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Global Governance of Financial Systems: The International Regulation of Systematic Risk

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GLOBAL GOVERNANCE OF FINANCIAL SYSTEMS: THE INTERNATIONAL REGULATION OF SYSTEMIC RISK

Reviewed by B. Salman Banaei [1]

KERN ALEXANDER, RAHUL DHUMALE, & JOHN EATWELL, GLOBAL GOVERNANCE OF FINANCIAL SYSTEMS: THE INTERNATIONAL REGULATION OF SYSTEMIC RISK, (Oxford Univ. Press 2006).

I. INTRODUCTION

Systemic risk may be the "scariest" term in a central banker's vocabulary.[2] What is systemic risk? Consider the returns on a single investment, the actual return on an investment has two components: expected return plus (or minus) an unexpected return or risk return.[3] This risk return may be broken down into two categories: unsystemic and systemic.[4] Unsystemic risk is sometimes called idiosyncratic risk; it is the kind of risk that is specific to an asset.[5] This kind of risk is diversifiable because variance in asset returns tend to be reduced in a portfolio with an increasing number of different assets.[6] In contrast, systemic or market risk is non-diversifiable.[7] An increase in adverse systemic risk affects the returns on *all* assets sensitive to systemic risk in the globalized economy.[8] The term "systemic risk" is used in *Global Governance of Financial Systems* to denote a specific kind of systemic risk "arising from the mispricing of risk in financial markets, which often means that risk is underpriced in relation to its cost and that

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1. D.N.M., École Nationale Supérieure du Pétrole et des Moteurs (2008); M.Sc., Colorado School of Mines (2008); J.D., University of Denver Sturm College of Law (2007); B.A., University of Virginia (2002).

2. Caroline Baum, *Fed Cuts Rates to Address Greater of Two Evils*, BLOOMBERG, Sept. 19, 2007 http://www.bloomberg.com/apps/news?pid=20601039&refer=columnist_baum&sid=aYDiXu0xdpWo.

3. STEPHEN A. ROSS, RANDOLPH W. WESTERFIELD & JEFFREY F. JAFFE, CORPORATE FINANCE 286 (Michele Janicek ed., 6th ed. 2002).

4. *Id.* In other words, where R is the actual rate of return and R' is the expected or risk-free, return and U is the uncertainty or risk premium, then $R = R' + U$. U may be positive or negative. In this note and in the book reviewed herein, adverse systemic risk, or an unexpected lower than expected yield, is used interchangeably with the more general term "systemic risk."

5. In other words, if m is systemic risk and ε is unsystemic risk, then $U = m + \varepsilon$. *Id.* at 288.

6. *Id.* at 262.

7. *Id.* at 263.

8. Sensitivity to systemic risk is quantified in some financial models as β. *Id.* at 271.

the underpricing of risk results in too much of it being created in financial markets."[9]

In *Global Governance of Financial Systems: the International Regulation of Systematic Risk*, authors Kern Alexander (a lawyer and economist), Rahul Dhumale and John Eatwell (economists) (the Authors), argue three principal points: (1) current international and domestic efforts to contain the generation of systemic risk in financial systems are inadequate; (2) this inadequacy increases systemic risk; and (3) an international regulatory response is required.[10] This book note considers the first two arguments and related points in section II and the latter in III.

II. THE FAILURE OF REGULATORS TO PREVENT THE CREATION OF SYSTEMIC RISK

Systemic risk is "created by individual financial institutions [and] the aggregate amount of risk created by all financial institutions in global financial markets."[11] As firms enter into risky investments[12], the aggregate of these risks accumulates, becoming a "negative externality that imposes costs on society at large because [these] firms fail to price into their speculative activities the full costs associated with their risky behavior."[13] Moreover, "adequate regulation [to prevent systemic risk] at the international level has not accompanied" the globalization of financial services and capital flows.[14]

Adequate regulation could have prevented many recent examples of systemic risk causing events that followed from a failure of the current regulatory regime. Two specific examples may be posited as illustrations of the Authors' thesis: one considered by the Authors, the Asian Financial Crisis of the late 1990s and the other a more recent event, the United States Subprime Mortgage Crisis of 2007. Both of these display at least three common themes associated with a failure to regulate the generation of systemic risk in financial systems. First, there was an "underpricing of risk" by lenders and an absence of effective regulation to compel the pricing of risk associated with their lending practices. [15] Second, there were

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9. KERN ALEXANDER, RAHUL DHUMALE & JOHN EATWELL, GLOBAL GOVERNANCE OF FINANCIAL SYSTEMS: THE INTERNATIONAL REGULATION OF SYSTEMIC RISK 14 (2006) [hereinafter "GLOBAL GOVERNANCE"].

10. *Id.*

11. *Id.* at 15.

12. *Id.*

13. *Id.* at 24.

14. *Id.* at 3.

15. For information on the Asian Crisis *see* GLOBAL GOVERNANCE, *supra* note 9, at 204 ("Following liberalization, banking systems in many countries have experienced significant problems with large capital inflows in the absence of adequate internal controls and prudential oversight to contain the increased risk of new and expanded activities."). For the U.S. Crisis, *see* Martin Feldstein, *Liquidity Now!*, WALL ST. J., Sept. 12, 2007, at A19, *available at* http://online.wsj.com/article/SB118955944544924579.html ("Credit risk in financial markets had been underpriced for years, with low credit spreads on risky bonds and inexpensive credit insurance derivatives provided by investors seeking to raise their portfolio returns. With such underpricing of risk, hedge funds and private equity firms substantially increased their leverage.").

failures in the banking sector once these risks were realized. [16] Third, in at least some instances, there was some degree of expectation on the part of the lenders that the government would intervene if the debtors defaulted. [17] These shared common characteristics preceded a common result: fear of a broader and international economic downturn, with either "systemic risk"[18] (United States) or "contagion"[19] (Asia) being the associated buzzword.

These domestic financial crises soon become global financial crises given the interconnectedness of financial markets. The globalization of financial systems has "made financial institutions more interdependent and thus more exposed to systemic risk that can arise from bank failures and to volatility in cash flows."[20] This globalization of systemic risk is especially pronounced in some sectors, most importantly, in the banking industry:"[21]

The Authors point out that the Asian financial crisis of the late 1990s would have been avoided if the regulators in the affected nations had planned their liberalization programs with greater foresight.[22] Specifically, regulators should have implemented "prudential policies" that would have established "better risk

16. For information on the Asian Crisis *see* GLOBAL GOVERNANCE, *supra* note 9, at 205 (excessive lending lead to a "buildup of nonperforming loans"). For the U.S. Crisis, *see* Associated Press, *As Foreclosures Surge, Mortgage Lenders Pressured to Offer Borrowers Relief*, INT'L HERALD TRIB., Oct. 23, 2007, http://www.iht.com/articles/ap/2007/10/24/business/NA-FIN-US-Avoiding-Foreclosure.php ("24 percent of the roughly 82,000 loans [issued by Countrywide] were in foreclosure."). *See also* Feldstein, *supra* note 15 ("The subprime mortgage defaults have triggered a widespread flight from risky assets, with a substantial widening of all credit spreads, and a general freezing of credit markets.").

17. For information on the Asian Crisis *see* GLOBAL GOVERNANCE, *supra* note 9, at 205 ("[T]he belief that financial institutions were protected by the government raised moral hazard issues."). For the U.S. Crisis, *see* Nouriel Roubini's Global EconoMonitor, Who is to Blame for the Mortgage Carnage and Coming Financial Disaster? Unregulated Free Market Fundamentalism Zealotry, http://www.rgemonitor.com/blog/roubini/184125 (Mar. 19, 2007) ("The sub-prime and overall mortgage carnage is now likely to lead to a financial crisis whose cleanup and bailout costs will make the S&L bailout bill look like spare change. We are only at the beginning of this fallout but, already, several proposals and bills in Congress have been submitted to help millions of sub-prime homeowners on the verge of bankruptcy and foreclosure."). *See also* Jeanne Sahadi, *Subprime Bailout: Taxpayer Toll*, CNN.COM, Oct. 22, 2007, http://money.cnn.com/2007/10/22/real_estate/bailout_cost/?postversion=2007102212.

18. "[I]n August [of 2007], the negative performance of the financial markets was related mostly to a sharp increase in perceptions about systemic risks." Posting of Greg Ip to Real Time Economics, August vs. October: Credit Crunch vs. Slowdown, http://blogs.wsj.com/economics/2007/10/22 (Oct. 22, 2007, 10:54 EDT).

19. Taimur Baig and Ilan Goldfajn, *Financial Market Contagion in the Asian Crisis*, 42 IMF STAFF PAPERS 167, 181 (1999), *available at* http://www.imf.org/external/Pubs/FT/staffp/1999/06-99/pdf/baig.pdf ("The spreads on dollar-denominated debt [among afflicted Asian economies], representing default risk, display[s] the most striking degree of correlations and evidence of contagion."); *see also* Definitions and Causes of Contagion, http://www1.worldbank.org/economicpolicy/managing%20volatility/contagion/definitions.html (last visited Feb. 10, 2008) ("Contagion is the cross-country transmission of shocks or the general cross-country spillover effects.").

20. GLOBAL GOVERNANCE, *supra* note 9, at 14.

21. *Id.* at 15.

22. *Id.* at 204.

management measures at the microeconomic level."[23] The inexperienced Asian banks lacked such effective policies and the "absence of adequate internal controls" on risk taking further increased risk-taking by these banks, leading over time to a "buildup of nonperforming loans."[24] These banks' risky investments adversely impacted international financial systems and amounted to the externalization of the full social cost of these risky investments onto the broader national and international economy. [25]

Government intervention after a financial crisis in contrast to a prudential regulatory standards intended to prevent a financial crisis, may serve to increase the moral hazard problem.[26] For example, in the 1990s some Asian governments prescribed lending to specific non-performing market sectors.[27] Under the guidance of these government directives, the foreign depositors assumed that the same government institutions would protect the banks' holdings in these market sectors in the event of failure.[28] Not only do such firms undervalue risk, but the moral hazard created by the perception that the government would bail them out in the event of a market failure further increases the underpricing of risk by banks and thus the degree of systemic risk borne by the international economy.[29]

The Authors argue that the current international regulatory framework for "banking supervision" is "especially" flawed.[30] The Basel Committee on Banking Regulation and Supervisory Practices (Basel Committee) "exercises either direct or indirect influence over the development of banking law and regulation for most countries."[31] Its most recent set of proposals, known as "Basel II," the Basel Committee intended to make the "regulatory capital[32] held by banks more sensitive to [] economic risks."[33] But despite Basel II's superficial similarity with the Authors' concern: the lack of an effective international regulatory framework for banking, Basel II is a fundamentally flawed attempt to limit systemic risk. More specifically, the Authors argue that Basel II is flawed on institutional and substantive grounds.

First, the Basel Committee that proposed Basel II has several critical institutional flaws. Chief among these flaws is the Basel Committee's imbalanced decision-making structure. For example, "the Basel Committee is composed of the central bank governors and national bank regulators of the... thirteen richest developed countries."[34] Nations outside of the Committee have no direct influence

23. *Id.* at 205.
24. *Id.* at 204-05.
25. *See id.* at 24.
26. *See id.* at 205.
27. *Id.*
28. *See id.*
29. *See id.*
30. *Id.* at 3.
31. *Id.* at 37.
32. Regulatory capital accounting is distinguished from banks' true economic capital. *See id.* at 224. It is the capital that is weighed in determining a bank's capital adequacy requirements. *See id.*
33. *Id.* at 40.
34. *Id.* at 41.

on the Basel Committee's deliberations.[35] Additionally, the Basel Committee decision-making procedures are secretive and lack transparency.[36] Finally, the Committee also has a record of "uneven implementation and enforcement."[37] The result of this flawed institutional structure has been a slow and half-hearted adoption of the Basel Committee's standards among national regulators and, more importantly, the Committee's regulations ignore the development needs or banking realities in non-developed nations.[38]

Moreover, Basel II's substantive rules do not effectively address the problem of systemic risk. Prior to Basel II, the Basel Committee attempted to control credit risk by implementing minimum capital adequacy standards.[39] These standards were later criticized for being overly rigid.[40] Ostensibly, Basel II aims to address the rigidity problem with more flexible capital adequacy standards.[41] As such, Basel II presents a regulatory framework consisting of "mutually reinforcing pillars" intended to create a flexible, yet effective framework for banking regulation.[42]

First, Basel II provides banks two options for making their regulatory capital determination.[43] The first is a standardized approach paralleling the "one-size-fits-all" pre-Basel II standards,[44] with some modifications.[45] The second capital determination model allows banks to use their own internal ratings.[46] The Authors note that the second internal determination model results in "greater risk sensitivity."[47] However, this model is flawed: first, it is overly flexible on the individual firm level in that there is little guidance on principles individual firms

35. *See id.* at 42.

36. *Id.* at 44.

37. *Id.* at 44.

38. *See id.* at 45.

39. *See id.* at 228.

40. *See id.* at 230. The 1988 Basel Capital Accord (supplanted by Basel II in 2002) required banks "actively engaged in international transactions to hold capital equal to at least 8 percent of risk-weighted assets in an effort to prevent banks from increasing credit risk through greater leverage." *Id.* at 228.

41. *See id.* at 230.

42. *Id.* at 230. *See also* Basel Committee on Banking Supervision,, *The Basel II: International Convergence of Capital Measurement and Capital Standards: a Revised Framework*, ¶ 4, *available at* http://www.bis.org/publ/bcbs107.htm (June 2004) [hereinafter "*Basel II Accord*"].

43. GLOBAL GOVERNANCE, *supra* note 9, at 231.

44. *Id.*

45. *Id.* For example, the pre-Basel II rules provided no credit conversion factor on loan commitments of less than a years duration. Basel II, however, "imposes a 20 percent credit conversion factor." *Id.*

46. *Id.* For example, a bank may estimate each borrower's creditworthiness and then calculate an estimate for future losses. *Id.*

47. *Id.* at 232.

may use to guide their capital determination needs[48]; second, the lack of principled guidance for national regulators may lead to regulatory arbitrage.[49]

The second pillar of Basel II also requires supervisory review of internal bank decisions. These include "efforts by banks to assess their capital adequacy and by supervisors to review such assessments."[50] The purpose of supervisory review is twofold: (1) to "ensure that banks have adequate capital to support all the risks in their business" and (2) "to encourage banks to develop and use better risk management techniques in monitoring and managing their risks."[51] The third pillar of Basel II is market discipline.[52] This pillar complements "the minimum capital requirements (Pillar 1) and the supervisory review process (Pillar 2)."[53] This pillar sets forth disclosure requirements that allow "market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and hence the capital adequacy of [banking] institution[s]."[54]

The end result of applying the first pillar of determining regulatory capital coupled with the third pillar, market discipline, results in the "homogeneity of financial markets."[55] Banks comporting with the first pillar will construct risk determination models that are based on similar analytical models.[56] Furthermore, the third pillar encourages banks to follow similar disclosure standards and adjust their operations accordingly. The result is similar modeling methodologies that will lead banks to react to the same objective market information in a uniform manner.[57] This model-driven behavior "encourage[s] firms to act as a herd, charging toward the cliff edge together."[58] The resulting homogeneity in financial

48. Specifically, the use of credit rating agencies is criticized by the Authors. *Id.* at 231 ("[T]hese private agents may act either in their own interests or in that of the borrower in hopes of maximizing their own gains by issuing favorable [credit risk] ratings."). The Authors' caution echoes more recent comments made by Former U.S. Federal Reserve Chairman, Alan Greenspan, blasting these same credit agencies for facilitating the global credit crisis that commenced in 2007. Von Norbert Kuls & Claus Tigges, *Die Ratingagenturen Wissen Nicht Was SieTun*, FAZ.NET, Sep. 22, 2007, http://www.faz.net/s/Rub034D6E2A72C942018B05D0420E6C9831/Doc~EF5A672F689134A84842B34B3471D2713~ATpl~Ecommon~Scontent.html („Die Ursache des Problems war, dass die Leute glaubten, die Ratingagenturen verstünden etwas vom ihrem Geschäft. Die wissen aber nicht, was sie tun.") (quoting Alan Greenspan). According to Greenspan, these credit agencies mispriced credit risk and the market, unfortunately, believed their ratings. *Id.* Any regulatory overhaul – national or internation in scope should, therefore, take into account the skewed incentives credit agencies currently have.

49. GLOBAL GOVERNANCE, *supra* note 9, at 233.

50. *Basel II Accord*, *supra* note 41, ¶ 11.

51. *Id.* ¶ 720.

52. *Id.* ¶ 809.

53. *Id.*

54. *Id.*

55. GLOBAL GOVERNANCE, *supra* note 9, at 260.

56. *Id.*

57. *Id.*

58. *Id.* at 261. Moreover, the Authors note, homogeneity is a growing problem outside of the banking regulations proposed by Basel II. *See id.* ("As financial markets become seamless . . . banks, securities firms, insurance companies, pension funds, and so on" are adopting standard analytical

markets will exaggerate the amplitude of the market's reaction to objective financial data resulting to increased systemic risk.[59]

The tendency of Basel II's first and third pillars to encourage dangerous homogeneity makes the second pillar, supervisory review of bank capital determination models, all the more important.[60] On this point, the Authors argue that the scope of the Basel Committee supervisors' regulatory discretion is too broad and may result in "inconsistent or ineffective standards."[61] In light of Basel II's institutional construction, the Basel Committee supervisor's are narrowly exposed to the risk-taker with inadequate consideration of those who are most vulnerable to the risk-taker's actions.[62]

The Author's posit a market-based approach to pricing and regulating the risk inherent in banking. In Chapter 9, *Reforming the Basel Accord and the Use of Subordinated Debt: Making Markets Work for the Regulator,* the Authors consider whether requiring banks to hold subordinated debt would increase market discipline.[63] These debt issuances would be "unsecured, uninsured, and junior to deposits."[64] This debt would create a class of "financially sophisticated class of creditors with better incentives for monitoring financial institutions" and the risk associated with their investments.[65] Ultimately, the Authors find that a subordinated debt requirement would provide banking regulators a strong, market based figure that would allow them to regulate risk more effectively.[66]

It is not just the Basel Committee and banking regulation that is flawed. In Chapters 2, 3, and 4 (i.e., *Global Governance and International Standard Setting, The International Legal Framework for International Financial Regulation,* and *International Soft Law and the Formation of Binding International Financial Regulation,* respectively) the Authors examine the current institutional and legal framework for financial regulation. The Authors find that the current system of

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principles in gauging risk.) By applying the same or similar rules in gauging risk, homogeneity becomes a factor affecting all financial systems falling to the same risk gauging fads. *Id.* As an example of this regulatory fad, the Authors quote the Chairman of the United Kingdom's Financial Services Authority, Sir Howard Davies as stating: "[o]ur general view is that the capital treatment should be the same, where the risks are the same." *Id.* Excessive reliance on quantitative models has been blamed for the collapse of equity markets in August 2007. David Rocker, Letter to the Editor, *Wall Street Borrows, Main Street Pays*, BARRONS, Sep. 17, 2007, http://online.barrons.com/article/SB118981089018628145.html ("Since most of these firms [using similar quantitative models] analyzed a common market history, a strong correlation of longs and shorts developed throughout the quant-fund industry. As more capital was deployed in the strategy, a self-reinforcing spiral was created: Demand for 'positive' stocks increased, boosting their prices, and selling in 'negative' stocks increased, pressuring their prices.").

59. *See* GLOBAL GOVERNANCE, *supra* note 9, at 261.

60. *Id.*

61. *Id.*.

62. *Id.*

63. *Id.* at 227.

64. *Id.*

65. *See id.*

66. *Id.* at 237.

international financial regulation is inadequate at addressing systemic risk.[67] Current "international regulatory efforts" amount to little more than "haphazard responses to specific crises that threaten" global financial stability.[68] Institutional regulatory bodies were designed to address specific economic issues, but necessity has forced them to expand their regulatory jurisdiction. For example, the International Monetary Fund, originally founded to "foster international trade and economic reconstruction in war-ravaged member countries,"[69] has expanded its original role, outside of its initial legal authority, to "setting standards for the management of systemic risk."[70] Because the IMF was not designed for this function, it is no surprise that it has "failed to accomplish the overall objective of effectively managing systemic risk." [71]

In Chapters 6 through 9, the Authors expand upon specific issues relating to their thesis. In Chapter 6, *Incentives versus Rules: Alternative Approaches to International Financial Regulation,* they opine upon the best means of regulation, weighing rule-based regulation against incentive-based regulation.[72] In Chapter 7, *The Economics of Systemic Risk in International Settlements,* the Authors consider a context in which a lack of incentive-based rules might increase the likelihood of systemic risk.[73] They posit that payment settlement systems are the "channels through which funds are transferred between financial institutions in the form of electronic debit and credit-book entries."[74] The key issue is whether payment systems should follow a collateralized overdraft system, which is favored in the European Union, or a non-collateralized overdraft system with fees charged for overdrafts, which the United Stated has adopted. [75] The Authors lean toward a collateralized overdraft system because it "internalizes the costs of risks in payments systems by reducing the threat of gridlock" that would occur in the case of a non-collateralized financial institution's failure and its impact on interconnected finance systems.[76]

In Chapter 8, *A Microeconomic Examination of Financial Fragility: A Test of Capital Adequacy Standards,* the Authors conduct a quantitative analysis of capital adequacy standards.[77] They find that rules-based capital adequacy standards appear to have led, especially in East Asia, cosmetic changes in capital ratios and other unintended consequences arising from regulatory efforts in those nations.[78]

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67. *See id.* at 32-33.
68. *Id.*
69. *Id.* at 84.
70. *Id.* at 93.
71. *Id.*
72. *See id.* at 181.
73. *See id.* at 184.
74. *Id.*
75. *Id.* at 185.
76. *Id.* at 200.
77. *See id.* at 201.
78. *See id.* at 225–26. These East Asian nations are Thailand, Indonesia, and South Korea. *Id.* at 202.

III. PROPOSED SOLUTION

The Authors provide two methods for addressing the problem of systemic risk. First, in Chapter 5, *Strengthening the Global Financial System through Institutional and Legal Reform*, they present guidance on addressing the problem through the creation, by way of treaty, of a Global Financial Governance Council ("GFGC").[79] Unlike most of the current international financial institutions ("IFI"), the GFGC would operate in full transparency and would provide "representatives from all states" to have authority in developing "international standards and rules for financial regulation to existing international supervisory bodies."[80] Overstretched IFIs like the IMF and World Bank should then return to their founding purposes instead of reaching into areas they are ill-equipped to regulate.

Second, at the close of the book in Chapter 11, *Summing Up and Conclusion: The New Financial Architecture – Promise or Threat?,* the Authors provide a more general proposal.[81] Here, the Authors present five specific guidelines for the international financial regulators of the future. First, regulators must increase financial heterogeneity.[82] This may be done by creating a regulatory body "with the powers to develop [a] flexible structure of rules and rule making."[83] Additionally, the Authors argue this body should have broad enforcement and monitoring powers.[84] Second, there should be an international lender of last resort.[85] However, the moral hazard associated with "liquidity without strings" must be tempered by "powerful rules on risk taking."[86] Third, a "new financial architecture should encompass macroeconomic concerns."[87] Fourth, the regulators' rules "need to make greater use of the new work on extreme, rare events."[88] Fifth, the scope of the regulators' activity should be the international market itself.[89]

Finally, in Chapter 10, *Enhancing Corporate Governance for Financial Institutions: the Role of International Standards,* the Authors focus on corporate governance issues. Consistent with their arguments throughout the book, the Authors argue that the role of financial regulators should be to promote the public good in light of principal-agent problems inherent when asymmetrical information disparities exists between management and other stakeholders in a bank or corporation.[90]

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79. *Id.* at 162.
80. *Id.* at 163.
81. *See id.* at 268.
82. *Id.* at 269.
83. *Id.*
84. *See id.*
85. *Id.* at 269.
86. *Id.*
87. *Id.*
88. *Id.*
89. *Id.*
90. *See id.* at 244.

IV. CONCLUSION

The United States Subprime Mortgage Crisis of 2007 presents another illustration of the need for an international regulatory response to the problem of systemic risk generated in international financial markets. As in the Asian Financial Crisis of the 1990s, the mortgage market of the mid-2000s in the United States was characterized by a "underpricing of risk" by lending institutions.[91] The subprime chicken came home to roost in 2007 with mortgagors defaulting on their loans in droves,[92] and a resulting homogenous panic from risky assets bearing these assets in their portfolio.[93] The effects soon spread to credit markets, with the end result a general freezing of credit markets.[94] With credit more costly, companies and individuals find it more difficult to borrow on the margin; the final impact: it is expected that economic growth world-wide will decelerate.[95] The broader impact of this American-originated financial crisis has yet to fully materialize; it is, however, evident that the crisis will have an adverse impact on the world economy, at the minimum through its direct impact on world credit markets.[96]

Federal Reserve Chairman Ben S. Bernanke has recently testified before the U.S. House of Representatives, stating that "[t]he recent problems in subprime lending have underscored the need not only for better disclosure and new rules but also for more-uniform enforcement in the fragmented market structure of brokers and lenders."[97] The United States Treasury Department has also recognized the problem and "is seeking public input on how to overhaul the way Washington oversees Wall Street, as the agency works to create a blueprint for a more-effective regulatory structure."[98] *Ex post* and narrowly tailored solutions to the systemic risk

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91. Feldstein, *supra* note 15.

92. Bob Ivry, *Half of 450,000 Subprime Mortgages Could Default*, CHI. SUN-TIMES, Sep. 23, 2007, at E7 ("[M]ore than a quarter of subprime borrowers [out of 450,000] default on their adjustable loans before the rates reset.").,

93. *Id.*

94. *See Is the Credit Crunch Finally Over?*, BBC NEWS, Sep. 20, 2007, http://news.bbc.co.uk/2/hi/business/7003139.stm.

95. *Id.* ("The tightening up of credit and worries about mortgage repayments may make everyone more nervous about borrowing money to buy big-ticket items like cars.").

96. *See* Carter Dougherty, *Ripple Effects from U.S. Mortgage Crisis hit Pacific Rim*, Int'l Herald Trib., Aug. 1, 2007, http://www.iht.com/articles/2007/08/01/business/stocks.php; *see, e.g.*, James Kanter, *Central Banks Act Again to Combat Subprime Crisis*, Int'l Herald Trib., Aug. 10, 2007, http://www.iht.com/articles/2007/08/10/business/subprime.php ("BNP Paribas, the large French bank, was freezing $2.2 billion held in three funds with exposure to U.S. subprime mortgages spark[ing] concerns that the risk was spreading well beyond America's shores.").

97. *Legislative and Regulatory Options for Minimizing and Mitigating Mortgage Foreclosures Before the H. Comm. on Fin. Services*, 110th Cong. 78 (2007) (Statement of Ben S. Bernanke, Chairman, Board of Govrns., Fed. Reserve System), *available at* http://www.federalreserve.gov/newsevents/testimony/bernanke20070920a.htm..

98. Deborah Solomon, *Treasury Seeks Input on Regulation Overhaul*, WALL ST. J., Oct. 11, 2007, http://online.wsj.com/article/SB119214182307756559.html.

created by the underpricing of risk in U.S. mortgage lending are inadequate. The Authors persuasively argue that the solution to the underpricing of risk and the systemic risk it generates requires an *ex ante,* systematic, and international regulatory response. Purely "domestic" reforms "will be inadequate if not accompanied by major institutional and legal reforms at the international level." [99] Without such international regulatory efforts, the failure of domestic regulators to require financial firms to properly price risk will provide fertile ground for the generation of more international financial crises. With domestic regulators at the forefront of financial regulation, we will likely see more "haphazard responses to specific crises that threaten" global financial markets.[100] The Subprime Crisis looming heavy on international financial markets, American and other financial regulators should consider the argument presciently and persuasively made in *Global Governance of Financial Systems.*

99. GLOBAL GOVERNANCE, *supra* note 9, at 3.

100. *Id.* at 32–33.