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Basel III and Credit Risk Measurement: Variations Among G20 Countries

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Basel III and Credit Risk Measurement: Variations Among G20 Countries

MATT SCHLICKENMAIER*

TABLE OF CONTENTS

I.	INTRODUCTION	194
II.	THE IMPORTANCE OF CREDIT RISK MEASUREMENTS	194
III.	MEASURING RISK UNDER BASEL II	196
	A. <i>Standardized and Internal Risk-Based Approaches</i>	196
	B. <i>Assumptions of Basel II</i>	197
	C. <i>Problems with Basel II's Standardized and IRB Approaches</i>	198
	1. <i>Standardized Approach</i>	198
	a. <i>Conflicts of Interest and Rating Shopping</i>	199
	b. <i>CRA Consulting</i>	200
	c. <i>Government Reliance on CRAs</i>	200
	2. <i>The IRB Approach</i>	201
IV.	THE MORTGAGE CRISIS: AN EXAMPLE OF HIDDEN CREDIT RISK	203
	A. <i>Securitization</i>	203
	B. <i>Lack of Regulation</i>	206
	C. <i>The Financial Crisis</i>	207
	D. <i>Assigning Blame</i>	208
V.	MEASURING RISK UNDER BASEL III	210
	A. <i>Implementation of Basel III</i>	210
	1. <i>European Union</i>	210
	2. <i>Germany</i>	212
	3. <i>United Kingdom</i>	212
	4. <i>Hong Kong</i>	214
	5. <i>United States</i>	215
VI.	BASEL III AND CREDIT RISK: PROBLEMS AND SOLUTIONS	217
	A. <i>Persistently Poor Incentives</i>	217
	B. <i>Variance Among Countries</i>	221
VII.	CONCLUSION	223

I. INTRODUCTION

Most countries require banks to hold extra capital to protect against unforeseen financial calamities; banks with riskier loans must hold more capital than those with safer loans. Basel II, a set of international banking standards, allows banks to measure a loan's risk in different ways: some banks make their own judgments; others use outside agencies. The recent mortgage crisis prompted banks to reevaluate these methods, in part due to banks having failed to perceive the high level of risk inherent in securitized mortgages. The international community's response was Basel III, an updated version of its previous standards. This Comment will look at how Basel III's implementation will change the way banks measure the credit risk of their loans.

Part I of this comment will examine how credit risk measurement fits into the overall Basel scheme; Part II will analyze Basel II's options for estimating credit risk; Part III will illustrate how inaccurate credit risk estimations contributed to the mortgage crisis; Part IV will explain the new Basel III rules; and Parts IV and V will examine problems with the Basel III rules and propose some solutions.

II. THE IMPORTANCE OF CREDIT RISK MEASUREMENTS

One important component of the financial crisis of 2008 was poor information.¹ Banks and investors falsely believed that they held low-risk assets;² regulators incorrectly believed that banks had enough capital to weather tough times;³ and both banks and regulators mistakenly believed that they had fully accounted for all possible risks.⁴ Although no single

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1. Generalizing about the financial crisis of 2008 is for all practicable purposes nearly impossible. For an account that focuses on some of the individuals who played influential roles leading up to the crisis, see generally BETHANY MCLEAN & JOE NOCERA, *ALL THE DEVILS ARE HERE: THE HIDDEN HISTORY OF THE FINANCIAL CRISIS*, (Penguin Books 2010) (2010). Alternatively, for an account of a few individuals who anticipated the crash and made a fortune betting that it would happen, see generally MICHAEL LEWIS, *THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE*, (W.W. Norton & Company, Inc. 2011) (2011).

2. See Peter King & Heath Tarbert, *Basel III: An Overview*, 30 *BANKING & FIN. SERVICES POL'Y REP.*, May 2011, at 3.

3. *Id.* at 2–3.

4. *Id.* at 3.

factor caused the financial crisis, reliance on bad information played a significant role.

Prior to the financial crises, specific rules designed to prevent banks from failing had been in place.⁵ Regulations derived from the Basel II accord, an international agreement that set baseline capital requirements for banks, were in force in many countries.⁶ The basic idea behind the original Basel rules, Basel I, was that banks were required to counterbalance risky investments with a sufficient cushion of backup capital.⁷ Because some loans are riskier than others, Basel I “weighed” each one. Depending upon the kinds of loans the bank made, the bank would have to hold more, or less, extra capital.⁸ Essentially, the Basel rules classified each loan under a different category of riskiness.⁹ Under Basel I, generally only one method of categorizing an asset’s level of risk existed.¹⁰ Later, Basel II attempted to give banks more flexibility by offering the banks more choices: banks could use credit rating agencies (“CRAs”) or their own risk models.¹¹

The Basel II rules presumed that both the CRAs and the bank’s internal models were accurate.¹² If either model misjudged the riskiness of particular assets, the rules would require the bank to hold too much, or too little, capital.¹³ Unfortunately, neither the internal models nor the

5. *One Basel Leads to Another*, THE ECONOMIST, May 20, 2006, at 10, 12.

6. The origin of the Basel rules was a response to the failure of an internationally connected German bank in 1974. The event prompted the Basel Committee to publish the first Basel accord in 1988. *Id.* at 10.

7. King & Tarbert, *supra* note 2, at 1.

8. *One Basel Leads to Another*, *supra* note 5, at 10. For example, a loan to a rich Western country would have a risk weight of 20%, but a loan to a company would have a risk weight of 100%. *Id.* Thus, the borrowing party determined how risky the loan was and therefore the amount of capital the bank had to hold. King & Tarbert, *supra* note 2, at 2.

9. *Id.*

10. *See id.*; Basel Comm. on Banking Supervision, Bank for Int’l Settlements [BIS], *International Convergence of Capital Measurement and Capital Standards*, 14, 17, 18 (July 1988 updated to Apr. 1998), available at <http://www.bis.org/publ/bcbcs111.pdf>.

11. King & Tarbert, *supra* note 2, at 2.

12. *See infra* Part III.C.

13. *See infra* Part III.C. By analogy, if your nutritionist has rules about how much fat or calories you should eat per day, depending upon your weight, that is fine as long as your scale is accurate. But if you use a faulty scale, the nutritionist’s rules will cause you to either eat too much or too little fat, depending upon whether the scale under- or overestimates your weight.

CRAs were entirely accurate.¹⁴ Neither option was ideal at objectively measuring risk; each one contained its own unique set of problems.¹⁵

III. MEASURING RISK UNDER BASEL II

A. Standardized and Internal Risk-Based Approaches

In an attempt to make its application more flexible, the Basel Committee broadened Basel I's "one size fits all" approach into roughly two categories.¹⁶ Basel II therefore provided banks with a choice: use risk categories based on CRAs or use the bank's own credit risk models.¹⁷

The first approach, known as the "standardized approach," relies on CRAs.¹⁸ This method is the simpler of the two and "is designed for smaller banks with less sophisticated risk-modeling and risk-management systems."¹⁹

The second, more complicated option is the "internal risk-based approach" ("IRB").²⁰ This approach allows a bank to make its own assessment of risk, rather than rely on CRAs.²¹ The IRB option applies to banks that already have sophisticated risk modeling and risk management systems in place.²² A bank can use its own data to determine the risk level of its loans by analyzing 1) the probability of default in one year, 2) the bank's exposure and losses if there is a default, and 3) when the borrower will likely repay if it does not default.²³ Within IRB, there are two further options: advanced IRB and foundation IRB.²⁴ Foundation IRB entails more oversight than advanced IRB. The foundation approach allows banks to estimate the probability of default for each asset but requires the bank supervisors to estimate the three other factors.²⁵ The advanced approach (which is only available for the most sophisticated

14. King & Tarbert, *supra* note 2, at 2–3.

15. *See infra* Part III.C.

16. King & Tarbert, *supra* note 2, at 2.

17. *Id.*; see Basel Comm. on Banking Supervision, BIS, *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*, ¶¶ 50-51 (June 2004), available at <http://www.bis.org/publ/bcbs107.pdf> [hereinafter *Revised Framework*].

18. *See id.* at ¶ 50.

19. *One Basel Leads to Another*, *supra* note 5, at 10.

20. *Revised Framework*, *supra* note 17, at ¶¶ 50-51, 211.

21. *Id.* at 48.

22. *One Basel Leads to Another*, *supra* note 5, at 10.

23. *Id.* The IRB approach also factors in credit risk mitigants, such as insurance and collateral. Sandra Rutova & Tim Volkheimer, *Revisiting the Basel Accords: Lessons Learned From the Credit Crisis*, 19 U. MIAMI BUS. L. REV. 83, 90 (2011).

24. *Id.*

25. *Id.*

banks) permits a bank to make most of the estimates, provided the bank supervisors approve them.²⁶

B. Assumptions of Basel II

Basel II based its increased flexibility on two assumptions: 1) that regulators can adequately supervise a bank's IRB decisions, and 2) that market discipline will incentivize banks to make prudent decisions.²⁷ Overall, the Basel Committee believed "that the cumulative effect of implementing strict supervisory review and market discipline, used in conjunction with risk assessment analysis, [would] create a far more stable international banking environment."²⁸ Both assumptions, however, have been subject to criticism.²⁹

First, the idea that regulators can adequately police large banks may have been too optimistic. One problem with relying on national regulators is that they tend to focus on default risk alone. If, for example, a large bank's portfolio leaves it exposed to other risks such as changing interest rates, regulators may miss these potential risks.³⁰

Second, the idea that market discipline will ensure that banks act prudently may be incorrect.³¹ Basel II requires banks to make public information about their assets and liabilities and explain how they measure credit risk. Some have argued that this requirement does not really depend upon market discipline but "transparency and disclosure."³² If regulators wanted to rely more heavily on market discipline, they could require banks to issue publicly-traded, subordinated debt, or abolish deposit insurance.³³ Such transparency and disclosure may not be as motivating as the threat of possible bank failure.

26. *Id.*

27. Eric Y. Wu, *Basel II: A Revised Framework*, 24 ANN. REV. BANKING & FIN. L. 150, 154-55 (2005).

28. *Id.*

29. *See generally One Basel Leads to Another*, *supra* note 5.

30. *Id.*

31. *Id.* at 12.

32. Professor George Kaufman of Loyola University in Chicago makes this criticism. *Id.*

33. *Id.*

C. Problems with Basel II's Standardized and IRB Approaches

1. Standardized Approach

Basel II's standardized approach ultimately relies on the judgment of CRAs,³⁴ whose responsibility is to make it easier for investors to make informed decisions.³⁵ The two principal purposes of CRAs are to promote capital market efficiency and to manage risk.³⁶ In theory, CRAs provide an important function by helping investors mitigate risk, avoid bad investments, and make more efficient use of their resources.³⁷ In practice, however, this has not always been the case.³⁸ The relationships between CRAs, investors, issuers of securities, and regulators create a number of problems.³⁹

Criticisms of CRAs center around a few basic issues: a conflict of interest incentivizing CRAs to give inflated ratings,⁴⁰ so-called "rating shopping" among issuers of securities;⁴¹ CRAs that advise issuers on how to obtain a certain rating;⁴² and the dependence of government regulations on credit ratings.⁴³

34. See *supra* Part III.A.

35. See John Crawford, *CDO Ratings and Systemic Instability: Causes and Cure*, 7 N.Y.U. J.L. & BUS. 1, 17–21 (2010).

36. *Id.* at 18. "Ratings are used by regulators and private actors to two principal ends: risk management and promoting capital market efficiency." *Id.* CRAs help investors manage risk by providing independent analysis of securities. Institutional investors, for example, can commit to holding certain securities as long as they maintain a given rating. If a security falls below a specified rating, the fund can automatically trade the security for something less risky. See *id.* at 17, 20. In fact, the government requires that institutional investors like pension funds, insurance companies, and banks only hold securities that are highly rated. F. Phillip Hosp, *Problems and Reforms in Mortgage-Backed Securities: Handicapping the Credit Rating Agencies*, 79 MISS. L.J. 531, 541 (2010). CRAs can also help private parties to manage risk in financial contracts. By including terms in a contract that are triggered when a CRA downgrades a security, the party can help avoid potentially larger losses. Crawford, *supra* note 35, at 20.

CRAs also contribute to market efficiency. *Id.* By preventing multiple investors from having to expend time researching securities, CRAs avoid "duplication of effort among investors. They may also open the market to investors for whom the cost of investigation would otherwise outweigh a bond's attractiveness relative to other investments." *Id.* CRAs can also help investors avoid poorly performing investments, especially in cases where investors cannot access credit quality because the securities are complex, such as CDOs and MBSs. *Id.* at 21.

37. See *supra* Part III.C.

38. See *infra* Part III.C.1.a.

39. See *infra* Part III.C.1.

40. See *infra* Part III.C.1.a.

41. See *infra* Part III.C.1.a.

42. See *infra* Part III.C.1.b.

43. See *infra* Part III.C.1.c.

a. Conflicts of Interest and Rating Shopping

CRA's are profit-driven companies that must provide objective ratings.⁴⁴ Furthermore, CRA's are paid by the same people whose securities they rate.⁴⁵ The higher the rating a CRA can provide, the more securities an issuer can sell, and the more likely it is that the issuer will hire that CRA again.⁴⁶ CRA's thus have an incentive to inflate their ratings.⁴⁷ These conflicts can lead to "rating shopping."⁴⁸ Rating shopping occurs when an issuer discovers beforehand the rating that a CRA will give a particular issuance. An issuer can obtain this information either by running a publicly-available rating model or paying a CRA for a preliminary opinion. The issuer then "shops around" and employs the CRA that will provide the most favorable rating.⁴⁹ This race-to-the-bottom scenario is one principal argument against the issuer-pays model.⁵⁰

44. Frank Partnoy, *The Siskel and Ebert of Financial Markets?: Two Thumbs Down for the Credit Rating Agencies*, 77 WASH. U. L.Q. 619, 630 (1999).

45. *Id.* at 652–53.

46. *See id.* One counterargument, however, theorizes that reputational concerns mitigate perverse incentives. *Id.* at 629–30. A CRA that inflates its ratings, the argument goes, would quickly lose its reputation for objectivity, which would lead to a loss of business. *Id.* at 631, 633. Others have dismissed this line of thought, countering that reputational integrity does little to balance the fact that CRA's are "captured" by the firms they rate. Jonathan R. Macey, *A Pox on Both Your Houses: Enron, Sarbanes-Oxley and the Debate Concerning the Relative Efficacy of Mandatory Versus Enabling Rules*, 81 WASH. U. L.Q. 329, 342 (2003).

47. *See* FRANK PARTNOY, *INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS* 250–51 (2003). Such a conflict can lead to reluctance to downgrade a security that is clearly poorly performing. *Id.* One prominent critic of CRA's, Professor Frank Partnoy, professor of law and finance at the University of San Diego, notes that in the 1990s, for example, CRA's "downgraded companies only after all the bad news was in, frequently just days before a bankruptcy filing. Nevertheless, investors continued to trust the credit-rating agencies, and regulators continued to rely on them." *Id.* Moreover, after the recent mortgage crisis, the SEC found that the "conflicts created from the 'issuer pays' model in rating structured finance products; particularly RMBS [residential mortgage-backed securities] and related-CDOs, may be exacerbated." SEC. EXCH. COMM'N, *SUMMARY REPORT OF ISSUES IDENTIFIED IN THE COMMISSION STAFF'S EXAMINATIONS OF SELECT CREDIT RATING AGENCIES* 1, 31 (2008) [hereinafter *RATING AGENCIES*].

48. Crawford, *supra* note 35, at 44.

49. *Id.*

50. *Id.*

b. CRA Consulting

CRAs often advise issuers on how to organize securities in order to receive a particular rating. Mortgage-backed securities (“MBSs”) and collateralized debt obligations (“CDOs”), both of which were prevalent leading up to the financial crisis, are both malleable⁵¹ and complex.⁵² Their complexity, however, makes their risk level difficult to estimate.⁵³ Frequently, CRAs give issuers advice on “credit enhancement”⁵⁴ (ways to improve the rating by insuring or collateralizing the security), and on how to separate the security into different pools of risk.⁵⁵ Although the SEC later issued a rule preventing the same CRA from both advising and rating the security,⁵⁶ most CRAs employ similar methodologies, and thus advice from one CRA often translates to another.⁵⁷

c. Government Reliance on CRAs

A related problem is the fact that numerous laws and regulations rely upon CRA ratings.⁵⁸ In the 1970s, the SEC decided to only recognize government-approved CRAs (known as Nationally Recognized Statistical Rating Organizations (“NRSROs”)).⁵⁹ Since then, the number of regulations relying on these agencies now extends beyond securities to the areas of

51. See *infra* Part IV.A; RATING AGENCIES, *supra* note 47. MBSs and CDOs are malleable in that the issuer has lot of discretion in deciding what to include in the security. By analogy, in the same way that a cook can vary a dish’s spiciness by altering the number and variety of hot peppers in it, the issuer can vary a security’s riskiness by changing the pools of loans that compose it. The designer of a CDO increases its risk level by choosing to include, for example, risky sub-prime mortgages. See *infra* Part IV.A.

52. See *infra* Part IV.

53. Kenneth W. Dam, *The Subprime Crisis and Financial Regulation: International and Comparative Perspectives*, 10 CHI. J. INT’L L. 581, 615 (2010).

54. *Id.* at 632.

55. *Id.*; see generally Csaba Ruzsnak, Note, *The Use of Mortgage-Backed Securities in International Comparative Perspective: Lessons and Insights*, 43 VAND. J. TRANSNAT’L L. 823 (2010).

56. Dam, *supra* note 53, at 632; *SEC Issues Rules on Conflicts in Credit Rating*, N.Y. TIMES (Dec. 4, 2008), <http://www.nytimes.com/2008/12/04/business/economy/04sec.html>.

57. Ruzsnak, *supra* note 55, at 832–34.

58. Deryn Darcy, Survey, *Credit Rating Agencies and the Credit Crisis: How the “Issuer Pays” Conflict Contributed and What Regulators Might Do About It*, 2009 COLUM. BUS. L. REV. 605, 625–26 (2009).

59. *Id.* at 624–26. This rule was the “net capital rule” for broker dealers, which the SEC would only allow NRSROs to rate. *Id.* The three major CRAs—Moody’s, Fitch, and Standard & Poor’s—are all NRSROs. There are ten firms registered as NRSROs. Sec. Exch. Comm’n, *Credit Rating Agencies—NRSROs*, <http://www.sec.gov/answers/nrsro.htm> (last modified May 12, 2011).

pensions, banking, real estate, and insurance regulation.⁶⁰ Professor Frank Partnoy argues that giving the NRSROs such market power permits them to grant “regulatory licenses.”⁶¹ Professor Partnoy suggests that a private entity, rather than a regulator, can essentially determine the substantive effect of legal rules.⁶² Thus, the ratings “are essentially only valuable because they reduce the issuer’s regulatory costs, not because they are credible or accurate.”⁶³ For example, certain federal rules require institutional investors to buy only investment grade debt or better.⁶⁴ If one CRA rates a given security above that level, then that CRA, rather than a government regulator, has the ability to control whether that security is “government approved.”⁶⁵ Basel II’s standardized approach, which relies on CRAs, is also an example of this.

2. The IRB Approach

Under Basel II’s IRB approach, banks that are more sophisticated can use their own models to measure credit risk.⁶⁶ These models are similar to the models that CRAs use.⁶⁷ Banks, however, also lack incentives to be wholly objective in their analysis.⁶⁸

60. Darcy, *supra* note 58, at 625–26.

61. Partnoy, *supra* note 44, at 623.

62. *Id.*

63. Darcy, *supra* note 58, at 626.

64. Erik F. Gerding, *Code, Crash, and Open Source: The Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 WASH. L. REV. 127, 131 (2009).

65. RATING AGENCIES, *supra* note 47, at 1–2. Despite years of regulatory reliance on CRAs, some government agencies have admitted that CRAs have not always performed well. *See generally id.* In July 2008, the SEC published a report based on its investigation of the CRAs’ performance around the mortgage crisis. *Id.* Among its conclusions, the SEC found that due to the increased volume and complexity of MBSs and CDOs, “some of the rating agencies appear to have struggled with the growth [of MBSs and CDOs];” that the CRAs needed to create better conflict of interest procedures; and that there needed to be more comprehensive documentation and justification of the methods that were used to rate the securities. *Id.* at 1–2. The SEC also found that the surveillance processes used by the rating agencies (used to monitor a security’s performance after it has been rated) appear to have been less comprehensive than the initial ratings. *Id.* at 21.

66. *See supra* Part III.A.

67. The use of these models began in the 1980s when Wall Street began employing mathematicians to help them more effectively manage risk. Erik F. Gerding, *The Dangers of Delegating Financial Regulation to Risk Models*, 29 BANKING & FIN. SERVICES POL’Y REP., April 2010, at 1. Because these models could quantify risk, they were also used “to develop and price complex financial products, including novel forms

First, capital adequacy rules generally require banks to hold more capital for riskier assets and less for safer ones.⁶⁹ Banks may then use unreserved capital elsewhere to make money. All things being equal, banks would rather hold a small amount of reserve capital than a large amount. Thus, banks have an incentive to underestimate the risk of their assets. And if regulators do not closely monitor banks but rather “use their discretion to shy away from demanding that banks improve their risk models, these models are more likely to understate the actual risk and allow banks to arbitrage around the leverage ratio more easily.”⁷⁰ In short, banks have some leeway to consider their assets lower risk, which means they hold less capital.⁷¹

Second, bank models are not always precise. CDOs and MBSs in particular are complex and difficult to measure accurately.⁷² Additionally, the models may not account for atypical situations: “[w]hile these models were quite accurate when used to assess risk under normal market conditions, the financial crisis proved that these same models drastically underestimated losses when assessing risk in extreme stress situations.”⁷³ Unfortunately, the financial system moved into abnormal territory.⁷⁴ As a result, the computer models “crashed spectacularly in the global financial crisis. Risk models failed to predict the massive losses that started in residential mortgages and cascaded in waves throughout the U.S. and international financial markets.”⁷⁵ The IRB approach is only as effective as the model the bank uses and the integrity of the people applying it.

of mortgages and other consumer loan products, asset-backed securities and credit derivatives.” *Id.* These models facilitated the explosion of sub-prime lending by helping create individually-tailored interest rates, securitizing MBSs, and pricing derivatives that were used to insure against risky MBSs and CDOs. *Id.* at 1–2.

Thus, financial institutions including CRAs, banks and regulators, came to rely heavily on computer models to quantify risk. *Id.* Faith in these computer models “was animated by a belief that risk models enabled financial institutions to price and manage risk effectively.” *Id.* at 1. Regulators expressed this belief in the IRB approach in the Basel II accord, which “authorize[d] national bank regulators to allow certain large banks to set their own capital requirements according to the internal risk models of the individual banks.” *Id.*

68. *Id.* at 1, 4.

69. See *Revised Framework*, *supra* note 17, at ¶¶ 720–723.

70. John Holman, Note, *A Flawed Solution: The Difficulties of Mandating a Leverage Ratio in the United States*, 84 S. CAL. L. REV. 713, 746 (2011).

71. *Id.*

72. See *infra* Part IV.A; *supra* Part III.C.1.

73. King & Tarbert, *supra* note 2, at 16 n.18.

74. See Gerding, *supra* note 67.

75. *Id.*

IV. THE MORTGAGE CRISIS: AN EXAMPLE OF HIDDEN CREDIT RISK

One reason it was difficult to measure credit risk was the increased popularity of a new kind of asset: the MBS.⁷⁶ The process of obtaining a mortgage was changing drastically.⁷⁷ Historically, the process involved two parties: the bank and the individual.⁷⁸ Because a bank would ultimately suffer for making a bad loan, banks were careful to analyze critically the borrower's ability to pay the loan back.⁷⁹ If the bank believed the borrower was unable to make the payment, it would not issue the loan. Securitization, however, transformed the relationship between the borrower and the creditor.⁸⁰

A. Securitization

Securitization turned mortgages into commercial investments.⁸¹ Instead of banks holding an individual's debt, an investor would hold pieces of debt from numerous borrowers.⁸² The process of turning a mortgage into a security consisted of numerous stages, each performed by a different party.⁸³ First, the brokers who made loans to the individuals sold the mortgages to the bank. The banks could then sell the loans in bulk to entities that repackaged them into securities. The investment banks created these entities, called "special purpose vehicles" ("SPVs"), and traded them as MBSs.⁸⁴ Now packaged as securities, they were available for investors to purchase.⁸⁵ Just as easily as buying stock in IBM, an investor could purchase a share of the right to receive a part of a stream of mortgage payments.⁸⁶ Thus, instead of borrowers repaying the bank, they essentially repaid investors.⁸⁷

76. See Dam, *supra* note 53, at 617.

77. *Id.* at 611–13.

78. *Id.* at 611.

79. Ruzszak, *supra* note 55, at 827–28.

80. See Dam, *supra* note 53, at 611–19.

81. Chris Wilson, *What Is a Mortgage-Backed Security?*, SLATE (Mar. 17, 2008) http://www.slate.com/articles/news_and_politics/explainer/2008/03/what_is_a_mortgage_backed_security.html.

82. See *id.*

83. Ruzszak, *supra* note 55, at 829.

84. *Id.* at 830.

85. *Id.*

86. *Id.* at 829; see also Wilson, *supra* note 81.

87. Ruzszak, *supra* note 55, at 30.

Securitization also created perverse incentives. Before securitization, a bank had reason to avoid making risky loans because it might lose money,⁸⁸ but mortgage brokers did not.⁸⁹ Mortgage brokers only needed to pass the loans along, like a hot potato.⁹⁰ Since mortgage brokers would not ultimately hold the debt, they were not concerned with the borrower's ability to repay.⁹¹ Instead, they earned money by selling the loans to the bank.⁹² Banks, which were similarly situated, were primarily concerned with moving the mortgages along as fast as possible.⁹³ Like mortgage brokers, banks earned their money from fees, instead of charging interest and holding the loans.⁹⁴ Finally, SPVs packaged the loans into securities and sold them to investors.⁹⁵

Although the concept of securitizing mortgages was not entirely new, it was the first time commercial and investment banks employed the idea so feverishly.⁹⁶ As a new and competitive market, securitization also attracted innovation, and banks created novel and complex ways to repackage securities.⁹⁷ Two such examples are collateralized mortgage obligations (“CMOs”) and collateralized debt obligations (“CDOs”).⁹⁸ CMOs are formed when different parts of various MBSs are combined together into a new security.⁹⁹ Thus, instead of buying a share of a group of mortgages, an investor buys a share of several groups of mortgages, and essentially owns the debt of numerous debtors.¹⁰⁰ CDOs are formed by combining parts of a MBS with different kinds of loans—for example, auto loans, student loans, credit card receivables, or small business loans.¹⁰¹ The resulting security is a CDO.¹⁰² Thus, instead of owning the debt of a group of mortgages, the investor buys a share of a number of different groups of loans—some mortgages, some not.¹⁰³ CDOs can be further

88. *Id.* at 834.

89. *Id.*

90. *Id.*

91. *Id.*

92. Dam, *supra* note 53, at 612–13.

93. *Id.* at 612.

94. Another benefit to the banks was the fact that they did not have to wait for interest to accrue since they earned the fees up front. *Id.*

95. *Id.* at 617.

96. See Ruzsna, *supra* note 55, at 830. Mortgage securitization had been done since the 1980s by government-sponsored enterprises like Fannie Mae and Freddie Mac. *Id.* at 830–31.

97. Dam, *supra* note 53.

98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

combined with other CDOs to create a CDO squared (“CDO2”).¹⁰⁴ CDO2s are similar to CDOs in their variety but include exponentially more loans than CDOs.¹⁰⁵

In the short run, this new way of selling mortgages appeared profitable for everyone.¹⁰⁶ First, it made the American dream of owning a home a reality for people who otherwise would not be able to do so.¹⁰⁷ No longer concerned with loaning to people with bad credit, banks approved more people for mortgages.¹⁰⁸ Second, mortgage brokers profited from increased lending,¹⁰⁹ as did the SPVs for packaging the loans.¹¹⁰

Finally, banks benefitted in two ways. First, banks, like the mortgage brokers and SPVs, earned increased revenue from fees.¹¹¹ Second, banks were able to maneuver around capital requirements by taking the loans off the banks’ balance sheets.¹¹² Normally, if a bank held an asset like a risky loan, it was required to hold more capital.¹¹³ Securitization, however, allowed banks to sell the loans they issued, thus taking the loans off of the banks’ books. Because the banks did not continue to hold the loans, capital adequacy rules like Basel II no longer applied to those loans, and banks still profited from the transaction.¹¹⁴

The popularity of these securities caused them to be sold around the world.¹¹⁵ In fact, by the summer of 2007, the Bank of China held \$9 billion worth of MBSs.¹¹⁶ But the international diffusion of these securities also created new risks for the global economy.¹¹⁷ Although very profitable, securitized mortgage loans were “vulnerable to crisis, especially because institutional purchasers of the securities borrow[ed] to finance the purchase.”¹¹⁸ Also contributing to this global risk was the fact that regulators were often unaware of the dangers these securities posed.

104. *See id.*

105. Dam, *supra* note 53.

106. *See* Ruzznak, *supra* note 55, at 834; Dam, *supra* note 53, at 612–13, 616–17.

107. Ruzznak, *supra* note 55, at 848.

108. *Id.* at 831.

109. *See supra* Part IV.A.

110. *See supra* Part IV.A.

111. *See supra* Part IV.A.

112. Dam, *supra* note 53, at 616.

113. *See supra* Part I.

114. Dam, *supra* note 53, at 616.

115. *Id.* at 615.

116. *Id.*

117. *Id.*

118. *Id.* Institutional investors also used the increased leverage to increase the yield from their investment. *Id.*

B. Lack of Regulation

In the United States, many aspects of mortgage securities were left unregulated. First, most of the institutions that originated the mortgage loans were not technically banks and therefore were not subject to banking regulations. Many were mortgage brokers who made the initial loans but did not hold them to maturity.¹¹⁹ Left to their own devices, these companies focused on selling as many mortgages as possible, often without regard to the likelihood of repayment.¹²⁰

Second, the emergence of a financial system that functioned like a bank but was not subject to banking regulations added to the risk.¹²¹ In the process of mortgage securitization, these entities served as middlemen between the borrowers and the investors.¹²² The similarities between this new system and traditional banking were apparent enough that the new system became known as the “shadow banking system.”¹²³ Shadow banking generally refers to institutions like investment banks, finance companies, money market funds, hedge funds, SPVs, and other entities that amass and hold financial assets.¹²⁴

Despite being comparable in size to the traditional banking system and functioning like a bank, the shadow banking system was not subject to banking regulations.¹²⁵ Because some “shadow banks” were highly leveraged, others relied heavily on short-term funding markets, and none had explicit government support prior to the crisis, the shadow banking system was susceptible to panics similar to the kind banks experienced before the existence of the Federal Deposit Insurance Corporation.¹²⁶

Third, regulators failed to adequately police the CRAs.¹²⁷ Compared to typical security analysis of a corporation or government’s ability to pay its debt, analyzing MBSs and CDOs was exceedingly complex.¹²⁸ In the case of MBSs, there were hundreds or thousands of different borrowers compiled into a single security.¹²⁹ CDOs compounded that difficulty by taking pieces of various MBSs, each made up of hundreds

119. *Id.*

120. *See supra* Part IV.A.

121. The Monitor, *Financial Crisis Inquiry Commission Releases Report on Shadow Banking and the Financial Crisis*, 29 BANKING & FIN. SERVICES POL’Y REP., June 2010, at 27 [hereinafter *Shadow Banking*].

122. *See supra* Part IV.A.

123. *Shadow Banking*, *supra* note 121.

124. *Id.*

125. *Id.*

126. *Id.*

127. *See supra* Part III.C.1.

128. Dam, *supra* note 53.

129. *Id.* (quoting Kenneth E. Scott and John B. Taylor, *Why Toxic Assets Are So Hard to Clean Up*, WALL ST. J., July 20, 2009 at A13).

or thousands of borrowers, and combining them with other MBSs, also made up of hundreds or thousands of borrowers.¹³⁰ Thus, instead of making a judgment about a single borrower, investors had to assess hundreds of thousands of borrowers. In practice, this was impossible.¹³¹ As a result, investors had to look elsewhere for guidance.¹³² Because MBSs and CDOs “were especially hard for purchasers to evaluate, [there was a] tendency to rely on [CRAs].”¹³³ Thus, in the era of MBSs, CRAs gained substantial influence.¹³⁴

Meanwhile, regulators did little to ensure that CRAs were accurate.¹³⁵ This was in part a result of inadequate oversight in the shadow banking system; “the lack of transparency in the financial markets for structured products meant that neither investors nor regulators were aware of who precisely held the subprime mortgage risk.”¹³⁶ More importantly, CRAs were ignoring essential information in their assessments because “[t]he securities regulators did not consider how the loans underlying the securities were created and did not appear to grasp that rating agencies had failed to adequately account for the loosening underwriting standards when assigning ratings.”¹³⁷

C. The Financial Crisis

A combination of factors led to the mortgage crisis. First, the new method of packaging and selling mortgages removed incentives for mortgage brokers to be cautious about lending money.¹³⁸ Second, banks started to depend on the fees they earned from selling bundled mortgages.¹³⁹ Third, an opaque shadow banking system free from regulation made it difficult for CRAs to provide accurate ratings.¹⁴⁰ Fourth, the inaccurate

130. *See supra* Part IV.A.

131. *See* Dam, *supra* note 53.

132. *Id.*

133. *Id.*

134. This is not to say that they already did not have substantial influence. Some have long argued that CRAs have been given too much power, even that they constitute an oligopoly. *See* Partnoy, *supra* note 44, at 682.

135. *See generally* Elizabeth F. Brown, *The Tyranny of the Multitude is a Multiplied Tyranny: Is the United States Financial Regulatory Structure Undermining U.S. Financial Competitiveness?*, 2 BROOK. J. CORP. FIN. & COM. L. 369 (2008).

136. *Id.* at 386.

137. *Id.*

138. *See supra* Part IV.A–B.

139. *See supra* Part IV.A–B.

140. *See supra* Part IV.B.

ratings caused investors to assume more risk than they had intended.¹⁴¹ Finally, an unstable system crashed.¹⁴² Worried about the security of their investments, panicked investors pulled their money out of various shadow banking institutions.¹⁴³

The run on the shadow banking system directly affected the commercial banking system because agreements between commercial banks and entities within the shadow banking system often required banks to provide funds in the event of a market disruption.¹⁴⁴ “Thus, the commercial banks came under funding pressures themselves. Even commercial banks that had not provided these backstop agreements reduced the amount they were willing to lend in interbank or other money markets.”¹⁴⁵

Ultimately, the government had to intervene.¹⁴⁶ The unregulated shadow banking system was in dire need of funding that only the U.S. government could provide.¹⁴⁷ And the U.S. government provided it.¹⁴⁸ “With each of these extraordinary measures, the Federal Reserve effectively extended to the shadow banking system its role as the lender of last resort, a role that the central bank had traditionally reserved for commercial banks and savings institutions.”¹⁴⁹

D. Assigning Blame

In the aftermath of the mortgage crisis, CRAs received much of the public’s blame.¹⁵⁰ The heads of the major CRAs were brought before Congress and scolded.¹⁵¹ One congressman compared their conflicts of interest to a sporting event stating, “[W]hen the referee is being paid by the players, no one should be surprised when the game spins out of control.”¹⁵² An infamous email exchange between two Standard & Poor’s employees epitomized the CRAs’ lack of due diligence.¹⁵³ Referring to a particular MBS, the email exchange admitted “[the] deal [was] ridiculous,”

141. *See supra* Part IV.B.

142. *Shadow Banking, supra* note 121.

143. *Id.* This happened in three separate periods: the liquidity crisis of 2007, the run on Bears Stearns, and the panic of September 2008. *Id.*

144. *Id.* at 27.

145. *Id.*

146. *Id.* at 28.

147. *Id.*

148. *Id.*

149. *Id.*

150. Cyrus Sanati, *Rating Agencies Draw Fire on Capitol Hill*, N.Y. TIMES, Oct. 22, 2008, <http://dealbook.nytimes.com/2008/10/22/rating-agencies-draw-fire-capitol-hill>; see generally Michael Rowland, *Hunt Continues for Financial Crisis Culprits*, (ABC television broadcast Oct. 23, 2008), available at <http://www.abc.net.au/am/content/2008/s2398826.htm>.

151. Sanati, *supra* note 150.

152. Rowland, *supra* note 150.

153. *Id.*

and that S&P's analysis "definitely does not capture half the risk." Candidly, the email continued to say, "[S&P] should not be rating it," but that "[securities] could be structured by cows and we would rate it."¹⁵⁴

Such public shaming prompted governmental action. The attorneys general of California, New York, and Connecticut began investigations of the three major agencies: Standard & Poor's, Moody's Investors Service, and Fitch Ratings.¹⁵⁵ The investigations focused on whether the agencies had failed to conduct due diligence, whether they had employed compromised standards and safeguards for profits, and whether they had conspired with the companies they rated.¹⁵⁶

In short, fairly or unfairly, the CRAs became scapegoats for the mortgage crisis.¹⁵⁷ In a 2007 article, *The Economist* put it succinctly: "The only truly upbeat firms in America nowadays are the accounting giants, which for once are not being blamed for a financial disaster (this time that honour belongs to the rating agencies)."¹⁵⁸

154. *Id.* Another email demonstrated the arbitrary analysis CRAs often used. There, an employee of Standard & Poor's was asked to rate a CDO backed by home loans. When he tried to get information about the security from his superior, he received an email stating that "[a]ny request for loan level tapes is TOTALLY UNREASONABLE!!! Most investors don't have it and can't provide it. Nevertheless we MUST produce a credit estimate. It is your responsibility to provide those credit estimate [sic] and your responsibility to devise some method for doing so." Sanati, *supra* note 150. At the Congressional hearing, CRA profits were also highlighted. Representative Henry Waxman declared that "total revenues for the three firms doubled from \$3 billion in 2002 to over \$6 billion in 2007." Waxman also said, "Moody's had the highest profit margin of any company in the S&P 500 for five years in a row." *Id.*

155. Cyrus Sanati, *California Investigates Credit Rating Agencies*, N.Y. TIMES, Sept. 17, 2009, <http://dealbook.nytimes.com/2009/09/17/california-investigates-credit-rating-agencies>.

156. *Id.*

157. In 2009, the IMF concluded that a lack of regulation was principally responsible for the crisis, particularly in regard to CRAs. *What Went Wrong: The IMF Blames Inadequate Regulation, Rather than Global Imbalances, for the Financial Crisis*, THE ECONOMIST, Mar. 6, 2009, <http://www.economist.com/node/13251429>.

158. *At the Gates of Hell: Banks and Brokers are Having a Terrible Time. Now the Misery is Spreading*, THE ECONOMIST, Nov. 22, 2007, <http://www.economist.com/node/10181281>.

Responding to the failures of the financial crisis, the Basel Committee on Banking Supervision (“BCBS”) revised its capital rules in an attempt “to strengthen the regulation, supervision and risk management of the banking sector.”¹⁵⁹ In September 2010, BCBS released a summary of the reforms called Basel III.¹⁶⁰ In short, under the reforms, most banks will have to hold more capital than under previous Basel frameworks.¹⁶¹ Because the Basel III standards are not binding on member states, each country must implement its own legislation to give them the force of law.¹⁶² As a result, the actual rules applicable to each bank will likely vary.¹⁶³ In particular, the ways that banks will assess credit risk will vary depending upon the jurisdiction.¹⁶⁴

Basel III is similar to Basel II, but the two schemes differ in some important respects.¹⁶⁵ Although Basel III still permits reference to CRAs, it amends the standardized approach, requiring banks to assess exposures and determine whether the risk estimates based on CRAs are appropriate.¹⁶⁶ Basel III also requires that external credit ratings be “publicly available, on a non-selective basis and free of charge.”¹⁶⁷

A. Implementation of Basel III

1. European Union

Banking in the European Union (“EU”) involves a complex web of domestic and international banking regulators.¹⁶⁸ Each EU nation,

159. Basel Comm. on Banking Supervision, BIS, *International Regulatory Framework for Banks (Basel III)*, <http://www.bis.org/bcbs/basel3.htm> (last visited Sept. 20, 2012).

160. See R.A., *Financial Reform: Meet Basel III*, ECONOMIST BLOG, (Sept. 13, 2010) http://www.economist.com/blogs/freeexchange/2010/09/financial_reform.

161. *Id.*

162. Gregory J. Lyons et al., *Basel III Final Rules Issued*, LEVERAGED FINANCING 2011 43, 48 (PLI Corp. L. & Practice, Course Handbook Order No. 29672, 2011).

163. See *infra* Part V–VI.

164. See *infra* Part V–VI.

165. Basel Comm. on Banking Supervision, BIS, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, 3–5 (June 2011), available at <http://www.bis.org/publ/bcbs189.pdf> [hereinafter *Global Regulatory Framework*]; *Revised Framework*, *supra* note 17, at 1.

166. *Global Regulatory Framework*, *supra* note 165, at 52.

167. *Id.* at 53.

168. Recently, the European Commission (EC) created two new regulatory bodies to deal with the challenges presented by the interconnectedness in global banking. See Eric J. Pan, *Challenge of International Cooperation and Institutional Design in Financial Supervision: Beyond Transgovernmental Networks*, 11 CHI. J. INT’L L. 243, 277–81 (2010). These regulatory bodies are the European Systemic Risk Board (“ESRB”)

however, is ultimately responsible for adopting and enforcing its own banking regulations.¹⁶⁹ Consequently, “supervision remains decentralized at the level of the Member States.”¹⁷⁰ Therefore, like the Basel agreements that rely on the G20 members’ domestic legislation for their force, banking regulations passed by the European Commission (“EC”) still require implementation by the EU’s members.¹⁷¹

The EU will implement the Basel III proposals through its Capital Requirements Directive IV (“CRD IV”), which is planned to be in force by January 1, 2013, and fully implemented by January 1, 2019.¹⁷² CRD IV generally permits both reference to CRAs and the use of internal models.¹⁷³ The EC recommends that when banks make decisions about which assets to hold, “external credit ratings may be used as one factor among others in this process but shall not prevail. In particular, internal methodologies shall not rely solely or mechanistically on external ratings.”¹⁷⁴

In making credit assessments, the EC officially states that it prefers internal ratings wherever possible, but that in some circumstances it may

and its parent agency, the European System of Financial Supervisors (“ESFS”). *Id.* at 278. The ESRB has the duty to prevent another European financial crisis, while the ESFS must “monitor and assess threats to financial stability.” *Prudential Supervision of the EU Financial Institutions Moves to the Centre*, GIBSON DUNN, June 22, 2009, <http://www.gibsondunn.com/publications/Pages/PrudentialSupervisionofEUFinancialInstitutions.aspx>. Believing national regulators to be in a better position to influence day-to-day banking, the ESFS’s role is essentially to coordinate initiatives among national regulators. Pan, *supra* note 168, at 278–79. The ESFS also includes the following three sub-agencies: the European Banking Authority (“EBA”), European Insurance and Occupational Pensions Authority, and the European Securities and Markets Authority. *Id.* at 278.

169. Luis Garicano & Rosa M. Lastra, *Towards an Architecture for Financial Stability: Seven Principles*, 13 J. INT’L ECON. L. 597, 603 (2010).

170. *Id.*

171. This is true for CRD IV and other EC directives.

172. Press Release, Europa, CRD IV Frequently Asked Questions, (July 20, 2011), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/527&type=HTML> [hereinafter Europa]. Recently, however, a delay in the EU Parliament vote on CRD IV has pushed back the adoption and implementation dates of CRD IV. See Helen Durand, *EU Basel 3 Slip-Up Unlikely to Derail Capital-Boosting Plans*, REUTERS, Aug. 2, 2012, <http://in.reuters.com/article/2012/08/02/european-banks-regulation-idINL6E8J2C5C20120802>.

173. *Id.*

174. *Id.*; see also *Commission Proposal for a Directive of the European Parliament and of the Council on Public Procurement*, at 12, COM (2011) 453 final (July 20, 2011) [hereinafter *Commission Proposal*].

be preferable to rely on CRAs.¹⁷⁵ For example, the EC warns that “internal ratings are not a panacea” and notes that in the case of securitization, use of CRAs may be preferable because banks lack “reliable approaches” and have “incentives . . . to underestimate risk.”¹⁷⁶ In short, CRD IV attempts to improve reliability by including both methods of measuring risk but prefers particular methods be used for specific types of assets. Finally, the EC recommends that the European Banking Authority (“EBA”) publish annual reports on what banks and supervisors have done to reduce overreliance on CRAs.¹⁷⁷

2. Germany

Historically, Germany’s central bank, the Bundesbank, regulated Germany’s banks.¹⁷⁸ In 2002, the Bundesanstalt für Finanzdienstleistungsaufsicht (“BaFin”) assumed this role and is now its principal bank regulator.¹⁷⁹ In late 2006, Germany implemented Basel II into national law by amending the German Banking Act.¹⁸⁰ In October 2011, Germany fully implemented CRD III (passed by the EC in 2010, enhancing Basel II).¹⁸¹ Germany plans to implement the Basel III rules by the end of 2012.¹⁸² A BCBS progress report notes that Germany (and the other European countries) will follow the EU’s July 2011 proposal for implementation.¹⁸³

3. United Kingdom

The Financial Services Authority (“FSA”) conducts banking regulation in the United Kingdom (“UK”) under the Financial Services and

175. *Commission Proposal*, *supra* note 174, at 12.

176. *Europa*, *supra* note 172.

177. *Commission Proposal*, *supra* note 175, at 11.

178. *Dam*, *supra* note 53, at 587 n.22.

179. *Id.* at 598.

180. *Basel II – The New Capital Accord*, DEUTSCHE BUNDESBANK, http://www.bundesbank.de/Redaktion/EN/Standardartikel/Core_business_areas/Banking_supervision/basel_ii.html (last visited Sept. 20, 2012).

181. *Basel III*, BUNDESBANK, http://www.bundesbank.de/Navigation/EN/Core_business_areas/Banking_supervision/Basel_III/basel_iii.html (last visited Sept. 20, 2012).

182. *Id.*

183. *Basel Comm. on Banking*, BIS, *Progress Report on Basel III Implementation*, at 7–8 (Oct. 2011), <http://www.bis.org/publ/bcbs203.pdf> [hereinafter *Basel III Implementation*]. Despite the delay in the EU Parliament’s adoption of CRD IV, Germany has decided to expedite the implementation of stricter capital requirements. Stephen Brown & Mathias Sobolewski, *German Cabinet Pushes Ahead with Basel III Bank Rules*, REUTERS, Aug. 22, 2012, <http://uk.reuters.com/article/2012/08/22/uk-germany-banks-basel-idUKBRE87L08O20120822>.

Markets Act of 2000.¹⁸⁴ However, the FSA and the Bank of England, the UK's central bank, are currently in the process of drastically revising the banking supervisory framework by disbanding the FSA and creating new regulatory agencies.¹⁸⁵

The UK has fully implemented Basel II through the Prudential Sourcebook for Banks, Building Societies and Investment Firms Instrument ("BIPRU")¹⁸⁶ rules implementing the CRD.¹⁸⁷ The BIPRU rules became effective January 1, 2007.¹⁸⁸ Banks in the UK may choose the standardized approach or one of the two IRB approaches.¹⁸⁹ Under the standardized approach, banks may only refer to authorized CRAs.¹⁹⁰ In the UK, the only authorized CRAs are Moody's, Standard & Poor's, Fitch, and DBRS.¹⁹¹ Banks that prefer to use the IRB approaches must apply for approval by the FSA.¹⁹² The UK, however, neither requires nor prohibits a bank from using the advanced IRB approach.¹⁹³

184. *News Release—Prudential Regulation Authority: The Future Approach to Banking Supervision*, BANK OF ENGLAND, <http://www.bankofengland.co.uk/publications/news/2011/048.htm> (last visited Sept. 20, 2012).

185. *Id.* One new agency, the Prudential Regulation Authority ("PRA"), will be responsible for supervising "both insurance companies and deposit-taking institutions." *Id.* The PRA will supervise both UK-incorporated banks and foreign branches of banks doing business in the UK. *Id.* In addition to the PRA, there will also be a new independent Financial Policy Committee ("FPC") in the Bank of England and an "independent conduct of business regulator, the Financial Conduct Authority ('FCA')." *Id.* The FPC and PRA will operate as subsidiaries of the Bank of England, effectively replacing the FSA's supervisory role with the Bank of England. Garicano & Lastra, *supra* note 169, at 602–03. These renovations are expected to be completed in 2012. *Id.*

186. *Basel III Implementation*, *supra* note 183, at 4; see *Pillar 1-Standardised Approaches*, FSA, <http://www.fsa.gov.uk/pages/About/What/International/basel/info/standardised/index.shtml> (last visited Sep. 20, 2012), [hereinafter *Pillar 1-Standardised*].

187. See *Pillar 1-Standardised*, *supra* note 186.

188. See *The Prudential Sourcebook for Banks, Building Societies and Investment Firms*, FSA HANDBOOK, July 2012, at 2.

189. *Basel 2/CRD Implementation-Practical Information for Firms*, FSA, <http://www.fsa.gov.uk/Pages/About/What/International/basel/info/index.shtml> (last visited Sept. 20, 2012).

190. *Pillar 1-Standardised*, *supra* note 186.

191. *Id.*

192. *Pillar 1-Applications for Advanced Approaches*, FSA, <http://www.fsa.gov.uk/Pages/About/What/International/basel/info/advanced/index.shtml> (last visited Sept. 20, 2012).

193. See *id.*

The UK has fully implemented the Basel II enhancements (informally “Basel 2.5”),¹⁹⁴ which became effective on December 31, 2011.¹⁹⁵ Like Germany, the UK also plans to follow the July 2011 EU proposals implementing Basel III.¹⁹⁶

4. Hong Kong

The Hong Kong Monetary Authority (“HKMA”) regulates banking in Hong Kong.¹⁹⁷ Pursuant to the Banking Ordinance, the HKMA has the authority to make capital adequacy rules,¹⁹⁸ which it exercised on January 1, 2007, by implementing Basel II.¹⁹⁹ Under these rules, the HKMA generally follows the Basel II framework, offering the standardized approach and the two IRB approaches.²⁰⁰ In addition, the HKMA offers a fourth option called the “basic approach.”²⁰¹ Developed as a response to concerns by banks that implementing the Basel II framework would be expensive, the basic approach is intended for use by banks with “small, simple, and straightforward operations, and as an interim approach for those [banks] developing IRB systems.”²⁰² The basic approach is “essentially a modification of the existing framework,”²⁰³ and like the IRB approaches, it requires approval from the HKMA.²⁰⁴

Hong Kong has followed the EU and updated recent changes to the Basel rules. According to the BCBS progress report, Hong Kong has fully implemented Basel 2.5.²⁰⁵ The HKMA is in a more preliminary

194. See Basel Comm. on Banking, BIS, *Progress Report Table on the Basel 2.5 Adoption*, (Mar. 2012), http://www.bis.org/publ/bcbs/b2_5prog_rep_table.htm [hereinafter *Basel 2.5*].

195. *Basel III Implementation*, *supra* note 183, at 5-6.

196. *Id.* at 7-8.

197. Douglas Arner et al., *Basel II and Its Impact on the Property Market in the Hong Kong Special Administrative Region*, 125 *BANKING L.J.* 527, 535 (2008); see also About the HKMA, *The Chief Executive’s Committee*, H.K. MONETARY AUTHORITY, <http://www.hkma.gov.hk/eng/about-the-hkma/hkma/about-hkma.shtml> (last modified July 3, 2012).

198. Arner, *supra* note 197.

199. *Id.*

200. Banking Policy Dep’t, *Implementation of Basel II in Hong Kong*, H.K. MONETARY AUTHORITY Q. BULL., Sept. 6, 2005, at 6, <http://www.hkma.gov.hk/media/eng/publication-and-research/quarterly-bulletin/qb200509/fa1.pdf>.

201. *Id.*

202. *Id.*

203. *Id.*

204. *Id.* When Basel II was implemented in Hong Kong, both the basic and IRB approaches were popular. Fourteen of Hong Kong’s larger banks, “representing over 80% of the total assets of all Hong Kong incorporated [banks],” had an interest in using the IRB approach. *Id.* At the same time, forty smaller banks had been approved to use the basic approach. *Id.*

205. *Basel 2.5*, *supra* note 194.

stage of implementing Basel III. Hong Kong's Legislative Council recently passed a bill "creating rule-making power for the implementation of Basel III."²⁰⁶ However, the Council has only just begun industry consultation for policy proposals to be included in these rules.²⁰⁷ The HKMA has stated, however, that it is planning on implementing Basel III reforms by January 2013, and that the scheme should be fully implemented by January 2019.²⁰⁸

5. United States

Due to the dual nature of a federalist system, bank regulation in the U.S. involves multiple regulatory agencies at both the federal and state levels.²⁰⁹ Although a member of the G20, the U.S. has been slow to implement Basel II. Twenty-two of the twenty-eight members (including

206. *Id.*

207. *See Basel III Implementation, supra* note 183. "Consultation on draft text of rules scheduled for second half of 2012." *Id.*

208. The HKMA's timeline is the same as the one suggested in Basel III. *Implementation of Basel III in Hong Kong*, H.K. MONETARY AUTHORITY, <http://www.hkma.gov.hk/eng/key-functions/banking-stability/basel-3.shtml> (last visited Sept. 20, 2012).

209. *See* Duncan E. Alford, *Core Principles for Effective Banking Supervision: An Enforceable International Financial Standard?*, 28 B.C. INT'L & COMP. L. REV. 237, 281 (2005). At the federal level, there are three principal bank supervisors: the Federal Reserve System Board of Governors ("Federal Reserve"), the Office of the Comptroller of the Currency ("OCC"), and the Federal Deposit Insurance Corporation ("FDIC"). *Id.* In addition to managing monetary policy, the Federal Reserve supervises state-chartered banks that have joined the Federal Reserve System, "bank holding companies (companies that control banks), the foreign activities of member banks, and the U.S. activities of foreign banks." BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, *THE FEDERAL RESERVE SYSTEM: PURPOSES & FUNCTIONS* 4 (9th ed. 2005). The Federal Reserve can issue regulations, some of which apply to the entire banking industry and others that apply only to members of the Federal Reserve (which includes national banks who must become members). *Id.* The OCC's purpose is "to charter, regulate, and supervise all national banks and federal savings associations. *About the OCC*, OFFICE OF THE COMPTROLLER OF THE CURRENCY, <http://www.occ.treas.gov/about/what-we-do/mission/index-about.html> (last visited Sept. 20, 2012). "[It] also supervise[s] the federal branches and agencies of foreign banks." *Id.* The OCC has the power to issue rules and regulations and "take supervisory actions against national banks and federal thrifts that do not comply with laws and regulations or that otherwise engage in unsound practices." *Id.* Finally, the FDIC insures deposits and supervises financial institutions for "safety and soundness and consumer protection." *FDIC Mission, Vision, and Values*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/about/mission/index.html> (last visited Sept. 20, 2012). State-chartered banks that have not joined the Federal Reserve System are regulated by the FDIC. *Who is the FDIC?*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/about/learn/symbol/index.html> (last visited Sept. 20, 2012).

the EU) have fully completed the process of implementing Basel II.²¹⁰ Although the U.S. is in the final stages of implementation, the process is still ongoing; only Turkey, Russia, Indonesia, and China share this status.²¹¹ The delay was caused in part by small banks' concerns that Basel II's complex risk measurements would be costly and burdensome to implement.²¹² This resulted in proposals to make the Basel II rules mandatory "only for the largest, most internationally active banks."²¹³ Somewhat paradoxically, small banks were also concerned that not requiring them to use sophisticated risk models would be disadvantageous.²¹⁴ Ultimately, regulators enacted rules that addressed both concerns.²¹⁵ This entailed, however, applying Basel I to small banks and Basel II to large banks.²¹⁶

The U.S. has been similarly slow to update the Basel 2.5 changes, as that legislation has yet to be implemented.²¹⁷ Given the incomplete and delayed application of Basel II and U.S. bank regulators' recent statement that they support the Basel Committee's efforts "to strengthen the position of large and internationally active banks," there is reason to believe that Basel III will not be fully implemented in the U.S.²¹⁸

Even more problematic is the fact that parts of the recently passed Dodd-Frank Act directly conflict with aspects of Basel III.²¹⁹ In

210. *Basel III Implementation*, *supra* note 183, at 5–6; Basel Comm. on Banking, BIS, *Progress Report Table on the Basel II Adoption*, http://www.bis.org/publ/bcbs/b2prog_rep_table.htm (last visited Sept. 20, 2012).

211. *Id.*

212. See Robert Boudreau, *Basel II*, 26 ANN. REV. BANKING & FIN. L. 176, 180 (2007).

213. *Id.*; Press Release, Fed. Reserve, Proposal on Implementation of New Basel Capital Accord in U.S. (July 11, 2003), available at <http://www.federalreserve.gov/BOARDDOCS/PPRESS/BCREG/2003/20030711/default.htm>.

214. Small banks argued that large banks would gain a competitive edge from using sophisticated risk measurements because it would result in lower capital requirements. Rebecca Christie, *Rules on Bank Capital Draw Fire; FDIC Move May Delay Final Accord Covering World Financial System*, WALL ST. J., Dec. 8, 2003, at B8.

215. Joint Press Release, Bd. of Governors of the Fed. Reserve Sys. et al., Banking Agencies Announce Revised Plan for Implementation of Basel II Framework (Sept. 30, 2005), available at <http://www.federalreserve.gov/boarddocs/press/bcreg/2005/20050930>.

216. *Id.* Specifically, large, internationally active banks have to comply with the advanced IRB approach. Yohan Gohng & David Hesford, *Basel II*, 25 ANN. REV. BANKING L. 50, 52 (2006).

217. *Basel 2.5*, *supra* note 194. Currently, Basel 2.5 revisions being consolidated with the Basel III revision and are anticipated to be issued for comment in mid-2012. *Id.*

218. Gregory J. Lyons, *Basel III—An Initial Piece of the Global Puzzle*, 30 BANKING & FIN. SERVICES POL'Y REP., July 2011, at 21, 29 (emphasis added). The U.S. intends to apply Basel III only to the twenty biggest banks. Edward F. Green & Joshua L. Boehm, *The Limits of "Name-and-Shame" in International Financial Regulation*, 97 CORNELL L. REV. 1083, 1110 n.144 (2012).

219. Mitchell S. Eitel, *Basel Committee Issues Final Revisions to International Regulation*, in A GUIDE TO FINANCIAL INSTITUTIONS 2011: NAVIGATING THE NEW LANDSCAPE 345, 357 (PLI Corp. Law & Practice, Course Handbook Order No. 28327) (2011).

particular, Basel III permits banks to rely on either CRAs, internal models, or both.²²⁰ In contrast, Section 939A of the Dodd-Frank Act requires that any reference to CRAs be removed from U.S. banking regulations.²²¹ The BCBS implementation status report noted as much, stating, “Basel 2.5 and Basel III rulemakings in the United States must be coordinated with applicable work on implementation of the Dodd-Frank regulatory reform legislation, in particular with regard to the use of credit ratings.”²²²

VI. BASEL III AND CREDIT RISK: PROBLEMS AND SOLUTIONS

From the standpoint of banking stability, the question for Basel III is whether it will improve banks’ ability to accurately measure credit risk. Several reasons exist to doubt that Basel’s rules on credit risk assessments will be any better under Basel III than they were under Basel II.

A. Persistently Poor Incentives

Basel III does not eliminate a bank’s incentive to attempt regulatory arbitrage.²²³ Regulatory arbitrage occurs when “firms capitalize on loopholes in regulatory systems in order to circumvent unfavorable regulation.”²²⁴ In the context of capital requirement regulations like Basel, this usually happens when a bank tries to maximize the spread between its actual risk and the risk implied by its regulatory position.²²⁵ Essentially, a bank wants to hold the riskiest asset it can while staying within the lowest risk-weight category.²²⁶ As a result, the bank can hold as little capital as possible but still earn a return from the risk in those assets.²²⁷ Because Basel III has not changed its risk weights, the same incentives to engage in regulatory arbitrage still exist.²²⁸

220. See *supra* Part V.A.

221. Eitel, *supra* note 219; Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 939A, 124 Stat. 1887 (2010).

222. *Basel III Implementation*, *supra* note 183, at 5–6.

223. See N.M., *Basel III: Third Time’s the Charm?*, THE ECONOMIST, Sept. 13, 2010, http://www.economist.com/blogs/freeexchange/2010/09/basel_iii.

224. *Regulatory Arbitrage Definition*, INVESTOPEDIA, <http://www.investopedia.com/terms/r/regulatory-arbitrage.asp#axzz1gzAxtmaq> (last visited Sept. 20, 2012).

225. Holman, *supra* note 70, at 725.

226. *Id.*

227. *Id.*

228. N.M., *supra* note 223.

Basel III attempts to offset these incentives to engage in regulatory arbitrage by stating that “[i]n those instances where a bank determines that the inherent risk of such an exposure, particularly if it is unrated, is significantly higher than that implied by the risk weight to which it is assigned, the bank should consider the higher degree of credit risk in the evaluation of its overall capital adequacy.”²²⁹ Essentially, Basel III states that whenever an asset’s risk is underestimated, the banks must voluntarily opt for the riskier evaluation, potentially increasing the capital charge for that asset, and lowering the banks’ potential returns.²³⁰ In practice, such a requirement might be difficult to enforce because banks have a propensity to compete with other banks to take whatever advantages might increase their profitability.²³¹ Banks could easily adjust their complex internal risk models to reach a more favorable outcome.²³²

The incentives toward regulatory arbitrage might manifest themselves slightly differently depending upon whether the bank employs the standardized or IRB methods.²³³ Basel III still provides the standardized approach, which permits reliance on CRAs.²³⁴ Banks that choose the standardized approach still need to make their own evaluation as to whether those risk weights are appropriate.²³⁵ In a sense, Basel III converts the standardized approach into a “modified IRB” approach because under the standardized approach the bank must still make its own risk judgments.²³⁶ A profit-driven and rational bank applying the standardized approach will likely try to find some basis to conclude that the least risky CRA evaluation is appropriate.²³⁷ The more complex the security, the more likely it is that reasonable minds will disagree about a security’s risk level. A bank would probably pick the analysis that best supports its interest in holding less capital.²³⁸

A bank that chooses to employ the IRB approach will face similar incentives to discount the risk assessment of a given asset.²³⁹ The difference

229. *Global Regulatory Framework*, *supra* note 165, at 52.

230. *Id.*

231. N.M., *supra* note 223.

232. *Id.*

233. *See supra* Part VI.A.

234. *See supra* Part V.A.

235. *Global Regulatory Framework*, *supra* note 165, at 52. “Banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. Banks should assess exposures, regardless of whether they are rated or unrated, and determine whether the risk weights applied to such exposures, under the Standardised Approach, are appropriate for their inherent risk.” *Id.*

236. *Id.* at 52–53.

237. N.M., *supra* note 223.

238. *Id.*

239. *See id.*

will be that instead of deferring to a favorable rating issued by a CRA, the bank may use its own methodology to support that conclusion.²⁴⁰

For CRA ratings to be valid under Basel III, the CRA must make “credit assessment, procedures, methodologies, assumptions, and the key elements underlining the assessments” publicly available.²⁴¹ This information must also be available on a “non-selective basis and free of charge.”²⁴² If the ratings are made available only to the parties in a transaction, then they do not satisfy Basel III’s requirements.²⁴³ Despite these stipulations, Basel III includes a footnote that permits a CRA to charge the issuer, as long as it “provide[s] an adequate justification, within their own publicly available Code of Conduct.”²⁴⁴ Basel III aims to make CRAs more reliable by requiring that the CRAs disclose “whether the issuer participated in the assessment process” as well as “the general nature of [the CRA’s] compensation arrangements with assessed entities.”²⁴⁵

In short, banks can still rely on CRAs as long as the CRAs comply with a handful of new requirements.²⁴⁶ The increased disclosure might help create a consensus about a given security’s riskiness. At the same time, it might simply lead to competing and widely differing theories about a security’s risk. Additionally, Basel III does not prevent CRAs from advising issuers on how to structure a security to receive a given rating.²⁴⁷ Nor does Basel III prohibit CRAs from being paid by the same people whose securities they will rate.²⁴⁸ Therefore, the same basic framework that leads to conflicts of interest, rating shopping, and CRA consulting is still permitted under Basel III.²⁴⁹ Further, the incentive that banks have to engage in regulatory arbitrage under Basel III still allows substantial room to massage numbers to fit the interests of the banks or

240. *See supra* Part III.C.2.

241. *Global Regulatory Framework, supra* note 165, at 53.

242. *Id.*

243. *Id.*

244. *Id.* at 53 n.46.

245. *Id.* Basel III also requires CRAs to fulfill six general requirements: objectivity, independence, international access/transparency, disclosure, resources, and credibility. *Id.*

246. *Id.*

247. *Id.*

248. *See supra* Part III.C.1.

249. *See supra* Part III. In the U.S., however, the Dodd-Frank Act requires that any reference to CRAs be removed from U.S. banking regulations. *See supra* Part V.A.5. The incentives for the banks to employ internal models that produce favorable and less-than-objective credit risk assessments will still be in place. *Id.*

CRAs. Because banks prefer to have less risky ratings²⁵⁰ and CRAs compete for the business of the issuers,²⁵¹ incentives to stretch the numbers cuts only in one direction: towards a tendency to underestimate the risk level.²⁵² Basel III's only counterbalance to this phenomenon is to ask banks to voluntarily opt for a higher risk-weight whenever the bank determines that Basel III's risk-weight prescription underestimates the asset's risk.²⁵³

Basel III's remedies for these systemic problems are probably not enough. Improving the problems inherent in CRAs will likely require a serious restructuring of how they do business. For example, instead of having the issuer choose and pay the CRA for a rating, a government could set up a system where CRAs are randomly assigned to issuers. The government could pay the CRA a fixed-fee for each security it rates. Each issuer would pay into a fund that the government would use to pay the CRAs. To ensure quality ratings, the government could set a baseline threshold for quality that the CRA must meet to be eligible to rate securities. This would remove the incentive of CRAs to cater to the needs of banks, and instead encourage them to compete on the basis of quantity, subject to baseline quality standards. A rotating or random matching of CRA to issuer could better prevent socially-detrimental relationships between CRAs and issuers. Furthermore, the government could employ CRAs to audit banks that choose to employ the IRB method. CRAs have more expertise in risk modeling and would therefore be better equipped to complete such an analysis. By removing the incentive for CRAs to be biased in favor of the issuer, the government could better ensure that a bank's IRB models accurately reflect the risk on its books.

Such drastic restructuring of the CRA framework could also mitigate regulatory arbitrage. Banks, however, will likely still be able to predict with reasonable accuracy the ratings that their assets will receive and therefore will likely still try to maximize the difference between the predicted risk-weight they will receive and the actual risk of the asset. The difference under this hypothetical scheme is that banks would have much less influence in the final decision; if a CRA found the security to be too close to the threshold, it could more easily award the higher risk rating.

250. See N.M., *supra* note 223; see *supra* Parts III.C.1.a, II.C.2.

251. See *supra* Part III.C.1.a.

252. See *supra* Part III.C.2.

253. See *Global Regulatory Framework*, *supra* note 165.

B. Variance Among Countries

Another difficulty with Basel III is that there is no single entity that has the power to enforce its standards uniformly across borders.²⁵⁴ Basel III's recommendations are simply guidelines; each country will still have to adopt and implement its own rules.²⁵⁵

This problem exists for all G20 members, but the EU also faces an analogous problem. Even if the EU adopts Basel III (as it plans to with the CRD IV),²⁵⁶ member states of the EU will still be individually responsible for implementing their own legislation.²⁵⁷ The EU has anticipated this problem and created the "single rule book" approach, which attempts to harmonize Basel's implementation as much as possible across EU member states.²⁵⁸ The extent to which member countries will comply, however, remains to be seen. In January 2012, Germany and France expressed a desire to relax Basel III's implementation, apparently to combat a perceived "negative effect" on growth.²⁵⁹ This resulted in strong disagreements with UK regulators who were pushing for stricter standards.²⁶⁰ With a debt crisis and about six years until Basel III becomes fully implemented,²⁶¹ it is not unreasonable to believe that EU member countries will continue to disagree about how best to implement its rules.

Even if the EU implements uniform rules, global banks will still face a variety of regulatory environments. For example, a bank that operates in Hong Kong will have four options (standardized, basic, and two IRB approaches),²⁶² permitting it a wider array of choices about how to best assess its credit risks. In contrast, if the U.S. does not repeal the Dodd-Frank Act but instead adopts non-conflicting provisions of Basel III, the

254. See *supra* Part V.

255. See *supra* Part V.

256. See *supra* Part V.A.1.

257. Lyons, *supra* note 218, at 29.

258. See *The Basel Accord and Capital Requirements Directive*, FINANCIAL SERVICES AUTHORITY, <http://www.fsa.gov.uk/about/what/international/basel> (last visited Sept. 20, 2012) [hereinafter *Capital Requirements Directive*].

259. Alex Barker & Brooke Masters, Paris and Berlin Seek to Dilute Bank Rules, FINANCIAL TIMES, Jan. 22, 2012, <http://www.ft.com/intl/cms/s/0/7f8485a8-4500-11e1-a719-00144feabdc0.html#axzz1mf9Wu3jV>. However, Germany's Finance Minister later rejected the claim that both countries were seeking to relax the rules. *France, Germany to Implement Basel III Rules: Schaeuble*, REUTERS, Jan. 23, 2012, <http://www.reuters.com/article/2012/01/23/eurozone-schaeuble-idUSL5E8CN15X20120123>.

260. Barker & Masters, *supra* note 259.

261. See *supra* Part V.A.1.

262. See *supra* Part V.A.4.

same bank would essentially have two choices (foundation IRB and advanced IRB).²⁶³ In Europe and the UK, these banks would have three options (standardized and the two IRB approaches).²⁶⁴

The variance in rules among Hong Kong, the UK, the EU, and Germany is actually relatively minor, at least as it relates to measuring credit risk. Hong Kong's additional basic option is not so drastically different from the standardized or IRB approaches.²⁶⁵ In effect, banks in these countries will still choose either to use CRAs or their own models, and that choice is mostly determined by the size and resources of the bank.²⁶⁶

The U.S. approach, on the other hand, is much more limiting. Dodd-Frank's prohibition of the use of CRAs means that smaller banks will no longer be able to rely on CRAs to determine the risk level of their loans.²⁶⁷ (Of course, the shift in policy away from the use of CRAs will not affect banks that have already been using their own internal models, which tend to be larger banks.²⁶⁸) Smaller banks will either have to develop their own internal models or wait until the U.S. develops its own objective criteria. Until this issue is resolved, this variance will likely create confusion and extra expense for some banks.

Banks that choose the standardized approach might have a number of choices of CRAs, depending upon the country. The EU and UK recognize only four CRAs: Moody's, Standard & Poor's, Fitch, and DBRS.²⁶⁹ The U.S. currently recognizes none. Notably, before Dodd-Frank, banks had ten possible options.²⁷⁰ Hong Kong recently approved the use of two more CRAs: Japan Credit Rating Agency and Credit Analysis and Research Limited.²⁷¹ Again, too much competition among CRAs may impair the objectivity of the ratings.²⁷²

263. *See supra* Part V.A.5.

264. *See supra* Part V.A.1–3.

265. *See supra* Part V.A.4.

266. *See supra* Part V.A.

267. *See supra* Part V.A.5.

268. *See supra* Part V.A.5.

269. *See supra* Part V.A.3; *Eurosystem Credit Assessment Framework (ECAF)*, EUROPEAN CENTRAL BANK, <http://www.ecb.int/paym/coll/risk/ecaf/html/index.en.html> (last visited Sept. 20, 2012).

270. These included: A.M. Best Company, Inc.; DBRS Ltd.; Egan-Jones Rating Company; Fitch, Inc.; Japan Credit Rating Agency, Ltd; Kroll Bond Rating Agency, Inc.; Moody's Investors Service, Inc.; Rating and Investment Information, Inc.; Realpoint LLC; and Standard & Poor's Ratings Services. Sec. Exch. Comm'n, *Credit Rating Agencies—NRSROs*, <http://www.sec.gov/answers/nrsro.htm> (last modified May 12, 2011).

271. Japan Credit Rating Company can be used for banks that have their headquarters in France, Belgium, Luxembourg, Germany, or Hong Kong. Press Release, Japan Credit Rating Agency, JCR Recognized as an Eligible ECAI by Hong Kong (Dec. 22, 2011), available at <http://www.jcr.co.jp/reportqa/pdfen/2011122210e.pdf>. Banks in Hong Kong can use Credit Analysis and Research Limited's ratings to measure credit risk of exposures to Indian corporations. Press Release, Capital Ratings, Analysis and Research

Differing timelines for implementation will create another problem. Germany, the UK, and Hong Kong have all stated that they intend to follow the same implementation schedule as the EU,²⁷³ and although the EU has attempted to harmonize the implementation schedule by agreement,²⁷⁴ countries may still disagree about when the best time to implement Basel III will be.²⁷⁵

The U.S. has historically been slow to implement Basel rules.²⁷⁶ Despite being a vocal proponent of Basel II's recommendations, the U.S. did not fully implement Basel II and then only did so after significant delay.²⁷⁷ Basel III's conflicts with the Dodd-Frank Act will likely further delay the implementation of Basel III, if it is adopted at all.²⁷⁸

VII. CONCLUSION

Even ignoring the lack of uniform global standards, Basel III's rules regarding credit risk assessment still need improvement. The standardized approach needs to either end its reliance on CRAs or find some way to restructure the incentives driving the CRAs' business models.²⁷⁹ The IRB approach can be appropriate and reliable as long as supervisors can adequately understand and critically analyze the models that the banks use.²⁸⁰

Moreover, temporal and geographic differences may create an uneven regulatory environment.²⁸¹ Banks looking to maximize their competitive advantage will have reason to evaluate the relative regulatory benefits of doing business in one country over another. Whether these differences are extreme enough to impair Basel III's goal of stabilizing global banking is unclear. Much turns, however, on how accurately credit risk

Limited Recognised as an External Credit Assessment Institution for Regulatory Capital Framework in Hong Kong (Dec. 22, 2011), *available at* <http://www.careratings.com/Portals/0/CareAdmin/NewsFiles/SplAnalysis/Press%20Release%20of%20Hong%20Kong%20Recognition.pdf>.

272. *See supra* Part III.C.1.

273. *See supra* Part V.A.2–4.

274. *Capital Requirements Directive*, *supra* note 258.

275. *See supra* Part V.A.

276. *See supra* Part V.A.5.

277. Boudreau, *supra* note 212, at 177–79.

278. *See supra* Part V.A.5.

279. *See supra* Part VI.A.

280. *See supra* Part VI.A.

281. *See supra* Part VI.B.

is measured.²⁸² If the risks inherent in MBSs had been accurately assessed, the mortgage crisis in the U.S. may have been less severe.²⁸³

In general, however, Basel III's rules on measuring credit risk are similar to those in Basel II.²⁸⁴ Unless financial instruments become less complex in the future, regulators need to find a way to ensure that banks hold an appropriate level of reserve capital.²⁸⁵ Because financial instruments will likely remain intricate, banks will still have an incentive to game their capital requirement levels, often with the assistance of CRAs.²⁸⁶

282. *See supra* Part II.
283. *See supra* Part II.
284. *See supra* Parts III.A-B, V.
285. *See supra* Part II.
286. *See supra* Part VI.A.