

Financial Stability Paper No. 9 – March 2011

Whither the credit ratings industry?

Pragyan Deb, Mark Manning, Gareth Murphy, Adrian Penalver and Aron Toth



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P.Deb@lse.ac.uk

London School of Economics

mark.manning@bankofengland.co.uk

Financial Stability, Bank of England, Threadneedle Street, London, EC2R 8AH

gareth.murphy@centralbank.ie

Bank of England at the time of writing, currently Central Bank of Ireland

Adrian.penalver@hotmail.co.uk

Bank of England and Paris School of Economics

A.Toth@bath.ac.uk

Bank of England at the time of writing, currently University of Bath

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Whither the credit ratings industry?

Pragyan Deb, Mark Manning, Gareth Murphy, Adrian Penalver and Aron Toth

Credit rating agencies originally emerged as private companies offering investors considered opinions on the credit quality of borrowers. But while they continue to perform this function, their role has expanded over time. Credit ratings are now heavily hardwired into financial contracts, investment processes, and the regulatory framework. Rating agency decisions therefore have potentially systemic consequences. Many policymakers and commentators have argued that the crisis was exacerbated by a combination of faulty ratings methodologies, conflicts of interest, and overreliance on ratings by banks, investors and regulators. Credit rating agencies have therefore come under close scrutiny in recent years and new legislation has been passed in both the United States and Europe that brings them further within the regulatory perimeter. This paper describes the current role of rating agencies, examines the failures observed during the crisis, and considers the public policy response. It argues that rating agencies perform a valuable role, but that the common and often mechanistic reliance on ratings for information, certification and regulatory purposes lies beneath many of the problems observed during the crisis. The policy priority should therefore be to reduce the scope of such reliance, but to the extent that CRAs nevertheless retain a strong influence in financial markets there may also be a case to consider structural measures to directly tackle potential conflicts of interest in the way in which ratings are produced.

Introduction

Over the past 30 years, credit rating agencies (CRAs) have shifted from the margins of the financial system to centre stage. But as their profile and influence have grown, their actions have come under ever closer scrutiny. Recently, calls have intensified to bring them more firmly within the regulatory perimeter.

Two distinct issues emerged during the recent financial crisis.

First, the hardwiring of CRA ratings into regulation and a vast array of financial contracts amplified the market response to ratings events. This gave rise to cliff-edge effects and also potentially reduced the incentives of market participants to conduct their own risk assessment.

Second, some CRA ratings — notably, those on certain structured products — proved unreliable, reflecting both methodological issues and apparent conflicts of interest in the way in which ratings are produced. This exacerbated observed problems associated with hardwiring.

Rating agencies originally emerged to assist dispersed investors in monitoring issuers in the debt capital markets. By assigning an objective measure of credit quality to debt issues, based on independent analysis of issuer-supplied financial

information, CRAs can help to reduce information asymmetries between investors and borrowers. This can widen market participation and contribute to deeper, more liquid markets.

But over time, CRAs have also assumed a so-called 'certification' role, whereby ratings act as a credit-quality threshold in financial contracts. For instance, when referenced in investment mandates and performance benchmarks, ratings help investors to discipline their fund managers by restricting investments to assets with certain risk characteristics.

A variant of the certification role is the use of ratings within the regulatory framework. Almost 80 years ago, US bank regulators began to use ratings to monitor banks' securities portfolios. Over time, this regulatory role has broadened and deepened, affording ratings a 'semi-official' status and reducing financial firms' private incentives to carry out their own risk analysis.

Partnoy (1999) observes a paradox in the evolution of the credit ratings industry, noting that CRAs have become more prosperous in the face of an apparent decline in the information value of ratings. But the growth and 'prosperity' of CRAs reflect not only the quality of ratings judgements, but also how ratings are now used within the financial system: the

hardwiring of ratings is now so pervasive that market participants could not ignore them even if they did not consider them reliable.

This paper examines the economic rationale for CRAs in the financial system and considers how hardwiring, conflicts of interest and overreliance on ratings contributed to the problems observed during the crisis. It then turns to policy responses, reviewing key developments such as the publication of the FSB *Principles for Reducing Reliance on CRA Ratings* and enhancements to CRA regulation in the United States and Europe. Finally, the paper explores some specific policy options both to reduce hardwiring and to tackle conflicts of interest in the way ratings are produced.

1 The role of credit rating agencies in the financial system

This section discusses the role CRAs play in today's financial system, and presents some stylised facts on the structure and performance of the industry.

1.1 What ratings represent

A credit rating is an ordinal ranking of a borrower's, or a security's, credit quality, ascribed by a CRA on the basis of fundamental analysis of detailed financial and legal information provided by a security's issuer. Moody's, one of the three largest global CRAs, describes the purpose of its ratings in the following terms:

'...to provide investors with a simple system of gradation by which relative creditworthiness of securities may be noted...' (Moody's (2010)).

As a metric for credit quality, the largest CRAs use either probability of default (S&P, Fitch⁽¹⁾) or expected loss (Moody's). Their rankings reflect no information about other potentially relevant properties of the loss distribution.

Importantly, ratings are entirely forward looking and subjective, reflecting the CRA's assessment of a range of quantitative and qualitative indicators. In this regard, ratings differ from accounting ratios, which are contemporaneous or backward-looking indicators, prepared according to established principles and standards.

Ratings are also typically set on a 'through-the-cycle' basis; that is, they seek to avoid ratings volatility by capturing relative creditworthiness independent of the point in the financial cycle. And CRAs aim to meet both investors' and issuers' preference for stable ratings by applying 'smoothing' techniques (Cantor and Mann (2007)).

Notwithstanding that ratings constitute only an ordinal ranking of credit quality, the largest CRAs periodically publish

default histories, by rating. These permit an indicative mapping of ratings to default probabilities.

Table A shows observed one-year default rates, by rating, on corporate bonds rated by Standard & Poor's. The table suggests that the ordinal ranking of ratings is, on average, predictive of relative default probability.⁽²⁾ For bonds rated BBB or higher — so-called 'investment grade' bonds — observed default rates are approximately zero throughout the period under review. For sub-investment grade bonds — those rated BB or below — default rates are on average positive and increase as the rating declines. Default rates for these bonds are also cyclically volatile: indeed, the default rate on CCC/C bonds approached 50% in 2009.

Table A One-year corporate default rates, by rating category, 1981–2009

	AAA	AA	A	BBB	BB	B	CCC/C
Min.	0.0	0.0	0.0	0.00	0.0	0.2	0.0
Max.	0.0	0.4	0.4	1.0	4.2	13.8	48.4
Av. (wtd)	0.0	0.0	0.1	0.3	1.0	4.9	28.0
Median	0.0	0.0	0.0	0.2	0.8	3.9	23.1
Std. Dev.	0.0	0.1	0.1	0.3	1.1	3.3	12.9

Source: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

1.2 The role of CRAs in information and delegated monitoring

Rating agencies initially emerged to mitigate a fundamental adverse-selection problem between debt issuers and investors (see Box 1).

Adverse selection arises because borrowers' managers possess more accurate information about the true state of their company than lenders. Particularly since a company will generally have an option to finance projects internally through retained earnings, any attempt to source external financing from capital markets may face a standard 'lemons problem' (Akerlof (1970)).

In these circumstances, the capital market may cease to function. A risk-averse investor may stay out of the market entirely, or invest only in return for a very high risk premium. But at such risk premia, borrowers may not be prepared to issue new debt.⁽³⁾ To illustrate the problem, consider an environment in which the proportion of informed investors is determined by the cost of gathering information and the potential profit an informed investor can make relative to an

(1) Fitch actually uses probability of default for its issuer ratings and expected loss for its ratings of individual securities issues.

(2) International Monetary Fund (IMF) (2010) demonstrates empirically that ratings events quite accurately rank default risk, at least among sovereigns. Elsewhere in the literature, the predictive power of some ratings methodologies is called into question (for example, Robbe and Mahieu (2005)).

(3) Indeed, this may give informed banks a competitive advantage in the provision of funds (see Gorton and Winton (2002)).

Box 1 Early history of the credit rating industry

Partnoy (1999) describes the origins of the credit rating industry. He traces these back to Lewis Tappan, a 19th century businessman in the silk industry. Tappan kept detailed credit information about his customers, which proved valuable to other merchants when the silk business ran into difficulties. Recognising a potential business opportunity, in 1841 Tappan formed the first credit rating agency: The Mercantile Agency.

Over time, other rating companies were formed, most notably to rate investments in stocks and bonds. By 1890, Poor's Publishing Company (Standard & Poor's predecessor) had begun to publish *Poor's Manual*, an analysis of various types of investments, primarily railway bonds. And by the early 20th century, several analysts were producing railway industry reports, comprising extensive operating and financial data on individual companies.

A certain John Moody collected these reports and saw a market for a synthesis of this information. In 1909, he published his first rating scheme in a book called *Analysis of Railroad Investments*. It took some time for the concept of a

rating scheme to take hold, but by the 1920s a number of other companies had begun to provide a similar service. These included Poor's, Standard Statistics Company and Fitch Publishing Company. All these companies charged investors a subscription fee for this rating information.

The ratings industry performed poorly in the wake of the 1929 stock market crash, failing to predict sharp falls in bond values. Nevertheless, bank regulators started using ratings in the 1930s to gauge the credit quality of regulated banks' securities portfolios (see Baklanova (2009)). Over time, the role of CRA ratings in regulation has broadened and deepened. Indeed, this role was formalised in the United States in the mid-1970s, when the Securities Exchange Commission (SEC) established a recognition regime for CRAs and began using ratings in making its regulatory determinations (see Section 1.4).

Despite the deepening role of ratings, the number of rated issuers increased relatively slowly until the 1980s. Thereafter, however, the volume of rated bonds rose sharply, the number of corporate issuers rated by Standard & Poor's increasing from 1,386 in 1981, to 2,120 in 1990, and to 5,860 in 2009 as debt markets expanded.

uninformed investor (Grossman and Stiglitz (1980)). If information is costly to obtain and there is limited opportunity to profit from temporary mispricing, then there may be little incentive to become informed.⁽¹⁾ As a result, the price would be an unreliable indicator of value to an uninformed investor and an issuer would have to pay a high risk premium to issue into the market.

A trusted and independent third party — a CRA — can help to reduce this information friction. While it may not be worth an individual investor paying the monitoring cost to become informed about a business, a pool of investors may be willing to pay collectively. And even if each individual investor was willing to pay the monitoring cost, there would still be economies of scale from delegating the task to a single monitor.

Equally, in this case, it may also be worth the issuer channelling private information to a CRA, allowing it to become 'super' informed (ie more informed than an arms-length informed investor). By issuing a public signal about the creditworthiness of the business on the basis of this information, the market as a whole would become better informed and the risk premium on issuing debt would fall.

Boot *et al* (2006) emphasise another economically valuable role of ratings that arises from the monitoring carried out by CRAs in support of their informational role. In particular, the

authors demonstrate that by signalling a potential future rating downgrade via a 'negative outlook' or 'credit watch' announcement, a CRA encourages and incentivises an issuer to take certain actions that might ultimately serve to improve its creditworthiness. To the extent that investors respond to ratings changes by adjusting their portfolios, such an announcement carries the implicit threat that failure to act will reduce its access to funding in future.

1.3 The certification role of CRA ratings

In addition to the informational and monitoring role of ratings described above, the literature also emphasises the so-called 'certification' role of ratings (see IMF (2010)). This refers to the use of CRA ratings to distinguish between securities with different risk characteristics, and to specify terms and conditions in financial contracts.

The availability of CRA ratings as convenient composite measures of credit quality has led to a broadening and deepening of this role over time. **Table B** sets out a number of areas in which CRA ratings are now 'hardwired' into contracts and market practices.

(1) For example, if the value of outstanding mispriced assets that an investor can buy is small, the loss arising from an unexpectedly severe downgrade may still be less than the cost of in-house credit analysis and monitoring. Even where positions may be sufficiently large to warrant internal assessment, a CRA rating provides a potentially useful benchmark.

Table B Examples of the certification role of CRA ratings

Purpose	Comment
Investment mandates/ Policies/Criteria for index inclusion	Ratings are often hardwired into the investment mandates of life insurers, pension funds, mutual funds, etc. They also determine eligibility criteria for inclusion in bond indices that track a certain segment of the credit market (eg investment-grade bonds; sub-investment grade bonds) and act as performance benchmarks for fund managers.
Access to capital markets	The cost and availability of funding in capital markets is often linked directly to a borrower's credit rating. Indeed, access to some financial markets is restricted to issuers with ratings above a particular threshold. For example, access to wholesale funding markets is typically restricted to entities with a sufficiently high short-term credit rating.
Secured funding and repo markets	Similarly, secured funding and repo markets rely heavily on CRA ratings. Gorton and Metrick (2010) observe that, pre-crisis, banks' increasing demand for secured funding from the parallel banking system (eg money market mutual funds, structured investment vehicles, CDOs) led to a commensurate increase in the demand for high-quality collateral, typically identified by its credit rating.
Collateral agreements and loan contracts	Many financial contracts include references to credit ratings. For instance, the Credit Support Annex (CSA) of a standard International Swaps and Derivatives Association (ISDA) Master Agreement in the OTC derivatives market specifies the terms on which collateral calls will be made. CSAs often state that additional collateral will be called in the event of a credit rating downgrade.

In their certification role, ratings can help to resolve moral hazard problems between individual investors (principals) and the institutions (agents) they appoint to manage their portfolios. Since the incentives of a professional fund manager may not be fully aligned with those of the end-investor, it may be necessary to set clear parameters around the manager's investment decisions.⁽¹⁾ Ratings may offer a convenient measure of risk appetite for this purpose.

For example, a fund's trustees might set an investment mandate restricted to investment-grade securities. Or they might gauge performance relative to the return on a benchmark bundle of investment-grade bonds. In either case, the principal essentially delegates the job of monitoring the agent's actions to the CRA.

Ratings may also be used for other forms of monitoring and risk management; eg loan covenants and collateral agreements. For instance, linking bond covenants explicitly to ratings may facilitate collective action to trigger a debt restructuring in the event of financial distress. In the absence of delegated monitoring, a failing business could continue for a prolonged period before eventual default, reducing recovery values for creditors.

A similar argument may be made with respect to margining and collateral calls. There may be a first-mover disadvantage in requesting additional collateral: in a competitive market, the party called might terminate the relationship in favour of a counterparty that offers more lenient collateral terms. In this sense, hardwiring ratings into the system allows a neutral third party to trigger decisive action.

Clearly, the negative counterpart to decisive action is a so-called 'cliff effect': the decision by a rating agency to downgrade an issuer from investment to sub-investment grade can trigger discontinuous increases in the cost of funding which can drive the borrower further into difficulty. Of course, ratings-triggered responses only pose a systemic threat if they either amplify shocks or give rise to greater uncertainty than would have been the case in the event of a more continuous response to emerging information. Discontinuous cliff effects are considered further in Section 2.

1.4 Hardwiring of ratings into the regulatory framework

A variant of the certification role is the use of CRA ratings for regulatory purposes.

In a stock-take of the use of ratings in member authorities' legislation, regulation and supervisory policies, the Joint Forum (2009) identified five main uses: determining capital requirements; identifying or classifying assets (eg eligible investments for particular types of funds); evaluating the credit risk associated with collateral underpinning securitisation issues or covered bond offerings; establishing disclosure requirements; and determining prospectus eligibility.

Perhaps the most pervasive use of CRA ratings in regulation is in determining net or regulatory capital requirements for banks, securities firms and insurance companies. A major innovation of Basel II was to allow (subject to supervisory approval) banks to supply internal model-generated estimates of credit risk for banking book exposures. But the Accord relies on external ratings in several areas. In particular, ratings produced by recognised external credit assessment institutions (ECAIs) are used in respect of those exposures for which a bank has not received internal model approval (the so-called 'standardised' approach), and for all rated securitisation exposures held in the banking book.⁽²⁾

In the United States, the SEC has since the mid-1970s operated a recognition regime for CRAs. Ratings produced by recognised CRAs — so-called Nationally Recognised Statistical Rating Organisations (NRSROs) — are then eligible for use in regulatory capital determinations (see Box 2).

(1) For instance, the fund manager may seek to maximise upside returns, irrespective of risk, while the investor may rather maximise returns for a given, lower, level of risk. This may reflect how the fund manager is remunerated or how its performance is evaluated.

(2) The Basel framework establishes the principles applied by national regulators in recognising an ECAI for the determination of capital charges. The recognition may be made on a limited basis, eg by types of claim or by jurisdiction. The recognition process should be made public to avoid unnecessary barriers to entry. Agencies must satisfy six criteria in order to be recognised: objectivity; independence; international access; transparency/disclosure; resources; and credibility. These criteria have recently been strengthened under Basel III (see Basel Committee on Banking Supervision (2010)).

Box 2

The US NRSRO regime

The SEC first formally incorporated ratings into regulatory determinations in 1975 when it granted capital relief under the uniform net capital rule to broker-dealers' proprietary positions in instruments rated as investment grade by at least two NRSROs.

Over time, the NRSRO concept and the use of NRSRO ratings was expanded to other aspects of the SEC's regulatory framework. In light of this evolution, in the early 1990s, the SEC consulted on the NRSRO concept and the way in which ratings were used in SEC regulation. An in-house recognition process, with assessment against unpublished rules, was deemed inadequate given the increasing importance of NRSRO status. Therefore, following the consultation, in 1997, the SEC proposed a formal definition of the term 'NRSRO' and alternate procedures for the designation of NRSROs.

Ultimately, the rule proposal was not finalised, but work continued on the role and function of CRAs in the securities market (SEC (2003)). This investigation was followed by new regulation in the form of the Rating Agency Reform Act of 2006 which led to a formal recognition process for NRSROs. Rules established by the SEC to implement the Act require that NRSROs make a formal application, including the public

release of information to assist interested parties in assessing the credibility of the CRA. NRSROs must also implement internal governance processes to manage conflicts of interest (SEC (2007)).

Further amendments to rules on oversight of NRSROs were made in 2009, with the purpose of improving 'ratings quality for the protection of investors and in the public interest by fostering accountability, transparency and competition in the credit rating industry' (SEC (2009)). These amendments are discussed further in Section 3.

Ten CRAs are currently registered with the SEC as NRSROs, several of which are either regional or product specialists (Table 1).

Table 1 US NRSROs

Name	Primary focus
Standard & Poor's Ratings Services	Global
Moody's Investor Service, Inc.	Global
Fitch Inc.	Global
Dominion Bond Rating Service (DBRS) Ltd	Canada
A.M. Best Company, Inc.	Insurance
Egan-Jones Rating Company	US
Japan Credit Rating Agency, Ltd	Japan
LACE Financial Corp.	Financial
Rating and Investment Information, Inc.	Japan
Realpoint LLC	Structured finance

1.5 Current structure of the credit rating industry

CRAs may operate on a national, regional or global basis, with some specialising in rating particular corporate sectors. The industry is highly concentrated, with revenues of the three largest global CRAs — Standard & Poor's (S&P), Moody's and Fitch — together accounting for more than 90% of total revenues.⁽¹⁾

This in part reflects considerable advantages to scale. In particular, a global CRA with a widely recognised brand and an established reputation is more likely to be appointed by issuers and referenced in financial contracts. Indeed, when reputation plays an important role, scale often serves as a signalling device. A small and little known institution may not be considered a credible basis for investor decisions or contractual triggers. This may apply in respect of both public and private sector uses of ratings. A similar mechanism is at work in the legal and accountancy professions.

There are also economies of scale and scope in the provision of ratings. For example, knowledge of the risk factors in a particular sector can be used to rate all the issuers in the industry. And methods used to rate one asset class can form the basis for the development of methods to be applied in

another. Of course, the mistakes uncovered in the rating of structured credit instruments during the crisis highlight the limits to the transfer of knowledge and resources to new products (see Section 2.1).

Incumbent CRAs have traditionally been able to take advantage of economies of scale in ways that may inhibit entry for smaller competitors. For instance, they can afford to provide unsolicited ratings (ie where the issuer has not requested a rating) which may discourage new entrants from trying to build up a niche position. Comprehensive coverage reinforces the existing rating agencies' role as a benchmark. Furthermore, since unsolicited ratings are based on more limited information, they tend to be less positive than solicited ratings (Poon and Firth (2005)).⁽²⁾ This may encourage an issuer to solicit a rating from the provider instead. Section 3 discusses recent regulatory action in the United States that seeks to limit the scope to exercise market power in this way.

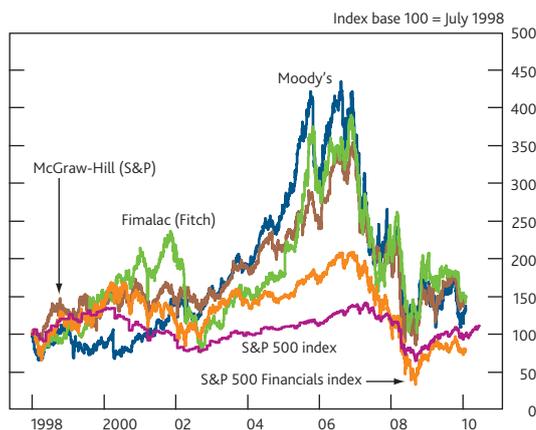
(1) This estimate of revenue share is drawn from Dittrich (2007, page 17), based on data from 2005.

(2) This may reflect self-selection (ie only those with positive private information subsequently seek a rating), but it may equally reflect a commercial tactic on the part of incumbent CRAs.

Dittrich (2007) considers the strategies of incumbents when faced with the threat of competition. The author observes that where a new entrant is able to establish a good reputation, it is likely that it will be acquired by or merge with an incumbent. Market power may therefore perpetuate the incumbency of a poorly performing CRA (see also Jeon and Lovo (2010)). This is more likely where the performance of a CRA is difficult to determine; ie where bad luck and bad judgement, or bias, cannot easily be distinguished.

The credit rating industry became increasingly profitable over the period 2002–07, with shares of the three largest CRAs strongly outperforming financial companies (Chart 1), and indeed the market in general. There was something of a reversal after 2007, coincident with concerns over poor ratings performance during the crisis, and the sharp decline in issuance of structured finance notes.

Chart 1 Comparison of CRAs' share price performance with market indices

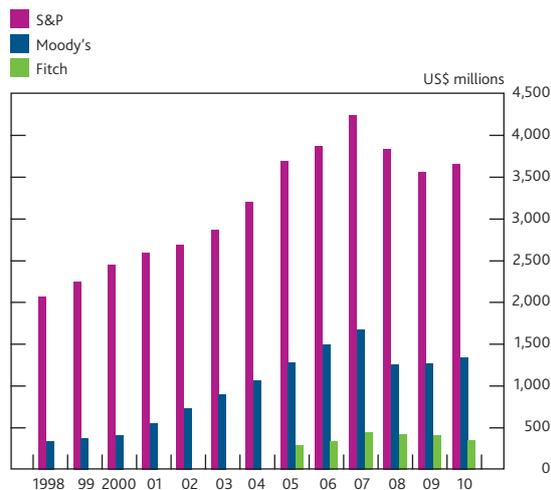


Sources: Capital IQ and Thomson Reuters Datastream.

CRA revenues are primarily ratings fees collected from bond issuers. That is, notwithstanding that the principal users of ratings are investors, most CRAs, including the three largest, operate a business model in which the issuer pays. This model was established in the 1970s and 1980s, prior to which revenues were earned from investor subscriptions. One trigger for the change in business model seems to have been evidence of free-riding, as ratings increasingly became public information (Hill (2004)).

The combined revenue from ratings of the three largest CRAs — S&P, Moody's and Fitch — stood at US\$8.9 billion in 2008 and combined gross profits were US\$5.5 billion (Chart 2). The growth in CRA revenues — and profits — in the years to 2007 is highly correlated with the rapid expansion of the market for structured credit. Indeed, according to the Committee on the Global Financial System (CGFS) (2005), by 2003, structured finance accounted for 40%–50% of the revenues of the three main ratings agencies in 2003.

Chart 2 Comparison of CRAs' gross profits



Source: Capital IQ.

2 Criticisms of credit rating agencies during the crisis

Even before the financial crisis, CRAs were already coming under close scrutiny. Public authorities were acutely aware of the pivotal — and deepening — role played by rating agencies in the financial system and had observed several apparent failings. In particular, rating agencies had been criticised for their slowness to respond to the strains that ultimately gave rise to the Asian crisis in 1997 and 1998 (Ferri and Stiglitz (1999)), and the high-profile corporate failures of Enron, WorldCom and Global Crossing.⁽¹⁾

The official community had also begun to examine closely the central role assumed by rating agencies in the rapidly growing market for structured finance. CGFS (2005) highlighted the increasing importance of this market for the main rating agencies and drew out some of the methodological challenges associated with rating structured finance products. The report also discussed potential conflicts of interest arising from the agencies' provision of 'advice' on deal structures. Many of the issues identified in the CGFS report came to the fore during the crisis. Indeed, several policy reports published during and following the crisis — eg the Financial Stability Forum (2008); the Issing Committee (2009); the Turner Review (2009); and De Larosière Group (2009) — suggest that the role played by rating agencies in the structured finance market may have exacerbated the crisis.

Recent policy debate has centred largely on the reliability of ratings, cliff effects, and (related) overreliance on ratings by users. These reflect several fundamental issues both with the

(1) For instance, Enron was still rated investment grade until four days before it declared bankruptcy. Similarly, both WorldCom and Global Crossing were still rated investment grade not long before their respective failures. See Hill (2004) and Danvers and Billings (2004).

way in which ratings are produced and the way in which they are used in the financial system. These are set out in **Table C** and discussed in turn in the remainder of this section.

Table C CRA-related policy concerns arising during the crisis

Underlying problem	Policy concern
Methodological issues and model risk	Unreliable ratings
Conflicts of interest and 'ratings shopping'	Bias in ratings
Hardwiring and mechanistic reliance	
Lack of diversity in ratings	Cliff effects, overreliance and adverse incentives
Misperception of what ratings represent	

2.1 Methodological issues and model risk

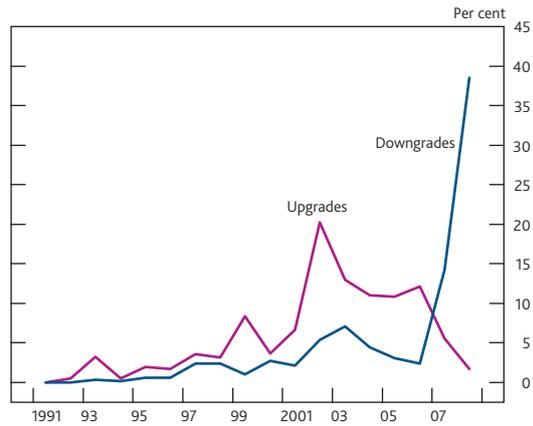
Ratings are typically relatively stable, at least for investment-grade corporate bonds. On average, between 1981 and 2009, 88% of corporate bonds rated AAA by Standard & Poor's at the start of the year remained AAA at the end of the year. Similar stability is observed in AA, A and BBB bonds.⁽¹⁾ Although ratings transitions among corporate bonds increased during the crisis period, the CRAs are generally seen to have performed reasonably well in this segment of the market. It is in the structured finance segment in particular that ratings performance has come under particularly close scrutiny since the onset of the crisis.

Between 1984 and 2006, almost 99% of structured finance issues rated Aaa by Moody's remained Aaa. Among sub-Aaa issues, around 90% of issues retained their ratings. During the crisis, however, there was a step increase in ratings transitions, with only 62% of Aaa-rated structured finance issues retaining the highest rating between September 2008 and August 2009. Downgrades were concentrated in US mortgages and CDOs. A similar deterioration in performance was also observed for S&P and Fitch. For instance, almost 40% of all structured finance ratings were downgraded by Fitch (**Chart 3**).

As in the Asian crisis, the CRAs have also been accused of initially lagging the market in their sovereign ratings, and subsequently downgrading sovereign credits too aggressively (European Commission (2010)). However, as noted, it should be acknowledged that CRAs explicitly seek to maintain ratings stability (Cantor and Mann (2007)) — at least in part in recognition of the hardwiring of ratings in financial contracts. Also, CRAs often signal changes in view in advance through 'outlook' and 'watch' notices, rather than actual ratings changes. IMF (2010) stresses the information content of such outlook changes, demonstrating that taking these into account, there is significant explanatory power in ratings.

Furthermore, as Warren Buffett — the well-known chairman and CEO of investment company, Berkshire Hathaway —

Chart 3 Global structured finance ratings changes^(a)



Source: Fitch Ratings.

(a) Data compare beginning-of-the-year ratings with end-of-year ratings. Does not count multiple rating actions throughout the year.

remarked in a recent testimony, the rating agencies proved no more fallible than other market participants (Buffett (2010)). Buffett blamed this collective fallibility on 'mass delusion' during the credit upswing. Reinhart and Rogoff (2010) observe that episodes of mass delusion are surprisingly frequent through history. It should perhaps therefore be no surprise that CRAs succumbed to such delusion too, particularly with financial innovation a core contributory factor.

Nevertheless, commentators and policymakers have suggested that the unreliability of ratings was at least in part a reflection of methodological failures. And CRAs have acknowledged mistakes too. These were most evident in the worst-performing segments of the structured credit market. As CGFS (2005) observes, the role of a delegated monitor is particularly important in this market given the high cost of assessing the risk associated with structured products. But rating complex structured products is arguably a very different skill to analysing corporate financial accounts. In particular, there is typically an insufficiently long run of data to assess the performance of the underlying pool, and there is no accepted methodology for modelling default correlations. Furthermore, structural aspects, including the seniority and granularity of the various tranches, are critical determinants of the performance and risk of a structured product.

Sharp criticism has been levelled at the way in which CRAs executed their role in this market. Indeed, the Issing Committee (2008) argues forcefully that the rating agencies were wrong to carry across their methodology for rating traditional bonds to structured products, which are 'profoundly different from straight bonds'. According to the Committee, to do this was 'thoughtless, and indeed

(1) See Standard & Poor's (2010). Transitions between ratings categories are more frequent among sub-investment grade bonds. On average, between 1981 and 2009, less than half of bonds rated CCC/C at the start of the year remained in the same rating category at the end of the year.

irresponsible, eventually wreaking havoc to the agencies' credibility'.⁽¹⁾

Moreover, it has been suggested that CRAs' capacity to execute their new responsibilities in this market was also constrained by difficulties in recruiting and retaining skilled structured finance analysts in the face of competition from investment banks (Hill (2004)).

A separate methodological concern is that CRAs are themselves dependent on other 'raters' in the system. In the case of ratings of securitised products or financial institutions, CRAs have traditionally relied on the judgements of credit scoring agencies (eg Fair, Isaac and Company (FICO)) to help gauge the credit quality of borrowers in the underlying collateral pool or loan portfolio. These scores in turn depend on borrower declarations, which in the crisis were in many cases revealed to have been unreliable. The question therefore arises as to whether CRAs should be more alive to structural changes in the quality of data inputs. Indeed, a similar issue arose in high-profile cases such as Enron and WorldCom, which were associated with episodes of fraud that ultimately led to bankruptcy.

Rajan *et al* (2010) explore, more generally, the implications of changes in the quality of data inputs to CRAs' default models. The authors argue that poor predictions of default probability on sub-prime mortgages ahead of the crisis reflected a marked change in lender behaviour that was not picked up by statistical models of the type used by CRAs. The authors demonstrate that this was consistent with the expansion of securitisation markets and loan originators' reduced incentive to use 'soft' information about borrowers as a complement to 'hard' information (eg credit scores and loan to value ratios) in their lending decisions. The fundamental basis for lending decisions therefore changed, as did the relationship between verifiable hard information and default probability.

2.2 Conflicts of interest and ratings shopping

Experience during the crisis has also heightened concerns that rating agencies' decisions may be subject to conflicts of interest. Since rating agency revenues are predominantly driven by rating fees earned from issuers, there is a concern that CRAs devote disproportionate resources to chasing new business and rating new products, rather than improving their analysis of existing instruments. Furthermore, the revenue incentives of a CRA are such that ratings may be biased upwards (inflated) so as to meet an issuer's expectations and thereby gain or keep its business.

Calomiris (2009) emphasises the distinction between inflated ratings and low-quality or unreliable ratings: as discussed in Section 2.1, low-quality ratings are the product of flawed methodologies, while ratings inflation is likely to reflect conflicts in the ratings process. The author argues that, in the

presence of inflated ratings alone, investors can simply 'aim off', but if ratings are also unreliable it is difficult to 'reverse engineer' the true credit quality. Calomiris argues that the root conflicts are on the buy side, with issuers simply seeking to satisfy buyers' demands. In particular, he stresses the role of agency problems between institutional investors and their clients: for instance, inflated ratings expand the investible universe for institutional investors and enable them to demonstrate higher returns relative to the apparent level of risk assumed. We return to this issue in Section 5.1.

To the extent that conflicts of interest exist, they are arguably strongest in the case of ratings for structured credit products. A basic difference between the ratings approach for traditional debt instruments and that for structured products is that the rating assessment for structured products necessarily takes place *ex ante*. If a particular product does not attract the desired rating, the issuer can tweak the structure and resubmit it for a revised rating assessment.⁽²⁾

This is seen to have given rise to so-called 'ratings shopping'; that is, the practice whereby issuers seek indications of a product's rating from several CRAs and then choose the agency that is likely to deliver the most favourable rating.⁽³⁾ Consistent with the suggestion that structured finance is more susceptible to these problems, Skreta and Veldkamp (2009) relate the incidence of ratings shopping to the complexity of the security.

In a similar vein, the Turner Review (2009) exposes the risk of 'structuring to rating': that is, issuers design structures so as to just meet the relevant criteria. Since ratings are not infinitely granular, issuers can earn a systematic profit by just clearing the hurdle.⁽⁴⁾ The Issing Committee (2008) notes that this activity is facilitated by the rating agencies' practice of providing issuers with a 'customer version' of their ratings models.

The rating agencies typically counter that reputational considerations ensure such conflicts do not arise: their

(1) Gordy and Willemann (2009) analyse the approach taken by CRAs in rating Constant Proportion Debt Obligations (CPDOs). They observe that the CRA models implicitly assigned a very low probability to an increase in CDS spreads of the magnitude observed during the second half of 2007, even though such levels were qualitatively comparable to those experienced in 2001-03 'and therefore should not have been relegated to the extreme tail of possible outcomes'.

(2) This difference between traditional and structured products may in fact not be quite so stark. Indeed, in essence, it may not be so different to a rating agency telling a corporate issuer that it will need to reduce its leverage to achieve a particular rating.

(3) This is common practice according to former rating agency analysts testifying before a US Senate Committee examining the role of rating agencies in the financial crisis. In a similar vein, a *New York Times Magazine* article in April 2008 notes that the concentration of issuers in structured finance exacerbates the conflicts. The article cites concerns expressed by former Moody's CEO, Tom McGuire, observing: 'The banks pay only if [the CRA] delivers the desired rating...If Moody's and a client bank don't see eye-to-eye, the bank can either tweak the numbers or try its luck with a competitor...'

(4) The ratings process may involve several iterations between issuer and rating agency. An issuer can therefore structure a product so as to just meet the criteria for a AA rating, but achieve a price commensurate with the average quality of a AA-rated product. This is unlikely to be feasible in the case of issuers of traditional bonds.

product is worthless if their ratings prove to be unreliable. However, the discipline of reputation can only really operate effectively in an environment in which individual agencies' ratings performance can be reliably monitored and differentiated, and in which each agency faces a credible competitive threat. These conditions arguably do not hold in the ratings industry, where barriers to entry are high and insufficient data has traditionally been available to monitor performance. Mathis *et al* (2009) and Camanho *et al* (2010) demonstrate formally the limitations of reputation as a disciplinary device.

Finally, CRAs have hitherto cast their decisions merely as 'opinions' and have borne no direct liability for errors in their judgements. CRAs have relied on this defence in several cases brought before lower courts in the United States. A variety of judgements have been reached, reflecting the specific circumstances of the case and the particular role played by the CRA (Partnoy (2006)). The balance of judgements in these cases suggests that unsolicited ratings in particular may qualify merely as opinions, although CRAs may be held to a higher standard where the issuer has paid for a rating. In one 1999 case, *Quinn v. McGraw-Hill*, the court ruled that an investor's reliance on a CRA's rating was 'unreasonable', but nevertheless upheld claims against the CRA for fraudulent misrepresentation. Given mixed evidence from the case law, the private cost to CRAs from producing poor (or biased) ratings may in practice be quite low.

2.3 Hardwiring and mechanistic reliance

As described in Section 1.2, ratings are hardwired into the regulatory framework and a wide variety of financial contracts. As such, collective, mechanistic reliance on ratings may be destabilising if, for instance, a downgrade shuts an issuer out of certain wholesale markets, leads to large collateral calls, or triggers forced selling by fund managers.

The case of AIG illustrates the potentially destabilising impact of ratings-linked triggers. Following the entry of Lehman Brothers into administration in September 2008, the market's attention switched to accumulating losses on AIG's structured credit exposures. On 15 September, AIG's long-term senior credit rating was downgraded to A- from AA- by Standard & Poor's, and to A2 from Aa3 by Moody's. This triggered additional collateral calls by the insurer's counterparties in relation to credit protection it had provided on a range of structured securities.⁽¹⁾ AIG was unable to liquidate assets sufficiently quickly to meet these calls. Ultimately, AIG secured an US\$85 billion revolving credit agreement with the Federal Reserve Bank of New York.

The impact of rating events may be further amplified by a direct feed-through to regulatory capital requirements. In particular, the use of ratings for regulatory and other official purposes can distort market demand for particular products

and exacerbate procyclicality, contributing further to observed system-wide cliff effects.

The hardwiring of CRA ratings may also 'crowd out' private information gathering. Even absent hardwiring, there is a risk that CRAs' privileged access to issuer information reduces the incentive for other market participants to become informed. But hardwiring reduces this incentive further, since: (i) mechanistic responses to the signals sent by a CRA give rise to disproportionately large price movements; and (ii) hardwiring into regulation generates moral hazard and the perception that CRA judgements are, in some sense, 'official' or 'truth.' In this sense, hardwiring may give rise to more broad-based overreliance on ratings.

This could occur even if the rating agency's opinions were not completely accurate: as long as the CRA had a large impact on the price, it could drive a wedge between the fundamentals and the market price. Noisy (but on average accurate) private information about the fundamentals of the borrower would in such circumstances not be so valuable. Investors would then assign a lower weight to their individual forecasts about fundamentals relative to ratings, which would lead to prices becoming excessively dependent on ratings.

Similar ideas are formalised in Allen, Morris and Shin (2006) and Pagratis (2005). Allen *et al* (2006) show that (noisy) public information — in this context, a CRA's judgement — may have a disproportionate impact on prices. So even though a rating agency may be (much) more informed than any single informed investor could be, the market as a whole may be less informed and the price less useful because it is driven by the opinion of one rather than the balance of opinion of many.

Finally, hardwiring may also have a direct impact on the ratings process. Even absent conflicts, a rating agency may have an incentive to keep a rating higher than justified by fundamentals in the recognition that the implications of a rating downgrade may be severe (particularly as the rating nears the investment-grade threshold). As Hill (2004) notes: 'The very fact of the downgrade has an effect; even if no information about the company is conveyed, investors will react.' For instance, the issuer may face liquidity pressures arising from loss of access to vital funding markets. As such, the rating decision may prove endogenous.

In a similar vein, IMF (2010) examines the smoothing methodologies that CRAs apply with a view to keeping ratings stable. The authors show that, in times of stress, smoothing merely delays the inevitable, eventually leading to sharper

(1) AIG's 10-Q filing with the SEC for June 2008 (page 40) acknowledged that a rating downgrade to A+ by Standard & Poor's and A1 by Moody's would give rise to collateral calls of up to US\$13.3 billion in collateral, with additional calls if the downgrade was more severe (as ultimately transpired). It was also reported that downgrades of this magnitude could trigger early termination of some derivatives contracts.

rating adjustments than might otherwise have been the case and giving rise to severe cliff effects.

2.4 Lack of diversity in ratings

The ratings industry has been criticised for a lack of ratings diversity. This can be measured both in terms of the level of ratings at a given point in time and the degree of 'synchronicity' in ratings revisions.

Where an issue is rated by more than one CRA, ratings do tend to track each other relatively closely. Indeed, the Autorité des Marchés Financiers (2007) finds that even where CRAs' ratings differ, the difference is typically only one notch on the rating scale. This lack of diversity is perhaps not so surprising if CRAs' methodologies converge over time to perceived 'best practice'. It might also be expected given the concentrated market structure, and weak incentives for CRAs to 'separate from the pack'.

Indeed, Partnoy (1999) notes that CRA analysts are judged not only on the reliability of their own ratings, but also on how they expect other CRAs to change their ratings. This may in part reflect the pressure issuers are able to exert on the agencies when their ratings diverge.

2.5 Misperception of what ratings represent

Another source of overreliance may be misperception of what ratings represent. As noted, CRA ratings are ordinal rankings of probability of default (perhaps combined with an estimate of loss severity). They contain no information about other factors that may be relevant to investment decisions.

As the financial crisis highlighted, even if an asset exhibits low credit risk, its liquidity may be driven by other factors. Structured finance products are a case in point. For example, the breach of the 'non-asset' trigger on Northern Rock's Granite Master Trust led to a sharp sell-off in securities issued by the vehicle, even though the highly rated notes suffered no material credit losses.⁽¹⁾ For some investors, the price behaviour of the securities was not consistent with their priors of how AAA-rated instruments would perform.

3 Reforming the credit ratings industry: recent initiatives

There has been considerable debate in recent years as to how best to tackle the policy concerns described above, while preserving the valuable economic role played by CRAs.

Several policy actions have already been initiated and new regulatory requirements have been introduced — both in Europe and the United States. Others are contemplated, including in response to a public consultation on CRAs launched by the European Commission in November 2010

(European Commission (2010)), and studies commissioned in the United States under the Dodd-Frank Wall Street Reform and Consumer Protection Act (henceforth referred to as the 'Dodd-Frank Act'). The Financial Stability Board has also published a set of *Principles for Reducing Reliance on CRA Ratings* (FSB (2010)).

CRAs have also taken actions on their own initiative, revising their models and methodologies, increasing disclosure and transparency, and in some cases adjusting their internal structures and processes.⁽²⁾

Table D lists some of the most important policy actions taken recently in response to the concerns identified in Section 2. These are elaborated and assessed in this section.

Table D Key policy actions

Type of action	Key examples of actions	To tackle which underlying problem?
Lowering barriers to entry	US: Require that issuer information be made available to all CRAs	Lack of diversity in ratings
Reducing reliance on CRA ratings	International: – FSB <i>Principles for Reducing Reliance on CRA Ratings</i> – Amendments to the Basel framework US: Remove references to CRA ratings in regulation UK/ECB: Enhance transparency of ABS issues	Hardwiring and mechanistic reliance
Increasing liability	US: Remove exemption from 'expert liability'	Conflicts of interest and 'ratings shopping'
Improving rating agency governance	International: Enhanced IOSCO Code of Conduct	
Regulation and supervision	Europe: EU Regulation on CRAs, with supervision by ESMA ^(a) US: Amend NRSRO regime	
Increasing disclosure of CRAs' performance and methodologies	Europe/US: As part of both EU regulation and NRSRO regime	Methodological issues and model risk Misperception of what ratings represent

(a) European Securities and Markets Authority.

3.1 Lowering barriers to entry

Together with efforts to reduce official sector reliance on ratings (see Section 3.2), taking steps to lower barriers to entry in the ratings industry could in principle mitigate some of the observed cliff effects associated with hardwiring.

The European Commission's consultation in late 2010 considered several possible approaches to enhancing competitive forces in the CRA industry. These include schemes such as the promotion of new entry through public/private structures, or facilitating networks of small and medium-sized CRAs.

(1) In November 2008, the seller share in Granite's Master Trust vehicle fell below the required minimum for two consecutive months. This was deemed a non-asset trigger event, the consequence of which was that the Trust became a pass-through structure.

(2) In structured products, for example, revisions to model assumptions have led to an increase in the required credit enhancement to secure a AAA rating.

Steps have also been taken in the United States. For instance, in late 2009, the SEC announced (Rule 240 17g-5) that all issuers would be required to ensure that any private information (eg pool data and transaction structures) made available to its appointed CRA(s) was also made available to all other NRSROs.⁽¹⁾ One objective here is to facilitate the provision of unsolicited ratings by CRAs seeking to build a reputation in a particular market segment, thereby overcoming barriers associated with the reputation and name recognition enjoyed by larger incumbents. Another objective is to ensure the availability of data to those with the capacity to challenge incumbent CRAs' views, thereby stimulating debate, increasing accountability, and facilitating better monitoring of CRAs' performance.⁽²⁾

The case for increased competition is not universally accepted. Camanho *et al* (2010) observe that increased competition may in fact aggravate conflicts of interest and lead to 'increased ratings inflation'. This is due to the fact that increased competition reduces a CRA's rents from reputation: assuming no change in the overall size of the ratings market, increased competition reduces each CRA's share of the market and in turn the private benefit to maintaining a reputation for accurate ratings.

Consistent with this message, Becker and Milbourn (2010) provide empirical evidence of deterioration in ratings performance on the entry of a third global competitor, Fitch. Prior to this, the incumbent duopolists were assured of market share, since many certification and regulatory purposes require two ratings. Equally, Bolton *et al* (2009) and Skreta and Veldkamp (2009) show that ratings shopping may be more prevalent in a competitive setting.

Taking a different approach, Bongaerts *et al* (2010) examine the demand for multiple ratings of the same bond issue, and in particular consider the information content of a 'third opinion'. They find that a third rating typically contains little additional information content and find empirical support only for a regulatory certification role.

3.2 Reducing reliance on CRA ratings

Further to the crisis, the Basel Committee on Banking Supervision (BCBS) carried out an initial review of the use of ratings in the regulatory framework, with a view to mitigating potential adverse implications, such as cliff effects and banks' weakened incentives to carry out their own internal risk assessment.

Some changes to the framework were announced in July 2009 and December 2010 (BCBS (2009) and (2010)). Most notably, the Committee refined eligibility criteria for credit assessment institutions, and introduced additional due diligence requirements for securitisations. The Committee also set in train further work on the calibration of risk weights

in the securitisation framework to reduce potential cliff effects.

The Dodd-Frank Act in the United States went some distance further. In particular, Section 939A of the Act requires US banking regulators to review regulations that specify 'the use of an assessment of the creditworthiness of a security or money market instrument and any references to, or requirements regarding, ratings'.

In an initial step, in late July 2010, the US Federal Banking Agencies released a joint Advance Notice of Proposed Rulemaking (ANPR).⁽³⁾ This sets out which regulations might be affected and solicits public comment on possible alternatives to credit ratings in risk-based capital standards. The agencies' consultation process ended in late October 2010, and deliberations are ongoing. The SEC has also examined rules and forms in the Securities Act and the Investment Company Act, releasing a proposed approach to removing some references in early 2011 (SEC (2011)). The European Commission's public consultation sought views on similar measures.

Taking a broader perspective on this issue, in October 2010, the Financial Stability Board (FSB) published a set of *Principles for Reducing Reliance on CRA Ratings*. The FSB applies these principles not only to regulatory use of ratings, but also to a wider range of financial market activities, including central bank operations, investment mandates and private sector margin agreements (see Box 3). The report identifies some concrete steps that might be taken to translate the principles into internationally agreed standards. The FSB has requested standard-setting bodies, such as the BCBS, and national regulators to take on this task.

Crucially, the focus of the FSB *Principles* is to reduce *mechanistic* reliance on CRA ratings, acknowledging that CRA ratings can play a legitimate role in buttressing internal credit assessments.

As noted in the FSB report, if reliance on CRA ratings is to be reduced and private credit assessment to be encouraged, there is a strong case to improve the transparency and disclosure of private issuer information. Again, this is particularly important in the case of structured finance, where granular information on the composition of collateral pools is necessary for detailed and accurate modelling of cash flows.

The value of improved transparency is acknowledged in a recent change to the Bank of England's collateral eligibility

(1) A similar provision was under consideration in Europe, but will not now proceed.

(2) As an example, in February 2011, Standard & Poor's and Moody's challenged an opinion released by Fitch on a private RMBS deal. See *Wall Street Journal* (2011).

(3) See Federal Deposit Insurance Corporation (FDIC) (2010).

Box 3

FSB Principles for Reducing Reliance on CRA Ratings

The basic message in the FSB's *Principles for Reducing Reliance on CRA Ratings* is that reliance on CRA ratings should be reduced in 'standards, laws and regulations' and in markets more generally. The aim is to tackle herding and cliff effects by ending 'mechanistic reliance' on ratings and sharpening incentives for market participants to carry out their own internal credit assessments. At the same time, the paper acknowledges the valuable role played by CRAs.

The FSB's report applies the basic principles to a range of financial market activities in which credit ratings are often relied upon extensively (as discussed in Section 1.2). In particular:

- *Central banks* should not rely on CRA credit assessments in respect of instruments that they accept in their market operations.
- *Banks* must not mechanistically rely on CRA ratings for assessing credit quality. The report differentiates according to the size of firm, recognising that smaller, less sophisticated banks may not have the resources to conduct internal credit assessments for all their investments. However, even these banks should carry out 'risk assessment commensurate with the complexity...of the investment product and the materiality of the holding'.

criteria, which requires that ABS issuers make additional information publicly available, including loan-level information (Bank of England (2010)). It is intended that the provision of such information by issuers will allow the Bank and other market participants to step back from the use of ratings in collateral eligibility criteria and other contract provisions. Following a public consultation (ECB (2009)), the ECB announced in December 2010 that it will introduce similar requirements (ECB (2010)).

Some further thoughts on reducing reliance on CRA ratings — both in the official sector and the private sector — are offered in Section 4.

3.3 Increasing liability

As noted, CRAs have hitherto not been held legally liable as 'experts' for their ratings. However, given the central role played by ratings in the financial system, there have been strong calls to make rating agencies liable for the quality of their ratings.

- Similarly, *investment managers and institutional investors* should carry out due diligence commensurate with the complexity and materiality of the exposure. While the report acknowledges the usefulness of references to CRA ratings in limit-setting and benchmarking, it stresses that investment managers should not regard CRA ratings as a substitute for independent credit judgements.
- In *private sector margin agreements*, market participants and central counterparties should avoid the use of CRA rating-based triggers 'for large, discrete collateral calls in margin agreements on derivatives and securities financing transactions'.
- Finally, the report stresses the importance of disclosure of credit-relevant information by *issuers of securities*. Such disclosure would facilitate independent risk assessment, reducing reliance on CRA ratings.

In each case, the report suggests some practical measures that might be considered by standard-setting bodies and national regulators. The FSB recognises that reducing reliance on CRA ratings is a medium-term objective, particularly since it will require fundamental enhancements to both transparency and firms' internal credit assessment processes.

The FSB will seek periodic updates from members and standard-setting bodies, and will initially report to G20 Finance Ministers and Governors on progress in April and October 2011.

The US financial reform removes NRSROs' exemption from experts' liability under section 11 of the Securities Act.⁽¹⁾ The recent European Commission consultation on CRAs invites views on introducing a similar level of liability.

Following passage of the Dodd-Frank Act, the largest CRAs immediately withdrew their consent to have ratings included in debt issuers' registration statements. The SEC subsequently issued a 'no action' letter to allow ratings to be included as 'issuer disclosure-related' information, such that registered offerings could continue uninterrupted. The CRAs also reiterated their objection to legal liability on the basis of the view that ratings are materially different from statements by accountants and other professional bodies. Fitch, for instance, argued that 'ratings are inherently forward-looking and

(1) Under this provision, any person acquiring a security having relied on an untrue statement of a material fact in the registration statement may bring legal proceedings against 'every accountant, engineer, or appraiser, or any person whose profession gives authority to a statement made by him, who has with his consent been named as having prepared or certified any part of the registration statement, or as having prepared or certified any report or valuation which is used in conjunction with the registration statement'.

embody assumptions and predictions about future events that by their nature cannot be verified as facts'.⁽¹⁾

For a system of penalties to operate, it is implicitly required that regulators can distinguish between bad luck, bad judgement or ratings agency bias. Inability to draw such distinctions accurately could simply serve to make CRAs excessively conservative or restrict their operations, with potentially adverse implications for investment and growth.

Also, by granting CRA ratings equivalent status to other expert reports — such as those of medical and legal experts — introducing civil liability could have the unintended and undesirable effect of generating even greater reliance on ratings. As such, it could potentially undermine separate efforts to reduce such reliance.

3.4 Improving CRA governance

The International Organisation of Securities Commissions (IOSCO) Code of Conduct Fundamentals for Credit Rating Agencies, drawn up in 2004, reflected a broad consensus that self-regulation through improved governance was sufficient to meet public policy objectives. The Code promotes rigorous monitoring of ratings performance, management of conflicts of interest (including analyst independence) and transparent methodologies. Most CRAs, including the three largest agencies, implemented the Code.

The Code was fundamentally revised in 2008 (IOSCO (2008)), adding *inter alia* extensive disclosure requirements (see Section 3.6, below). These include requirements in relation to ratings performance, the quality of the information on which the rating is based, and potential conflicts arising from client concentrations and remuneration policies.

In March 2009, the Credit Rating Agency Task Force of IOSCO reviewed implementation of the 2008 revisions (IOSCO (2009)). At the time of the review, seven out of the 21 agencies reviewed had taken steps to implement the revised Code. The three largest agencies had 'substantially' implemented the revisions.

3.5 Regulation and supervision

With effect from 7 December 2010, a new Regulation on Credit Rating Agencies was implemented in the European Union. The Regulation sets strict standards of integrity, quality and transparency and puts the CRAs under ongoing supervision by the public authorities.

For as long as ratings retain their widespread influence throughout the financial system, there would seem to be a sound rationale for regulating CRAs as an important component of the financial market infrastructure. Indeed, given the importance and uniqueness of ratings, there may be lessons to be drawn from other financial sector infrastructure

providers such as listed exchanges, payments, clearing and settlement systems and trade repositories — in particular, around governance and transparency. Although rating agency failures impose losses via different channels than do traditional market infrastructures, they can have wide-ranging effects and may therefore merit strong regulatory oversight. Furthermore, any regulatory regime established in this area should arguably also take in other delegated monitors, such as credit-scoring agencies.

The new EU Regulation includes the following key measures:

- restrictions on rating agencies' provision of advisory services;
- disclosure of models, methodologies, and key assumptions;
- clear differentiation of the ratings of complex products (through the use of a special symbol);
- publication of an annual transparency report; and
- internal governance enhancements, including independent directors and an internal function for performance measurement.

Stresses in the sovereign debt markets during the first half of 2010 prompted calls for even tighter regulation of CRAs' activities. In response, the European Commission called for rating agencies to be subject to supervision by ESMA. This has since been provided for under an amendment to the Regulation.

Commission President José Manuel Barroso went further, calling for a public European rating agency to rival the big three. German Chancellor, Angela Merkel, and French President, Nicolas Sarkozy, also called for a further review of rating agencies' activities. The European Commission's November 2010 consultation is a response to these calls.

In the United States too, the trend has been firmly towards tighter regulation, culminating in the recent financial reform package. Recent amendments to the rules on oversight of NRSROs (see Box 2) include an enhanced registration process with tighter criteria, disclosure requirements, and accountability for compliance with their own standards. The measures go some way beyond the IOSCO Code.

The SEC's oversight of CRAs was further strengthened in the Dodd-Frank Act, in particular through the call to establish an Office of Credit Ratings to promulgate and enforce SEC rules.

However, while regulation and supervision may place constraints on CRAs' activities, improve transparency (about

(1) See *Financial Times* (2010).

which more in Section 3.6, below) and help to manage conflicts of interest, it will not directly alter the commercial incentives faced by CRAs. Ultimately, the effectiveness of a regulatory/supervisory approach is dependent on the diligence of the supervisor, its capacity to obtain sufficient information from the regulated CRA to carry out its duties, and its ability to distance itself from any ratings failures.

3.6 Increasing disclosure of CRA performance/methods

Increased disclosure of CRAs' performance and methodologies is an important element of the regulatory package in both Europe and the United States. For instance, it is intended that:

- disclosure of ratings performance will make rating agencies more accountable for their ratings performance;
- disclosure of remuneration concentrations will reveal where potential conflicts might arise;
- disclosure of rating methodologies will provide users with a better understanding of the genesis of a rating, facilitating more informed usage; and
- clear differentiation of ratings of complex products will improve market participants' understanding of what ratings represent.

Enhanced transparency should indeed improve both understanding and accountability. It is, however, important to recognise the limitations of these measures. As noted earlier in the context of enhancing CRAs' liability, it will be extremely difficult to separate bad luck from bad judgement or bias when assessing ratings performance, except over a very long horizon. Hence, accountability will never be perfect.

3.7 A summary assessment of the initiatives currently under way

A great deal is clearly being done to strengthen the ratings industry. The reforms should go some way towards tackling the key policy concerns identified during the crisis.

Some measures could potentially go further. The priority should be to reduce reliance and hardwiring, since it is the common and often mechanistic use of ratings for multiple purposes that gives rise to the cliff effects and incentive problems observed during the crisis (UK Authorities (2011)).

Consistent with the message in the Financial Stability Board's principles, these efforts should not be restricted to the banking sector, and not only to regulatory hardwiring. All financial institutions should be expected to carry out a level of due diligence commensurate with the complexity and materiality of their exposure and not rely mechanistically on ratings. Furthermore, there is also a case for examining the

scope to replace ratings in certain private financial contracts and processes.

This paper has, however, argued that there is a sound economic rationale for CRAs' information role. Therefore, even if the scope of hardwiring were reduced, it is likely that CRA ratings would retain a significant influence in financial markets. As such, there may also be a case to examine structural measures directed at eliminating conflicts of interest in the ratings process — particularly in the structured finance segment — and the scope for ratings shopping. Such measures are under consideration both in Europe and the United States, but this strand of the debate is currently less advanced.

Of course, since we are dealing with a situation in which there is a fundamental asymmetry of information between borrower and end-investor, there will inevitably be a trade-off between the economic efficiency of drawing on the services of super-informed CRAs and the costs associated with ratings reliance. The objective of CRA reform should be to achieve a better trade-off between efficiency and cost by encouraging more private judgement, greater diversity of views, and better alignment of incentives. We present some further thoughts on these aspects in the following sections.

4 Options for reducing ratings reliance and hardwiring

In considering the scope to reduce reliance on CRA ratings, it is important to distinguish between the principal roles played by CRAs in today's financial markets; ie information, certification and regulation.

As we have noted, the common and often mechanistic use of CRA ratings for each of these purposes is a root cause of the cliff effects and incentive problems observed during the crisis. Yet these are distinct purposes, which imply distinct information requirements:

- the information function requires granular, timely, estimates of relative expected loss-given-default;
- the certification function typically requires a much less granular summary metric for risk appetite — often only a separation of investment-grade and sub-investment grade securities; and
- for many regulatory purposes, the requirement is different again — capital determinations, for instance, require granular estimates of tail risks.

If reliance on ratings for the various certification and regulatory roles were reduced, CRA ratings could continue to perform their core information function without giving rise to cliff effects and incentive problems.

Importantly, any efforts to reduce reliance on CRA ratings should be supported by adequate transparency of issuer information, so as to permit private credit assessment by a wider range of market participants.

4.1 Removing regulatory hardwiring

A number of criteria are relevant in assessing alternative approaches to reducing reliance on CRA ratings in the regulatory framework. The US banking regulators' ANPR (FDIC (2010)) suggests several criteria, including accuracy, timeliness, transparency and replicability.

At a high level, it is critical that any alternative approaches taken in regulation are effective in distinguishing between credits at the desired level of granularity, while at the same time delivering sufficient diversity in sources of credit information to reverse the system-wide dependence on the judgements of a small number of CRAs.

One immediate possibility might be to extend the approach taken in Basel II by placing greater reliance on regulated entities' *internal risk assessments*. This would, however, require that significant resources be devoted both to increasing the sophistication of firms' internal models, and enhancing supervisors' capacity to validate them. It would also rely heavily on improvements in financial institutions' access to credit-relevant information from issuers/borrowers, and the development of internal processes and tools to analyse such information. It is acknowledged that this would take some time.

Several alternative approaches that remove references to ratings entirely have been considered in the debate, but no direct substitutes have yet been identified that meet all of the criteria. For instance, *market-based indicators*, such as CDS premia and credit spreads, typically encompass a variety of factors and the impact of credit would therefore be difficult to disentangle when observing price movements. Such indicators would also tend to be procyclical.⁽¹⁾ Indicators based on *non market-based measures* (such as indicators based on accounting data) would similarly require some judgemental overlay.⁽²⁾ More analytical work is required to better understand the predictive power of such indicators.

More promising might be measures that bring together objective market-based and non market-based indicators with CRA ratings and/or internal assessments. For instance, one possibility might be a *dual ratings* approach, under which regulatory determinations would take into account both an external CRA rating and an internal rating. Such an approach would reduce dependence on CRA ratings, and with diversity in internal assessments, cliff effects should be avoided. At the same time, such a regime would fall short of linking regulatory determinations too tightly to internal models, which might themselves exhibit shortcomings. Such a regime would be

calibrated such that firms faced good incentives to produce internal ratings, but again the viability of such an approach would be dependent on improvements in both disclosure and firms' internal credit assessment capacity.

A final possibility might be to *outsource* credit assessment to non-CRAs. While *prima facie* it might appear that a single third party's assessment could be as much a source of cliff effects as a CRA's rating, the important difference is that the third party's assessment would be tailored to the regulatory framework and not otherwise used in the financial markets. Consequently, changes in the third party's judgements would not have direct implications outside of the regulatory framework.

Such an approach has been taken by the US National Association of Insurance Commissioners (NAIC; the organisation of state insurance regulators in the United States). Concerned both about the reliability of ratings and what ratings represented, NAIC engaged an independent third party to model potential losses on regulated insurance companies' RMBS portfolios. The approach has since been extended to regulated entities' CMBS portfolios. According to NAIC, the scheme 'reduces regulatory reliance on rating agencies, and allows for greater regulatory input into the modelling process and the assumptions used' (NAIC (2010)). Such an approach should be expected to deliver ratings that perform at least as well as CRA ratings in distinguishing between credits. And, as long as the chosen third party produces ratings exclusively for the regulator, any biases should be avoided.

4.2 Removing hardwiring from financial contracts and market practices

Consistent with the FSB's *Principles*, similar steps could be taken to reduce mechanistic reliance on ratings in the private sector. For instance, fund managers and other market participants might be encouraged to review the scope for reducing reliance on ratings for certification purposes in investment mandates, collateral agreements and other financial contracts.

Recognition or authorisation requirements for large investment managers might also usefully specify that they should conduct their own internal credit assessment. And smaller fund managers could be subject to disclosure requirements that set out clearly the extent to which reliance is placed on CRA ratings.

(1) In a similar vein, market-implied ratings — ie ratings determined with reference to credit default swap premia — address one of the shortcomings of CRA ratings; ie that they are often slow to respond to credit-relevant developments.

(2) The capacity of non market-based measures to distinguish accurately between credits will also likely differ by asset class. Fiscal ratios and debt-sustainability indicators might serve as reasonable substitutes for sovereign ratings (see eg Alfonso, Gomes and Rother (2007)), but it might be more difficult to identify robust indicators for other asset classes, such as structured finance.

Similar assessment criteria would apply in this case although, to the extent that many certification uses of CRA ratings require somewhat less granularity than many regulatory determinations, alternative composite measures of credit quality may, in some cases, be easier to identify.

5 Options for structural reform of the credit ratings industry

As discussed in Section 2, conflicts of interest may arise in the ratings process, with these perhaps most acute in the structured finance segment. This section investigates whether structural reform of at least the structured finance rating process could effectively mitigate such conflicts — and, if so, how such reform might be implemented.

5.1 Investor-pays model

In principle, investors should value ratings that deliver an unbiased view of the creditworthiness of a security. If this is indeed the case, a business model in which CRAs compete for investor subscriptions would seem more likely to yield unbiased, reliable ratings than one in which CRAs compete for issuer mandates. A return to an investor-pays model might, therefore, eliminate the existing conflict of interest in the ratings industry.

Some disagree. For instance, in a recent testimony, Moody's CEO Raymond McDaniel argued that 'investors can be just as motivated as issuers to influence ratings' (McDaniel (2010)). For instance, investors may wish to see a low rating at the point of issue, so as to obtain a high yield, but then observe a steady increase in the rating over time. As discussed in Section 2.2, Calomiris (2009) also argues forcefully that the root conflict lies in the agency relationship between institutional investors and their clients. According to this view, structured finance issuers' preference for higher ratings merely reflects the demands of the investor base. Therefore a return to an investor-pays setting would not resolve the conflict.

Clearly, further analysis of the source of conflicts is required. But even if it were accepted that a change in the business model could alleviate the conflicts, there are significant challenges in implementing an investor-pays model. In particular, such a model is prone to free-riding. This could leave the CRAs with insufficient subscription income and hence insufficient resources to devote to research and analysis. Consequently, even if unbiased, the quality of ratings could fall. As the CRAs point out, free-riding was one of the main reasons behind the switch to an issuer-pay system four decades ago.

The challenges may, however, not be insurmountable. Indeed, although they tend to have more limited coverage than the global issuer-pays CRAs, there are existing examples of investor-pays CRAs (eg Egan-Jones Rating Company). These

seem to have been able to both attract a subscriber base, and to keep ratings information 'private' to subscribers.

Box 4 discusses three highly stylised mechanisms with features that might usefully be considered in developing proposals for an investor-pays business model without free-riding. The box includes illustrations of how 'market design' might be used to tackle conflicts of interest in the ratings industry, while also preserving market forces and preventing free-riding.⁽¹⁾

5.2 Other models

Various alternative mechanisms have been debated to tackle the conflicts of interest in the issuer-pays model. These include:

- a ratings clearinghouse; and
- a public ratings agency.

5.2.1 A ratings clearing house

Several policymakers and economists have proposed variants of a *ratings clearing house* model as a means to resolve the conflict of interest in the ratings industry and put an end to ratings shopping.⁽²⁾ A version of this model was proposed in the Senate version of the Dodd-Frank Act by Senator Al Franken. Under this proposal, each issuer would first approach a ratings clearing house (Franken suggested the SEC), which would in turn select an agency to rate the security. The issuer would still pay for the rating, but the agency would be chosen by the regulator.

The clearing house's choice of CRA could be random, or perhaps more systematic — eg somehow based on the agency's experience in rating the type of debt in question, or past audits of the CRA's performance, etc. And the fee could be contingent on the specific attributes of the security (for instance, the type of debt, complexity of issuer/issue, or whether other debt outstanding is already rated).

However, a fundamental concern with this model is that if the clearing house were a public authority, it could again generate moral hazard. Furthermore, the metric used by the clearing house to measure performance and/or match CRAs to issuers could distort incentives.

In light of such potential problems, the proposal was ultimately dropped from the US financial reform package.

(1) Market design (an application of Mechanism Design, or 'reverse game theory') is a discipline which applies game-theoretic tools to alleviate market distortions. In 2007, Leonid Hurwicz, Eric Maskin and Roger Myerson were awarded the Nobel prize 'for having laid the foundations of mechanism design theory'. Market design has been applied to tackle a variety of market distortions and failures in a range of industries. Leading examples include the development of US high-school allocation programmes, and the development of a clearing house — again in the United States — to overcome strategic behaviour in the job market for medical students.

(2) Mathis *et al* (2009), Krugman (2009) and White (2009), among others. In some variants of the model, the clearing house is a trading platform.

Box 4

Stylised investor-pays mechanisms

Identifying an effective mechanism to simultaneously align incentives and either manage or eliminate free-riding is highly challenging. Drawing in part on Deb and Murphy (2009), this box illustrates two stylised investor-pays mechanisms exhibiting features that might usefully be considered in the debate on CRA business models.

Competitive auction mechanism

In a competitive bidding process, an independent agency (IA), funded by levies either on investment firms or primary issuance, auctions CRA licences to produce ratings for a specified (eg five-year) period. It awards a small number (eg three) contracts per asset class. Two variants might be considered:

(i) No free-riding: CRA ratings are submitted to the IA, which then makes them available to market participants for free download from its website. When an individual rating is downloaded, the IA pays a fixed fee per download to the CRA.

(ii) Manage the consequences of free-riding: This variant of the approach acknowledges that some investors may value timely (and perhaps more detailed) information from the CRA and hence will be prepared to pay subscription fees rather than free-ride. In this case, the bid at auction is a 'subsidy rate', a percentage of CRA revenues that the IA pays to the CRA annually; the lowest bids win. The IA then pays the subsidies to CRAs based on the contracted subsidy rate.

Auction is clearly at the heart of both variants. In both cases, auction is necessary to produce sufficient competition such that high-quality ratings are produced at a low cost. While we do not discuss the details here, the success of such a scheme would clearly be dependent on the particular design of the auction mechanism.

In variant (i) of this example, there is no free-riding, since investors can freely (or at a minimal charge) download ratings. The CRA also has a clear incentive to increase the number of its downloads and, in this way, compete for investors on the basis of quality — notwithstanding that investors do not pay directly for the service.

In variant (ii), which involves a subsidy from the IA, it is accepted that there will inevitably be some free-riding. But it is also acknowledged that, even if free-riding is possible, some investors may still have an incentive to subscribe to a CRA. For instance, some investors will perceive a cost to free-riding — perhaps a 'delay' cost or a 'quality' cost — that exceeds the subscription fee.⁽¹⁾ The ability to access additional research

material and other web-based services provided by a CRA, or to discuss opinions directly with CRA analysts, may be a sufficient incentive to subscribe. Again CRAs compete for subscriptions on the basis of quality.

The difference, however, is that in this case, CRAs compete for *paying* subscribers. This competition forms the basis for the distribution of subsidies from the IA: a CRA that is confident of its ability to attract paying subscribers, even when free-riding is possible, will bid for a low subsidy rate. Subsidies are necessary to ensure business viability, since free-riding may still be sufficiently severe to render a pure investor-pays business model uneconomical.

Technology-based enforcement

A second example contemplates that technology-based enforcement of investor subscription might be sufficient to prevent excessive free-riding in a simple investor-pays system.

Investment companies (and other financial companies) subscribe directly to recognised CRAs for each rated asset class in which they conduct business. The CRA allocates a unique subscriber number (akin to a PIN) per asset class to each subscriber. To enforce subscription by users of ratings, each time an investment company transacts in a rated security, it must quote its PIN. The PIN must then be validated by the trading platform/counterparty at the point of execution.

Assuming the administrative costs were not too high, such a scheme could go some way towards meeting the design goals outlined above. In particular, such a scheme would:

- provide good incentives, by virtue of being an investor-pays solution;
- preserve competition and accountability; and
- eliminate some (perhaps most) free-riding.

Some free-riding would most likely still occur, since investors could free-ride on the opinions of those CRAs to which they did not directly subscribe. However, by enforcing at least one subscription per investor, per asset class, the adverse consequences of this would be mitigated.⁽²⁾

Such a scheme could build on the recognition framework for CRAs established by prevailing (or impending) regulation, so as to preclude a 'race to the bottom' whereby investors gravitate towards a low-cost/low-quality CRA.

(1) Note that many markets operate in the presence of free-riding, ie they operate with a dual (paying and non-paying) client base. For instance, software producers generally accept that much of the market free-rides. In these markets, however, it is crucial that free-riders enjoy different benefits to subscribers.

(2) Such a scheme may be criticised for mandating that all firms subscribe to a CRA, even if they claim that they do not use ratings. But in practice, even firms conducting their own internal risk assessment typically have regard to ratings, even if only as a benchmark.

However, the Dodd-Frank Act provided for the matter to be investigated further. This work is ongoing.

5.2.2 Public Rating Agency

For some, a straightforward answer to the problems of the CRA industry is to abolish the market altogether and let a Public Rating Agency produce the ratings. But state intervention would introduce many other problems.

First, the public authority would expose itself to natural criticism if ratings proved unreliable. This could, in turn, create moral hazard through the perception that, in determining ratings, the state also assumes responsibility for any (adverse) consequences of its ratings decisions. It could also crowd out private credit opinions, exacerbating problems of overreliance on ratings and a lack of diversity in credit judgements.

Second, a public agency would most likely be highly susceptible to private lobbying. As such, it would likely be an ineffective solution to the conflict of interest problem. Indeed, the agency would most probably introduce a new conflict when, for instance, it rated its own — or indeed, another country's — sovereign debt or that of 'national champions'.

Finally, due to the absence of any profit motive, the agency would have less incentive to innovate and manage its cost base. Indeed, the efficiency losses stemming from public ownership could feasibly turn out to be higher than the welfare losses associated with conflicts in the current system. This is the very same objection that has prompted a retreat from public ownership and regulation in many other industries worldwide over several decades.

Conclusion

The financial crisis has drawn considerable attention to the role of CRAs in the financial system. CRAs were originally

private companies offering considered opinions on the quality of investments. The evolution of this role over time has left credit ratings hardwired into a wide range of regulatory and investment processes. CRAs can no longer be regarded solely as the providers of private goods to private markets. The crisis has demonstrated clearly that the public policy consequences of CRAs' franchises need to be taken into account.

Abolishing CRAs is not an option. Other gatekeepers would emerge to fill the void with their own ratings-like research and advice. Subsuming their role into a single public rating agency would also be fraught with difficulty: it would create false expectations, moral hazard and obstacles to innovation.

Reversing the hardwiring is challenging, but recent US legislation and the FSB's publication of *Principles for Reducing Reliance on CRA Ratings* constitute an important first step. Greater transparency in issuers' financial information and improvements in financial firms' capacity for internal assessment are pre-requisites for reducing reliance on ratings. Since such improvements will take time, it is important that the momentum behind recent initiatives is maintained.

But even if the hardwiring of CRA ratings into regulation and certification were reduced, CRAs are sure to retain an important information role in financial markets. Recent enhancements to regulation of CRAs, and steps to improve their governance, transparency and accountability should help to manage any adverse consequences of the influence CRAs have. But there may be a case for structural reform — at least in the structured finance segment of the market — to tackle conflicts of interest. This paper therefore also encourages deeper debate on how CRAs' business models might be modified or replaced to meet the legitimate market demand for unbiased credit opinions.

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