions – there is quite a lot of variation in responses, both for SFIs and corporate bonds. In particular, this seems to be (or is at least considered to be) a barrier for smaller CRAs.
- Administrative / regulatory barriers - there is quite a lot of variation in responses, both for SFIs and corporate bonds. However, many smaller CRAs gave a score around 3 (moderate barrier), some small CRA claimed this to be a critical barrier (particularly in the context of corporate bonds). For larger CRAs this does not seem to be a problem.

Indeed, the European Central Bank ECB selection criteria were raised by a number of respondents as a notable barrier. In addition to standard bonds, the ECB and the National Central Banks (NCB) of each Member State use a wide variety of assets as collateral for open market operations, all of which must meet the minimum requirements of the Eurosystem Credit Assessment Framework (ECAF). Only instruments rated by CRAs approved as an 'External Credit Assessment Institution' (ECAI) are eligible for this framework. Currently, only four CRAs are recognised as ECAI's – Moody's, S&P, Fitch and DBRS. In order to be recognised as an External Rating Tool Provider, a CRA must meet several criteria. Smaller CRAs are of the opinion that these criteria impose a significant barrier to them, and that without recognition by the ECB demand for their ratings of SFIs is severely limited, creating a key barrier to entry.

As discussed in Chapter 3, the impacts of the CRA3 Regulation on competition are likely to be a varying strength. Based on the nature of the market, whereby issuers

[157] The market size for ratings might increase in the long run, in particular in countries in which bank financing is currently more common but which are moving towards bond financing.

and investors place a high value on the reputation and expertise of CRAs, measures that force the selection of CRAs beyond what otherwise would be chosen by issuers, or valued by investors, (such as the rotation provision, the requirement to appoint two CRAs, or the requirement to appoint a smaller CRA) can lead to unintended consequences, or simply have limited effectiveness in promoting true market entry. The provisions that appear to have the greatest potential are those that enhance the ability of investors to monitor and judge CRA's ratings performance and thus to limit the potentially negative impacts of high concentration (i.e. the danger that large firms abuse their positions leading to higher prices and lower quality ratings). A number of responses to our fieldwork have highlighted the importance of information transparency, particularly increasing the ease with which the market can compare the ratings and outcomes (e.g. defaults) across CRAs to assess whether any have a higher-than-predicted-by-ratings default rate (which could be a sign of ratings inflation).

In addition, the strong influence of the end investor in issuers' choice of CRA (in the sense of the sub-set of CRAs from which the issuer will likely choose) means that the existing set of measures are unlikely to notably change the dynamic of the market. As long as investors demand ratings by the largest CRAs (for a range of reasons, including familiarity with more established CRAs' methodologies and the costs associated with extending this to newer CRAs; risk-averse attitudes and the lack of historical track-records of newer CRAs; external influences such as regulatory requirements driving decisions to only invest in assets rated by certain CRAs; and possible inertia and brand recognition effects), then issuers, which are primarily concerned with raising debt as easily and cheaply as possible) will continue to turn to these CRAs for ratings.

That said, certain changes in relevant regulation, such as Solvency II's credit quality mapping, suggest that investors should be less formally limited in terms of the assets in which they invest and the CRAs that rate them.

In summary, our view is that the Regulation may not be significantly effective in promoting additional market *entry*, nor in promoting significant additional market share for newer CRAs, and hence that the concentration trends are likely to remain. However the Regulation may have benefits in terms of promoting greater competition *within* the market, e.g. enabling competitive pressure to be maintained on the larger CRAs.

Future evolution of concentration

Drawing on the above, we now consider the possible evolution of concentration in the CRA market from 2015 to 2020. We use as a starting point the market shares presented in Chapter 2 based on revenues from rating activity only. We consider the likely impact of the CRA3 measures and other market dynamics where relevant. We have constructed three scenarios across the main measures most likely to affect concentration levels, namely low, medium and high impact.

We note the following:

- The analysis can be illustrative only given the uncertainty of the future impacts of the measures, and the timings thereof.
- We only consider the evolution of market concentration, and not the positive/negative implications for quality or other market impacts (e.g. costs for market participants and unintended consequences).
- Concentration levels are not necessarily reflective of true competitiveness – a market could remain concentrated but the *threat* of new CRAs increasing their

market share could result in effective competition and better quality services from incumbents.

- We consider market shares for corporate and sovereign bonds, and SFIs on an EU scale and do not detail scenarios for different jurisdictions or sectors. It should be kept in mind that some CRAs may gain market share in niche areas over time, but this would be strongly influenced by evolving market preferences and 'organic' growth rather than solely by the CRA3 Regulations.
- The low, medium and high scenarios reflect our views of the market states possible given all our preceding analysis of the impacts of the regulation. In other words, the 'high impact' scenario considers the highest *likely* impact given our analysis (i.e. a high impact drawn from the range of likely outcomes, not the highest conceivable.

The table below presents our description of the likely three scenarios.

Table 10: Description of low, medium and high impact scenarios

	Low impact scenario	**Medium impact scenario**	**High impact scenario**
Article 8c - appointment of double ratings for SFIs	SFI market size unchanged and issuers choose from same set of firms as now (i.e. 'Big 3' CRAs and DBRS) when appointing second rating agency.	Market size increases slightly but issuers choose from same set of firms as now (i.e. 'Big 3' CRAs and DBRS) when appointing second rating agency.	Demand for ratings of SFIs increases to an extent that it encourages entry. Effects likely to be concentrated among larger more established 'small' CRAs.
Article 8d - appointment of CRA with less than 10% market share in case of multiple ratings	Issuers continue to use 'explain' exemption to avoid compliance, or resort to appointing only one CRA.	A small additional group of issuers comply (rather than explain) but not enough to notably change market shares of smaller CRAs. Potentially more noticeable effects in niche sectors or jurisdictions.	More issuers comply but not extensively (this is not normative or mainstream). Mainly more established 'small' CRAs appointed.
Article 11a - European Rating Platform	Investors and other market participants do not consider the information published on the platform to be additive (or at least pay limited attention).	The market uses the information on the ERP to some extent, but lack of comparability of information still inhibits comprehensive use. The market's view of CRAs may be influenced, but smaller CRAs still lack track records to change views of (conservative) investors.	In this scenario the ERP is very well-constructed and extensively used by the market. This helps expedite small/new CRAs slowly gain reputation for quality. This may not have notable effects in timeframe (through to 2020) under consideration. Investor change unlikely to be large though, given their conservatism, other than in niche markets (either in geographic or product terms).

Article 8b - disclosure of information on SFIs	Investors do not engage in desired way with information - either not new compared to what they already have, or not enough incentive to change views of CRAs	Investors marginally engaged with information disclosed and use this in making credit assessments (where they do this already). Some additional reduction in reliance on CRAs.	Information disclosed is used by more sophisticated investors to judge quality of CRAs. Over time small CRAs' reputations grow as they prove to be better quality, although the timeframe may not be sufficient to reveal the outcomes of ratings and CRAs' quality.
Article 6b - rotation provision	Provision limited to the re-securitisation market. No impact as market dormant	Provision limited to the re-securitisation market. Scenario assumes some limited recovery in the market but not sufficient to force Rotation principle to bind.	Provision limited to the re-securitisation market. High impact scenario assumes the market grows somewhat over next three–five years, but remains relatively small such that any Rotation can be achieved largely within the Big 3 CRAs.

Based on the description of the three scenarios, our view on the likely evolution of concentration is as follows:

- *Low and medium impact scenarios.* In SFI, market shares between Big 3 and the rest likely stable. Possible shifting of market shares between the Big 3 (e.g. Fitch could grow in the SFI market and hence slight reduction in HHI due to appointment of double ratings). However, no impact on market shares of smaller CRAs. No change in other markets (bonds, re-securitisation).
- *High impact scenario.* In SFI, market share held by Big 3 sees small-scale decline (up to 1-2 per cent). Possible shifting of market shares between larger CRAs in the SFI market (but now net direction of movement is less clear as issuers appointing 'small' CRAs in the case of double ratings, may be at expense of smallest of Big 3. Whilst gainers are likely to be the larger 'small' CRAs the 10 per cent market share threshold is unlikely to be breached by these CRAs and therefore unlikely to 'move up' the selection ranks. Any effects likely to be limited to the SFI market. The SFI market may be better able to judge the quality of small/new CRAs in light of extensive use of disclosed information (under Article 8b), which could lead to improvements in reputation. However, changes in market shares unlikely to be notable in this timeframe given investors' conservatism. Similarly, changes in market shares in response to a well-designed ERP unlikely to occur in this time-frame, although reputation of small/new CRAs could slowly increase. The rotation principle may have some impact on market shares in the re-securitisation market, but given the likely scale of the market within five years this would most likely be concentrated among the Big 3.

Identification of alternative measures to foster competition

Our assessment of other measures to foster competition is based on the relevance of information to the market, given the importance of the expertise and reputation of CRAs. As building up trust and reputation takes time and resources (a number of our fieldwork respondents have noted that this process cannot be rushed and that there are no 'short cuts') ways to foster this could be effective.

One option could be the development of a track record score for CRAs: whenever an issue with a good rating defaults, the CRA is penalised in the score. There could be a

ranking for CRAs, and this ranking could be split into categories, by geography and CRA size for instance. In order to incentivize competition, there could be short and long term rankings (i.e., they could reflect only the last two or three years for short term, and more than 10 or 15 years for long term).

Another measure that could help in market participants' assessment of CRA quality would be a harmonised credit rating scale across CRAs. At the moment, every rating has a slightly different meaning and it is not possible to accurately assess the quality of the underlying rating (e.g. if a bond defaults, the CRA could just say that that was within the assigned probability of the rating scale). However, if each rating grade had the same interpretation (e.g. AAA or the equivalent highest scale across CRAs = always meant 1 in 1000 chance of default) then market participants would have an objective way of assessing the quality of the ratings as they would know the relevant parameters. This would increase the ability of market participants to identify the quality of CRAs, which could expedite the process newer CRAs need to go through in earning reputation in the market.

Finally, although arguably difficult to enforce, a requirement on issuers to appoint CRAs by means of some form of competitive tender would reduce the propensity to fall back on long-term contracts, and may provide new entrants with the chance to 'show case' their expertise and offerings.

Summary

Past and future evolution of competition in the CRA market

Our analysis of the EU-wide credit rating market does not show any trend toward decreasing concentration. While our fieldwork shows that since 2010 stakeholders have noticed an increase in the number of CRAs within the corporate bond rating and structured finance instrument rating markets, the impact of market entry on competition was limited. Barriers to entry (such as insufficient demand for additional rating agencies, high switching costs for issuers, and administrative / regulatory barriers) may act to inhibit further competition.

Based on the nature of the market, whereby issuers and investors place a high value on the reputation and expertise of CRAs, measures that force the selection of CRAs beyond what otherwise would be chosen by issuers, or valued by investors, (such as the rotation provision, the requirement to appoint two CRAs, or the requirement to appoint a smaller CRA) can lead to unintended consequences, or simply have limited effectiveness in promoting true market entry. However the Regulation may have benefits in terms of promoting greater competition *within* the market, e.g. enabling competitive pressure to be maintained on the larger CRAs.

We have considered three scenarios for the possible future impact of the CRA3 measures on competition and concentration. Based on these we think the likely evolution through to 2020 is as follows:

- *Low and medium impact scenarios.* In SFI, market shares between Big 3 and the rest likely stable. No change in other markets (bonds, re-securitisation).
- *High impact scenario.* In SFI, market share held by Big 3 sees small-scale decline (up to 1-2 per cent). Whilst gainers are likely to be the larger 'small' CRAs the 10 per cent market share threshold is unlikely to be breached by these CRAs and therefore unlikely to 'move up' the selection ranks. Any effects likely to be limited to the SFI market. Further changes in market shares unlikely to be notable in this timeframe given investors' conservatism. Similarly, changes in market shares in response to a well-designed ERP unlikely to occur in this time-frame, although reputation of small/new CRAs could slowly increase. The rotation principle may

have some impact on market shares in the re-securitisation market, but given the likely scale of the market within five years this would most likely be concentrated among the Big 3.

Identification of alternative measures to foster competition

Given the importance of the expertise and reputation of CRAs effective measures to foster competition should encourage and facilitate developing these strengths among CRAs. Ways to foster competition could include: developing a track record score for CRAs, making amendments to the ECB's selection of approved CRAs rating SFIs, and appointing CRAs by means of some form of competitive tender.

Another measure that could help in market participants' assessment of CRA quality would be a harmonised credit rating scale across CRAs. If each rating grade had the same interpretation (e.g. AAA or the equivalent highest scale across CRAs = always meant 1 in 1000 chance of default) then market participants would have an objective way of assessing the quality of the ratings as they would know the relevant parameters. This would increase the ability of market participants to identify the quality of CRAs, which could expedite the process newer CRAs need to go through in earning reputation in the market.

Appendix

Approach to analysing the Transparency Reports

Here we set out our approach to analysing the transparency reports for the purposes of calculating CRAs' market shares.

Definition of revenues

We only consider revenues from credit ratings activities (this applies to the split between instrument type as estimating this split including ancillary activities is not always possible given the data from the transparency reports).

According to the CRA Regulation, 'ancillary services' are products or services that are not part of credit rating activities and include market forecasts, estimates of economic trends, pricing analysis and other general data analysis as well as related distribution services. CRAs have different definitions in the Transparency Reports for these services; some name them 'ancillary services' and others names then 'non-rating activities (whilst it is clear from further descriptions that these are in fact 'ancillary' services in the meaning of the Regulation).

Some CRAs also include revenues from 'other' activities which are neither credit ratings activities nor ancillary services. Where these are reported separately we exclude them from the total revenue figure. However, some CRAs (notably Moody's and Standard and Poor's) bundle together revenues from 'ancillary' and 'other' services –– in these cases we have included this combined figure as the ancillary revenue for our calculations.

Time periods

The fiscal year is different in several CRA reports (i.e. many report from January to December, but some report for April to March. This has not been adjusted for unless a reporting period includes more than 12 months. (For example, Fitch reported financial information for a 15 month period, October 2011–December 2012. These numbers were adjusted by using the average revenue per month to estimate the corresponding total revenue for a 12 month fiscal year).

Different currencies

All figures reported in a currency other than euro where transformed in to euro. The exchange rates used where the following:[158]

Rate	2014	2013	2012	2011
€ : BGN	1.95	1.95	1.95	1.95
€ : £	0.81	0.85	0.81	0.87
€ : $	1.33	1.33	1.29	1.39
€ : PZL	4.18	4.19	4.18	4.10

158 Source: http://www.oanda.com/currency/historical-rates/.

Geographic scope

In some cases, revenues were not broken down between EU and global scope. Where this was the case with a CRA's revenues per instrument, but an aggregate breakdown between EU and global across all revenues was provided, this aggregate split was applied to the revenues per product. Where such a split was provided in some years but not in others, the average percentage split was applied to the missing years.

We note that Moody's reports combined revenue for Russia and the Czech Republic, and these combined figures are included in our calculations.

Missing revenue data

Total revenues are missing for some CRAs, which include in their reports only the percentage split across different activities. To estimate the missing total revenues we use the market share estimates for 2013 and 2012 provided by ESMA. First, the implied total revenue of the whole market was estimated using the market share estimates for Fitch as follows:[159]

*Implied total market revenue = Fitch total firm revenue (from transparency report) * Fitch market share (from ESMA)*

This implied total market revenue figure was then used in conjunction with ESMA's market shares to estimate the revenue for each firm, as follows:

Implied total market revenue/ Firm market share = Firm total revenue

We cross-checked this methodology by comparing estimated with actual revenues for firms for which actual revenues were available. There were some inconsistencies between estimated and actual, but on the whole the two sets of figures were aligned.

Revenues per instrument type

We used only revenues directly related to ratings activities here.[160] Revenues that were not broken down into the instrument types: Corporate, Structured and Sovereign, where estimated using the following methods:

- Where the firm had reported the breakdown in one year, the same breakdown was assumed to apply to other years.
- If the firm only reported the number of analysts used in the generation of ratings for different instruments, we apportioned ratings revenues across the instruments types using these ratios.[161]

[159] The total market estimate generated by Fitch data was used to extrapolate the missing firm revenues. This decision was based on the fact that Fitch did not have any ancillary revenue and hence, the uncertainty about revenue definitions was avoided.

[160] The breakdown reported by Fitch Ratings did not correspond to their reported total revenue. The discrepancies between the actual sum of the breakdown and the reported total revenue were ignored.

[161] This method was not used where a breakdown was provided for previous years. A cross-check of revenues per analyst for Fitch (where this information was available) showed no consistency between revenues per analysts across the years or instrument types.

- If the firm provided no indication of a breakdown in revenues across instruments, we assumed that all ratings revenues came from corporate bonds.

Approach to analysing CEREP data provided by ESMA

In this section we present the methodology for the research aimed at answering a set of questions listed below:

- How does rating accuracy across credit rating agencies change where there is market entry?
- Are new entrants more lenient than incumbents?
- Is market entry related to ratings inflation?

Data

The data is available in the CEREP database as at 15 October 2015 and includes data that is submitted by CRAs for the period 2009/S1 until 2015/S1. The database contains data from all registered CRAs (57,182 observations in total) and for all rating types (and sub-types) reported in CEREP:

- Corporates:
    - Non-financial corporates (CO),
    - Financial corporates (FI),
    - Insurance (IN);
- Covered Bonds;
- Sovereign and public finance:
    - Sovereign-local currency (SL),
    - Supra-nationals (SO),
    - (FC);
- Structured finance:
    - ABCP,
    - CMBS,
    - Other,
    - ABS:
        - Credit card receivable backed securities (CCS),
        - Auto loan backed securities (ABL),
        - Other (OTH),
    - RMBS:
        - Prime RMBS (PRR),
        - Non-prime RMBS (NPR).

Definition of entry

ESMA provided information on the market entry in their 'Technical Advice on Competition, Choice and Conflicts of Interest in the CRA Industry' which is summarised in the table below.[162]

Entry by CRA is indicated by the product type in the year of entry. That is, BCRA started rating in the sector of sovereign-local currencies in 2014. FERI entered the industries of financial corporates and non-financial corporates in 2013.

Table 11: Market Entry

CRA	2010	2011	2012	2013	2014
BCRA					SV
FERI				FI&CO	
Creditreform	SF	CB			
Scope				SF	FI
ARC			FI		SV
DBRS			SO		
Dagong					IN

Source: ESMA.

Market entry in this analysis is defined using the data provided by ESMA but with some adjustments. Since ESMA did not provide information of which period of the year the CRA entered, this was determined by looking at the CEREP data. Whenever it was unclear to which period the CRA entered e.g. when the CRA entered in different periods in different Member States, the second period was chosen.

The entry indicated by ESMA did not always correspond to the CEREP data e.g. ARC starts rating financial corporates in 2012 according to ESMA and in 2009 according to CEREP.[163] In other instances, ESMA has not classified some CRAs as entrants although they have not been rating from the beginning of the CEREP database (2009) but started rating later on. These CRAs have been added to ESMA's definition of entrants in order to increase the number of observations to analyse.

Entry is defined by the variable $Incumbent_i$ for each sub-type *(i).* The incumbent is a categorical variable which is equal to one for all CRAs active in a sub-type and are not classified as entrants. Each entrant (defined as described above) takes a value different from one and are hence analysed individually as opposed to as a group.

$$Incumbent_i = \begin{cases} \neq 1 & Entrant \\ 1 & Incumbent \end{cases}$$

[162] ESMA (2015) "Technical Advice on Competition, Choice and Conflicts of Interest in the CRA Industry"

[163] The data represents CRAs' most recent update to the CEREP database which was not available when ESMA prepared its Technical Advice on Competition, Choice and Conflicts of Interest in the CRA Industry. Hence, one should consider carefully any comparison between the two data sources as it is possible that the CEREP data includes updates that are not reflected in the data used in the ESMA Technical Advice.

Key variables

The subsequent sections present the methodology used to define and create the variables of interest for the stated research questions.

In order to answer the research questions we created a set of variables to proxy each question. Rating accuracy is measured by the frequency and size of subsequent ratings revisions in terms of the number of downgrades and defaults before and after entry. The same variables (downgrades and defaults) are used to look at whether entry is associated with ratings inflation in the market.

To evaluate whether entrants are more lenient than the incumbents the average ratings for entrants and incumbent (weighted to the size of the CRAs) have been compared across time. This is a crude measure since it does not take into account the differences between the instruments they have been rating which can cause a systematic difference in the average ratings between the groups.

The variables are defined and described in more detail below.

Average ratings

The average ratings are measured as a weighted average of the rating category value of each CRA in each sub-type across all available periods. The category value is an integer for which 1 represents the best category in the rating scale (AAA) and the highest number represents the lowest category in the rating scale (Insufficient rating). We used the rating category value at the beginning of the reporting period.

Since the raw data from CEREP had aggregated the sum of ratings for different rating 'characteristics' the first step in creating the variable was to expand the rating category value with the number of ratings associated with each category value for each CRA *(c)* for each sub-type *(i)* and across all periods *(t).*

$$Total\ Rating_{c,t,i} = Rating_{c,t,i} * Number\ of\ Ratings_{c,t,i}{}^{Rating}$$

Once the data had been expanded, $Total\ Rating_{c,t,i}$ and $Number\ of\ Ratings_{c,t,i}$ was summed over the defined incumbents *(I)* and entrants in each period. The weighted average of the category rating value was constructed by multiplying the number of ratings with the associated ratings value for incumbents and the entrants in each industry *(i)* across all years and dividing by the total number of ratings per group, industry and year.

$$Average\ Rating_{I,t,i} = \frac{(Rating_{I,t,i} * Number\ of\ Ratings_{I,t,i}{}^{Rating})}{Total\ Number\ of\ Ratings_{I,t,i}}$$

Downgrades

A downgrade is defined as the rating value at the end of the reporting period being lower than the rating value at the beginning of the period, given that there have not been any new ratings (generated for the first time), withdrawals or defaults during the rating period. $Downgrade_{c,t,i}$ is a binary variable taking the value of one if there has been a downgrade and zero otherwise.

$$Downgrade_{c,t,i} = \begin{cases} 1\ if \quad downgrade \\ 0\ if\ no\ downgrade \end{cases}$$

Once downgrade had been defined, similar manipulations as previous variable were done to create a weighted average of the number of downgrades. First, the total number of downgrades was generated by expanding the data with the number of ratings that were downgraded by a CRA in a given industry and period.

$$Total\ Downgrade_{c,t,i} = Downgrade_{c,t,i} * Number\ of\ Ratings_{c,t,i}^{\ Downgrade}$$

Since the raw data from CEREP had aggregated the sum of ratings for different rating 'characteristics' the first step in creating the variable was to expand the rating category value with the number of ratings associated with each category value for each CRA *(c)* for each sub-type *(i)* and across all periods *(t).* Secondly, a weighted average was created per CRA as opposed to the group variable 'Incumbent' as in Chapter 2. The variable was multiplied with a scalar to make the results more readable.

$$Average\ downgrades_{c,t,i} = \left(\frac{Downgrade_{c,t,i} * Number\ of\ Ratings_{c,t,i}^{\ Downgrade}}{Total\ Number\ of\ Ratings_{c,t,i}}\right) * 100$$

Finally, the mean of $Average\ downgrades_{c,t,i}$ for the incumbents and entrants was calculated respectively. This was done by using the command `collapse (mean)` in STATA.

Defaults

$Default_{c,t,i}$ identifies whether the rated issuer or instrument defaulted during the reporting period, as specified in Article 9(2). It is a binary variable which takes the value of one if there has been a default and zero otherwise. The weighted average of the number of defaults is calculated using the same methodology as previous chapters.

$$Defaults_{I,t,i} = \left(\frac{Default_{I,t,i} * Number\ of\ Ratings_{I,t,i}^{\ Default}}{Total\ Number\ of\ Ratings_{I,t,i}}\right)$$

Approach to analysing CEREP transition matrices

Data

The data are available in the CEREP online database, which allows the extraction of transition matrices, which display the change of a rating from one point in time (beginning of period) to another (end of period). For each rating at the beginning of the period, exactly one state at the end of the period will exist (i.e. whether the rating has remained unchanged, has been upgraded, downgraded or withdrawn).

In order to display the transition matrices, mandatory filters have to be selected including: Credit Rating Agency (CRA), Rating Type, Time horizon and Period. The following filters were used when extracting the data:

- Non-financial corporates
- EU members
- Long-term rating
- Before period: BOP 2009/S1 and EOP 2012/S1
- After period: BOP 2012/S2 and EOP 2015/S1
- CRAs: Fitch Ratings, Moody's Investors Service and Standard & Poor's Ratings Services

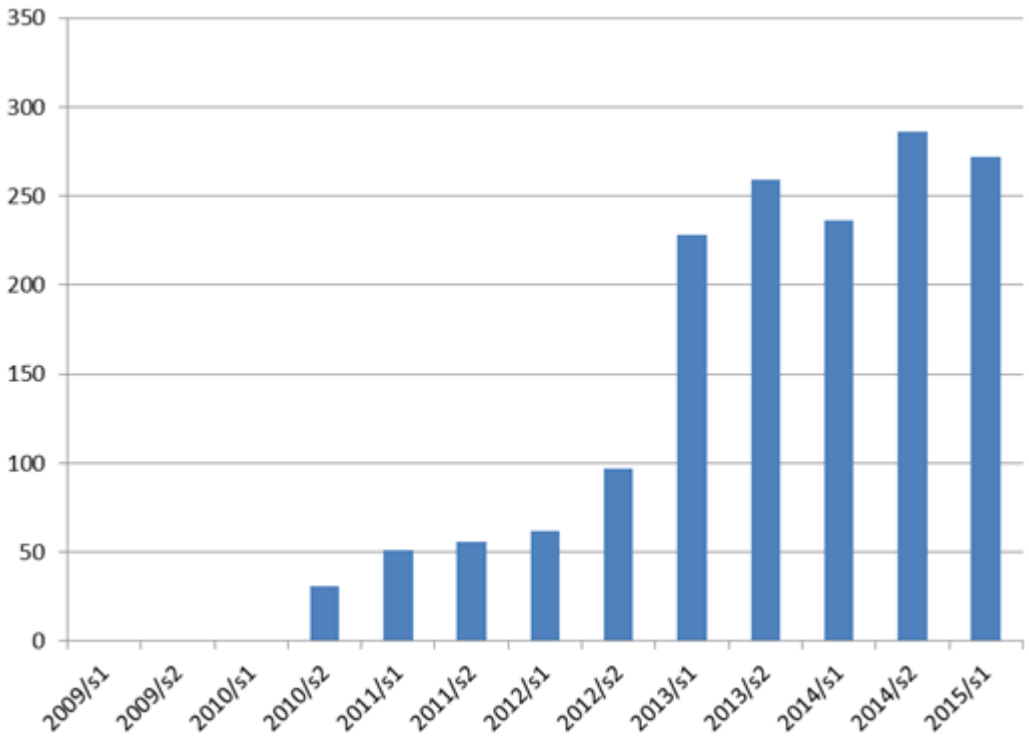
Before and after entry periods

The aim of our exercise was to investigate whether the average number of downgrades in the CRA market over a certain length of time was notably different

before the market entry of new CRAs compared to after entry. Changes in the proportion of ratings that are downgraded over time could indicate changes in quality of ratings by incumbent CRAs. For example, a decrease in the proportion of downgrades after market entry could indicate that the entry has had an improving effect on the quality of ratings; an increase in this proportion could indicate the market entry has encourage ratings inflation and a decrease in the quality of ratings, which then need to be downgraded in subsequent years.

A single 'entry' date was chosen around the time where the most CRAs entered the market, namely 2012/S1. This entry date also enabled us to construct fairly equal before and after entry periods (before entry: 2009/S1 – 2012/S1; after entry: 2012/S2 – 2015/S1). The figure below illustrates the market entry point.

Figure 12: Total number of ratings by CRAs entering after 2009.



Source: EE analysis of ESMA's CEREP data.

Aggregation of data

The CRAs use different rating scales; these were transformed using the CEREP category value in the dataset described in the previous section to ensure comparability. The category value is an integer for which 1 represents the best category in the rating scale (e.g. AAA or Aaa) and the highest number represents the lowest category in the rating scale (Insufficient rating).

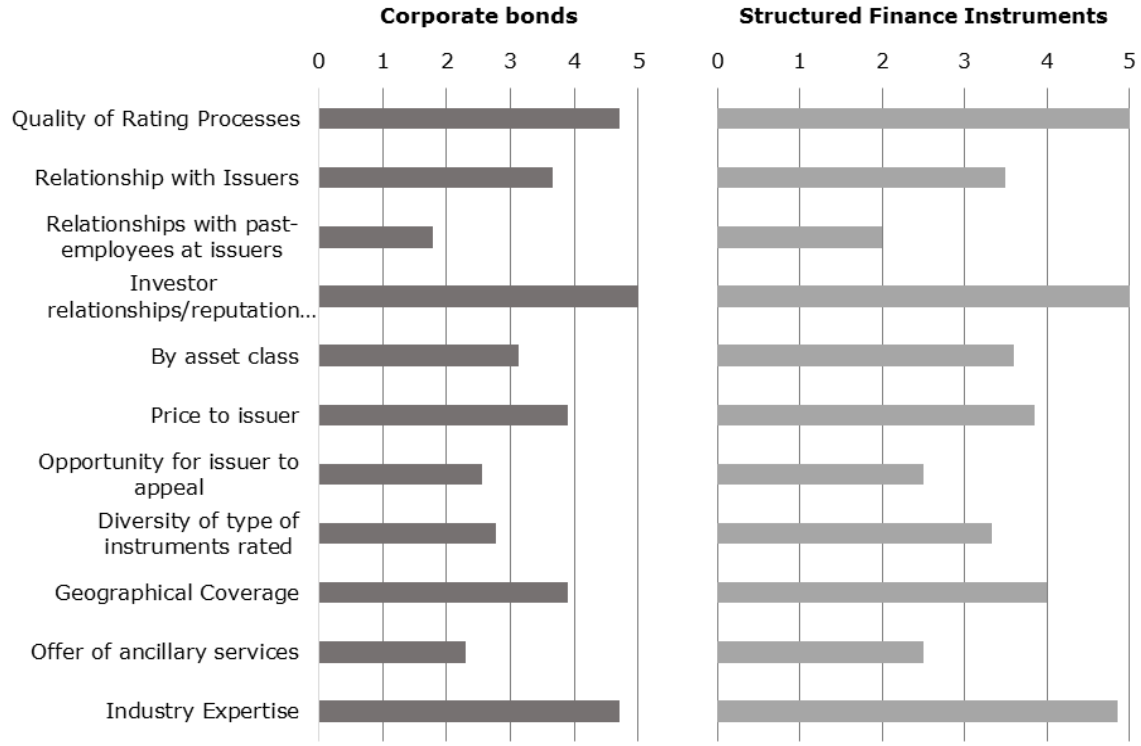
We used transition matrix data from the three largest CRAs (aggregated) to analyse the evolution of downgrades before and after market entry. We chose only these three CRAs as these were the only ones which had been consistently providing ratings across both periods.

Summary of survey results

In this section we present the graphic summaries of the key numeric survey questions to our fieldwork.

CRAs

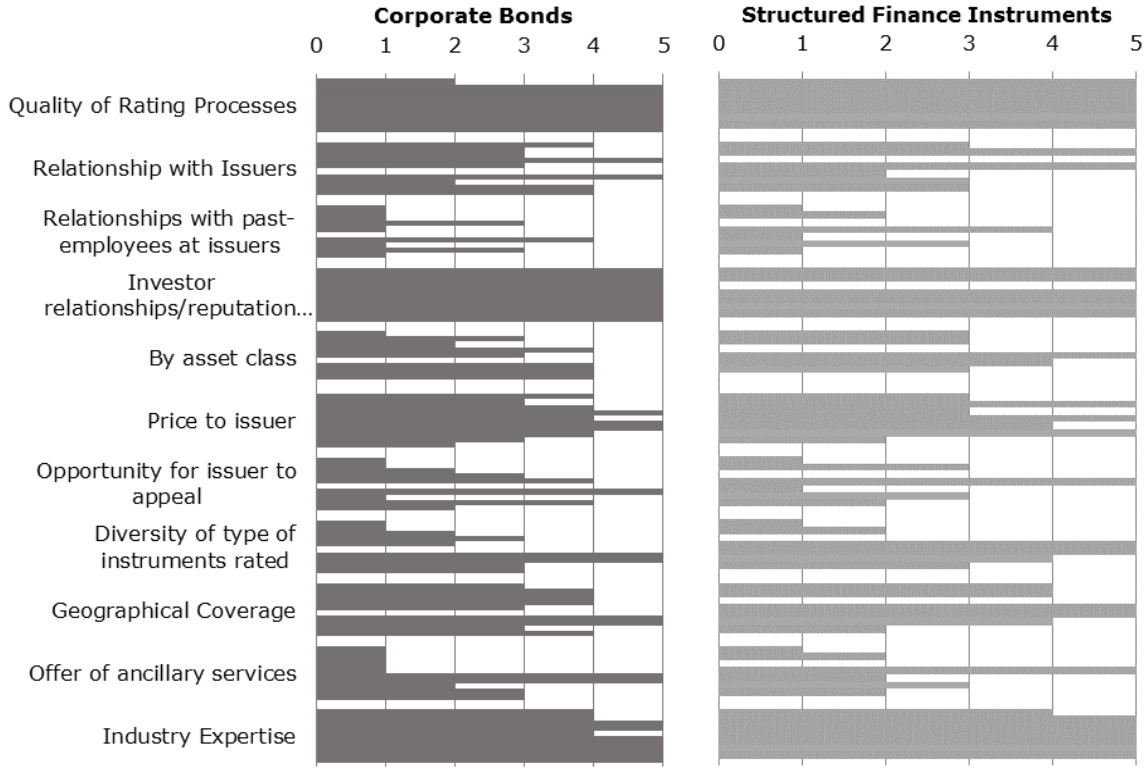
Figure 13: Factors on which CRAs compete: average.



Survey question: "What are the factors on which you compete for business to provide credit ratings among issuers?" (*Average across respondents); (1 = not important; 5 = very important)*

Number of reponses: 10 for Corporate Bonds, and 7 for Structured Finance Instruments.

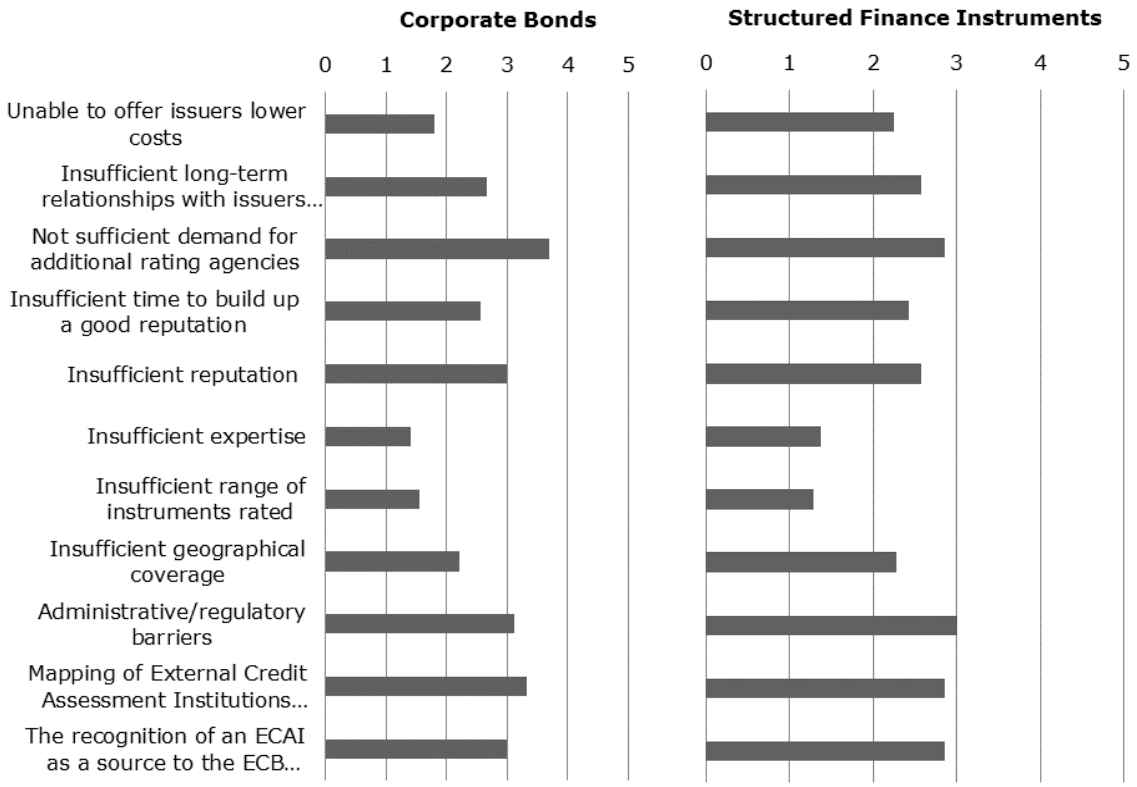
Figure 14: Factors on which CRAs compete: breakdown.



Survey question: "What are the factors on which you compete for business to provide credit ratings among issuers?" *(1 = not important; 5 = very important)*

Number of reponses: 10 for Corporate Bonds, and 7 for Structured Finance Instruments.

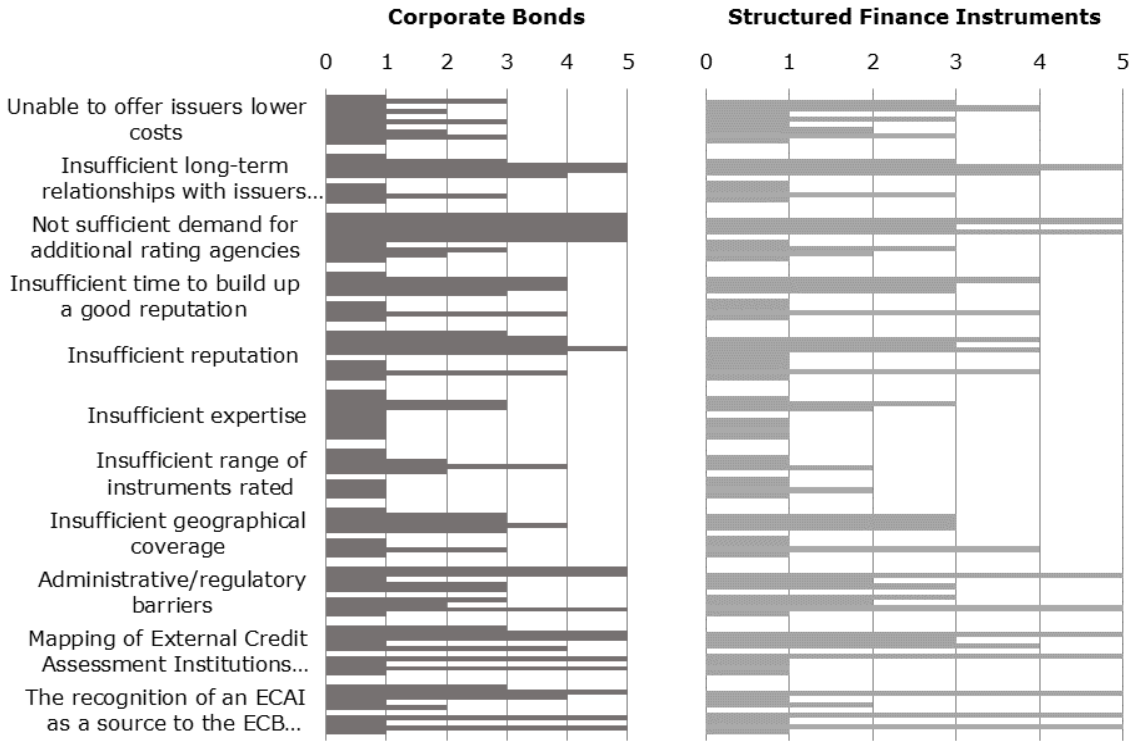
Figure 15: Barriers to entry/expansion by CRAs: average.



Survey question: "Do you experience any of these barriers to entry / expansion in providing ratings for corporate bonds and structured finance products?" (*Average across respondents); (1 = not important; 5 = very important)*

Number of reponses: 10 for Corporate Bonds, and 8 for Structured Finance Instruments.

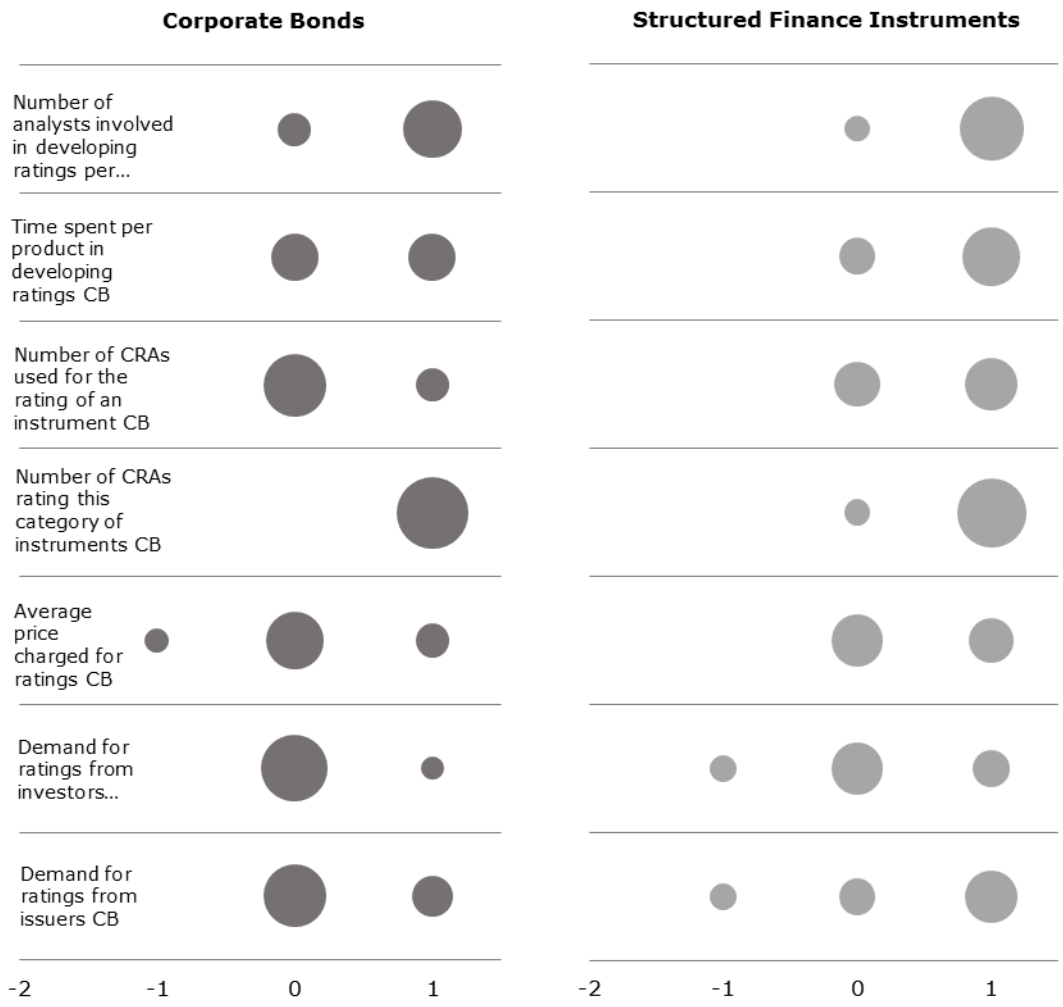
Figure 16: Barriers to entry/expansion by CRA: breakdown.



Survey question: "Do you experience any of these barriers to entry / expansion in providing ratings for corporate bonds and structured finance products?" *(1 = not important; 5 = very important)*

Number of reponses: 10 for Corporate Bonds, and 8 for Structured Finance Instruments.

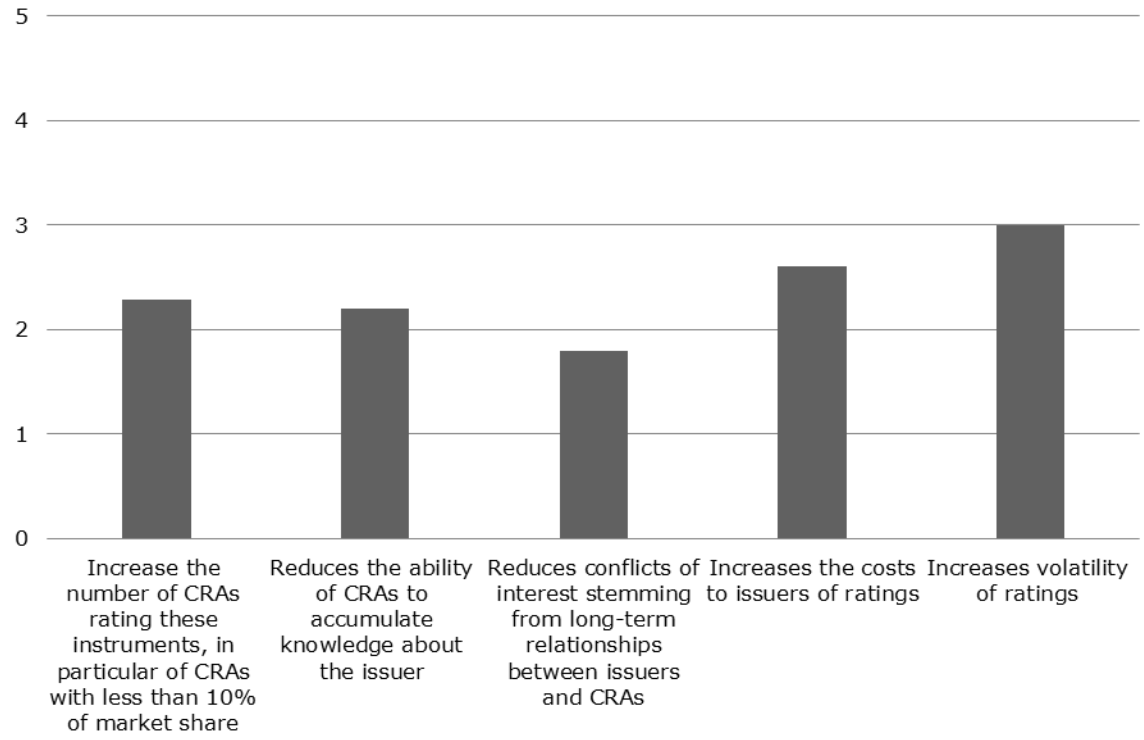
Figure 17: Changes in the market since 2010.



Survey question: "Have you noticed a change in any of the following factors in relation to corporate bonds and structured finance instruments since 2010?" *(Circle size is directly proportional to the number of CRAs providing a given response); (-1 = decreased, 0 = remained the same, 1 = increased)*

Number of reponses: 9 for Corporate Bonds, and 7 for Structured Finance Instruments.

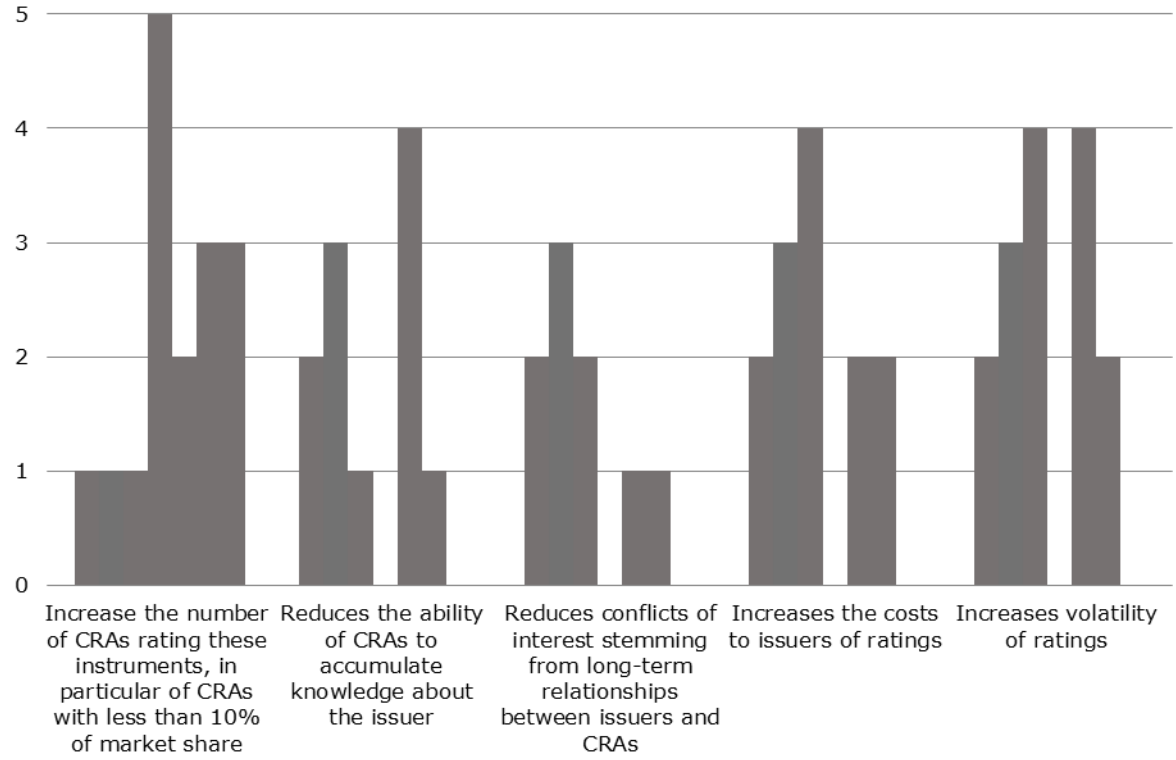
Figure 18: Market impact of the Rotation provision: average.



Survey question: "In your view, how will (has) the Rotation provision impacted the market for re-securitised products?" *(Average across respondents); (1 = not important; 5 = very important)*

Number of reponses: 7.

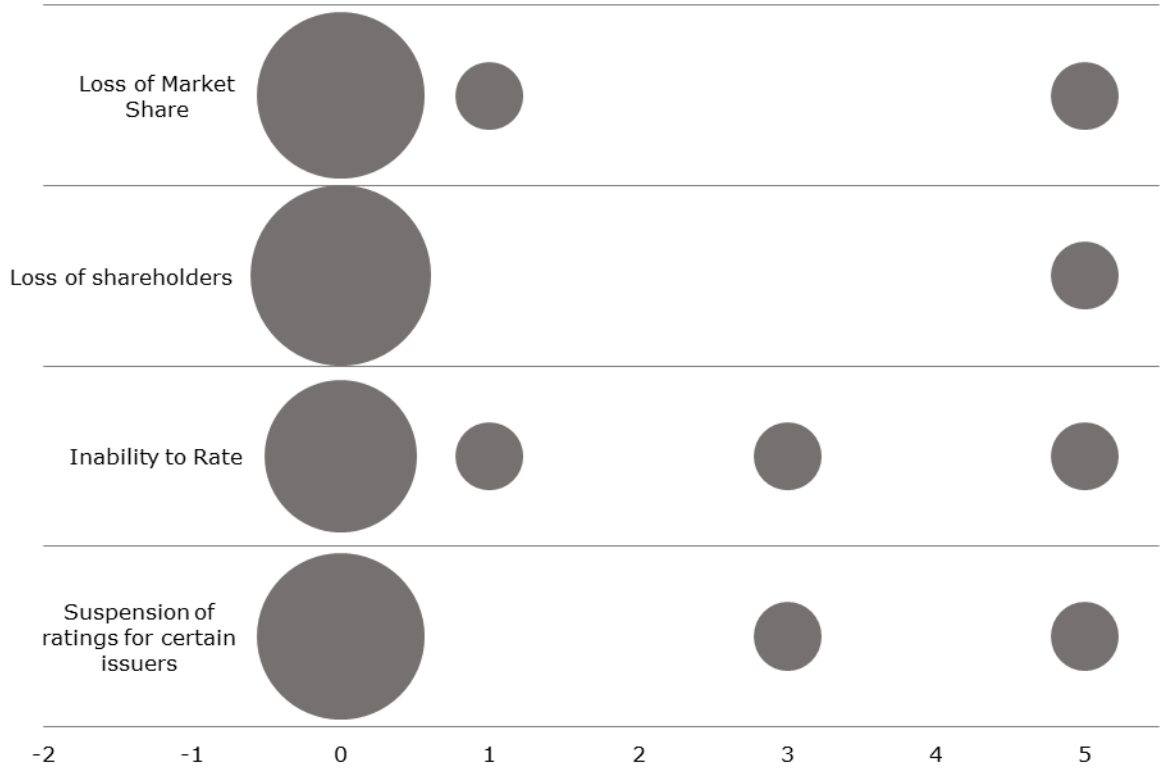
Figure 19: Market impact of the Rotation provision: breakdown.



Survey question: "In your view, how will (has) the Rotation provision impacted the market for re-securitised products?" *(1 = not important; 5 = very important)*

Number of reponses: 7.

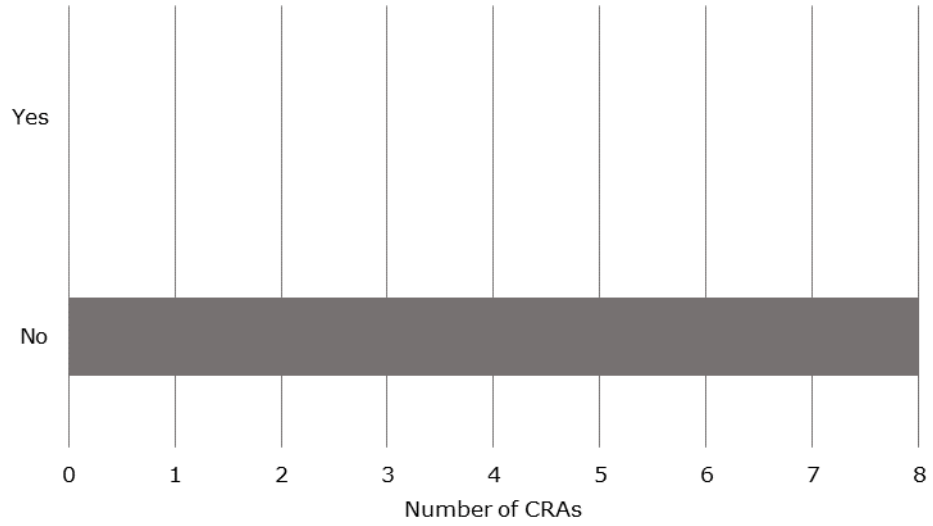
Figure 20: Negative impact of Article 6 on CRAs businesses.



Survey question: "Has Article 6 affected your business negatively?" *(Circle size is directly proportional to the number of CRAs providing a given response); (0 = did not occur; 1 = no impact; 5 = significant impact)*

Number of reponses: 8.

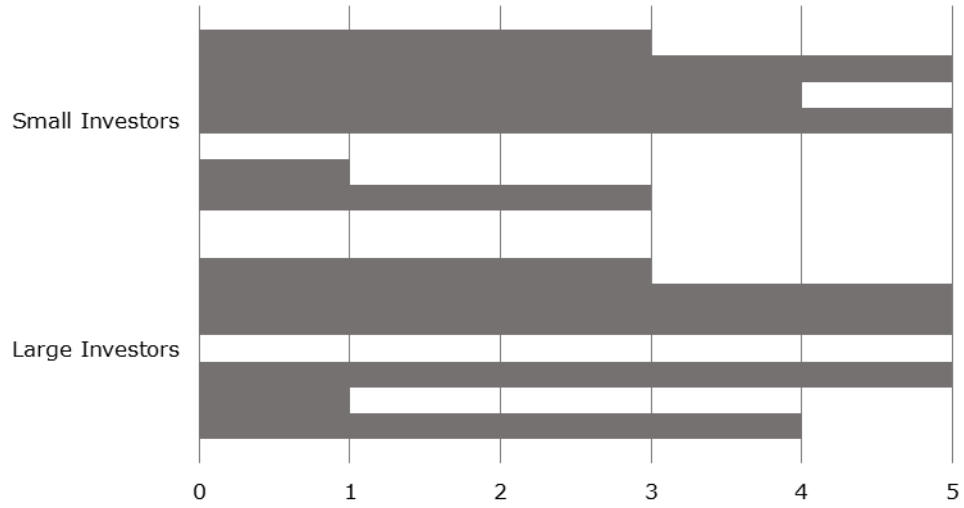
Figure 21: Has Article 6a had any impact on your business model?



Survey question: "Has Article 6a had any impact on your business model?"

Number of reponses: 8.

Figure 22: Effectiveness of the Disclosure provision in enhancing the ability of investors to make their own assessments: breakdown.

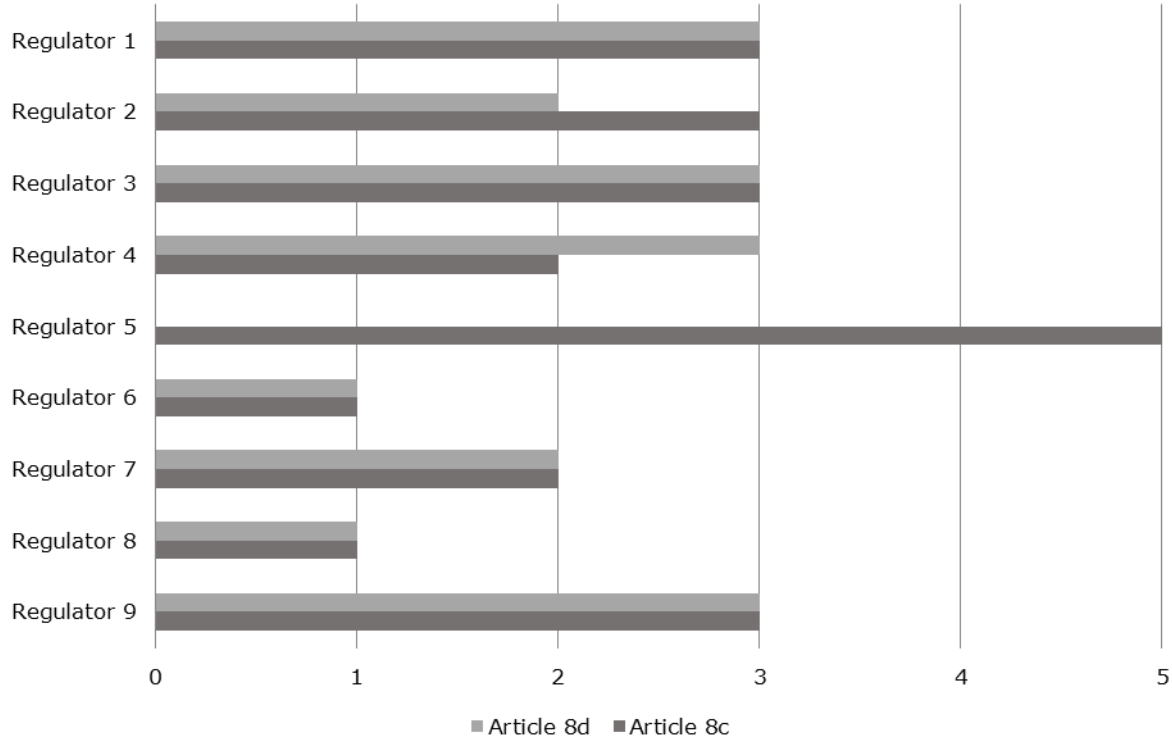


Survey question: "How effective will the provision be in enhancing the ability of investors to make their own informed assessments of the creditworthiness of these instruments?" *(1 = Provision will not be effective; 5 = Provision will be extremely effective.)*

Number of reponses: 7.

Regulators

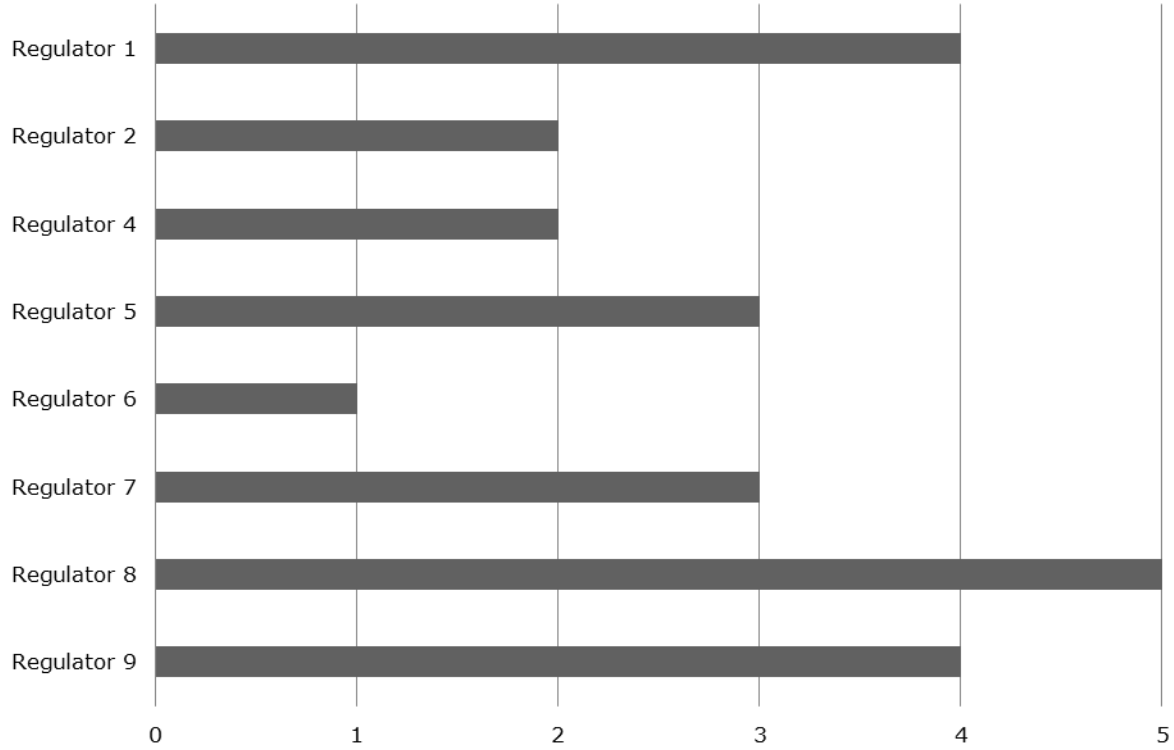
Figure 23: Effectiveness of Article 8c and Article 8d in promoting competition and reduction concentration in SFI: breakdown.



Survey question: "In your view, how effective will Articles 8c and 8d be in promoting competition and reducing concentration among CRAs in structured finance instruments (Article 8c) and all instruments (article 8d)?" *(1 = not effective; 5 = very effective).*

Number of reponses: 9.

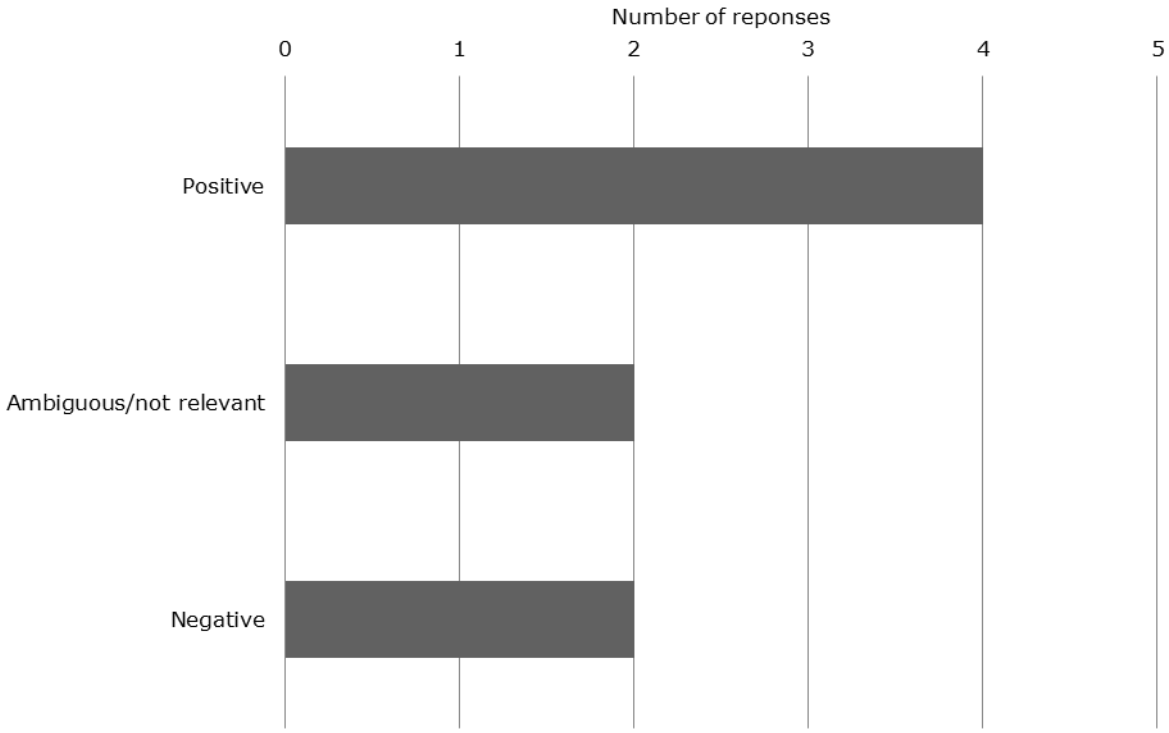
Figure 24: Effectiveness of Article 11a in promoting competition and reducing concentration in the CRA market.



Survey question: "How effective do you think Article will be in promoting competition and reducing concentration in the CRA market?" *(1 = not effective; 5 = very effective)*

Number of reponses: 8.

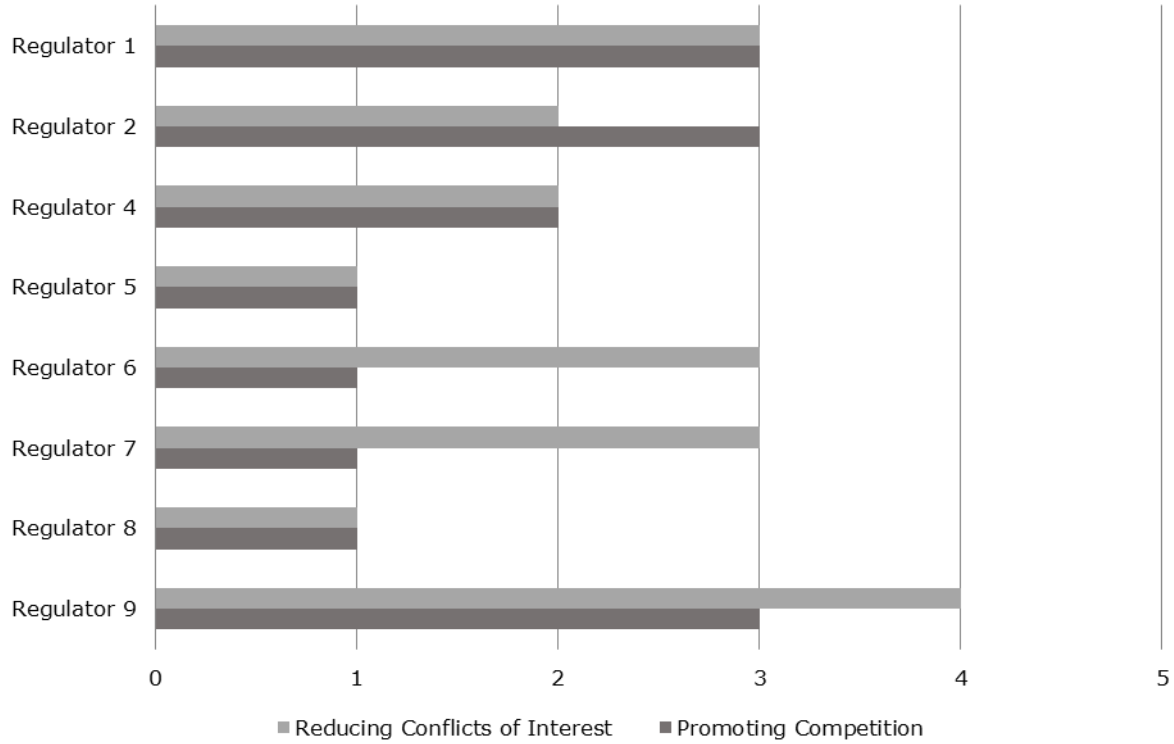
Figure 25: Effect of greater competition in the CRA market.



Survey question: "How would greater competition in the CRA market affect the quality of credit ratings and the overall functioning of the market?"

Number of reponses: 8.

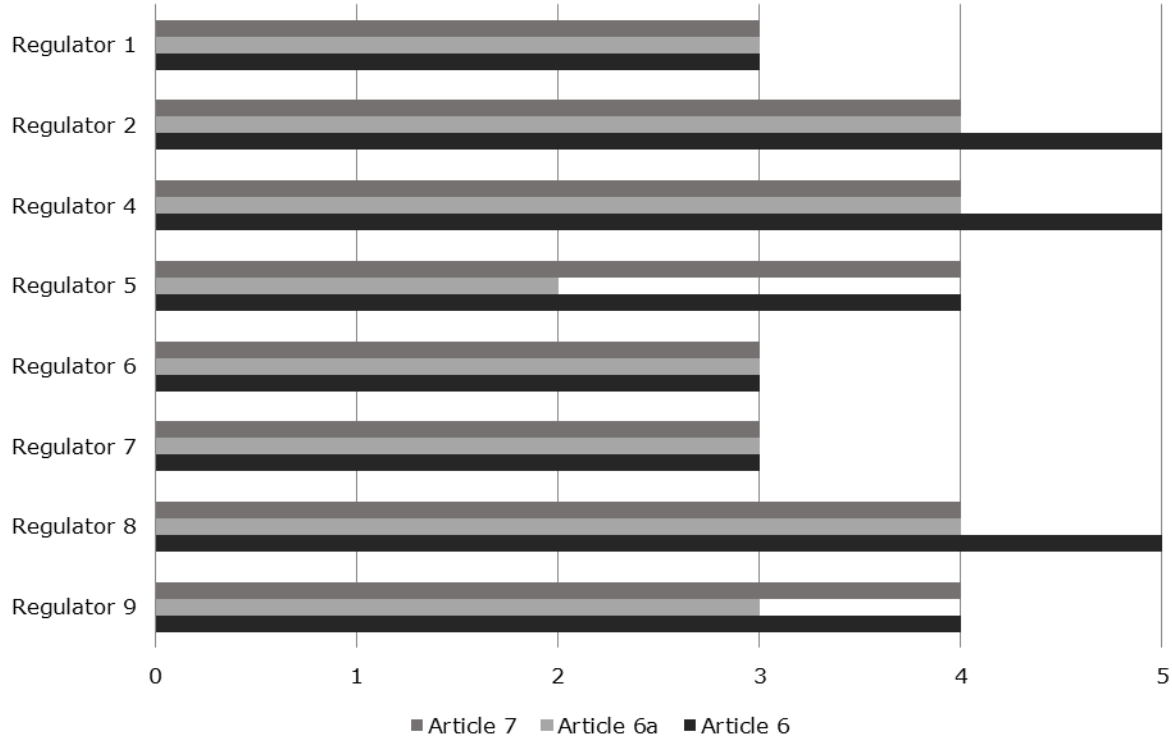
Figure 26: Effectiveness of the Rotation provision in promoting competition and reducing conflicts of interest in the CRA market.



Survey question: "In your view, how effective is this provision in meeting the objectives of promoting competition and reducing conflicts of interest in the CRA market?" *(1 = not effective; 5 = very effective)*

Number of reponses: 8.

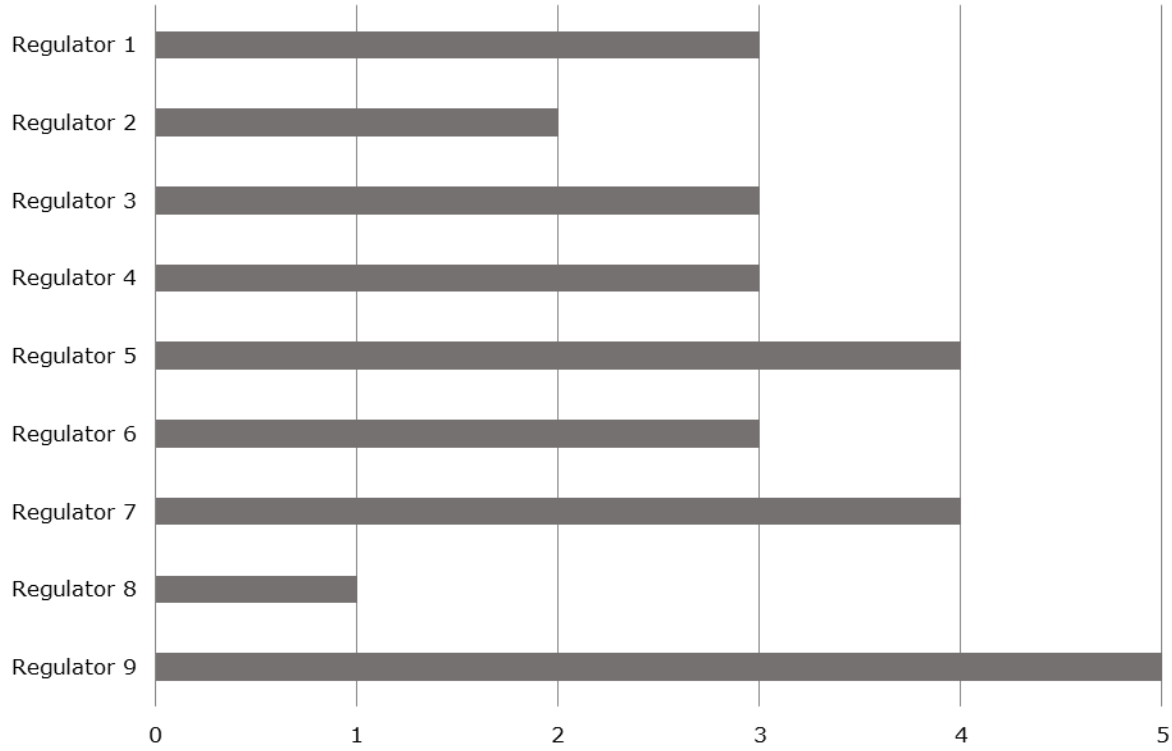
Figure 27: Effectiveness of the provisions aimed at reducing Conflicts of interest.



Survey question: "In your view, how effective are these provisions in meeting the objective of reducing conflicts of interest within CRAs?" *(1 = not effective; 5 = very effective)*

Number of reponses: 8.

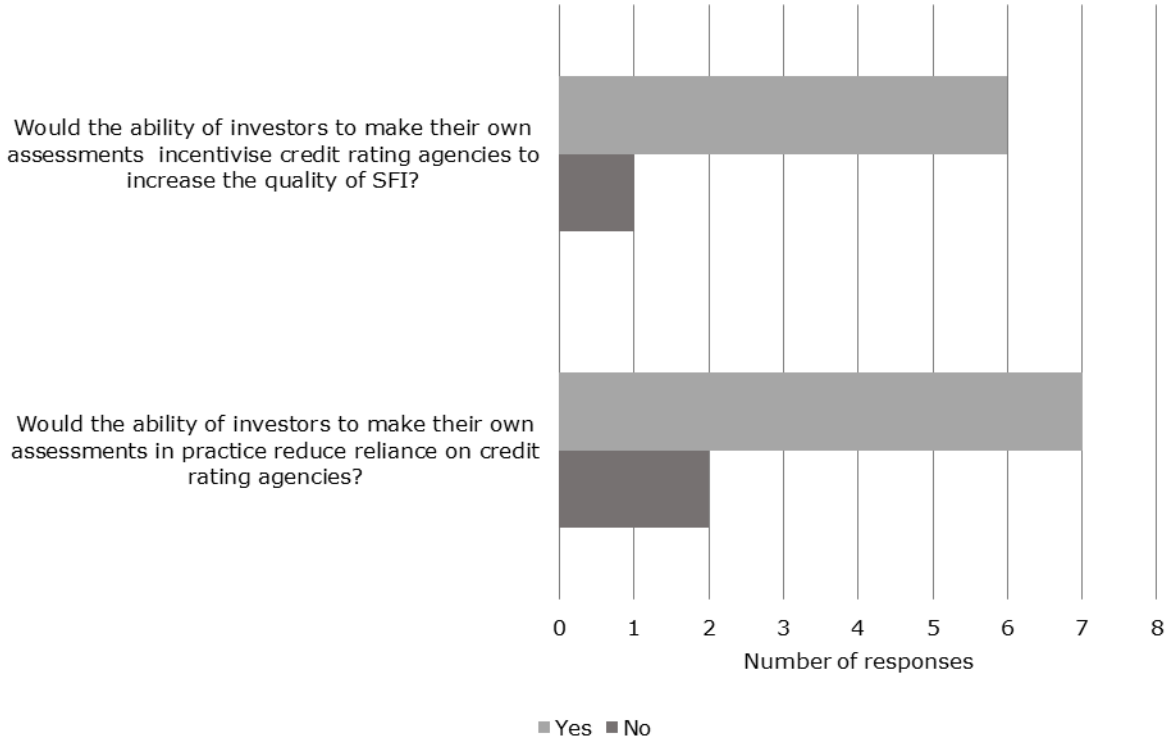
Figure 28: Effectiveness of Article 8b in enhancing the ability of investors to make their own assessments.



Survey question: "How effective will Article 8b of the CRA3 Regulation be in enhancing the ability of investors to make their own informed assessments of the creditworthiness of these instruments?"; *(1 = not effective; 5 = very effective)*

Number of reponses: 9.

Figure 29: Impact of the Disclosure provision on investors' ability to make own assessment and CRAs' incentives to increase the quality of SFI.

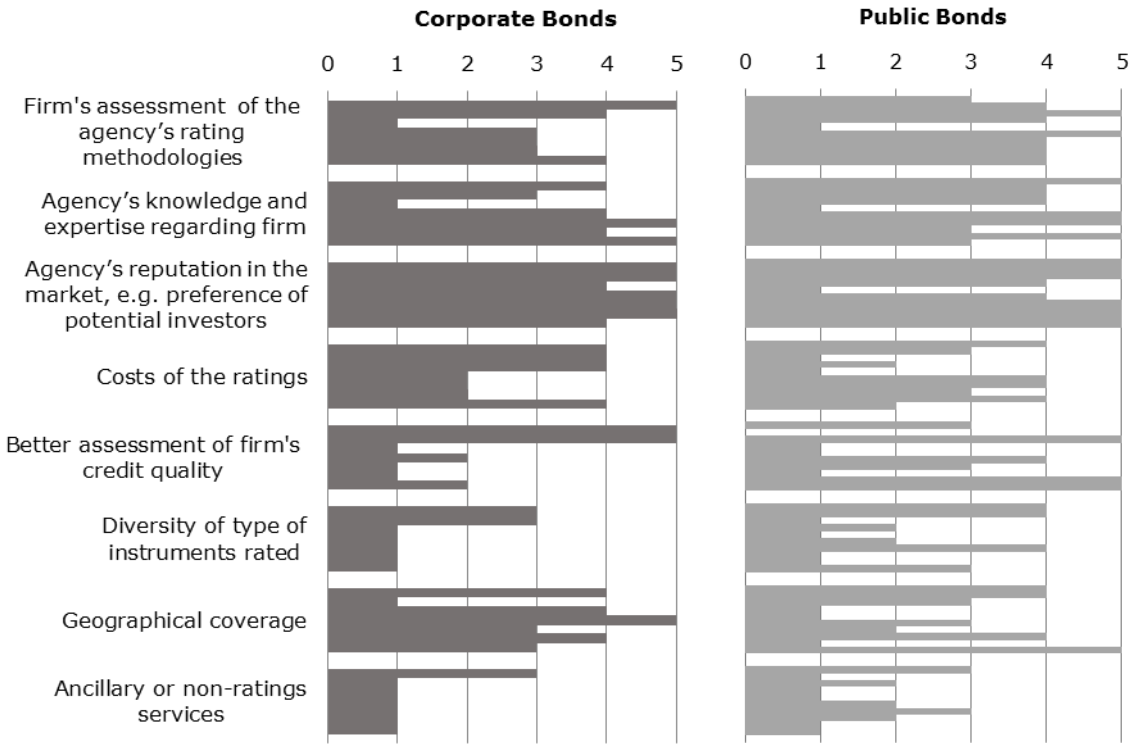


Survey questions: "Would the ability of investors to make their own assessments in practice reduce reliance on credit rating agencies?", and "Would the ability of investors to make their own assessments incentivise credit rating agencies to increase the quality of SFI?"

Number of reponses: 8 for the first question, and 9 for the second question.

Issuers

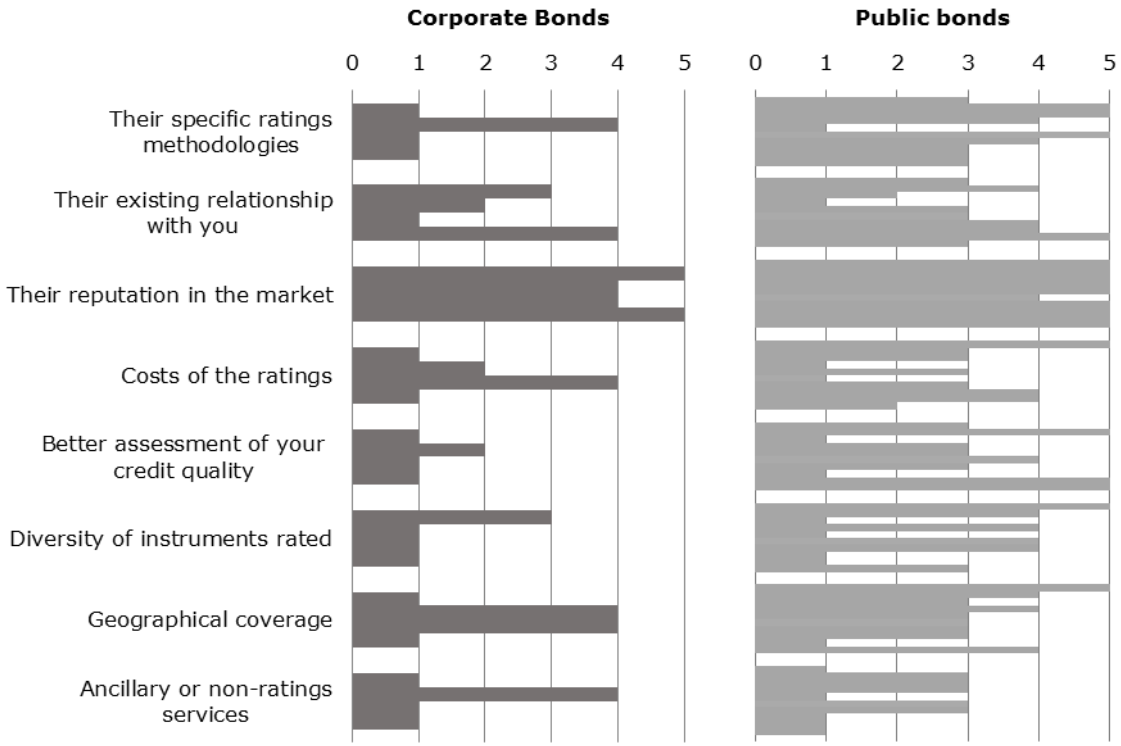
Figure 30: Most important factors the firm considers when selecting a CRA to rate its instruments.



Survey questions: "When selecting a CRA to rate your instruments, what are the most important factors your firm considers?", and "If you have ever solicited a rating from a CRA, what are the most important factors your organisation considers in making that selection?" *(1 = low importance; 5 = critical importance)*

Number of reponses: 7 for Corporate Bonds, and 10 for Public Bonds.

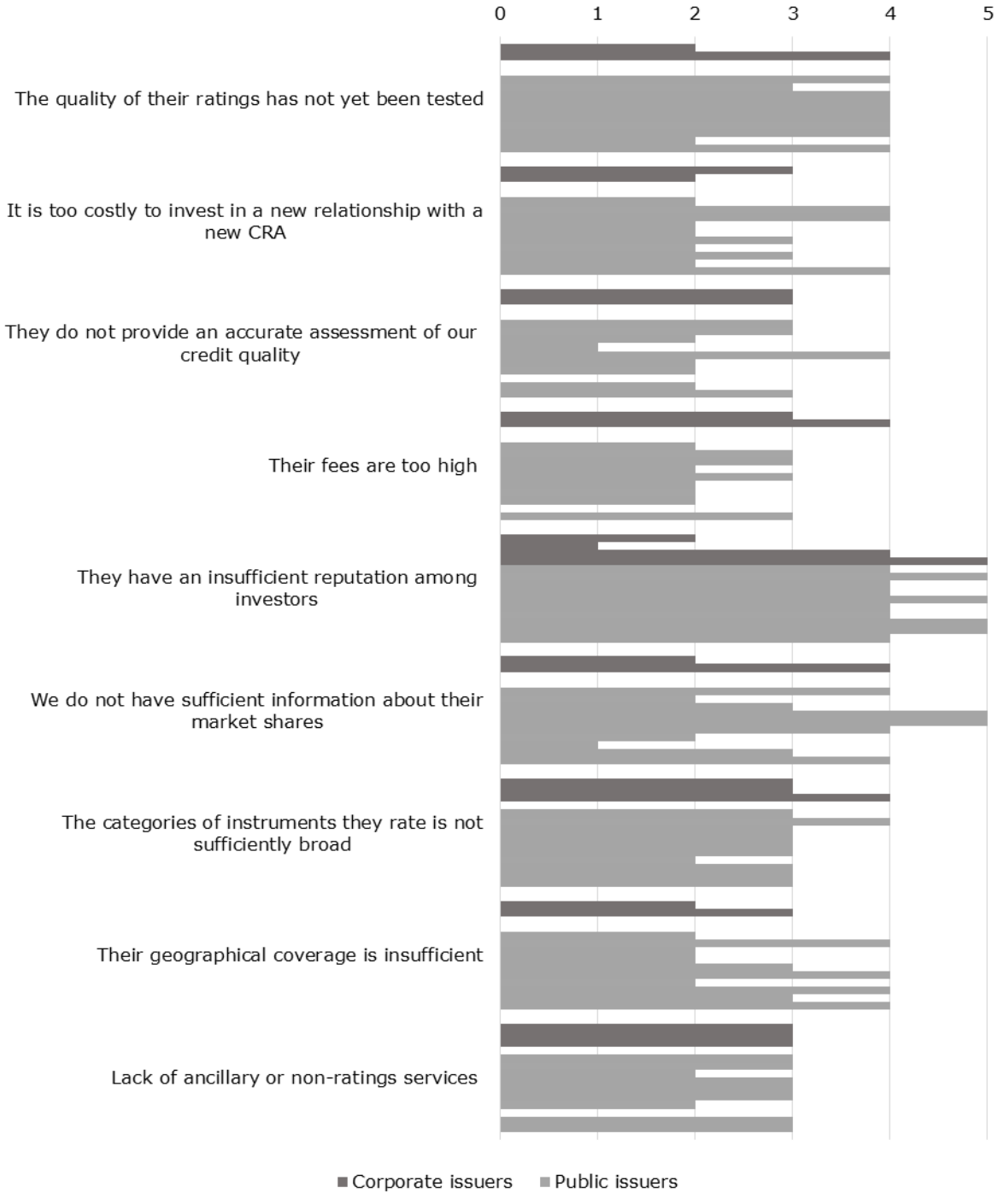
Figure 31: The most common factors by which CRAs compete to win issuers' business.



Survey questions: "In addition to the factors most important to *you*, what do you think are the most common factors by which CRAs compete to win your business?", and "In terms of ratings on your debt, i.e. including unsolicited ones, what do you think are the most common factors by which CRAs compete?" *(1 = very rare; 5 = very common)*

Number of reponses: 4 for Corporate Bonds, and 10 for Public Bonds.

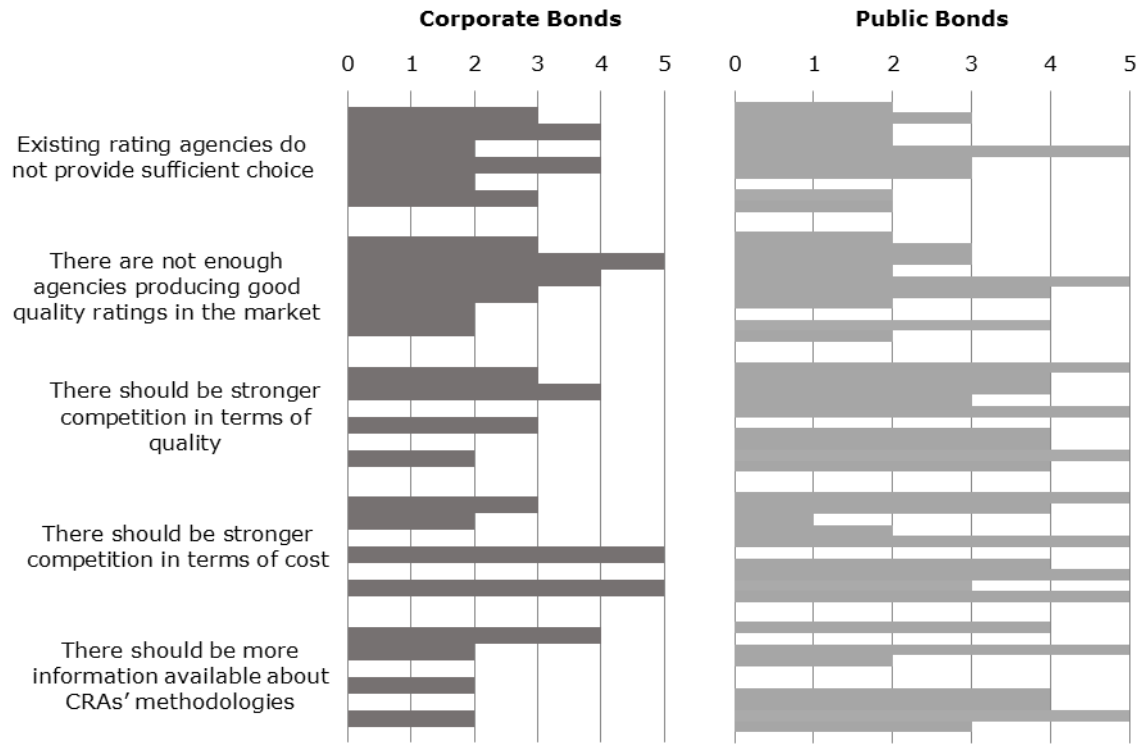
Figure 32: Views on smaller CRAs.



Survey questions: "What are your views of the smaller CRAs (defined here as those with less than 10 per cent market share) that you have had contact with?", and "What are your views of the smaller CRAs (defined here as those with less than 10 per cent market share) that you are familiar with?" *(1 = strongly disagree; 2 = disagree; 3 = neutral/small CRAs are too heterogeneous to comment; 4 = agree; 5 = strongly agree)*

Number of reponses: 5 from Corporate Issuers, and 10 from Public Issuers.

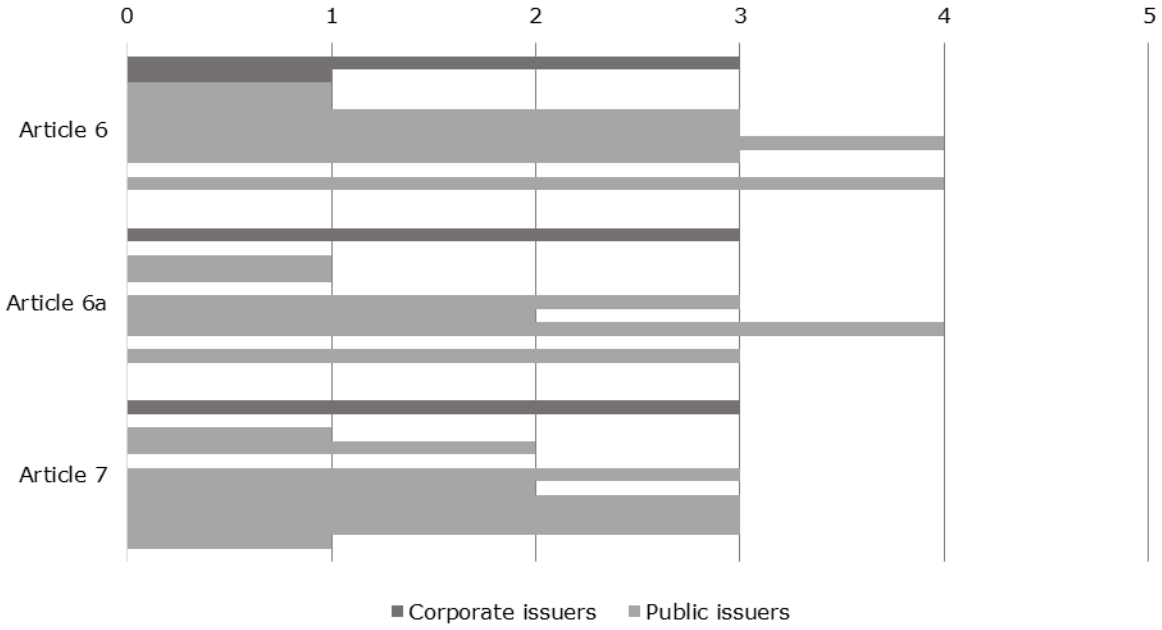
Figure 33: The level of competition in the CRA market.



Survey question: "Regarding the level of competition in the CRA market, please indicate the extent to which you agree with each of the following statements" *(1 = strongly disagree; 5 = strongly agree)*

Number of reponses: 6 for Corporate Bonds, and 10 for Public Bonds.

Figure 34: Impact of Article 6, Article 6a and Article 7 on independence and quality.

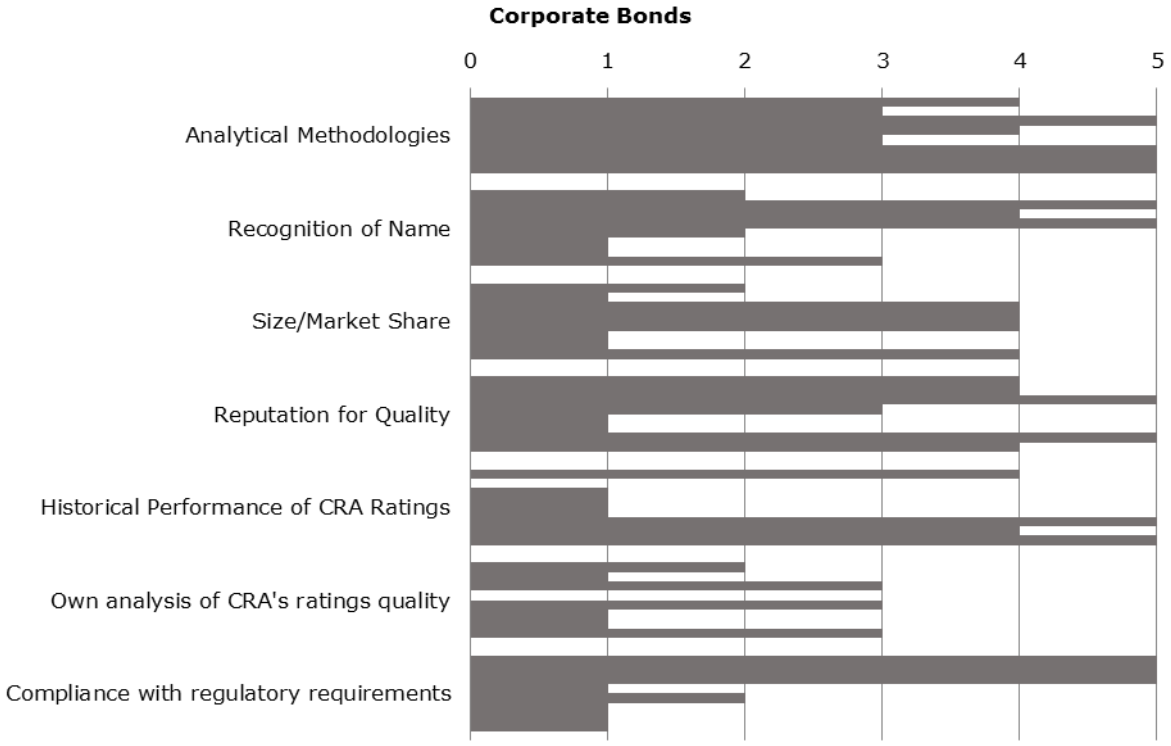


Survey questions: "Do you think Article 6 has improved the independence and quality of the rating processes of CRAs?", and "Do you think Article 6a has improved the quality of the ratings processes of CRAs?", and "Do you think Article 7 has improved the quality of the ratings processes of CRAs?" *(1 = No change; 5 = Yes, to a large extent)*

Number of reponses: 9 regarding Article 6, 7 regarding Article 6a, and 9 regarding Article 7.

Investors

Figure 35: Factors affecting the assessment of the value of a rating.



Survey question: "When considering the value of a rating from a CRA, what factors do you consider?" *(1 = unimportant; 5 = critically important.)*

Number of reponses: 8.

Figure 36: Types of information considered by investors.

Survey question: "Please indicate which of the following types of information you consider when deciding whether to invest in an instrument" *(1 = unimportant and 5 = critically important)*

Number of reponses: 6.

Bibliography

Association for Financial Markets in Europe (2015) "ESMA – call for evidence– competition, choice and conflicts of interest in the credit rating industry" 30 March.

Afonso et al. (2012) "Sovereign credit ratings and financial markets linkages: application to European data" Journal of International Money and Finance, No 31(3), p 606-638.

Avgouleas (2009) "The global financial crisis and the disclosure paradigm in European financial regulation: the case for reform" European Company and Financial Law Review, No 6(4), p 440-475.

Avgouleas (2009) "The global financial crisis, behavioural finance and financial regulation: in search of a new orthodoxy" Journal of Corporate Law Studies, No 9(1), p 23-59.

Bae et al. (Forthcoming) "Does increased competition affect credit ratings? A re-examination of the effect of Fitch's market share on credit ratings in the corporate bond market" *Journal of Financial and Quantitative Analysis*, Forthcoming.

Bai (2011) "The performance disclosures of credit rating agencies: are they effective reputational sanctions?" *University of Cincinnati Research Paper Series,* No 11(3).

Bar-Isaac (2005) "Imperfect competition and reputational commitment", *Economics Letters*, No 89(2), p 167-173.

Bar-Isaac and Shapiro (2011) "credit ratings accuracy and analyst incentives" *The American Economic Review*, Vol 101, No 3, p 120-124.

Bar-Isaac and Shapiro (2013) "Ratings quality over the business cycle" *Journal of Financial Economics*, No 108(1), p 62-78.

Baum et al. (2014) "Credit rating agency downgrades and the Eurozone sovereign debt crises" *Economic Institute.*

Becker and Milbourn (2011), "How did increased competition affect credit ratings?" *Journal of Financial Economics*, No 101(3), p 493-514.

Becker and Opp (2013) "Regulatory reform and risk-taking: Replacing ratings" *National Bureau of Economic Research*, No w19257.

Beyer et al. (2013) "CDOs – a critical phenomenon of the financial system in the crisis" *Institute for Comprehensive Analysis of Economy.*

Bhatia (2002) "Sovereign credit ratings methodology: an evaluation" *IMF Working Paper,* WP/02/170, p 38.

Bhattacharya et al. (2014) "Follow the money: investor trading around investor-paid rating changes". *Available at SSRN 2474391.*

Bolton et al. (2012) "The credit ratings game", *The Journal of Finance*, Vol LXVII, No 1.

Bongaerts et al. (2012) "Tiebreaker: certification and multiple credit ratings" *The Journal of Finance,* No 67(1), p 113-152.

Bongaerts (2014) "Alternatives for issuer-paid credit rating agencies" *ECB Working paper series*.

Bonsall et al. (2015) "The effectiveness of credit rating agency monitoring: evidence from asset securitisation" *The Accounting Review.*

Boumparis et al. (2014) "Has the crisis affected the behavior of the rating agencies? Panel Evidence from the Eurozone" *Economics Letters*, No 136, p 118-124.

Bouvard and Levy (2009) "Humouring both parties: a model of two-sided reputation" *Job Market Paper*.

Boylan (2011) "Credit rating agency reforms: Insight from the accounting profession" *The CPA Journal*, No 81(11), p 40.

Broto and Molina (2014) "Sovereign ratings and their asymmetric response to fundamentals".

Camanho et al. (2011) "Credit rating and competition" *AFA 2011 Denver Meetings Paper*.

Chakraborty et al. (2014) "The trust alternative" *SSRN Electronic Journal*, No 08/2014, DOI:10.2139/ssrn.2489471.

Chan et al. (2007) "Analysts' conflicts of interest and biases in earnings forecasts" J*ournal of Financial and Quantitative Analysis,* No 42(4), p 893-913.

Cohen and Manuszak (2013) "Ratings competition in the CMBS market" *Journal of Money, Credit and Banking* No 45(sl), p 93-119.

Cornaggia et al. (2015) "Revolving doors on Wall Street".

Coval et al. (2009) "The economics of structured finance" *The Journal of Economic Perspectives*, p 3-26. http://www.hbs.edu/faculty/Publication%20Files/09-060.pdf.

Covitz and Harrison (2003) "Testing conflicts of interest at bond rating agencies with market anticipation: evidence that reputation incentives dominate".

Crosignani and Shiren (2009) "The new rating regime for structured finance investment in Europe" The Journal of Structured Finance, No 15(3), p 52-55.

Deb and Pragyan (2009) "Credit rating agencies an alternative model" *London School of Economics Working Paper.*

Dittrich (2007) "The credit rating industry: competition and regulation" *Available at SSRN 991821.*

Doherty et al. (2012) "Information effect of entry into credit ratings market: the case of insurers' ratings" *Journal of Financial Economics*, No 106(2), p 308-330.

Efing and Hau (2015) "Structured debt ratings, evidence on conflicts of interest", *Journal of Financial Economics.*

ESMA (2014) "Credit rating agencies' 2014 market share calculations for the purposes of Article 8d of the CRA Regulation".

ESMA (2015) "Technical advice: competition, choice and conflicts of interest in the credit rating industry".

European Commission (2008) "Proposal for a regulation of the European Parliament and of the Council on Credit Rating Agencies: impact assessment".

European Commission (2011) "Impact assessment" Commission Staff Working Paper, p 28/193.

European Commission "New rules on credit rating agencies (CRAs) enter into force – frequently asked questions" Press release, Brussels, 18 June 2013. Retrieved: http://europa.eu/rapid/press-release_MEMO-13-571_en.htm

Fennell and Medvedev (2011) "An economic analysis of credit rating agency business models and ratings accuracy" *Financial Services Authority.*

Financial Stability Board (2014) "Thematic Review on FSB Principles for Reducing Reliance on CRA Ratings" Peer Review Report. Retrieved: http://www.financialstabilityboard.org/wp-content/uploads/r_140512.pdf.

Financial Times "Moody's in new conflict of interest claim" 30 July 2014 Source: http://www.ft.com/intl/cms/s/0/818171e0-175d-11e4-87c0-00144feabdc0.html#axzz3fsqdsGCI

Fong et al. (2014) "Do security analysts discipline credit rating agencies?" *AFA 2013 San Diego Meetings Paper.*

Griffin and Tang (2009) "Did subjectivity play a role in CDO credit ratings?" *The Journal of Finance*, No 67(4), p 1293-1328.

Griffin et al. (2013) "Rating shopping or catering? An examination of the responses to competitive pressure for CDO credit ratings" *The Review of Financial Studies*, No 26(9), p 2270-2310.

Hau et al. (2013) "Bank ratings: what determines their quality?" *Economic Policy, No* 28(74), p 289-333.

He et al. (2011) "Credit ratings and the evolution of the mortgage-backed securities market" *The American Economic Review*, No 101(3), p 131-135.

He et al. (2012) "Are all ratings created equal? The impact of issuer size on the pricing of mortgage-backed securities" *The Journal of Finance*, No 67(6), p 2097-2137.

Hirth (2014) "Credit rating dynamics and competition" *Journal of Banking & Finance*, No 49, p 100–112.

Hong et al. (2003) "Analysing the analysts: career concerns and biased earnings forecasts" *Journal of Finance,* p 313-351.

Hunt (2009) "Credit rating agencies and the worldwide credit crisis: the limits of reputation, the insufficiency of reform, and a proposal for improvement" *Columbia Business Law Review*, No (109).

IMF (2009) "Global Financial Stability Report", Chapter 2: *Restarting Securitization Markets: Policy Proposals and Pitfalls.*

Ismailescu and Kazemi (2010) "The reaction of emerging market credit default swap spreads to sovereign credit rating changes" *Journal of Banking & Finance*, No 34(12), p 2861-2873.

Kashyap and Kovrijnykh (2014) "Who should pay for credit ratings and how?" *National Bureau of Economic Research*, No w18923.

Kedia et al. (2013) "Did going public impair Moody's credit ratings?" *Journal of Financial Economics*, No 114(2), p 293-315.

Klein and Leffler (1981) "The role of market forces in assuring contractual performance" *The Journal of Political Economy*, No 89(4), p 615-641.

Kraft (2015) "Do rating agencies cater? Evidence from rating-based contracts" *Journal of Accounting and Economics*, No 59(2), p 264-283

Kuvikowa (2015) "Credit ratings and their information value: evidence from the recent financial crisis" *CERGE-EI Working Paper Series*, No 544.

Listokin and Taibleson (2010) "If you misrate, then you lose: improving credit rating accuracy through incentive compensation".

Mariano (2012) "Market power and reputational concerns in the ratings industry" *Journal of Banking & Finance*, No 36(6), p 1616-1626.

Mathis et al. (2009) "Rating the raters: are reputation concerns powerful enough to discipline rating agencies?" *Journal of Monetary Economics*, No 56(5), p 657-674.

Merryn et al. "United States: CRA3 – new requirements affect issuers, originators and sponsors" Last updated: July 31 2013 Retrieved: http://www.mondaq.com/unitedstates/x/255402/securitization+structured+finance/CRA3+New+Requirements+Affect+Issuers+Originators+And+Sponsors

Moellers and Niedorf (2014) "Regulation and liability of credit rating agencies – a more efficient European law?".

OECD (2011) "Hearing: competition and credit rating agencies".

Opp et al. (2012) "Rating agencies in the face of regulation" *Journal of Financial Economics*, No 108, p 46-61.

Pagano and Volpin (2010) "Rating agencies" *Economic Policy*, April, p 401–431.

Reuters (2014) "Singapore university seeks to break hold of credit-rating goliaths" http://www.reuters.com/article/2011/10/14/singapore-ratings-idUSL3E7LD1MQ20111014, accessed 17th September 2015.

Rhee (2014) "Incentivizing credit rating agencies under the issuer pay model through a mandatory compensation competition".

Sangiorgi and Spatt (2013) "Opacity, credit rating shopping and bias".

Securities and Exchange Commission "Removal from regulation FD of the exemption for credit rating agencies" [Release Nos. 33-9146; 34-63003; IC-29448; File No. S7-23-10] Retrieved: https://www.sec.gov/rules/final/2010/33-9146.pdf

Skreta and Veldkamp (2009) "Ratings shopping and asset complexity" *Journal of Monetary Economics*, No 56(5), p 678-695.

Sy (2009) "The systemic regulation of credit rating agencies and rated markets" *IMF Working Paper*, WP/09/129.

Trouillet (2015) "Credit rating agencies, shock and public expectations" Paris Dauphine University.

U.S Securities and Exchange Commission (2014) "Annual Report on Nationally Recognized Statistical Rating Organizations".

White (2010) "The credit rating agencies" *Journal of Economic Perspectives*, Vol 24, No 2, p 211-226.

EV-02-15-690-EN-N

DOI: 10.2874/625016
ISBN: 978-92-79-50594-2