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Basel II and Fostering the Disclosure of Banks' Internal Credit Ratings

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Abstract

Advances in risk management capabilities should make it profitable for major banks to rely on internal credit ratings to calculate Basel II capital requirements (IRB approach). Firms and, more generally, market participants would benefit from the disclosure of these ratings. Banks, however, have no incentives to make their rating data publicly available. This paper proposes a regulatory framework to efficiently solve this incentive issue. It first shows that there are benefits in fostering the disclosure of internal ratings. In particular, it would reduce the cost of capital for both large and small borrowers while facilitating investor diversification.

To be sure, internal rating disclosure would also have its costs. For example, market volatility may increase, whereas lender-borrower relationships may

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suffer. This paper argues that it is possible to design a regulatory framework under which the benefits of rating disclosure clearly outweigh its costs. Banks opting for the IRB approach would have to provide their internal ratings to one of several regional entities. The latter would consolidate the data collected and give each borrower a rating equal to the average of the ratings it gets from its lenders. The average rating would be disclosed to the public unless the borrower has opted for non-disclosure. Relying upon multiple regional entities may cause some uncertainty (a given firm may get diverging average ratings), but it would also reduce moral hazard effects and foster competition in the rating industry.

Keywords: access to finance, Basel II, banking, capital requirements, disclosure, information providers, internal ratings, IRB approach, lenders, rating agencies.

1. INTRODUCTION

The Basel Capital Accord (also referred to as Basel I) was issued in 1988 by the Committee on Banking Supervision. It aimed at improving banking supervision by providing a credit risk measurement system and minimum capital standards. The Committee recently adopted a revised capital framework (also referred to as Basel II) that should be available for implementation by the end of 2007. Basel II aims at further improving banking supervision by integrating changes in risk management practices, in particular by allowing for greater use of banks' internal systems as inputs to capital calculations.

One of the core Basel II innovations is that it gives banks the option to calculate credit risk (the risk that a borrower will default) – a calculation that will influence how much capital banks are required to have (so-called regulatory capital) – using one of two approaches. Banks may continue to use a revised version of the existing standardised approach, with the additional possibility of using external credit agencies to assess credit risk. Alternatively, they may choose to adopt a new and more sophisticated method to measure credit risk by opting for the internal rating based (IRB) approach.[1] In theory, the IRB approach should bring regulatory capital requirements closer to credit risk profiles and result in major banks opting for the IRB approach. It is still too early to tell how many banks will in fact do so, but it seems a forgone conclusion that Basel II will contribute to internal ratings playing an increasingly important role in lending practices and pricing.

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[1] See Basel Committee on Banking Supervision, *Basel II: International Convergence of Capital Measurement and Capital Standards*: *A Revised Framework*, updated November 2005, available at: <http://www.bis.org>.

Basel II has generated substantial discussion about the reduction in regulatory capital it is likely to generate. However, the transparency opportunities it offers have been largely ignored. In particular, practically no attention has been paid to the benefits of disclosing internal ratings.

To be sure, there is awareness that information is incomplete in the credit market. Law-makers have attempted to improve rating information in various ways, in particular by regulating credit information providers and setting up public credit registries. However, the resulting rating information has suffered from limited coverage and remained restricted to select market participants. By itself, Basel II is unlikely to significantly change this situation. Banks have no incentive to make internal ratings public, as it is more profitable for them to keep this information private. This paper therefore proposes to address this incentive issue by requiring all banks opting for the IRB approach to publicly disclose their internal ratings.

The externalisation of internal rating information should not result in significant inconsistencies. National financial systems continue to differ due to country-specific trade-offs,[2] but there is a convergence trend. Financial intermediaries play an increasingly similar role in both market-oriented and (still) intermediary-oriented systems. Operational firms, for their part, are increasingly subject to a common regulatory framework when it comes to external finance, as exemplified by the development of regulatory arbitrage within Europe, the convergence of venture capital contracts around the world and the harmonisation of disclosure requirements and practices.

Against this background, requiring the disclosure of internal ratings would have the advantage of reducing the cost of capital for large and small firms alike. It would provide lenders and investors with a richer data set. Moreover, disclosure should improve rating reliability, facilitate investor diversification and decrease market uncertainty. Clearly, internal rating disclosure could also have its costs. It could increase market volatility and negatively affect inter-temporal risk allocation. It may also negatively affect lender-borrower relationships, which could result in adverse selection effects or make it more difficult for lenders to obtain rating information.

This paper argues that it is possible to design a regulatory framework under which the benefits of rating disclosure clearly outweigh its costs, which in turn should minimise interest group opposition to the externalisation of banks' private information. First, it would remain possible for banks to keep internal ratings confidential by opting to continue to use the standardised approach. Second, banks that opt for the IRB approach would not have to disclose the internal

[2] Compare P. Milgrom and J. Roberts, 'Complementarities and Systems: Understanding Japanese Economic Organization', 9 *Estudios Economicos* (1994) p. 3; R.G. Lipsey and K. Lancaster, 'The General Theory of Second-Best', 24 *Revue of Economic Studies* (1956) p. 11.

ratings themselves, but would do so through one of several (public or private) regional entities.

Third, regional entities would publicise ratings in consolidated form. Each borrower would get a rating corresponding to the average of the individual ratings it gets from its lending banks. This procedure would have several advantages. It is likely to improve rating quality (extremes will at least partly cancel each other out) and protect individual rating anonymity. It would also allow individual banks to keep a comparative advantage (or reduce a comparative disadvantage) if their internal rating differs from the disclosed average. Admittedly, overlapping disclosure by multiple regional entities may cause some uncertainty as a given firm may get diverging average ratings. However, rating multiplicity would also reduce moral hazard effects (excessive rating reliance would be prevented) and preserve competition by rating agencies (they could continue to offer uncertainty reducing services).

Fourth, borrowers would be allowed to opt out. The availability of a non-disclosure alternative would better protect borrowers against rating mistake risks. It would also minimise reductions in the information flow between borrowers and banks because of relationship-damaging disclosure.

The remainder of the paper is structured as follows. Section 2 provides an overview of the internal rating approach under the Basel II agreement. Section 3 addresses information sharing issues in credit markets and the specific costs and benefits of requiring the disclosure of internal ratings. Section 4 sketches a simple regulatory framework under which this private information could be efficiently externalised with minimal interest group opposition. Section 5 concludes.

2. Basel II and Internal Credit Ratings

The Basel Capital Accord was issued in 1988 by the Committee on Banking Supervision. It aimed at improving banking supervision by providing a credit risk measurement system and minimum capital standards. On 26 June 2004, the central bank governors and the heads of the bank supervisory authorities in the G10 countries approved a revised capital requirements framework, commonly referred to as Basel II, that should be available for implementation by the end of 2007. Basel II aims at further improving banking supervision by integrating changes in risk management practices, in particular by allowing for greater use of banks' internal systems as inputs to capital calculations and by providing banks with more risk-sensitive capital requirements.[3]

One of the core Basel II innovations is that it gives banks the option to calculate credit risk (the risk that a borrower will default) – a calculation that will

[3] See Basel Committee on Banking Supervision, op. cit. n. 1.

influence how much capital banks are required to have (so-called regulatory capital) – using one of two approaches. Banks may continue to use a revised version of the existing standardised approach. Regulatory capital to be kept by banks for credit risk will still equate to 8 per cent of their risk-weighted assets, but banks will be allowed to link risk weights to ratings provided by external credit assessment institutions, in particular credit rating agencies.

Banks may alternatively choose to adopt a new and more sophisticated method to measure credit risk by opting for the internal rating based (IRB) approach. Under this approach, credit exposures must be categorised in five broad classes of assets: corporate, sovereign, bank, retail (which may include corporate exposures of less than €1 million) and equity. Banks can also distinguish between exposures to small and medium-sized firms and exposures to larger firms.

Banks opting for the IRB approach will have to use internal ratings for credit approval, risk management and internal capital allocation purposes. As far as corporate exposures are concerned, the rating system must include a minimum of seven borrower grades for non-defaulted borrowers and one for those that have defaulted – with credit risk increasing from one grade to the next. A borrower's grade must not only reflect its current financial condition.[4] The grade must also indicate the borrower's ability and willingness to contractually perform despite adverse economic conditions or the occurrence of unexpected events. In other words, there is a link between credit rating and probability of default.[5]

The IRB approach should bring regulatory capital requirements closer to credit risk profiles and result in lower regulatory capital requirements.[6] Taking into account that major banks across developed countries already make widespread use of internal credit risk ratings,[7] and that existing practices have influenced Basel II requirements, larger banks can be expected to opt for the IRB approach. It is still too early to tell how many banks will in fact do so. Moreover, only banks that have robust validation procedures will be allowed to use the IRB approach, meaning that supervisory approval is likely to be restricted to sophisticated intermediaries. Nevertheless, it seems accepted that Basel II will result in

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4 Note that financial condition is influenced by financial as well as non-financial factors such as management quality and corporate governance. See, e.g., J. Grunert, et al., 'The Role of Non-financial Factors in Internal Credit Ratings', 29 *Journal of Banking and Finance* (2005) p. 509.

5 J.P. Krahnen and M. Weber, 'Generally Accepted Rating Principles: A Primer', 25 *Journal of Banking and Finance* (2001) p. 3.

6 See, however, E.I. Altman and G. Sabato, 'Effects of the New Basel Capital Accord on Basel Capital Requirements for SMEs', 28 *Journal of Financial Services Research* (2005) p. 15 (pointing out that capital requirements will only be lower for banks that use the advanced IRB approach).

7 See M. Carey and M. Hrycay, 'Parameterizing Credit Risk Models with Rating Data', 21 *Journal of Banking and Finance* (2001) p. 197; Krahnen and Weber, loc. cit. n. 5.

internal ratings playing an increasingly important role in lending practices and pricing.[8]

The increasing use of internal ratings does not imply that there is uniformity among banks in firm grading. Empirical studies show that there can be substantial differences among internal rating systems as well as in risk assessments.[9] These differences will not disappear under Basel II, the regulatory framework being flexible and leaving room for diversity in implementation by individual banks.

These differences, however, are unlikely to remain significant or prevent a comparative analysis of internal ratings. First, supervisory authorities will require banks using the IRB approach to establish that their ratings are consistent and meaningfully differentiate risk. This should minimise internal rating system divergence, as confirmed by the current trend towards using Standard & Poor's 26 borrower grade scale for internal rating purposes.[10] Second, differences in rating methods and grades among the major external rating agencies (Standard & Poor's and Moody's in particular) do not prevent market participants from using and comparing them.[11]

The increasing availability of comparable internal ratings naturally leads to the question of whether there would be benefits in lending banks sharing this information with other credit market participants.

3. Information Sharing

It is well known that credit markets are characterised by incomplete information, but that the release of additional information may have adverse effects.[12] Thus, the social advantages of sharing internal rating information will depend upon credit market information levels and disclosure costs and benefits.

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[8] See also V. Redak, *Risks, Ratings and Regulation: Toward a Reorganization of Credit via Basel II?*, working paper (2005), available at: <http://papers.ssrn.com>.

[9] See W.F. Treacy and M. Carey, 'Credit Risk Rating Systems at Large US Banks', 24 *Journal of Banking and Finance* (2000) p. 167 (establishing differences in internal rating systems in the United States); T. Jacobson, et al., 'Internal Ratings Systems, Implied Credit Risk and the Consistency of Banks' Risk Classification Policies', 30 *Journal of Banking and Finance* (2006) p. 1899 (establishing differences in credit risk assessment in Sweden).

[10] See E.I. Altman and A. Saunders, 'An Analysis and Critique of the BIS Proposal on Capital Adequacy and Ratings', 25 *Journal of Banking and Finance* (2001) p. 25.

[11] The difference between 'internal' and 'external' ratings is that the former are attributed by lenders for their own purposes whereas the latter are prepared for third party use by specialised providers (also called rating agencies).

[12] See generally F. Allen and D. Gale, *Comparing Financial Systems* (Cambridge, MIT Press 2000).

3.1 Incomplete rating information

Lenders often share information about borrowers' credit history, this exchange being generally mediated by credit rating agencies, credit bureaus and public credit registers.

Credit rating agencies rate firms that may or may not have solicited a credit evaluation. Credit rating agencies are the major providers of rating information and their opinions carry significant weight in financial markets. However, the credit rating industry comprises very few players, with Moody's and Standard & Poor's often being considered as having duopoly power. The significant role that credit rating agencies will play in relation to the Basel II standardised approach has also led various academics to point out the dangers of excess reliance upon agency ratings.[13] Law-makers have therefore expressed competition concerns and worried about rating procedures, independence (ratings are generally solicited and paid for by borrowers themselves) and quality. Recent financial scandals have provided the impetus for regulatory intervention but have not (yet) resulted in the adoption of bidding regulation.[14]

Credit bureaus assemble and distribute credit information voluntarily provided by affiliated lenders, mainly in the consumer credit area. Information distributed by credit bureaus is considered valuable,[15] but here too a limited number of players dominate most markets, including the Australian, German, Japanese, UK and US markets.[16] Moreover, credit bureaus only provide information on a reciprocal basis: lenders that do not provide credit information do not have access to credit information.

Public credit registries are governmentally established credit bureaus. Supervised financial intermediaries are required to provide loan status data to their central bank or supervisory authority. Public credit registries exist in around 60 countries, the precursors being Germany and France, and the region with the highest coverage in this regard is Latin America.[17] However, the required loan status data is often very basic and static (banks essentially have to report whether

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13 See, e.g., G. Ferri, et al., 'The Role of Rating Agency Assessments in Less Developed Countries: Impact of the Proposed Basel Guidelines', 25 *Journal of Banking and Finance* (2001) p. 115.

14 See C.A. Hill, 'Regulating the Rating Agencies', 82 *Washington University Law Quarterly* (2004) p. 43; Communication from the Commission on Credit Rating Agencies, *OJ* 2006 C 59/2; IOSCO, *Code of Conduct Fundamentals for Credit Rating Agencies* (December 2004).

15 See various contributions in M. Miller, *Credit Reporting Systems and the International Economy* (Boston, MIT Press 2003).

16 See M. Pagano and T. Jappelli, 'Information Sharing in Credit Markets', 48 *Journal of Finance* (1993) p. 1693.

17 See A. Powell, et al., *Improving Credit Information, Bank Regulation and Supervision: On the Role and Design of Public Credit Registries*, working paper (2004), available at: <http://papers.ssrn.com>.

a loan is in good standing, past due or in default) and access to credit information is normally only provided on a reciprocal basis.[18]

Generally speaking, it appears that credit information sharing varies considerably by country and credit market.[19] Credit rating agencies provide influential information, but rating coverage is limited for smaller firms and emerging markets,[20] whereas rating industry concentration and conflicts of interest raise rating quality issues. Private credit bureaus provide useful information too, but their focus is on consumer credit and access is limited to participating lenders. There is larger borrower coverage with public credit registries, but the rating information they provide is often rudimentary and access is normally limited to participating banks.

In short, there is room for improvement in credit information sharing. In this context, the increased importance Basel II gives to internal ratings could offer new transparency opportunities.

3.2 Internal rating disclosure under Basel II

By itself, the use of internal ratings under Basel II is unlikely to significantly reduce imperfections in credit market information. Banks will have no incentive to systematically make all their internal ratings public, as it is more profitable for them to keep this information private.[21] Rating intermediaries, for their part, cannot be expected to significantly increase rating coverage and access in the foreseeable future, whereas external rating quality will continue to be affected by independence and market concentration issues.

Against this background, regulatory intervention could improve rating quality, especially in view of empirical evidence that it should make no difference whether credit information is distributed through private or public schemes.[22] This paper therefore proposes to improve credit market information by requiring all banks opting for the IRB approach to publicly disclose their internal ratings.[23]

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18 Ibid.

19 See A.J. Padilla and M. Pagano, 'Sharing Default Information as a Borrower Discipline Device', 44 *European Economic Review* (2000) p. 1951.

20 See, e.g., A. Powell, *Basel II and Developing Countries: Sailing through the Sea of Standards*, working paper (2004), available at: <http://papers.ssrn.com>.

21 See also Pagano and Jappelli, loc. cit. n. 16 (information sharing is unlikely to be voluntary for positive, non-default information). Banks may, however, selectively disclose internal ratings for public relation purposes, see n. 59 *infra*.

22 T. Jappelli and M. Pagano, 'Information Sharing, Lending and Defaults: Cross-Country Evidence', 26 *Journal of Banking and Finance* (2002) p. 2017.

23 For a related proposal, although not focused on internal ratings, see Powell, et al., op. cit. n. 17 (suggesting that banks opting for the IRB approach could be required to gather and report specific data, possibly for distribution to other reporting banks or even to the public through credits registers).

There are, of course, pros and cons in requiring internal rating disclosure. However, the next two sections will show that there is no inconsistency risk in making internal rating available to the public and that the benefits of internal ratings disclosure should outweigh its costs.[24]

3.2.1 *Inconsistency risk*

Financial markets are generally divided into two categories, intermediary-oriented systems (basically continental European and Japanese systems) and market-oriented systems (basically Anglo-Saxon systems). The difference in regimes brings the risk that harmonisation efforts will result in inconsistencies.[25] On the other hand, we can observe a convergence towards market-oriented systems in all developed countries. Differences are not only being reduced by capital markets gaining in importance across countries. Financial intermediaries also contribute to the convergence trend by playing increasingly similar roles in both market-oriented and (still) intermediary-oriented systems.

Of course, differences among countries will not disappear in the near future. However, convergence significantly reduces the risk that internal ratings disclosure requirements will result in significant inconsistencies. This conclusion is reinforced when considering regulatory arbitrage developments within Europe, the global standardisation of venture capital contracts and the harmonisation of disclosure requirements and practices.

3.2.1.1 Regulatory arbitrage

Three recent decisions by the European Court of Justice have made it markedly easier for new firms to incorporate in a Member State other than the one they conduct business in.[26] There is some debate about whether these decisions will result in many firms engaging in regulatory arbitrage and in regulatory competition developing among Member States. What cannot be disputed, however, is the

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24 Note that it is not claimed here that the benefits of Basel II exceed its costs, but merely that taking Basel II as a given, it would be beneficial to require internal rating disclosure. On whether the overall costs of Basel II exceed its benefits, see, e.g., R.J. Herring, 'Implementing Basel II: Is the Game Worth the Candle', 14 *Financial Markets, Institutions and Instruments* (2005) p. 267.

25 See R.H. Schmidt and M. Tyrell, 'Information Theory and the Role of Intermediaries', in K.J. Hopt, et al., eds., *Corporate Governance in Context* (Oxford, Oxford University Press 2005) p. 481; R.H. Schmidt and G. Spindler, 'Path Dependence and Complementarity in Corporate Governance', in J.N. Gordon and M.J. Roe, eds., *Convergence and Persistence in Corporate Governance* (Cambridge, Cambridge University Press 2004) p. 114; K. Pistor, et al., 'Law and Finance in Transition Economies', 8 *Economics of Transition* (2000) p. 325.

26 See ECJ, Case C-212/97 *Centros* [1999] *ECR* I-1459; Case C-208/00 *Überseering* [2002] *ECR* I-9919; Case C-167/01 *Inspire Art Ltd.* [2003] *ECR* I-10155.

increase in the number of firms choosing to be governed by UK law (a so-called outsider-controlled jurisdiction), even though they will operate in continental Europe (in so-called insider-controlled jurisdictions).[27] It is also noticeable that France, Germany and the Netherlands have recently undertaken legislative reforms in the wake of UK regulatory changes.[28]

These developments are likely to produce a three-stage outcome. First, most EU Member States will face a situation where closely-held firms operating on their territory will be governed by corporate laws that are enacted by another Member State. Second, if early US developments have any comparative value, the cohabitation of closely-held firms subject to different regimes is likely to produce converging corporate laws.[29] Third, some closely-held firms will become public under the regulatory regime of a Member State other than the one in which they operate, putting high pressure on the latter Member State to adjust its own regime for publicly-held firms. As a result, the European regulatory framework governing access to external finance is likely to converge further, which in turn will reduce inconsistency risks.

3.2.1.2 Venture capital contracts

Whereas the US venture capital market is large and well-established, European venture capital activity was still close to non-existent in the mid-1990s.[30] In recent years, however, venture capitalists have become increasingly active in Europe, with current European venture capital financing levels comparing favourably with US levels.[31]

Interestingly, the development of the European venture capital market has gone hand-in-hand with a gradual replication of US practices. A keystone of the US venture capital market is that information asymmetries, conflicts of interest and uncertainties are dealt with through private ordering.[32] Very early European attempts to develop a venture capital market relied upon governmental financing,

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27 See M. Becht, et al., *Corporate Mobility and the Costs of Regulation*, working paper (2006), available at: <http://papers.ssrn.com>.

28 See G. Hertig and J.A. McCahery, 'Company and Takeover Law in Europe: Misguided Harmonisation Efforts or Regulatory Competition', 4 *EBOR* (2003) p. 179.

29 See also W.J. Carney, 'The Production of Corporate Law', 71 *Southern California Law Review* (1998) p. 715.

30 B. Black and R.G. Gilson, 'Venture Capital and the Structure of Capital Markets: Banks versus Stock Markets', 47 *Journal of Financial Economics* (1998) p. 243.

31 See the data published by the European Private Equity and Venture Capital Association (for Europe) and Thomson Venture Economics and National Venture Capital Association (for the United States). For example, funds raised for the European market in 2005 were up to about two-thirds of those raised for the US market (€12,700 billion and $22,260 billion respectively).

32 R.G. Gilson, 'Engineering a Venture Capital Market: Lessons from the American Experience', 55 *Stanford Law Review* (2003) p. 1067.

the usual European approach for risky projects, but were plagued by failures.[33] When experienced US venture capitalists started investing in Europe, they used the US-style contracts with which they were familiar. The available empirical evidence shows that the approach proved successful across jurisdictions, regardless of the applicable legal regime.[34]

This result may reflect smaller than expected financial system divergence between the US and German poles,[35] or rapid convergence due to German banks' realisation that venture capitalism was likely to foster their lending activities.[36] In any event, venture capital is a good example of the increasing similarity of financial systems and the potentially limited role of inconsistencies when it comes to external finance.

3.2.1.3 Harmonised disclosure

EU jurisdictions and Japan impose more stringent accounting and disclosure requirements on closely-held firms than the United States, whereas the latter regulates disclosure by public companies more heavily. Moreover, public corporations are subject to higher regulatory pressures in the United States when it comes to forward-looking information.

However, market pressures have reduced the regulatory gap by forcing US closely-held corporations as well as European and Japanese public corporations to disclose more data than required by applicable regulation.[37] In other words, despite claims about differences in governance regimes requiring separate modes of information processing to avoid prohibitive inconsistencies, market forces have contributed to the *de facto* harmonisation of disclosure practices.

Law-makers are attempting to consolidate and extend the scope of convergence in disclosure. For example, the more than 7,000 EU firms traded on regulated markets have been required to comply with Anglo-Saxon-oriented accounting standards.[38] Similar policies are being implemented in Japan.[39] Here

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33 R. Becker and T.F. Hellmann, 'The Genesis of Venture Capital: Lessons from the German Experience', in C. Keuschnigg, et al., eds., *Venture Capital Entrepreneurship and Public Policy* (Cambridge, MIT Press 2004) p. 33.

34 S.N. Kaplan, et al., *How do Legal Differences and Learning Affect Financial Contracts?*, working paper (2004), available at: <http://papers.ssrn.com>.

35 See A. Bascha and U. Walz, *Financing Practices in the German Venture Capital Industry: An Empirical Assessment*, working paper (2001), available at: <http://papers.ssrn.com>.

36 See T.F. Hellmann, et al., *Building Relationships Early: Banks in Venture Capital*, working paper (2003), available at: <http://papers.ssrn.com>.

37 See R.R. Kraakman, et al., *The Anatomy of Corporate Law* (Oxford, Oxford University Press 2004) pp. 71 and 193.

38 See Regulation on the Application of International Accounting Standards, *OJ* 2002 L 243/1.

39 See C. Smith, 'Called to Account', *Institutional Investor*, December 2002, at p. 62; but see B. Jopson and D. Pilling, 'Accounting Teams Struggle to Sing to a Similar Tune', *Financial Times*, 9 March 2005, at p. 14 (convergence is a lengthy process).

again, the harmonisation path is not always smooth, and differences will remain in disclosure requirements or practices. However, those differences reflect diverging views about the costs and benefits of disclosure and cannot be regarded as a source of financial system inconsistencies.

Summing up, the dynamics of regulatory arbitrage, globalisation of venture capital financing and disclosure harmonisation make it unlikely that requiring the disclosure of internal ratings will result in significant inconsistencies.

3.2.2 *Costs and benefits of disclosure*

The above conclusion does not, however, mean that the benefits of internal rating disclosure requirements exceed their costs. Requiring internal ratings disclosure can be expected to reduce the cost of capital, but the strategy may also have disadvantages in terms of data reliability, risk sharing, market uncertainty and rating providers. These potential trade-offs justify a more detailed cost-benefit analysis.

3.2.2.1 Cost of capital

Internal ratings disclosure is likely to provide investors with richer and possibly timelier information than currently available. This should reduce the cost of capital for both publicly-held and closely-held firms.[40]

For listed firms or initial public offerings, the disclosure of internal ratings should lead to an increase in stock prices as investors will expect lower returns following the disclosure of private information.[41] Similarly, larger non-listed firms should see a decrease in their cost of external finance. Banks' regulatory capital requirements should be lower under the IRB approach than under a standard approach, which should allow large non-listed firms to profit from improved loan pricing.[42]

Internal rating disclosure should make smaller non-listed firms more attractive for venture capitalists and private equity investors.[43] It is indeed often difficult for smaller firms to get a reliable rating from external rating providers, either because

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[40] See, e.g., A.J. Padilla and M. Pagano, 'Endogenous Communication among Lenders and Entrepreneurial Incentives', 10 *Review of Financial Studies* (1997) p. 205; J. Stiglitz and A. Weiss, 'Credit Rationing in Markets with Imperfect Information', 71 *American Economic Review* (1981) p. 393.

[41] See D. Easley and M. O'Hara, 'Information and the Cost of Capital', 59 *Journal of Finance* (2004) p. 553.

[42] See also M. Dietsch and J. Petey, 'The Credit Risk in SME Loans Portfolios: Modeling Issues, Pricing, and Capital Requirements', 26 *Journal of Banking and Finance* (2002) p. 303.

[43] For lending in general, see also T. Beck and A. Demirguc-Kunt, 'Small and Medium-Size Enterprises: Access to Finance as a Growth Constraint', *Journal of Banking and Finance* (forthcoming).

smaller firms deem rating costs and risk not worth the reward or because there is insufficient supply of external rating capabilities. The externalisation of banks' internal ratings information would therefore reduce venture capitalists' and private equity funds' cost of information gathering and processing.[44] These financial intermediaries will thus be able to make better use of their information assessment capabilities, in turn facilitating smaller firms' access to finance.

3.2.2.2 Data reliability

Borrowers generally have long-standing relationships with one or several banks, giving the latter privileged access to firm-specific information. Hence, major banks can be expected to have liquidity and solvency information that covers a larger set of borrowers and is at least as reliable as information held by credit rating providers.

On the other hand, an analysis of insolvencies throughout the twentieth century would reveal many examples of uninformed lenders. It is also probable that current pressure to cut costs will result in some lenders lacking adequate monitoring capabilities. Remember, however, that only sophisticated banks will get supervisory approval to use the IRB approach. Internal ratings disclosure will thus be limited to banks with validated tools and procedures.

To be sure, regulatory approval will not eliminate the risk of internal credit ratings being based on deficient information or biased because of banks' regulatory capital interest in tampering ratings.[45] Switching from the standardised to the IRB approach could also result in excessive reliance on models, which may increase systemic errors (if many banks use similar models) and lead to the disregard of critical subjective information (such as failure to pass the 'smell test').

Nevertheless, these risks should not be overestimated. First, banks use internal ratings for multiple purposes, including the calculation of bonuses. The banks' own employees can thus be expected to object to significant rating tampering for regulatory capital purposes unless a second set of ratings is used for bonus purposes, which in turn can be expected to be opposed by external auditors. Second, the race for competitive advantages and differences in corporate cultures are likely to make internal ratings vary from lender to lender, a phenomenon that can already be observed across rating agencies. This should improve the supervisory authorities' capability to detect anomalies in a timely manner and prevent blind reliance on faulty models. Third, model dependence issues should not prevent internal ratings from being as reliable as currently available rating data.

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[44] See also A.W.A. Boot, et al., 'Credit Ratings as Coordination Mechanisms', 19 *Review of Financial Studies* (2006) p. 81 (credit ratings provide a 'focal point' for firms and their investors).

[45] See R. Kirstein, 'The New Basle Accord, Internal Ratings, and the Incentives of Banks', 21 *International Review of Law and Economics* (2002) p. 393; Carey and Hrycay, loc. cit. n. 7.

As indicated, banks are generally at least as well informed as rating agencies. Moreover, banks should face lower reputation and liability risks when significantly downgrading a borrower than firms that sell rating data. Indeed, the move would reflect prudential rather than informational considerations, reducing the likelihood of market or judicial sanctions.

One could argue, however, that the reliability advantage of internal ratings may end up being an issue by itself. First, it may result in excessive investor reliance. However, this potential moral hazard effect should not be overestimated. Adding internal rating to external rating information can, as we shall see, be a source of stock price volatility and this should keep investor reliance within acceptable limits. In addition, it is possible to further reduce moral hazard effects by institutionalising multiple rating sources (see section 4).

Second, bank disclosure of low internal grades may have stigma effects, especially for listed firms with small-sized capitalisation or for very small firms. External rating firms may pay limited attention to small caps, which could magnify the impact of lower internal rating disclosure. Very small firms may have only one rating, the one provided by their single bank, and downgrades could make it very difficult for them to get alternative sources of finance.

The fact that the stigma effect could increase the cost of capital for certain firms does not necessarily mean that it is a source of inefficiency. For small caps, the stigma effect is likely to merely reflect the improved and timelier nature of rating information. For very small firms, the stigma effect may remain a hypothetical one to the extent they are less likely to borrow from banks who use the IRB approach.

3.2.2.3 Risk sharing

Disclosure could increase risk sharing opportunities. First, the availability of major banks' internal ratings may decrease the probability that unsophisticated lenders using the 'crude' standardised approach will take uninformed lending risks.[46]

Second, internal rating disclosure should facilitate investor portfolio diversification. The number of rated firms will increase and the granularity of existing credit ratings should improve, especially given the trend towards general use of a harmonised rating scale. Moreover, the observation that rating agencies' tend to give better ratings to those firms that solicit their services[47] should loose its force or, at least, be balanced by the availability of internal ratings.

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[46] See B. Rime, *The New Basel Accord: Implications of the Co-existence between the Standardized Approach and the Internal Ratings-based Approach*, working paper (2003), available at: <http://www.szgerzensee.ch>.

[47] See W.P.H. Poon, 'Are Unsolicited Credit Ratings Biased Downward?', 27 *Journal of Banking and Finance* (2003) p. 593.

Third, internal rating information should make investors less prone to become victims of conflicts of interest. This is especially true for investors that have their assets managed by financial intermediaries that also act as corporate lenders.[48] In such situations, the disclosure of internal ratings will make it more difficult for asset managers to 'stuff' debt instruments that are unpalatable into the discretionary portfolios of unsuspecting investors.

On the other hand, internal rating disclosure may also reduce risk-sharing opportunities. Banks have a comparative advantage in handling inter-temporal risk sharing, due to their ability to allocate risk and smooth consumption over time.[49] However, this advantage presupposes that households have at least part of their financial wealth in the form of deposit accounts rather than securities. If so, and should internal rating disclosure result in households transforming fixed claims against banks into securities, inter-temporal risk sharing may decrease.

Whether the net effect of internal ratings disclosure will be an increase or a decrease of risk-sharing opportunities is ultimately an empirical question. It would, however, be rather surprising to see the potential costs in terms of inter-temporal risk sharing end up exceeding the sum of all the above-mentioned risk sharing benefits.

3.2.2.4 Market uncertainty and volatility

The availability of internal ratings in addition to existing external ratings should decrease market uncertainty. First, the self-selection bias inherent to external ratings should be balanced by the availability of internal ratings. Second, market participants will be able to rely on a broader rating sample and get a better picture about the extent to which there is consensus on a given firm's solvency. Third, internal rating disclosure could provide additional methodology information. The methodology used by banks under the IRB approach will be known to supervisory authorities, who can be expected to make the main rating parameters public so as to streamline IRB approval procedures and facilitate regulatory monitoring. The disclosure will not only benefit users of internal ratings, but could also put pressure on other rating providers to provide additional information about their own methodology.

Internal ratings disclosure may also lead to a decrease in stock price volatility. In particular, banks should prove faster than other providers of solvency data in adjusting ratings to changes in circumstances.[50] Investors would thus get information that

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48 See P. Bolton, et al., 'Conflicts of Interest, Information Provision, and Competition in the Financial Services Industry', *Review of Economic Studies* (forthcoming 2006).

49 See Allen and Gale, op. cit. n. 12; J. Hirshleifer, 'The Private and Social Value of Information and the Reward to Inventive Activity', 61 *American Economic Review* (1971) p. 561.

50 See also E.I. Altman and H.A. Rijken, 'How Rating Agencies Achieve Rating Stability', 28 *Journal of Banking and Finance* (2004) p. 2679; S. Claessens and G.C.M.W. Embrechts,

is timelier, which should permit more accurate pricing and reduce stock price volatility. However, the benefits of timeliness should not be overestimated, as it may also increase stock price volatility. This could be the case, for example, if there is significant variance in rating across banks, a large increase in the frequency of rating reversals or if rating disclosure has procyclicality effects due to all banks making similar up/down rating changes in response to economic recession/expansion.[51]

3.2.2.5 Rating providers

Somewhat counter-intuitively, credit rating agencies are also likely to benefit from the disclosure of banks' internal ratings. It should reduce their liability risk when providing corporate ratings to banks using the standardised credit risk approach.[52] Credit rating agencies will be able to refer to internal ratings to either justify their call (if internal and external ratings are similar) or hedge their bets (if external and internal ratings diverge). Moreover, the availability of internal ratings as a new source of information should decrease the risk of rating agencies becoming burdened by heavy regulation or investigated by competition authorities. Indeed, the availability of internal ratings will make it harder to pin the blame for market failures on rating agencies or to establish their market dominance.

By contrast, it could be costly for banks to disclose their internal ratings.[53] First, free-riders could take advantage of lenders that disclose their internal ratings. For example, some lenders may decide to gain a competitive advantage by relying on other lenders' internal ratings while refraining from disclosing their own. Or, to take another example, a disclosing bank's counter-party could use the rating information to asymmetrically improve its trading or bargaining position. These costs, however, should be at least partly balanced by internal rating disclosure reducing the risk of regulatory arbitrage. Indeed, the disclosure of internal ratings makes it easier to spot those banks still governed by the standardised approach that take advantage of the latter's being capital lenient towards high-risk borrowers to engage in under-priced lending.[54]

Basel II, Sovereign Ratings and Transfer Risk: External versus Internal Rating, working paper (2003), available at: <http://papers.ssrn.com>.

51 See also M.B. Gordy and B. Howells, 'Procyclicality in Basel II: Can we Treat the Disease without Killing the Patient', 15 *Journal of Financial Intermediation* (2006) p. 395; G. Löffler, 'Ratings versus Market-based Measures of Default Risk in Portfolio Governance', 28 *Journal of Banking and Finance* (2004) p. 2715.

52 Basel II provides that lenders using the standardised approach must have their credit risk measurement supported by external credit assessments.

53 See also Kirstein, loc. cit. n. 45.

54 See also P. Van Roy, *Credit Rationing and the Standardized Approach to Credit Risk in Basel II*, working paper (2005), available at: <http://papers.ssrn.com> (showing that the incentives for banks to engage in regulatory arbitrage in the standardised approach is limited).

Second, banks could expose themselves to significant liability. Borrowers could face higher than justified costs of capital or even be made insolvent by being rated below what they should be. Investors or creditors could suffer significant losses because they have been misled by rating mistakes or delayed updates.

Third, banks' relationships with borrowers could suffer from the disclosure of internal ratings. On the one hand, potential disagreements over ratings having a larger effect, it could become more difficult for banks to get free and untainted access to borrower information. On the other hand, disclosure may raise new adverse selection and moral hazard issues.[55] For any given bank, underrated borrowers will look for other sources of finance whereas overrated borrowers will stay put. Moreover, borrower discipline may decrease as defaulting could be less of a stigma than it is in the absence of internal ratings disclosure.

These disadvantages explain why banks do not voluntarily engage in the systemic disclosure of internal ratings, but do not imply that a disclosure requirement would be inefficient. As the next section will show, bank disclosure disadvantages can be minimised under an adequate regulatory framework.

Summing up, the costs of mandating the disclosure of internal ratings are unlikely to exceed its benefits. Admittedly, mandatory disclosure could increase the 'flawed model' costs of the IRB approach and negatively affect inter-temporal risk sharing. However, the link between the adoption of a disclosure requirement and the occurrence of these disadvantages seems weak, as other factors are likely to play a much more significant role. The only real objection to requiring disclosure has to do with its potential costs for lending banks, an issue that can be dealt with by the proper design of the regulatory framework.

4. SKETCHING A REGULATORY FRAMEWORK

It is relatively easy to design a disclosure of internal ratings procedure. Major legal issues could be avoided by integrating into Basel II a provision according to which the use of the IRB approach is contingent upon the public disclosure of internal ratings. The effort and time needed to achieve international harmonisation would thus be significantly reduced. Constraints on banks could also be kept low. On the one hand, banks could still avoid disclosure by opting for the standardised approach. On the other hand, compliance costs would be minimal for those banks opting for the IRB approach, as their choice would mean that there are almost no transactions costs in disclosing internal ratings.[56]

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55 See Jappelli and Pagano, loc. cit. nn. 16 and 22.

56 See also L. Zingales, *The Costs and Benefits of Financial Market Regulation*, working paper (2004), available at: <http://papers.ssrn.com>.

However, market participants as well as banking supervisors can be expected to oppose this 'simple' procedure. First, banks may argue that internal rating disclosure would significantly increase their liability risk (i.e., borrowers, investors or creditors could claim to have been damaged by erroneous, misleading or untimely ratings) and facilitate competitor access to business secrets, in particular rating procedures and methods.[57] Banks may also stress that internal rating disclosure will damage their relationship with borrowers and allow other market participants to take advantage of the revealed exposures.

Second, borrowers may resist internal rating disclosure on the ground that loans are subject to trigger clauses that provide termination rights in case of downgrading, a scenario that could become more likely if internal ratings are disclosed (the assumption being that internal ratings would be more sensitive and timely than external ratings). In addition, small caps and very small borrowers are likely to object to the requirement because of its perceived stigma effects.

Third, rating agencies will oppose any development that could end up damaging their own relationship with borrowers, in particular a requirement that would force them to disclose proprietary information.[58]

Fourth, supervisory authorities may object to internal rating disclosure because of the potential moral hazard effect of disclosing data generated by systems they have vetted. Lenders, investors and creditors may consider the internal ratings as backed by supervisors and thus reduce their own information gathering and processing efforts, the perception being that 'guilty' supervisors will arrange for a bail-out in case of major borrower insolvency.

The validity of several of these possible objections is debatable and it is uncertain whether and how strongly they will be voiced. For example, one may doubt that the disclosure of internal ratings will significantly increase lender liability risk considering that credit information is routinely shared through credit bureaus and public register offices. Or, to take another example, the extent to which the disclosure of internal ratings may reveal business secrets remains unclear, especially in view of major banks selectively disclosing some internal ratings for public relations purposes.[59]

Nevertheless, interest group opposition is most likely to prevent the adoption of a straightforward conditionality approach. The efficiency and political economy issues raised by the disclosure of internal ratings must thus be dealt with

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57 See H. Merkt, 'Creditor Protection through Mandatory Disclosure', 7 *EBOR* (2006) p. 95.

58 See, e.g., C. Batchelor, 'Rating Agencies Win Rule Victory', *Financial Times*, 28 December 2004, at p. 16 (reporting IOSCO's abandonment of a proposal to require rating agencies to make public confidential information obtained from companies seeking a rating).

59 See, e.g., 'Nachlassender Trend zu Höheren Bonitätsnoten, CS veröffentlicht Kredithandbuch 2006', *Neue Zürcher Zeitung*, 28 June 2006, at p. 27 (mentioning that Credit Suisse, UBS, Zürcher Kantonalbank and Bank Vontobel regularly disclose select internal ratings to the media and investors alike).

under a more refined regulatory framework. This paper thus proposes the adoption of a three-step approach. First, internal ratings would be disclosed by a third party and as averages. Second, there would be multiple third party disclosure. Third, borrowers would be given the right to opt out.

4.1 **Third party disclosure**

Requiring disclosure through a third party rather than directly by banks has several advantages. First, it puts some liability distance between banks and disclosure, which should contribute to keeping the lenders' litigation risk within acceptable limits. Second, it mimics the procedure adopted for other credit information sharing schemes, such as those relying upon credit bureaus and public credit registers. Third, it should foster competition in the rating agency industry.

Admittedly, the designation of the disclosing third party could raise credibility issues. The third party must be perceived as competent and unlikely to abuse its privileged access to rating information. To minimise these issues, it may be necessary, at least in the initial stage, to put a public entity in charge of the distribution of internal rating information – central banks being among the possible candidates, as exemplified by the public credit registry experience in general and the *Banque de France* firm scoring practice in particular.[60]

In addition, third party disclosure would make it possible to institutionalise the publication of average ratings. As most borrowers deal with more than one major bank, the third party would be able to consolidate the various ratings a firm gets and disclose an 'average' to market participants. Individual banks' ratings would thus remain anonymous, which would further distance banks from the process and reduce direct effects on bank-borrower relationships. Moreover, the disclosure of average ratings would allow better informed banks to keep a competitive advantage while giving less informed banks an opportunity to revise their analysis, or even reconsider the robustness of their IRB approach. The disclosure of averages could also reduce excessive subjectivity risks, as well as rating biases, because of the regulatory capital advantages in tampering ratings upwards or the negotiation value of imposing a below market grade upon a recalcitrant borrower.[61]

There are, however, various methodology issues relating to the disclosure of average ratings. First, major banks are unlikely to use uniform rating procedures, and differences in the nature and importance of their relationship with individual

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[60] S. Foulcher, et al., *La Structure par Termes des Taux de Défauts et Ratings*, working paper (2004), available at: <http://www.banque-france.fr>.

[61] See, e.g., A. Klein, 'Credit Raters' Tactics in Pursuing New Work Frustrate Companies', *Wall Street Journal Europe*, 25 November 2004, at p. A1 (reporting that borrowers, for cost reasons, refuse to ask for an external rating where sanctioned by the unsolicited disclosure of low-grade ratings).

borrowers may affect the relevance of their ratings.[62] However, supervisory approval of IRB systems should prevent differences from being significant enough to make ratings inconsistent.[63] In addition, the existence of differences in methodology should contribute to smoothing the effect of rating biases.

Second, the disclosure of averages may mislead market participants insofar as they underestimate the extent to which major banks diverge in their estimation of the credit risks associated with an individual borrower. To deal with this issue, the disclosing third party could be required to single out borrowers with significant rating divergence or even to provide standard deviation data.

Third, the disclosure of averages raises accountability and transparency issues. Individual banks cannot be accountable for a borrower's aggregate score, which in turn cannot be traced to a specific lender. Moreover, an average rating leaves a black box as far as key risk drivers are concerned. To reduce the accountability issue, it may be necessary to identify the banks (but not the ratings) that have provided the data on which the average is based. It is more difficult to address the black box issue. This is probably an area where market participants will have to rely on other rating providers should they want to get a deeper credit risk understanding.

4.2 Multiple rating disclosure

Given that large borrowers have relationships with major banks around the world, disclosure could be organised so as to take place through multiple third parties. For example, US banks would report their internal ratings to a US-based third party, whereas EU and Japanese banks would report theirs, respectively, to an EU-based or Japan-based third party.

Having multiple ratings for one borrower may cause some uncertainty, but this would contribute to a reduction in liability risks and moral hazard effects. Uncertainty would make it more difficult for investors and creditors to attribute insolvency-related losses to a single third party, bank or supervisor. It would also prevent excessive internal rating reliance by market participants and leave those best placed to monitor borrowers with an incentive to do so. In addition, having multiple rating disclosures would avoid giving excessive power to any third party and, presumably, foster competition in the rating industry.

4.3 Opting out

Finally, each borrower could be given the right to avoid disclosure by instructing its banks not to provide its internal rating to the disclosing third parties. Allowing

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[62] R. Elsas, 'Empirical Determinants of Relationship Lending', 14 *Journal of Financial Intermediation* (2005) p. 32.

[63] See section 2 *supra*.

borrowers to opt out would significantly reduce the potential for stigma effects as well as the risk that disagreements over ratings end up damaging lending relationships.

At the same time, the availability of such an option is unlikely to result in a significant number of borrowers opting out. Firms that opt out would have to explain to their investors or creditors why they do not want their internal ratings to be disclosed. This should limit the exercise of opt-outs to those instances where borrowers have solid reasons to oppose disclosure.

4.4 Minimising interest group opposition

The proposed framework should minimise opposition to the disclosure of internal ratings. Investors can be expected to welcome a requirement that improves transparency, facilitates portfolio diversification and reduces the risks related to conflicts of interest. Similarly, the majority of borrowers should be in favour of a mechanism that is likely to reduce the cost of external finance while leaving a possibility to opt out.

Rating agencies and major banks could prove less enthusiastic. However, rating agencies should be quick to realise that the uncertainties inherent in the proposed framework leave them sufficient room for the provision of value-added services while reducing the risk of regulatory intervention because of rating deficiencies or insufficient competition. Major banks, for their part, could have an interest in being given an opportunity to calibrate their internal ratings against average ratings. To be sure, both rating agencies and banks may still find the *status quo* as interesting or even preferable, but it is unclear why they would engage in a major lobbying effort to oppose a reform that does not cost them much.

Finally, supervisory authorities should prove supportive of a disclosure requirement that improves transparency, allows for multiple cross-checks of internal ratings and leaves room for enough uncertainty to avoid moral hazard effects. More importantly, supervisory authorities should be willing to implement a mechanism that is likely to improve financial stability by providing more timely warnings of an industry-specific, country-specific or more general deterioration of the economy, especially considering that they drafted Basel II with the aim of minimising systemic risk and its impact on financial stability.

5. Conclusion

This paper argues that the Basel II accord provides an opportunity to efficiently externalise internal rating information across jurisdictions, regardless of the orientation of their financial system.

It is thus proposed to require the disclosure of the internal ratings of those banks that adopt the IRB approach for calculating capital requirements. Disclosure would occur in averaged form through multiple third parties, whereas borrowers would be allowed to opt out to prevent outsiders from having access to their internal ratings.

This framework would minimise the disadvantages of disclosure while preserving its advantages. As a consequence, one could expect interest group opposition to prove too weak to prevent its implementation.