Origination and Distribution of Debt: Risks and Regulatory Solutions

*Anselm Lenhard**

This article focuses on misaligned incentives in the lending process caused by the shift from the traditional relationship banking model to a more transaction-oriented 'originate-to-distribute' model of bank finance as one of the major factors contributing to the financial crisis of the years 2007–2009. Based on a theoretical analysis of banks as financial intermediaries and the agency costs involved if banks distribute assets they have created to other parties in the financial system, empirical studies are reviewed which demonstrate that market mechanisms apparently contain these agency costs in loan syndications and loan sales, but failed to do so in securitisations during the years before the onset of the financial crisis. The EU has already reacted to this breakdown of market mechanisms by an amendment to the Capital Requirements Directive with the purpose of aligning incentives in securitisation transactions by getting more securitiser 'skin in the game'. Similar legislation has been adopted in the US. This article places the EU and US response to perceived shortcomings in securitisations in the context of the theoretical and empirical literature and discusses alternative regulatory solutions.

I. Introduction

In its early stages the recent financial crisis was referred to as a subprime mortgage crisis. In the US mortgage market, lenders had made loans available to more and more marginal borrowers over the last decade.[1] While mortgage lenders had primarily relied on the appreciation of the value of the underlying collateral – house prices in the US had been rising for decades – standards for underwriting mortgage loans had declined and allowed loans to be made even without any documentation of the borrower's creditworthiness. The lending boom in the subprime segment of the US mortgage market was fuelled (at least in part) by the fact that mortgage lenders were able to arrange mortgage loans and pass on the risk associated with them to investors around the world. Therefore, when US borrowers defaulted on these loans, investors were directly affected by the mounting problem on a global scale.

Over the past decades, a fundament shift in banking has transformed the credit business of banks from the traditional relationship banking model to a more transaction-oriented model, where banks originate loans, earn fees in the process, and then distribute the risk of these loans to other investors through transactions like loan syndication, loan sale or securitisation. This so-called 'originate-to-distribute' model of bank finance has spread the risk created by bank lending decisions throughout the financial system to multiple parties. While in the years before the onset of the recent financial crisis the financial establishment espoused the idea that the dispersion of credit risk by banks to a broader and more diverse set of investors had helped to make the banking and

* Dr Anselm Lenhard is an associate in the finance practice group of Freshfields Bruckhaus Deringer LLP and works in the firm's Munich office. This article is based on the author's dissertation for the LL.M. programme 2009–2010 of the London School of Economics and Political Science (LSE). The author is grateful to Prof Niamh Moloney for the excellent supervision of his research project. Special thanks goes to Giorgio Tosetti Dardanelli for stimulating discussions of topics of financial markets regulation. All remaining flaws are, of course, the author's own responsibility.

1 Douglas W. Diamond and Raghuram G. Rajan, "The Credit Crisis: Conjectures about Causes and Remedies", 99 *American Economic Review* (2009), pp. 606 *et sqq.*, at p. 606.

overall financial system more resilient,[2] the general opinion on risk distribution has since shifted, and this is partly due to a re-evaluation of the inherent incentive problems of risk origination and distribution,[3] as can be seen by the various reports looking into the reasons for the financial crisis.[4]

Leaving aside any potential macroeconomic causes, one of the main reasons at micro level seems to have arisen from misaligned incentives, for example problems of the remuneration structure in the financial sector which have been pointed to particularly in the public debate.[5] As bad debt that now clogs up the financial system quite often originates from a bad lending decision, this article focuses on flawed incentives in the lending process that might be one of the major factors contributing to the subprime crisis in the US mortgage market and, ultimately, to the financial crisis of the years 2007–2009. The origination and distribution of debt has been accused of weakening the incentives of originators of credit risks to screen and monitor borrowers adequately and therefore of lowering the standards for underwriting loans. These incentive problems merit a closer look from the perspective of financial markets regulation, as here the battle for regulatory territory between private market ordering and regulatory intervention can be aptly exemplified. Public outcries for tougher regulation have to be balanced by policymakers against the need for flexibility in financial markets to allow for beneficial, value-creating financial innovation that would otherwise be curtailed by regulation that is too prohibitive and strict. To avoid 'throwing the child out with the bathwater', any regulation of financial markets has to be justified by a market failure and a cost-benefit-analysis of the recommended regulatory remedy. Any market failure in financial markets can create systemic risk and thereby trigger a chain of failures resulting in a financial crisis. Evidence of a market failure can thus provide strong motivation for regulatory intervention to prevent such a catastrophic course of events and is a guiding factor for evaluating the regulatory response to breakdowns of market mechanisms unearthed by the recent financial crisis.

In this article, Section II introduces the traditional theories on financial intermediation and their implications for the assets created by financial intermediaries such as banks. In applying these theoretical findings to certain transactions associated with the 'originate-to-distribute' model of bank finance which are problematic from a theoretical perspective, Section III looks at loan syndication, loan sales and securitisation in particular, and discusses empirical evidence of the trade-off between liquidity and incentives being posed by the distribution of credit risk to other participants in the financial system. After establishing the extent of the need for regulation, Section IV evaluates some of the regulatory solutions to the securitisation issues outlined in the previous section and introduces recent specific legislation in the EU and the US. Section V sums everything up in a conclusion.

II. The theory of financial intermediation

1. Financial intermediation

Financial intermediation,[6] the process through which savings and investment flows are channelled through organisations such as banks, is a central pillar of capitalist economies. Financial intermediaries borrow funds from one subset of agents in the economy with surplus funds and lend funds to another subset of agents that would like to utilise these funds. They do so by raising capital through taking deposits from depositors or issuing securities to investors

2 International Monetary Fund, *Global Financial Stability Report. Market Developments and Issues* (Washington, D.C.: International Monetary Fund, April 2006), at pp. 51 *et sqq*.

3 Cp. International Monetary Fund, *Global Financial Stability Report. April 2006*, *supra* note 2, at p. 71 and International Monetary Fund, *Global Financial Stability Report. Navigating the Financial Challenges Ahead* (Washington, D.C.: International Monetary Fund, October 2009), at pp. 77, 85 *et sqq*.

4 Cf. The High-Level Group on Financial Supervision in the EU, Chaired by Jacques de Larosière, *Report* (Brussels: European Commission, 25 February 2009), at para. 17; The Financial Services Authority, *The Turner Review. A Regulatory Response to the Global Banking Crisis* (London: The Financial Services Authority, March 2009), at p. 42; Financial Stability Forum, *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience* (Basel: Financial Stability Forum, 7 April 2008), at pp. 5 *et sqq.*; Technical Committee of the International Organization of Securities Commissions, *Report on the Subprime Crisis. Final Report* (Madrid: International Organization of Securities Commissions, May 2008), at pp. 6 *et sqq*.

5 See, for example, The High-Level Group on Financial Supervision in the EU, *supra* note 4, paras. 117 *et sqq*.

6 See on financial intermediation in general, e.g., Gary Gorton and Andrew Winton, "Financial Intermediation", in George M. Constantinides, Milton Harris and René M. Schulz (eds), *Handbook of the Economics of Finance*, Volume 1A, Corporate Finance (Amsterdam: Elsevier, 2003), pp. 431 *et sqq.*, at pp. 432–435 and John H. Boyd, 'financial intermediation', in Steven N. Durlauf and Lawrence E. Blume (eds), *The New Palgrave Dictionary of Economics Online* (Basingstoke: Palgrave Macmillan, 2008).

and then lending these financial resources to entrepreneurs or households, placing themselves between investors/savers and borrowers in the economy, thus intermediating, in a sense, between both sides. In contrast, in financial markets, which are conventionally distinguished from financial intermediaries, investors contract directly with the ultimate borrowers. A typical financial intermediary spends resources on the production of information by screening potential and monitoring existing borrowers. The information produced is used by the financial intermediary for lending decisions and decisions on the enforcement of loan covenants.

2. Reasons for the existence of financial intermediation

Standard market-based theories of finance that are based on the assumption of a perfect market environment cannot explain the existence of financial intermediaries, as they assume an efficient allocation of resources through direct market mechanisms where financial intermediaries cannot create value. Such an extreme view is clearly at odds with observed market realities where financial intermediaries play a central role. Theories of financial intermediation have therefore tried to explain the existence of financial intermediaries. They mainly rely upon the traditional efficient market models and suggest that market imperfections (such as transaction costs and asymmetric information) are essential for understanding the existence of financial intermediaries in place of direct lending and borrowing. The prevailing interpretation of the role of financial intermediaries in an economy is the issue of informational asymmetries between borrowers and lenders that financial intermediation helps to alleviate.[7]

Borrowers have informational advantages over their lenders as they usually know the risk profile of their assets and projects. At the same time borrowers have incentives not to be entirely straightforward about their true risk characteristic since they may reap substantial benefits from exaggerating their positive qualities. Hence lenders are required to expend resources on screening potential borrowers to avoid adverse selection[8] in the lending market; and, after making a loan, they need to monitor their borrowers in order to minimise moral hazard problems[9] that could show up in post-contractual opportunism on the part of the borrowers. However, screening and monitoring activities are expensive and a theoretical scenario of direct lending would imply either a duplication of effort by all lenders (potentially raising aggregate loan costs to a prohibitively high level) or a free-riding problem resulting in no screening or monitoring efforts by any of the lenders.[10] Financial intermediation provides an organisational solution to this problem due to its cost advantage over direct lending. Financial intermediaries act as 'delegated monitors' for depositors as they are able to exploit economies of scale in collecting information related to borrowers, unlike direct lenders,[11] and minimise the costs of signalling quality, unlike borrowers, through diversification on the asset side of their balance sheets.[12] Differing severity of informational asymmetries between borrowers allows for the coexistence of both intermediated markets and direct capital markets.[13] Thus, high-quality borrowers with minimal information problems have access to direct capital market financing, whereas low-quality, information-problematic borrowers have to rely on intermediated financing. While these traditional theories of financial intermediation have been criticised, before the financial crisis of the years 2007–2009, for their emphasis on the effects of asymmetric information that cannot explain the actual development of financial markets in the last few decades which is characterised by the increased distribution of credit risk by financial intermediaries across different participants in the financial system;[14] recent empirical

7 Cf. in particular Hayne E. Leland and David H. Pyle, "Information Asymmetries, Financial Structure, and Financial Intermediation", 32 *Journal of Finance* (1977), pp. 371 *et sqq.*; Douglas W. Diamond, "Financial Intermediation and Delegated Monitoring", 51 *Review of Economic Studies* (1984), pp. 393 *et sqq*. See for a comprehensive survey of the information-based literature on financial intermediation Sudipto Bhattacharya and Anjan V. Thakor, "Contemporary Banking Theory", 3 *Journal of Financial Intermediation* (1993), pp. 2 *et sqq.*, at pp. 7–15.

8 Leland/Pyle, *supra* note 7.

9 Diamond, *supra* note 7.

10 Diamond, *supra* note 7, at p. 393.

11 Leland/Pyle, *supra* note 7, at p. 383.

12 Diamond, *supra* note 7.

13 Allen N. Berger and Gregory F. Udell, "Securitization, Risk, and the Liquidity Problem in Banking", in Michael Klausner and Lawrence J. White (eds), *Structural Change in Banking* (New York: New York University Salomon Center, Leonard N. Stern School of Business, 1993), pp. 227 *et sqq.*, at p. 232.

14 Franklin Allen and Anthony M. Santomero, "The Theory of Financial Intermediation", 21 *Journal of Banking & Finance* (1998), pp. 1461 *et sqq.*, especially at p. 1473; Bert Scholtens and Dick van Wensveen, "A Critique on the Theory of Financial Intermediation", 24 *Journal of Banking & Finance* (2000), pp. 1243 *et sqq*.

research links itself back to the traditional theories of financial intermediation due to their theoretical implications for the assets created by financial intermediaries.[15]

3. Theoretical implications for assets created by a financial intermediary

A financial intermediary's unique and cost-effective credit services in the form of screening potential and monitoring existing borrowers are usually not visible to the general public. The fact that a financial intermediary benefits from private information about his actions and his knowledge gives rise to a classic agency problem[16] in the case of the sale of assets created by a financial intermediary. An agency relationship is defined through a contract in which one person (the principal) engages another person (the agent) to perform certain tasks on behalf of the principal. Agency problems persist in such a relationship when the conduct of the agent is not observable and the agent does not share the principal's objective. To counter agency problems, mechanisms are required to align the agent's incentives with the interest of the principal. This type of agency relationship exists where a financial intermediary transfers assets to a third party who relies on the screening and monitoring services performed by the financial intermediary.

Agency problems between a financial intermediary who originates and distributes financial assets and a purchaser of these assets imply in theory that the assets of a financial intermediary cannot be liquid, because for a financial intermediary to have the incentive to provide an adequate level of service, it needs to retain the risk of the assets it creates.[17] If a financial intermediary were able to transfer this risk, it would lack the incentives to perform screening and monitoring services adequately, since it would not reap the rewards of these activities. The lack of incentives raises potential problems of adverse selection and moral hazard on the part of the financial intermediary. A financial intermediary may be tempted to sell preferentially underperforming assets, or to reduce the effort in screening and monitoring it applies in relation to assets it originates and then distributes in the market. A trade-off between liquidity and incentives[18] exists, therefore, because in principle these agency problems cannot be neutralised by actions of the purchaser of these assets. This would involve a duplication of the seller's information production efforts by similar efforts on the part of the purchaser,[19] which in turn may eliminate the cost-efficiency rationale for the use of financial intermediation in the first place.

III. The 'originate-to-distribute' model of bank finance

Despite the theoretical implications that traditional theories of financial intermediation have for the marketability of a financial intermediary's assets, transactions that effect a risk transfer to other market participants are of widespread use in financial markets. These types of transactions may be termed 'secondary intermediation' between the borrower and other financial institutions as they add an extra step to simple financial intermediation. Several legitimate reasons to transfer the risk of a loan to a third party exist for a financial intermediary.[20] Regulatory capi-

15 Cf. Benjamin J. Keys, Tanmoy Mukherjee, Amit Seru and Vikrant Vig, "Did Securitization Lead to Lax Screening? Evidence from Subprime Loans", 125 *Quarterly Journal of Economics* (2010), pp. 307 *et sqq.*, at p. 308.

16 See for an introduction to agency problems Stefan Reichelstein, 'agency', in Peter Newman, Murray Milgate and John Eatwell (eds), *The New Palgrave Dictionary of Money & Finance*, Volume 1 (New York: Stockton Press, 1992), pp. 23 *et sqq.*

17 Diamond, *supra* note 7, at p. 410; Gary B. Gorton and George G. Pennacchi, "Banks and Loan Sales: Marketing Nonmarketable Assets", 35 *Journal of Monetary Economics* (1995), pp. 389 *et sqq.*, at p. 390; Bengt Holmstrom and Jean Tirole, "Financial Intermediation, Loanable Funds, and the Real Sector", 112 *Quarterly Journal of Economics* (1997), pp. 664 *et sqq.*, at p. 669.

18 See on the notion of illiquidity of bank loans Douglas W. Diamond and Raghuram G. Rajan, "Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking", 109 *Journal of Political Economy* (2001), pp. 287 *et sqq.*, especially at pp. 288, 322 and on the trade-off between liquidity and control in equity securities markets John C. Coffee, "Liquidity Versus Control: The Institutional Investor as Corporate Monitor", 91 *Columbia Law Review* (1991), pp. 1277 *et sqq.*; Amar Bhide, "The Hidden Costs of Stock Market Liquidity", 34 *Journal of Financial Economics* (1993), pp. 31 *et sqq.* and Ernst Maug, "Large Shareholders as Monitors: Is There a Trade-Off between Liquidity and Control?", 53 *Journal of Finance* (1998), pp. 65 *et sqq.*

19 Diamond, *supra* note 7, at p. 410.

20 See for an extensive list of reasons for loan transfers Philip R. Wood, *International Loans, Bonds, Guarantees, Legal Opinions*, The Law and Practice of International Finance Series, Volume 3, 2nd ed. (London: Sweet & Maxwell, 2007), at para. 9-002.

tal and reserve requirements[21], as well as the benefits of holding a diversified loan portfolio,[22] have been identified as the main drivers for these transactions. By transferring the risk of existing loans to other market participants, banks are able to make new loans even if they find themselves close to regulatory minimum capital-asset ratios and reduce undesirable concentration of risk by achieving greater industry and geographic diversification.

Loan syndication, loan sale and securitisation are mechanisms for originating and distributing credit risk. The potential risk of opportunistic behaviour of an originator of a loan may be present in different degrees among the various forms of secondary intermediation according to the varying amount of contractual 'distance' between the borrower and the ultimate holder of the risk associated with the loan.[23] Empirical research has illuminated the extent to which market participants are able to cope with this trade-off between liquidity and incentives, and provides the case for a more intrusive regulation of the originate-to-distribute business model of financial intermediaries as a response to the recent financial crisis.

1. Loan syndication

a. Description of loan syndication

A syndicated loan is a loan whereby a group of lenders jointly offers funds to a single borrower.[24] Members of a syndicate fall into one of two groups, namely the lead arranger and participant lenders. The lead arranger establishes and maintains a relationship with the borrower and takes on the primary information collection and monitoring responsibilities. It negotiates terms of the contract and guarantees an amount for a price range. The lead arranger then turns to participant lenders that fund part of the loan. Prospective participant lenders are provided by the lead arranger with descriptive and financial information concerning the borrower. The lead arranger further negotiates and drafts the loan documentation but, while participant lenders may provide input in this process, they are not generally involved in the direct negotiations with the borrower.

b. Potential agency problems in loan syndications

Loan syndication may weaken the incentives of the lead arranger to screen and monitor the borrower properly, as the transaction structure reduces the full exposure of the lead arranger playing the dominant role in the credit evaluation process of the borrower. Although the arranger of a syndicated loan is under the legal obligation to make all relevant information about the borrower available to syndicate participants,[25] and while syndicate participants are at the same time expected to conduct their own analysis and credit evaluation, in practice lead arrangers may also keep private information unavailable to participant lenders, and this provides them with considerable scope to foist on participant lenders loans of inferior quality or with conditions that do not adequately compensate for the risk taken through interest and fees.[26] Thus loan syndication invites potential agency problems involving both adverse selection and moral hazard.

c. Empirical evidence of the impact of informational asymmetries in loan syndications

Despite potential agency problems in loan syndications on a theoretical level, empirical evidence does not hint at widespread opportunistic behaviour of lead arrangers. On the contrary, empirical research corroborates the notion that market participants choose certain syndicate structures to mitigate potential adverse selection and moral hazard problems.

21 George G. Pennacchi, "Loan Sales and the Cost of Capital", 43 *Journal of Finance* (1988), pp. 375 *et sqq.*; Berger/Udell, *supra* note 13, at p. 229. See on the regulatory capital advantage of securitisation Joanna Benjamin, *Financial Law* (Oxford: Oxford University Press, 2008), at para. 18.07; Philip R. Wood, "Project Finance, Securitisations, Subordinated Debt", *The Law and Practice of International Finance Series*, Volume 5, 2nd ed. (London: Sweet & Maxwell, 2007), at para. 6-013.

22 Katerina Simons, "Why Do Banks Syndicate Loans?", *New England Economic Review of the Federal Reserve Bank of Boston* (1993), pp. 45 *et sqq.*, at p. 46; Steven A. Dennis and Donald J. Mullineaux, "Syndicated Loans", 9 *Journal of Financial Intermediation* (2000), pp. 404 *et sqq.*, at p. 408.

23 Simons, *supra* note 22, at p. 47.

24 See for a descriptive account of loan syndication, e.g., Wood, *International Loans*, *supra* note 20, at paras. 1-003 *et sqq.*

25 See on the misrepresentation liability of lead arrangers Wood, *International Loans*, *supra* note 20, at paras. 1-020 *et sqq.*

26 Simons, *supra* note 22, at pp. 46 *et sqq.*; Dennis/Mullineaux, *supra* note 22, at p. 409.

According to empirical studies in the syndicated loan market,[27] a relation between the size of the loan share retained by the lead arranger and the magnitude of informational asymmetries exists in such a way that lead arrangers hold a larger share of loans to information-problematic borrowers (e.g. borrowers without a credit rating or a listing on a stock exchange). Further empirical evidence indicates that syndicates tend to be smaller and more concentrated when the borrower is opaque and there is a greater prospect of borrower default.[28] This minimises adverse selection and enhances the incentives for group monitoring by the participant lenders. The choice of participant lenders also seems to be a market response to curtail the negative effects of asymmetric information on a lead arranger's incentives to screen and monitor borrowers in loan syndications. The less transparent the borrower, the more the participant lenders are likely to be closer to the borrower, both geographically and in terms of previous direct lending relationships.[29] Some evidence also suggests that co-agents who share administrative tasks with the lead arranger are employed not only for cost reduction motives but also for their role as a mechanism to attenuate agency conflicts between lead arrangers and participant members of the syndicate.[30]

In addition, empirical research bolsters the notion that the reputation of the lead arranger as reflected in repeat business or market share of the lead arranger in the syndicated loan market facilitates the syndication of larger portions of a loan to participant lenders and the formation of a more diffuse syndicate.[31] The importance of reputation as a mechanism to uphold incentives of a lead arranger is further backed by empirical findings[32] showing that defaults by a lead arranger's borrowers adversely affect its subsequent lending activity, in particular forcing it to retain a larger share of the syndicated loan, consistent with a loss of reputation. These disadvantageous consequences for a lead arranger are particularly pronounced when borrower failure can be attributed to inadequate screening and monitoring by the lead arranger.

On balance, empirical research does not indicate severe agency problems between lead arrangers and participant lenders suggesting a market failure that requires regulatory intervention. Market mechanisms are apparently sufficient to control incentive problems generated by the transaction structure of a loan syndication.

2. Loan sale

a. Description of loan sale

While the contractual distance between the borrower and the ultimate holders of the credit risk in a syndicated loan is zero, due to a direct contractual relationship between the borrower and the participant lenders being created at the outset, this contractual distance increases in a loan sale, theoretically exposing the loan purchaser to a higher risk of an opportunistic behaviour of the loan originator. A loan sale can be carried out through either assignment or participation, which differ in the degree of contractual distance between the loan purchaser and the borrower. In a loan assignment, title to the whole or a part of the loan is transferred to the loan purchaser.[33] Hence, even if the originator of the loan continues to service the loan, the loan purchaser acquires a direct contractual relationship with the borrower.[34] In contrast to

27 Simons, *supra* note 22, at pp. 51 *et sqq.*; Dennis/Mullineaux, *supra* note 22, at pp. 417 *et sqq.*; Kamphol Panyagometh and Gordon S. Roberts, "Agency Problems and Determinants of Loan Syndications: Evidence from 1987–1999", 25 April 2002, available on the Internet at <http://ssrn.com/abstract=310003> (last accessed on 25 July 2011); Jonathan D. Jones, William W. Lang and Peter J. Nigro, "Agent Bank Behavior in Bank Loan Syndications", 28 *Journal of Financial Research* (2005), pp. 385 *et sqq.*, at pp. 399 *et sqq.*; Amir Sufi, "Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans", 62 *Journal of Finance* (2007), pp. 629 *et sqq.*, at pp. 646 *et sqq.*; Ryan Ball, Robert M. Bushman and Florin P. Vasvari, "The Debt-Contracting Value of Accounting Information and Loan Syndicate Structure", 46 *Journal of Accounting Research* (2008), pp. 247 *et sqq.*, at pp. 264 *et sqq.*; Kamphol Panyagometh and Gordon S. Roberts, "Loan Syndicate Structure: Evidence from Ex Post Risk", 14 January 2008, available on the Internet at <http://ssrn.com/abstract=1083707> (last accessed on 25 July 2011).

28 Sang Whi Lee and Donald J. Mullineaux, "Monitoring, Financial Distress, and the Structure of Commercial Lending Syndicates", 33 *Financial Management* (2004), pp. 107 *et sqq.*, at pp. 118 *et sqq.*; Sufi, *supra* note 27, at pp. 646 *et sqq.*

29 Sufi, *supra* note 30, at pp. 658 *et sqq.*

30 Pascal François and Franck Missonier-Pieral, "The Agency Structure of Loan Syndicates", 42 *Financial Review* (2007), pp. 227 *et sqq.*, at p. 230.

31 Dennis/Mullineaux, *supra* note 22, at pp. 420 *et sqq.*; Panyagometh/Roberts, "Agency Problems and Determinants of Loan Syndications", *supra* note 27; Lee/Mullineaux, *supra* note 28, at p. 121; Sufi, *supra* note 27, at pp. 650 *et sqq.*; Ball/Bushman/Vasvari, *supra* note 27, at pp. 267 *et sqq.*; *Panyagometh/Roberts*, "Loan Syndicate Structure", *supra* note 27.

32 Radhakrishnan Gopalan, Vikram Nanda and Vijay Yerramilli, "Does Poor Performance Damage the Reputation of Financial Intermediaries? Evidence from the Loan Syndication Market", *Journal of Finance*, Forthcoming.

33 Wood, *International Loans*, *supra* note 20, at para. 9-018.

34 Wood, *International Loans*, *supra* note 20, at para. 9-026.

a syndicated loan, this contractual relationship is not created at the time the loan agreement is concluded. In a secondary loan participation, on the other hand, an additional contractual relationship between the original lender and a third party is entered into after making the loan to the borrower and this puts more space between the borrower and the purchaser of the secondary loan participation as the ultimate risk holder. Under a new and separate contract the lender sells a claim to the whole or a part of the cash flow from an individual loan to a third party purchaser, leaving the original loan contract between borrower and lender unaltered.[35] As the contract transfers no rights or obligations between lender and borrower, the third party purchaser has no legal relationship with the borrower.[36]

b. Potential agency problems in loan sales

Loan selling creates agency problems between loan seller and loan purchaser. First, an adverse selection problem exists because the original lender may be cherry-picking and preferentially selling loans to borrowers on whom it has negative private information. In addition, the loan seller may knowingly originate and distribute underperforming loans to expand its origination fee income. Second, a moral hazard problem arises after a loan sale, because the loan seller has no further incentive to engage in costly monitoring of the borrower. Nonetheless, after the closing of the primary syndication, syndicated loans often trade on a secondary market, which raises the particular question whether the sale of syndicated loans in the secondary market allows a lead arranger to unwind the incentives for adequate borrower screening and monitoring established by the original syndicate structure.

c. Empirical evidence of the impact of informational asymmetries in loan sales

As opposed to the results of empirical research in the loan syndication market, the empirical evidence of the extent to which loan sales lead to a breakdown in the incentives of lenders is not as clearcut. According to one study examining the long-run performance of borrowers with and without an active secondary market for their loans, the result showing that borrowers with an active secondary market for their loans significantly underperform their peers indicates a market failure which requires regulatory intervention.[37] This argumentation has been called into question, however, on theoretical and empirical grounds.[38] Other empirical research has tested several market mechanisms employed in the loan sale market that may mitigate agency problems associated with loan sales.

Similar to the result of research into syndicated loans, empirical evidence confirms that loan sellers retain a larger share of riskier loans, consistent with the heightened need to incentivise the originator of these loans to screen and monitor borrowers adequately.[39] This indicates that participants in the secondary market are aware of the problems posed by asymmetric information between loan sellers and loan purchasers, requiring the former to convince the latter of their commitment to perform their not observable credit service functions of screening potential and monitoring existing borrowers by retaining some exposure to a loan's risk.

Further research into the particular loan contract design of loans sold has produced evidence that the inclusion of additional and more restrictive covenants in the loan contract, constituting restrictions on a borrower's business and financial operations, increases the likelihood of a loan being sold.[40] In addition, this evidence indicates that loan contracts are already structured at origination to facilitate a later sale.[41] These empirical findings suggest that tighter and additional covenants in loan contracts compared to contracts of loans not anticipated to be sold work as a mechanism to mitigate agency problems in secondary market loan selling and therefore facilitate loan sale transactions. Loan covenants presumably help in the mitigation of agency problems because many covenants are linked to observable financial data, which makes it relatively easy for a loan pur-

35 Wood, *International Loans*, *supra* note 20, at paras. 9-038 *et sqq*.

36 Wood, *International Loans*, *supra* note 20, at para. 9-039.

37 Antje Berndt and Anurag Gupta, "Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit", 56 *Journal of Monetary Economics* (2009), at p. 727.

38 Greg Duffee, "Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit", 56 *Journal of Monetary Economics* (2009), pp. 744 *et sqq*.

39 Gorton/Pennacchi, *supra* note 17, at pp. 408 *et sqq*.

40 Steven Drucker and Manju Puri, "On Loan Sales, Loan Contracting, and Lending Relationships", 22 *Review of Financial Studies* (2009), at pp. 2648 *et sqq*.

41 Drucker/Puri, *supra* note 40, at pp. 2651 *et sqq*.

chaser to monitor a borrower's financial condition and to observe a breach of contract.[42] This, in turn, may reduce the need for, and importance of, extensive screening and monitoring by the specialist loan originator.

The notion of reputational concerns as a mechanism to counter negative effects of originate-to-distribute lending on screening and monitoring incentives of an originator of debt is also borne out empirically in the case of loan sales. While no evidence has been found that borrowers of traded syndicated loans originated by lead arrangers with a high reputation perform worse in terms of credit quality relative to borrowers whose loans are not traded, some evidence of this has been found for borrowers of traded syndicated loans originated by lead arrangers with a lower reputation.[43] This is consistent with breakdowns in information production and therefore with more severe agency problems only for non-reputable lead arrangers on loans anticipated to be sold.

Although some debatable evidence suggests a market failure requiring regulatory intervention in the loan sale market, several studies have empirically verified market mechanisms which show that participants in the secondary market are aware of potential agency problems and are able to adjust accordingly. Based on this, a convincing case for a regulation of the loan sale market to reign in these conflicts has not yet made.

3. Securitisation

a. Description of securitisation

Securitisation features the greatest contractual distance between the borrower and the ultimate credit risk holders of the transaction types discussed in this article. In its very basic form this transaction is structured as follows:[44] An owner of income-producing assets, e.g. a portfolio of loans, (the originator) sells these assets to a separate legal entity (the special purpose vehicle or SPV). The SPV finances the purchase of the assets through the issue of debt securities to investors. The liability of the SPV to the investors under the debt securities is backed by a security interest over the assets bought by the SPV from the originator. The originator often retains a role in servicing the underlying assets on behalf of the SPV for the payment of a servicing fee, e.g. collecting the income stream produced by the assets; the SPV then uses the cash flow thus produced to pay principal and interest on the debt securities issued to investors. As the investors are able to sell the debt securities secured on the financial assets, this transaction converts what are in substance non-marketable assets (e.g. home mortgage or consumer loans) into marketable assets – tradable debt securities , hence securitisation.

The debt securities issued by the SPV are typically divided in a number of different classes or 'tranches' through the use of structured finance techniques that entail dividing the cash flow produced by the underlying assets. These tranches are differentiated by the priority order of their holder's claims against the SPV which is generally achieved through subordination provisions in the terms of the debt securities issue. The 'tranching' of the debt securities issue induces a different credit risk borne by investors in different tranches and this is reflected on the reward side by a different rate of interest paid to the investors. A debt securities issue in a securitisation generally consists of a senior tranche, a mezzanine tranche and a junior or equity tranche with the equity tranche bearing the highest loss potential but also receiving the highest interest rate. Debt securities issued in a securitisation are usually rated by a credit rating agency, because, in essence, the originator in a securitisation transfers the risk of the underlying assets to the investors and the investors in the debt securities issued by the SPV look only at the quality of the underlying assets and not at the general credit standing of the originator.

Structured finance products are more specifically distinguished in industry parlance by the type of the underlying assets. Subdivisions include residential or commercial mortgage-backed securities (RMBS or CMBS), which refer to securitised portfolios of loans secured by mortgages on residential or commercial property, and collateralised loan obligations (CLO), which refer to securitised portfolios of loans to corporate borrowers. Collateralised debt obligations (CDO) which rose to dubious fame in the recent financial crisis even in the wider public perception constitute

42 Drucker/Puri, *supra* note 40, at p. 2640.

43 Robert M. Bushman and Regina Wittenberg-Moerman, "Does Secondary Loan Market Trading Destroy Lenders' Incentives?", 2 November 2009, University of Chicago Booth School of Business Working Paper No. 09-45, available on the Internet at <http://ssrn.com/abstract=1498738> (last accessed on 25 July 2011), at pp. 5, 8 *et sqq*.

44 See for descriptions of securitisation transactions, e.g., Benjamin, *supra* note 21, at paras. 18.10 *et sqq*.; Wood, *Project Finance*, *supra* note 21, at paras. 6-001, 6-015 *et sqq*.

the next link in the structured finance chain.[45] This term refers to the securitisation of structured credit products created by previous securitisations, such as RMBS, through a new SPV in order to generate new highly rated debt securities often from lower rated tranches of these previous securitisations.

b. Potential agency problems in securitisations

Although sometimes described as 'disintermediation', the move from traditional relationship lending to a transaction-based 'originate-to-distribute' form of lending did not lead to an increase of direct lending relationships in financial markets, but in fact replaced one intermediary with several. This is particularly pronounced in securitisation, because securitisation is characterised by a subdivision of the whole lending process through outsourcing of various parts in the value chain of loan creation to different participants. With more parties involved, agency problems have also multiplied. In a securitisation transaction, agency problems arise on various levels due to asymmetric information: usually one party has more information about the securitised assets than the other.[46] This multiplication of agency problems in securitisation is best exemplified by the securitisation of mortgage loans in the US, the form of transaction to be found at the root of the recent financial crisis.[47]

The value chain in mortgage lending starts with the originator of mortgage loans and possibly with a mortgage broker who cooperates with the originator, adding yet another intermediary to the lending process. The originator, if not also acting as servicer, is only involved at the beginning and therefore usually has a short-term perspective, although the originator may have to repurchase mortgage loans that have not been properly contracted or mortgage loans on which the borrower defaults within a limited time period after contracting pursuant to representations and warranties given. There are three determining factors regarding agency problems surrounding the originator: asymmetric information, the difficulty of credibly communicating certain aspects of information about a borrower, and the remuneration of the originator. First, as the originator has an information advantage with regard to the quality of the borrower over other participants in the transaction, the limited exposure of the originator to the credit risk generated can lead to a collaboration between the originator and the borrower in order to make significant misrepresentations on the loan application[48] or, simply, to make an adverse selection of the mortgage loans distributed. Second, proper screening for evaluating the quality of a loan applicant involves the collection of both 'hard' information, such as the credit score,[49] and 'soft' information, such as a measure of future income stability of the borrower.[50] While 'hard' information about the borrower can be easily communicated by the originator to other parties further up in the securitisation chain and verified by them with little direct knowledge of the borrower, the same is not true about 'soft' information, which comprises subjective information and analysis of risk that is often difficult to quantify.[51] At the same time, the originator's effort to collect soft information goes unobserved by these third parties. Thus, as the originator passes on the credit risk of the mortgage loans originated, and as the distance between the originator and the ultimate holders of the credit risk increases, the incentives of the originator to base lending decisions on both 'hard' and 'soft' information decrease, result-

45 See on CDOs Gary Gorton, "The Subprime Panic", 15 *European Financial Management* (2009), pp. 10 *et sqq.*, at pp. 23 *et sqq.*

46 Kathleen C. Engel and Patricia A. McCoy, "Turning a Blind Eye: Wall Street Finance of Predatory Lending", 75 *Fordham Law Review* (2007), pp. 2039 *et sqq.*, at pp. 2048 *et sqq.*; Adam B. Ashcraft and Till Schuermann, "Understanding the Securitization of Subprime Mortgage Credit", 11 March 2008, Federal Reserve Bank of New York Staff Report No. 318, available on the Internet at <http://ssrn.com/abstract=1071189> (last accessed on 25 July 2011), at p. 3.

47 See for descriptions of the parties involved in the securitisation of mortgage-backed loans and analyses of the various agency problems resulting from the division of the lending process Ashcraft/Schuermann, *supra* note 46, at pp. 5 *et sqq.*; Günther Franke and Jan Pieter Krahnen, "The Future of Securitization", in Yasuyuki Fuchita, Richard J. Herring and Robert E. Litan (eds), *Prudent Lending Restored. Securitization after the Mortgage Meltdown* (Tokyo/Washington, D.C.: Brookings Institution, 2009), pp. 105 *et sqq.*, at pp. 122 *et sqq.*; John Kiff and Paul Mills, "Money for Nothing and Checks for Free: Recent Developments in US Subprime Mortgage Markets", 17 August 2007, IMF Working Paper No. 07/188, available on the Internet at <http://ssrn.com/abstract=1006316> (last accessed on 25 July 2011), at pp. 11 *et sqq.*; Ingo Fender and Janet Mitchell, "The Future of Securitisation: How to Align Incentives?", 14 September 2009, BIS Quarterly Review, available on the Internet at <http://ssrn.com/abstract=1472970> (last accessed on 25 July 2011), pp. 27 *et sqq.*, at pp. 30 *et sqq.*

48 Ashcraft/Schuermann, *supra* note 46, at p. 5.

49 A credit score attempts to reduce a borrower's credit history to a single number indicating the borrower's probability of default by weighing various elements such as the borrower's payment history and any previous defaults of the borrower.

50 Keys/Mukherjee/Seru/Vig, *supra* note 15, at pp. 309, 317 *et sqq.*

51 Amiyatosh K. Purnanandam, "Originate-to-Distribute Model and the Subprime Mortgage Crisis", 20 May 2010, AFA 2010 Atlanta Meetings Papar, available on the Internet at <http://ssrn.com/abstract=1167786> (last accessed on 25 July 2011), at p. 2.

ing in a moral hazard problem on part of the originator.[52] This is because investors purchase securitised loans based on 'hard' information, although the additional collection of 'soft' information is valuable to determine the true risk characteristics of a borrower. These problems of asymmetric information and communicability of 'soft' information may in the end also be exacerbated by the fee structure of securitisation transactions. Originators are remunerated for arranging loans by up-front fees according to the mortgage loan volume they originate. This can motivate an originator to expand the transaction volume at the price of mortgage loan quality that is not observable by other parties in the securitisation chain in order to generate a higher fee income.[53]

Central to any securitisation is the arranger of the whole transaction. This institution sets up the deal structure by creating the SPV that purchases a mortgage loan portfolio, consulting with credit rating agencies and underwriting the issue of mortgage-backed securities. The arranger is supposed to conduct due diligence on the originator and the assets to be securitised. The transfer of credit risk to investors in mortgage-backed securities may either create a moral hazard problem for the arranger and lead to insufficient due diligence or result in an adverse selection problem and lead to the preferred securitisation of mortgage loans of poor quality and the retention of mortgage loans of good quality by the arranger according to private information not directly observable by investors.

The ultimate investors in mortgage-backed securities finally rely on ratings of credit rating agencies. Rating agencies play a pivotal role in securitisation transactions, because credit assessments are too costly for individual investors while credit rating agencies are able to exploit economies of scale and hence overcome collective action problems of investors otherwise potentially prohibiting the transaction altogether.[54] By acting as informational intermediaries between issuer and investors, rating agencies are supposed to increase the transparency of mortgage-backed securities issued and to reduce asymmetric information. This important role of credit rating agencies can be undermined by the prevailing manner in which rating agencies are remunerated for their service. Credit rating agencies are virtually always paid by the issuer of securities (the so-called 'issuer-pays' model) which creates a potential conflict of interests and can arguably induce rating agencies to act more favourably in the interests of their client, the issuer of mortgage-backed securities, and to assign higher ratings to these securities than would be warranted by fundamentals; in so doing theywould be neglecting the interests of the ultimate beneficiaries of their ratings, namely the investors relying on them.[55]

c. Empirical evidence of the impact of informational asymmetries in securitisations

Many commentators have emphasised that agency conflicts affecting securitisation transactions lie at the very heart of the recent financial crisis.[56] However, support for this idea is not universal. Several writers have rejected this theory based on the following argumentation:[57] Blaming the 'originate-to-distribute' model of bank finance for lowering mortgage loan underwriting standards does not explain why standards were apparently not similarly lowered for originating non-mortgage financial assets used in other types of securitisation transactions, although it would seem that agency problems created by the transaction form of securitisation would apply to all types of securitisation. Further, the fact that significant losses have been experienced throughout the subprime mortgage securitisation chain, thus forcing many originators and arrangers into insolvency

52 Uday Rajan, Amit Seru and Vikrant Vig, "The Failure of Models that Predict Failure: Distance, Incentives and Defaults", 2 August 2010, Ross School of Business at the University of Michigan Research Paper No. 1122, available on the Internet at <http://ssrn.com/abstract=1296982> (last accessed on 25 July 2011), at p. 3; Diamond/Rajan, *supra* note 1, at pp. 606 *et sqq.*; Keys/Mukherjee/Seru/Vig, *supra* note 15, at pp. 309 *et sqq.*, 318.

53 Franke/Krahnen, *supra* note 47, at pp. 117 *et sqq*.

54 Steven L. Schwarcz, "Private Ordering of Public Markets: The Rating Agency Paradox", *University of Illinois Law Review* [2002], pp. 1 *et sqq.*, at p. 12.

55 Schwarcz, *supra* note 54, at p. 15; Ashcraft/Schuermann, *supra* note 46, at pp. 10 *et sqq.*; Steven L. Schwarcz, "Protecting Financial Markets: Lessons from the Subprime Mortgage Meltdown", 93 *Minnesota Law Review* (2008–2009), pp. 373 *et sqq.*, at pp. 400 *et sqq.*; Kurt Eggert, "The Great Collapse: How Securitization Caused the Subprime Meltdown", 41 *Connecticut Law Review* (2009), pp. 1257 *et sqq.*, at p. 1298.

56 See for example The Economist, "Securitisation: When it goes wrong…", 20 September 2007; Frederic S. Mishkin, "Leveraged Losses: Lessons from the Mortgage Meltdown", Speech at the US Monetary Policy Forum, New York, New York, 29 February 2008, available on the Internet at <http://www.federalreserve.gov/newsevents/speech/mishkin20080229a.htm> (last accessed on 25 July 2011); Eggert, *supra* note 55, at pp. 1276 *et sqq*.

57 Gorton, *supra* note 45, at pp. 38 *et sqq.*; Steven L. Schwarcz, "The Future of Securitization", 41 *Connecticut Law Review* (2009), pp. 1313 *et sqq.*, at pp. 1319 *et sqq*.

or massive write-downs, suggests that 'originate-to-distribute' lending did not simply pass credit risk to investors thereby reducing lenders' incentives to screen and monitor borrowers sufficiently. Empirical evidence of the impact of informational asymmetries in securitisations is therefore essential for making a good case for regulatory intervention in this segment of financial markets.

The first widely cited empirical study[58] which provides evidence of material incentive problems in securitisations examines the default rates of securitised subprime mortgage loans in the US in order to demonstrate a causal link between the ease of securitisation and the extent of an originator's screening efforts. The findings of this study show that loans more likely to be securitised tend to default within two years of origination at a rate 10 %–25 % higher than the average default rate of 5 % (roughly a significant 0.5 %–1 % increase in delinquencies in absolute terms), even though due to the identification strategy of this study these loans should be of slightly better credit quality than the loans less likely to be securitised.[59] This result is attributed to a reduction in lenders' screening efforts on grounds of an increased easing up of securitisation of these loans. This empirical research also illuminates that the main determinative factor for the agency problem surrounding the originator in securitisation transactions is not strategic adverse selection but moral hazard in the form of weaker incentives to screen borrowers in order to produce the 'soft" information that is valuable for a full risk assessment.[60] Another study[61] supports the view that lenders in the 'originate-to-distribute' model of bank finance may not be expending adequate resources on screening their borrowers. The empirical findings[62] confirm that banks with an aggressive involvement in the securitisation market before the subprime crisis had lower incentives for proper screening, which in turn resulted in the origination of mortgage loans with excessively poor soft information and, ultimately, in inferior quality by these banks.

However, different results apply to the securitisation of other, non-mortgage-related financial assets. Recent empirical research into the performance of individual loans in CLOs reveals that, despite the fact that these investment vehicles are subject to additional layers of agency problems compared to simple trading on the secondary loan market, securitised loans perform no worse than non-securitised loans.[63] On the contrary, these securitised loans even perform marginally better than non-securitised loans. The explanation[64] suggested for this result is based on the fact that loans to corporate borrowers underlying CLOs are only partially securitised. These loans typically originate in the syndicated loan market where, as has been discussed above, certain mechanisms, in particular the retention of a share of the loan by the lead arranger, are used to align incentives in the lending syndicate. In addition, fractions of the same underlying loan are not only sold to different SPVs, but are also held by various banks and institutional investors acting as participant lenders in the syndicate. Finally, every single underlying loan is rated by a rating agency. Therefore, not only is the originator – the lead arranger of the syndicated loan – exposed to the credit risk of the underlying collateral by retaining a share of it, but so too are many more formal and informal screeners involved in the overall transaction. This illustrates that not all securitisation markets are the same.

The aggregate findings of these empirical studies can be summed up as follows: While on the one hand a growing strand of the empirical literature produces evidence of material incentive problems in the securitisation of mortgage loans in the US which have been a contributing cause of the subprime mortgage crisis, on the other hand some (albeit limited) evidence exists that these incentive problems may not be prevalent in the securitisation of other financial assets.

IV. Regulation of the 'originate-to-distribute' model of bank finance

1. The case for regulation

The survey of the empirical literature on the trade-off between liquidity and incentives in 'originate-to-distribute' lending provided in the previous section

58 Keys/Mukherjee/Seru/Vig, *supra* note 15.

59 Keys/Mukherjee/Seru/Vig, *supra* note 15, at pp. 310, 330 *et sqq*.

60 Keys/Mukherjee/Seru/Vig, *supra* note 15, at pp. 311, 338 *et sqq*. See for similar empirical findings Rajan/Seru/Vig, *supra* note 52, at pp. 1 *et sqq*., 13 *et sqq*.

61 Purnanandam, *supra* note 51.

62 Purnanandam, *supra* note 51, at pp. 12 *et sqq*.

63 Efraim Benmelech, Jennifer Dlugosz and Victoria Ivashina, "Securitization without Adverse Selection: The Case of CLOs", 11 August 2010, AFA 2010 Atlanta Meetings Paper, available on the Internet at <http://ssrn.com/abstract=1344068> (last accessed on 25 July 2011), at pp. 16 *et sqq*.

64 Benmelech/Dlugosz/Ivashina, *supra* note 53, at pp. 1 *et sqq*.

leads to a qualified view on the extent to which this development in finance needs to be adjusted. Empirical research has identified some mechanisms adopted by market participants in the loan syndication and loan sale markets which align the interests of lead arranger and loan seller with the interests of participant lenders and loan purchaser respectively. However, this picture changes somewhat in the case of securitisation. Studies in the aftermath of the subprime mortgage crisis produced empirical evidence showing that access to securitisation weakened screening incentives for originators of mortgage loans in the US which were arguably not priced in by investors in mortgage-backed securities and thus resulted in a market failure in this segment of financial markets. This calls for regulation to correct the perceived shortcomings in securitisation. While the outright prohibition of the use of securitisation does not seem to be an advisable option,[65] as securitisation is normally viewed as a socially desirable transaction form that generally creates overall value in financial markets,[66] the mixed empirical evidence on the impact of informational asymmetries depending on the nature of the securitised financial assets complicates the search for the appropriate regulatory response. On a scale between complete private market ordering and outright prohibition, therefore, a balance has to be struck that is able to remedy the apparent deficiencies of market forces in this area, but leaves unproblematic transactions largely unaffected.

2. Regulatory solutions

Several approaches to the regulation of securitisation have been voiced and have even already found their way into legislation.[67] These regulatory responses differ mostly in the degree to which they rely on market-based disciplinary mechanisms to remedy incentive problems in securitisations. The least intrusive regulatory solution is therefore one that attempts to encourage market forces to develop market practices, as have been found to control agency problems in loan syndications and loan sales, through enhanced disclosure obligations directed at the parties central to a securitisation transaction.[68] Diametrically opposed to this regulatory approach is one that attempts to align incentives along the securitisation chain mechanically by forcing the originator of the securitised financial assets and the arranger of the transaction to retain some exposure to the underlying credit risk.

a. Disclosure and transparency standards: Encouragement of market solutions

One of the standard prescriptions for restoring confidence in securitisation markets is enhancing disclosure and transparency standards in order to enable all participants along the intermediation chain to exercise adequate due diligence.[69] As disclosure-based regulation also lends itself in particular to self-regulation, several industry initiatives exist to improve the transparency of securitised products.[70] These

65 Steven L. Schwarcz, "Disclosure's Failure in the Subprime Mortgage Crisis", *Utah Law Review* [2008], pp. 1109 *et sqq.*, at pp. 1117 *et sqq.*

66 See in particular International Monetary Fund, *Global Financial Stability Report October 2009*, *supra* note 3, at pp. 78 *et sqq.* (Box 2.1. The Case for Restarting Securitization). See for some empirical evidence on the value creation in commercial mortgage loan securitisation, Xudong An, Yongheng Deng and Stuart A. Gabriel, "Value Creation through Securitization: Evidence from the CMBS Market", 38 *Journal of Real Estate Finance and Economics* (2009), pp. 302 *et sqq.*

67 See for an overview of current regulatory proposals: International Monetary Fund, *Global Financial Stability Report October 2009*, *supra* note 3, at pp. 93 *et sqq.*

68 Related to the disclosure-based regulatory approach but addressing shortcomings exposed by the recent financial crisis going beyond incentive problems in the lending process is the regulation of credit rating agencies as gatekeepers in financial markets which would primarily process additional information provided pursuant to improved disclosure standards. New legislation has been recently introduced in the EU and the US marking a decisive move away from self-regulation in this area and trying to reduce conflicts of interests affecting credit rating agencies: See Regulation (EC) No. 1060/2009 on credit rating agencies, OJ 2009 L 302/1; sections 931-939H Dodd-Frank Wall Street Reform and Consumer Protection Act, P.L. No. 111-203.

69 See Financial Stability Forum, *supra* note 4, at pp. 30 *et sqq.*; Technical Committee of the International Organization of Securities Commissions, *Report on the Subprime Crisis*, *supra* note 4, at pp.7 *et sqq.*; Technical Committee of the International Organization of Securities Commissions, *Unregulated Financial Markets and Product. Final Reports* (Madrid: International Organization of Securities Commissions, September 2009), at paras. 60 *et sqq.*; US Department of the Treasury, *Financial Regulatory Reform. A New Foundation: Rebuilding Financial Supervision and Regulation* (Washington, D.C.: US Department of the Tresury, June 2009), at p. 45; HM Treasury, *Reforming Financial Markets*, CM 7667 (London: The Stationary Office, July 2009), at paras. 6.09 *et sqq.*

70 See the initiatives by the Securitisation Division of the Association for Financial Markets in Europe (formerly the European Securitisation Forum), available on the Internet at <http://www.afme.eu> (last accessed on 25 July 2011) which expressly include the "reduction of information asymmetries and improvement of alignment of incentives between originators, investors, and other market participants". A joint effort of regional industry bodies exists further under the umbrella of the Global Joint Initiative to Restore Confidence in Securitization Markets which commissioned the report "Restoring Confidence in Securitization Markets" in December 2008 as an early stage of a practical, industry-led response to restore confidence in market practices. These projects seem not yet as developed as the American Securitization Forum's Project on Residential Securitization Transparency and Reporting ('Project RESTART'), information available on the Internet at <http://www.americansecuritization.com/restart> (last accessed on 25 July 2011).

initiatives for reforming private market ordering are motivated, at least in part, to stave off regulatory intervention which would otherwise come at the cost of flexibility for market participants.

Empirical research has identified as the main instrument for aligning incentives in the loan syndication and loan sale markets the fact that lead arrangers and loan sellers are pressured by market forces to retain a share of the loan in order to place the loan with third parties at an adequate price. The same mechanism also lends itself to securitisation transactions. If market participants had information about the risk retained by the originator of the underlying financial assets and the arranger of the transaction, they would be able to estimate the extent of potential agency costs posed by the transaction structure and thus be able to adequately price in these costs. Price mechanisms could force originators and arrangers to retain just the amount of risk necessary to convince other market participants that incentives for proper screening and monitoring of borrowers are upheld and that appropriate due diligence has been applied. However, apparently there has been no disclosure of the exact risk allocation in securitisation transactions. Arrangers of securitisation transactions never appear to commit publicly to retain a certain fraction of the high-risk equity tranche. Particularly in the year before the outbreak of the subprime crisis, anecdotal evidence has revealed that an increasing number of transactions had been issued without any retention of any risk exposure by the arranger whatsoever.[71] Indeed, the riskiest tranches of subprime mortgage loan securitisations had often not been retained but had been shifted off the arranger's balance sheet through further securitisations to CDOs.[72] Therefore, incentive alignment along the securitisation chain could be achieved by demanding public information about the extent to which originators and arrangers have retained exposure to the risk of the underlying financial assets distributed to investors through securitisation.[73]

The advantage of a regulatory solution based on enhanced disclosure and transparency standards is its flexibility, which allows the contradictory empirical evidence of the extent of incentive problems in securitisation depending on the nature of the underlying financial assets to be accommodated. It can be assumed that markets are better suited than regulators to determine the extent of risk retention necessary in order to align incentives in individual transactions. In this vein, it has been predicted that, with appropriate disclosure, agency costs imposed by the transaction structure will be internalised by the arranger and that substantial risk retention will occur when the underlying financial assets are highly information-sensitive and therefore prone to adverse selection and moral hazard problems.[74]

Yet, more disclosure in order to encourage market discipline may only be a first step to obviate a potential future market failure in securitisation markets. This is for two reasons: First, the effectiveness of disclosure as a regulatory means to prevent market failure is limited by the complexity of structured finance transactions. Even commentators who reject the idea of agency problems in the securitisation chain as a cause of the subprime crisis have argued that product complexity has given rise to asymmetric information and has caused investors to buy securities substantially based on their ratings without full understanding of what they have bought, partly because processing the information necessary to understand a structured finance product has been too expensive.[75] One particular problem of over-reliance on credit ratings is that, during credit downturns, ratings of structured finance products are more prone to severe downgrades than ratings of traditional corporate or sovereign fixed-income securities with a comparable credit rating.[76] Against this background, a regulatory approach that only prescribes more information about the transaction to be disclosed does not seem practical as a single remedy for securitisation.

71 Franke/Krahnen, *supra* note 47, at p. 120; Darrell Duffie, "Innovations in Credit Risk Transfer: Implications for Financial Stability", 1 July 2008, BIS Working Paper No. 255, available on the Internet at<http://ssrn.com/abstract=1165484> (last accessed on 25 July 2011), at pp. 16 *et sqq*.

72 Engel/McCoy, *supra* note 46, at pp. 2065 *et sqq*.

73 Franke/Krahnen, *supra* note 47, at pp. 152 *et sqq*./157; Fender/Mitchell, *supra* note 47, at pp. 40, 42; US Department of the Treasury, *supra* note 59, at p. 45.

74 Franke/Krahnen, *supra* note 47, at p. 153.

75 Gorton, *supra* note 45, at p. 37; Schwarcz, *supra* note 57, at pp. 1113 *et sqq*.

76 International Monetary Fund, *Global Financial Stability Report. Containing Systemic Risk and Restoring Financial Soundness* (Washington, D.C.: International Monetary Fund, April 2008), at p. 55; Franke/Krahnen, *supra* note 47, at p. 146. Therefore, new legislation in the EU now requires credit rating agencies to introduce clearly differentiated rating categories for structured finance instruments using an additional symbol which distinguishes them from rating categories used for any other entities, financial instruments or financial obligations: Art. 10(3) Regulation (EC) No. 1060/2009 on credit rating agencies, OJ 2009 L 302/1. A similar proposal has been made in the US but has not yet found its way into legislation: US Department of the Treasury, *supra* note 59, at p. 46.

Second, a mere market-disciplinary approach has been further called into question with the argument that disclosure alone would be inadequate to address systemic risk in financial markets.[77] Market participants do not have sufficient incentives to limit their individual risk taking in order to reduce the danger of systemic failure. This is because, while market participants reap all benefits of their individual risk taking, the costs of their collective risk taking are borne by an even wider class of persons. Externalities of systemic failure include social costs that can extend far beyond market participants. This is a strong argument for supplementing an approach that relies on encouraging market discipline through disclosure-based regulation by more intrusive regulation if a particular market failure is believed to create systemic risk.

b. Risk retention requirements: Restoring confidence through regulatory intervention

Industry-led initiatives for restoring confidence in market practices in securitisation markets have not succeeded in anticipating more intrusive regulatory intervention. The consensus of governmental and inter-governmental agencies regarding material incentive problems in securitisation and the need for compulsory measures to align incentives along the securitisation chain[78] has resulted in legislation on both sides of the Atlantic that prescribes the mandatory retention of risk by the parties central to a securitisation transaction.[79] This regulatory solution has been advanced under the catchphrase of getting more securitiser 'skin in the game' in order to ensure appropriate and continuous due diligence. The legislative enactments in both the EU and the US have set retention in general at five per cent but the standards differ in detail. One of the main differences between the legislation adopted in the EU and the US is the addressee of the regulatory obligation: While the EU legislation regulates the 'buy-side' of a securitisation transaction, i.e. the investors in securitised products (presumably to increase the reach of European financial regulation and to protect European investors from securitisation products arranged in offshore jurisdictions), the US legislation is directed at the 'sell-side', i.e. the arrangers of securitisation transactions and the originators of the underlying financial assets.

Accordingly, the retention requirement in the EU has been introduced through amendments[80] to the Basel II framework which was introduced within the EU by the Capital Requirements Directive, comprising the Banking Consolidation Directive[81] and the Capital Adequacy Directive.[82] The changes have to be implemented into the national laws of each EU Member State by 31 October 2010. The retention requirement is set out in a new Article 122a of the amended Banking Consolidation Directive and will apply to new securitisations issued on or after 1 January 2011 and, after 31 December 2014, to existing securitisations where new underlying exposures are added or substituted after that date.[83] Pursuant to Article 122a(1) a credit institution subject to EU Member State authorisation under the Directive, other than when acting as originator, sponsor or original lender, is only allowed to be exposed to the credit risk of a securitisation position if the originator, sponsor or original lender has explicitly disclosed to the credit institution that it will retain, on an ongoing basis, a material net economic interest of at least 5 % which is not allowed to be hedged. The retention of a material net economic interest can be achieved in several ways, ranging from the retention of a 'vertical slice' covering all tranches, the retention of randomly selected exposures to the retention of the first loss tranche. Although this retention requirement in the form of an investment restriction affects only credit institutions as investors in securitisation products, it is likely that a final Directive on Alternative Investment Fund Managers will expand such an investment restriction beyond credit institutions to in-

77 Schwarcz, *supra* note 55, at pp. 386, 399 *et sqq*.

78 See The High-Level Group on Financial Supervision in the EU, *supra* note 4, at para. 95; US Department of the Treasury, *supra* note 59, at p. 44; HM Treasury *supra* note 59, at para. 6.13 and in particular Technical Committee of the International Organization of Securities Commissions, *Unregulated Financial Markets and Product*, *supra* note 59, at paras. 58 *et sqq*.

79 See on the main implications of this regulatory change Freshfields Bruckhaus Deringer LLP, *The Bank of the Future*, (November 2009), available on the Internet at <http://www.freshfields.com/industries/reports/bank_of_the_future/26595.pdf> (last accessed on 25 July 2011), at pp. 68 *et sqq*.

80 Directive 2009/111/EC amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management, OJ 2009 L 302/97.

81 Directive 2006/48/EC relating to the taking up and pursuit of the business of credit institutions (recast), OJ 2006 L 177/1.

82 Directive 2006/49/EC on the capital adequacy of investment firms and credit institutions (recast), OJ 2006 L 177/201.

83 Art. 122a(8) Banking Consolidation Directive (as amended).

vestment funds regulated in the EU.[84] The retention requirement is further bolstered by provisions which, on the one hand, impose disclosure obligations on regulated originator and sponsor credit institutions[85] and, on the other hand, require regulated investor credit institutions to demonstrate that they have a comprehensive and thorough understanding of their investments in securitisation products and have implemented appropriate procedures to process information concerning such investments.[86]

In the US a credit risk retention requirement has been introduced by the Dodd-Frank Wall Street Reform and Consumer Protection Act,[87] signed into law on 21 July 2010, which amends the Securities Exchange Act of 1934[88] by inserting a new section 15G.[89] Although many details about the retention requirement have yet to emerge in regulations to be prescribed under this section, these regulations should require any securitiser to retain an unhedged economic interest in a portion of the credit risk for any asset that the securitiser transfers to a third party, through the issuance of an asset-backed security. The standards set by the new legislation usually mandate a credit risk retention of at least 5 %. A less than 5 % credit risk retention is allowed only if the originator of the underlying financial assets meets certain underwriting standards to be prescribed by regulations, and if no retention requirement applies to securitisation products that comprise only qualified residential mortgages conforming to certain quality standards yet to be defined as underlying assets. The permissible forms of risk retention and the allocation of risk retention obligations between securitiser and originator have yet to be specified. In general, the US legislation is characterised by a more differentiated and cautious approach than in the EU, as it requires the competent regulatory authorities to establish different asset classes with different standards for credit risk retention and to conduct studies on the effect of risk retention to be reported to Congress, possibly to allow for future legislative adjustments to the credit risk retention requirement. The new US legislation[90] – similar to the legislative amendments in the EU – also provides for the adoption of regulations that introduce enhanced disclosure obligations for asset-level or loan-level data[91].

The main caution that can be levelled against the mandatory risk retention requirements introduced by legislation in the EU and the US is based on studies[92] that show that both the size and form of risk retention are crucial to achieve incentive alignment. The choice of the appropriate retention scheme needed to incentivise more intensive loan screening depends critically on the quality of the loan portfolio and the economic conditions expected during the life of the securitisation transaction. In particular, retention of just the first loss tranche has little impact on screening efforts if it is likely to be exhausted in an economic downturn and a downturn of the economy is likely, because in this case there are no benefits to screening. In contrast, the retention of a 'vertical slice' covering all tranches, which is an alternative under the EU retention requirement, or the retention of the mezzanine tranche may in some conditions generate higher screening efforts. This all calls for a flexible implementation of risk retention requirements for securitisation transactions.

V. Conclusion

The empirical literature on the incentive problems of the 'originate-to-distribute' model of bank finance reviewed in this article shows that, while loan syndication and loan sale markets seem to work well, changes have to be made to existing securitisation practices. In order to redress these problems and align incentives along the securitisation chain, getting the key parties in the transaction to have more 'skin in the game', i.e. to retain risk exposure, has been identified as the main regulatory response. In

84 Article 13 of the Commission Proposal for a Directive of the European Parliament and of the Council on Alternative Investment Fund Managers and amending Directives 2004/39/EC and 2009/…/EC, COM(2009) 207 final.

85 Art. 122a(7) Banking Consolidation Directive (as amended).

86 Art. 122a(4) Banking Consolidation Directive (as amended).

87 Public Law No. 111-203.

88 15 USC. §78a et seqq.

89 Section 941 Dodd-Frank Act.

90 Sections 942, 943 Dodd-Frank Act.

91 Data provision used to be at pool-level: Fender/Mitchell, *supra* note 47, at p. 35.

92 Ingo Fender and Janet Mitchell, "Incentives and Tranche Retention in Securitization: A Screening Model", 1 September 2009, BIS Working Paper No. 289, available on the Internet at <http://ssrn.com/abstract=1481663> (last accessed on 25 July 2011); John Kiff and Michael Kisser, "Asset Securitization and Optimal Retention", 1 March 2010, IMF Working Paper No. 10/74, available on the Internet at <http://ssrn.com/abstract=1578672> (last accessed on 25 July 2011). See also International Monetary Fund, *Global Financial Stability Report. Octoberl 2009*, *supra* note 3, at pp. 101 *et sqq.* (Box 2.7. Optimal Retention Policies for Loan Securitization) and Fender/Mitchell, *supra* note 47, at pp. 37 *et sqq*.

the battle for regulatory territory between disclosure-based (self-)regulation intended to stimulate market solutions having such an effect and regulatory intervention prescribing risk retention, the prescriptive regulatory alternative has won the upper hand for the moment despite flexibility in the applied risk retention scheme is advisable in order to take into account the nature of the underlying financial assets and the economic circumstances expected during the transaction's life. Subject to the provision of sufficient initial and ongoing disclosure of retained risk exposure by the parties central to the transaction, the regulator seems to be at a disadvantage with regard to devising the appropriate risk retention mechanism compared to market forces which are able to adapt to every individual transaction. However, with securitisation markets yet to recover compared to other segments of financial markets,[93] the main reason for the authoritative variant of regulation may be that more direct measures were deemed necessary by legislators to restore investor confidence.[94] It should also not be overlooked that the mandatory minimum retention percentage both in the EU and the US has already been scaled back under industry pressure from an initially 10 % to 5 % in the legislative process and that both jurisdictions provide for some flexibility and market solutions in their respective new legislation: Under the EU Directive, several risk retention schemes are recognised as equal, which leaves it up to the market to decide on the appropriate one for an individual transaction. In this regard the accompanying new disclosure obligations will provide the market with the necessary information. The same is true for the differentiated and cautious approach chosen in the US, although details have yet to emerge in secondary legislation. Overall, it remains to be seen whether the mandatory risk retention requirements introduced in the EU and the US will restore confidence in securitisation markets and remedy the incentive problems of securitisation exposed in the recent financial crisis without going too far in curtailing the beneficial effects of this development in finance.

93 The Economist, "Securitisation: Earthbound", 25 March 2010.

94 Similarly Fender/Mitchell, *supra* note 47, at p. 41.