Missed (Inter)Connections: Proposed Revisions to the Federal Reserve's Approach to Financial Stability Analysis under the Bank Holding Company Act

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Missed (Inter)Connections: Proposed Revisions to the Federal Reserve’s Approach to Financial Stability Analysis Under the Bank Holding Company Act

I. INTRODUCTION

Few topics in the post-financial crisis period have garnered more high-level attention than has the management of systemic risk in the U.S. and global financial systems.¹ The financial crisis of 2008 forced U.S. policy makers to revisit fundamental assumptions about the nature of systemic risk in the modern and interconnected economy.² On July 21, 2011, former Federal Reserve Chairman Ben Bernanke testified before the Senate Committee on Banking, Housing, and Urban Affairs.³ Seated alongside John Walsh and Gary Gensler, the acting Comptroller of the Currency and the Chairman of the Federal Deposit Insurance Corporation (FDIC), respectively, these three men represented the regulatory bodies currently responsible for systemic-risk mitigation in the U.S. banking industry. Chairman Bernanke opened his testimony by saying that the global financial crisis sent “shock waves through the highly interconnected global financial system” and that the United States had implemented a macroprudential regulatory framework for combating systemic risk in the new economy.⁴

Chairman Bernanke’s July 21, 2011, testimony reflects just how far the United States’ management of banking sector systemic risk has evolved over the course of the twentieth century. Prior to the 2008 financial crisis, systemic risk regulation operated under the theory that


3. See id.

4. Id. at 1.
institutional supervision—the regulation of individual banks to the exclusion of market regulation—would capture all risk in the system because supervision of the parts would add up to supervision of the whole. Because the interconnectivity of complex and fractured banking institutions drives modern systemic risk in the banking sector, modern financial stability regulation has been marked by the shift from microprudential regulation to macroprudential regulation—a framework which seeks to capture risk at the market level. The macroprudential approach, commentators reason, gives regulators a larger toolkit with which to mitigate systematic risk in the increasingly interconnected bank and bank holding company (BHC) context.

Accordingly, the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) instructs the Federal Reserve to mitigate bank-specific systemic risk under an expansive framework when assessing bank mergers and acquisitions under the Bank Holding

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6. Kristin N. Johnson, Macroprudential Regulation: A Sustainable Approach to Regulating Financial Markets, 3 U. ILL. L. REV. 881, 903 (2013) (“Systemic risk concerns arise because the banking industry is irrevocably interconnected.”); see Iman Anabtawi & Steven L. Schwarz, Regulating Systemic Risk: Towards an Analytical Framework, 86 NOTRE DAME L. REV. 1349, 1403 (2011) (arguing that a firm’s systemic importance is a function of (1) the extent of the firm’s direct importance to other market participants; and (2) the extent of the firm’s indirect importance to other market participants).

7. See Claudio Borio, Rediscovering the Macroeconomic Roots of Financial Stability Policy: Journey, Challenges, and a Way Forward 6 (Bank for Int'l Settlements Working Papers, Working Paper No. 354, 2011) (“Analytically, efforts have intensified to improve the measurement and understanding of systemic risk and to include a financial sector in macroeconomic models. This shift is belated and welcome.”).


9. See e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank), 12 U.S.C. § 1843 (2012); see generally Saule T. Obarova & Margaret E. Tahyar, That Which We Call A Bank: Revisiting the History of Bank Holding Company Regulation in the United States, 31 REV. BANKING & FIN. L. 113, 114 (2011) (“[Dodd-Frank], widely viewed as the most far reaching financial sector reform legislation since the Great Depression, expands the model of BHC regulation as the core element in its new architecture of systemic risk regulation.”).
Company Act (BHCA). In this light, regulators must not only assess risk factors within institutions, but risk factors presented by the connections between institutions. However, the Federal Reserve’s orders under the BHCA demonstrate that the Federal Reserve’s ex ante financial stability framework has yet to appropriately account for the role that institutional interconnectivity plays in systemic risk creation.

This Note will argue that the Federal Reserve’s financial stability analysis under the BHCA demonstrates that even though the Federal Reserve has adopted a regulatory framework ostensibly committed to risk assessment at institutional linkage points, the Federal Reserve’s financial stability analysis does not appropriately address interconnectivity in two key respects. First, the Federal Reserve’s explicit treatment of “interconnectedness” under BHCA may overlook systemic risk associated with small, but interconnected banks and BHCs. Second, the Federal Reserve’s implicit treatment of interconnectedness under the BHCA, as evidenced by its traditional, institution-centric systemic risk standards, do not capture risk associated with interconnectivity as effectively as market-based measures of risk. Ultimately, this Note will suggest that the Federal Reserve’s approach to financial stability under the BHCA should be revised to address the explicit and implicit weaknesses regarding interconnectedness.

This Note proceeds as follows. Part II of this Note provides an overview of systemic risk. Part III examines the current limitations of the Federal Reserve’s Explicit Considerations of Interconnectedness in Financial Stability Analysis Under the BHCA. Part IV of this Note analyzes the implicit assumptions concerning interconnectivity in Federal Reserve’s application of macroprudential principles under the BHCA. Part V of this Note offers recommendations and concludes.

11. See e.g. BOARD OF GOVERNORS OF THE FED. RES. SYSTEM, VOL. 98 NO. 5, ORDERS ISSUED UNDER BANK HOLDING COMPANY ACT 24-27 (2012) [hereinafter CAPITAL ONE ORDER] (approving Capital One’s acquisition of Sharebuilder Advisors, LLC & ING Direct Investing, Inc.).
12. See id. at 24-27.
13. See infra Part II.
14. See infra Part III.
15. See infra Part IV.
16. See infra Part V.
II. Systemic Risk: An Overview

Traditionally, bank-based systemic risk grew from the threat that a spike in depositor withdrawal demands would deplete available deposit reserves, seen most notably during the Great Depression.\textsuperscript{17} Maturity mismatch crippled depository institutions because consumer deposits were immediately callable, whereas bank loans funded by consumer deposits tended to be non-callable.\textsuperscript{18} In this kind of a liquidity crunch, a stressed bank may be forced to close—temporarily or permanently.\textsuperscript{19} Regulators feared that a bank run on one institution would create the perception that similarly-situated institutions were at risk.\textsuperscript{20} This perception bred a destructive form of financial contagion; one that presented in the form of a "recursive collective action problem."\textsuperscript{21} This collective problem compelled individual depositors, powerless to halt a run, to conclude that the personal utility of withdrawing savings from the bank far outweighed the collective benefits of abstention.\textsuperscript{22} With President Franklin Delano Roosevelt's help, Congress tackled the recursive collective action problem and created the FDIC in 1933 to insure deposit accounts.\textsuperscript{23} This measure shored up confidence in individual institutions and mitigated the recursive collective action problem bred by the fear that a maturity mismatch would ultimately lead to system-wide insolvency.\textsuperscript{24} It is fair

\textsuperscript{17} See Schwarcz, supra note 8, at 199 ("The classic example of systemic risk in this context is a "bank run," in which the inability of a bank to satisfy withdrawal-demands causes its failure, in turn causing other banks or their creditors to fail.").

\textsuperscript{18} See id. ("Because banks keep only a small fraction of their deposits on hand as cash reserves, a bank may have insufficient cash to pay all withdrawal-demands, causing it to default and ultimately fail.").

\textsuperscript{19} See id.

\textsuperscript{20} See id. ("The chain of subsequent failures can occur because banks are closely intertwined financially.").

\textsuperscript{21} See Hockett, supra note 5, at 6.

\textsuperscript{22} See id. ("To hold off, after all, is simply to risk losing everything; for no one abstainer can stop the run by refusing to participate any more than she could single-handedly stop a consumer price inflation by refraining from purchasing.").

\textsuperscript{23} See William L. Silber, Why Did FDR's Bank Holiday Succeed?, 15 ECON. POLICY. J. 19, 21 (2009) ("FDIC insurance caps its guarantee at a maximum dollar amount for each deposit account, initially set at $2,500. Small depositors with FDIC insurance did not have to worry about their accounts, but large depositors, who were only partially insured, could still be panicked into a run. Roosevelt's implicit 100 percent guarantee on March 12, 1933, convinced all depositors to trust the reopened banks.").

to conclude that Congress’ first major microprudential enactment—the FDIC—was an unqualified success.25

A fundamental difference between systemic risk at the time of the Great Depression and systemic risk today is not necessarily the source of risk.26 Rather, it is the extent of interconnectivity between institutions both in the United States and abroad.27 Even today, financial institutions are increasingly interconnected,28 and greater interconnectivity creates more opportunities for financial contagion transmission.29

Modern systemic risk is a concept with numerous definitions.30 The literature is consistent in at least one respect: modern systemic risk is fundamentally relational.31 The various definitions recognize that risk occurs as a function of the relationships between institutions, and as Federal Reserve Chairwoman Janet Yellen recently said, “[c]ontagion is

http://www.federalreserve.gov/newsevents/speech/tarullo20130222a.pdf (“The New Deal reforms of financial regulation, themselves spawned by a systemic crisis, had separated commercial banking from investment banking, cured the problem of commercial bank runs by providing federal deposit insurance . . . .”). It is important to note that the pre and post-financial crisis systemic risks are not entirely dissimilar, and the threat of a bank run still exists today. See Hockett, supra note 5, at 5-6 (describing liquidity crunches brought about by bank runs, a collective action problem “to which financial systems historically appear to be prone”).

25. See Tarullo, supra note 24, at 5.


27. See Schwarz, supra note 8, at 249 (“Because finance and markets are globally interconnected, systemic collapse in one country inevitably will affect markets and institutions in other countries.”).


30. See Schwarz, supra note 8, at 194-98 (noting commonly cited definitions of systemic risk).

31. See id. at 198 (“A common factor in the various definitions of systemic risk is that a trigger event, such as an economic shock or institutional failure, causes a chain of bad economic consequences—sometimes referred to as a domino effect.”).
significantly more likely at higher levels of connectivity."\(^3\) Accordingly, in the banking context, institutions or groups of connected institutions are or can be considered risky in one of two scenarios: (1) an individual firm which is so large and so interconnected that the size of its systemic footprint makes it an inherent threat to financial stability; or (2) small but sufficiently connected firms that their actions in concert can pose a threat to financial stability.\(^3\) Under the BHCA, the Federal Reserve appropriately accounts for the first category. However, the financial stability framework is poised to overlook the risk that small but sufficiently interconnected firms can pose to the U.S. financial system.

III. EXPLICIT CONSIDERATIONS OF INTERCONNECTEDNESS IN FINANCIAL STABILITY ANALYSIS UNDER THE BHCA

As commentators and regulators grappled with the fallout of the recent global financial crisis, a consensus emerged that increased interconnectivity will continue to drive risk in global financial markets.\(^3\) Accordingly, when Dodd-Frank amended the BHCA to require the Federal Reserve Board of Governors (the Board) to "assess risk to the stability of the U.S. banking or financial system"\(^3\) while considering a BHC's proposal to acquire a nonbank,\(^3\) the Federal

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33. See Markus Brunnermeier et al., The Fundamental Principles of Financial Regulation 25-26 (International Center for Monetary and Banking Studies ed. 2009) (detailing a four-part classification system for all organizations in the financial space; two of which directly implicate banks).
34. See, e.g., K.C. Chakrabarty, Deputy Governor of the Reserve Bank of India, Crisis Preparedness in Interconnected Markets—Prevention is Better than Cure, Keynote Address at the Programme on Crisis Preparedness in Interconnected Markets Held by the Centre for Advanced Fin. Research and Learning and the Toronto Centre 1 (Jan. 16, 2012) (“The increasing interconnectedness of global markets, economies and institutions have only added to the potential of a crisis anywhere in the world to trigger contagion in the rest of the world.”).
35. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank), 12 U.S.C. §1843(j)(2)(A) (2012); see also 12 C.F.R. § 225.20-28; see also Capital One Order, supra note 11, at 23 (approving Capital One’s acquisition of Sharebuilder Advisors, LLC & ING Direct Investing, Inc.) (“The Dodd-Frank Act added “risk to the stability of the United States banking or financial system” to the list of possible adverse effects that the Board must weigh against any expected public benefits in considering proposals under section 4(j) of the BHC Act.”).
36. The rules detailing whether a BHC may purchase a nonbank are promulgated in Federal Reserve Regulation Y. See 12 C.F.R. § 225.20-29. Regulation Y is the Federal Reserve’s interpretation of 12 U.S.C. § 1843, and details exemptions to the BHCA’s general
Reserve interpreted that mandate as requiring explicit considerations of “interconnectedness.”

In the years before Dodd-Frank, the Board was not required to consider the impact that a proposed acquisition would have on the stability of the financial system. Under § 1843, systemic risk or financial stability analysis requires that the Board project to the future and assess whether the proposed acquisition will have an “adverse effect” on the economy by posing a “risk to the stability of the United States or financial system.” In this posture, the Board expects that it will generally find a significant adverse effect if the failure of the resulting firm, or its inability to conduct regular-course-of-business transactions, would likely impair financial intermediation or financial market functioning so as to inflict material damage on the broader economy.

The Board recognizes that material damage to financial markets could occur in any number of ways. The Board gives the following examples: (1) “seriously compromising the ability of other financial institutions to conduct regular-course-of-business transactions[;]” or (2) “seriously disrupting the provision of credit or other financial services.” However, consistent with the competing modern concepts of systemic risk, the Board does not limit itself to a strict set of metrics and takes into consideration all the relevant factors in a particular prohibition that a BHC may not “acquire direct or indirect ownership or control of any voting shares of any company which is not a bank or a bank holding company.” These exemptions allow a BHC to own companies whose activities are “closely related to banking,” or if the BHC has qualified for and been designated as a Financial Holding Company (FHC) by the Board, activities that are “financial in nature.”

37. See generally CAPITAL ONE ORDER, supra note 11 at 29 (approving Capital One’s acquisition of Sharebuilder Advisors, LLC & ING Direct Investing, Inc.).
39. Id.; see also CAPITAL ONE ORDER, supra note 11, at 24-27 (approving Capital One’s acquisition of Sharebuilder Advisors, LLC & ING Direct Investing, Inc.).
40. CAPITAL ONE ORDER, supra note 11, at 23.
41.
42.
43.
44.
transaction.\textsuperscript{45}

The Board measures the risk a resulting firm will pose to the health of the financial system both quantitatively and qualitatively.\textsuperscript{46} The Board evaluates a BHC’s proposal to purchase a nonbank using at least five quantitative metrics: (1) size;\textsuperscript{47} (2) substitutability;\textsuperscript{48} (3) interconnectedness;\textsuperscript{49} (4) complexity;\textsuperscript{50} and (5) cross-border activity.\textsuperscript{51} The ultimate measure of financial stability is derived from an analysis of these “factors in combination.”\textsuperscript{52} That is, the Board will assess these financial stability factors in the aggregate.\textsuperscript{53}

Under the Board’s financial stability analysis, size appears to be the single most important factor in determining whether the resulting firm will pose a material threat to the health of the U.S. or global financial systems.\textsuperscript{54} When the size of the resulting firm is less than $25 billion, the Federal Reserve presumes that the new firm will not raise financial stability concerns.\textsuperscript{55} Under the Brunnermeier framework,\textsuperscript{56} which argues that systemic risk can flow from either the immense size of an individual institution or by the interconnectivity of similarly-situated small firms,\textsuperscript{57} the BHCA appropriately acknowledges the role

\begin{itemize}
  \item \textsuperscript{45} Id. at 23 n. 72.
  \item \textsuperscript{46} CAPITAL ONE ORDER, supra note 11, at 24.
  \item \textsuperscript{47} Id. at 24-25 (“An organization’s size is one important indicator of the risk that the organization poses to the financial system.”).
  \item \textsuperscript{48} Id. at 25-26 (“The Board has examined whether Capital One or FSB engages in any activities that are critical to the functioning of the USFS and whether there would be adequate substitute providers that could quickly step in to perform such activities should the combined entity suddenly be unable to do so as a result of severe financial distress.”).
  \item \textsuperscript{49} Id. at 26 (“The Board has examined data to determine whether financial distress experienced by the combined entity could create financial instability by being transmitted to any other institutions or markets within the U.S. banking or financial system.”).
  \item \textsuperscript{50} Id. at 26-27 (“The Board has considered the extent to which the combined entity would contribute to the overall complexity of the USFS.”).
  \item \textsuperscript{51} Id. at 27 (“The Board has examined the cross-border activities of Capital One and FSB to determine whether the cross-border presence of the combined organization would create difficulties in coordinating any resolution, thereby significantly increasing the risk to U.S. financial stability.”).
  \item \textsuperscript{52} CAPITAL ONE ORDER, supra note 11, at 27.
  \item \textsuperscript{53} See id.
  \item \textsuperscript{54} See id. at 24-27.
  \item \textsuperscript{55} Id. at 24 (“[A] proposal that involves an acquisition of less than $2 billion in assets, results in a firm with less than $25 billion in total assets . . . may be presumed not to raise financial stability concerns.”)
  \item \textsuperscript{56} See BRUNNERMEIER ET AL., supra note 33, at 25-26.
  \item \textsuperscript{57} See id.
that size plays in the calculus of systemic risk management. Under the BHCA, for example, the Federal Reserve’s financial stability analysis acknowledges that size is a “helpful indicator[] of systemic risk” because size must also be attributed to “systemic impact of a transaction.”

It does not appear that the Federal Reserve’s analysis under interconnectedness captures the risk of small firms operating in concert. The Federal Reserve’s interconnectedness analysis in Capital One focuses on the resulting firm’s relationship not to other similarly-situated actors within the system, but rather calls attention to the resulting firm’s “use of wholesale funding, as a share of USFS wholesale funding usage” and the resulting firm’s share of “intra-financial system assets and liabilities” —indicators which measure the firm’s interconnectedness in terms of relative capital use against the market as a whole. The recent financial crisis demonstrated that 100 highly-correlated small firms can pose just as much danger to the system as a single large entity. Without amendment, this approach runs the risk of missing important linkages, especially among smaller, interconnected institutions whose systemic risk is not flagged because they do not exceed the BHCA’s $25 billion size threshold. As the financial crisis made clear, “[c]ontagion can be transmitted from small or large financial institutions” and the Federal Reserve’s interconnectivity analysis should begin to explicitly consider the resulting firm’s place as a member “of a herd” and not merely in relation to the market, writ large.

58. See id. 25-26.
59. CAPITAL ONE ORDER, supra note 11, at 25.
60. See BRUNNERMEIER ET AL., supra note 33, at 25-26.
61. CAPITAL ONE ORDER, supra note 11, at 7-32 (approving Capital One’s acquisition of Sharebuilder Advisors, LLC & ING Direct Investing, Inc.).
62. Id. at 25.
63. Markus Brunnermeier & Martin Oehmke, Bubbles, Financial Crises, and Systemic Risk, in 2B HANDBOOK OF THE ECON. OF FIN. 1221, 1273 (George Constantinides et al. eds., 2013) (“[A] group of 100 institutions that act in a correlated fashion can be as dangerous to the system as one large entity.”).
64. See BRUNNERMEIER ET AL., supra note 33, at 25-26.
65. MARC LABONTE, CONG. RESEARCH SERV., R42150, SYSTEMICALLY IMPORTANT OR “TOO BIG TO FAIL” FINANCIAL INSTITUTIONS 4 (2013).
IV. THE IMPLICIT ASSUMPTIONS CONCERNING INTERCONNECTIVITY IN THE FEDERAL RESERVE’S APPLICATION OF MACROPRUDENTIAL PRINCIPLES UNDER THE BHCA

Just as the Federal Reserve’s treatment of interconnectivity under the BHCA requires revision on account of the systemic risk posed by small institutions, the implicit assumptions that underlie the Federal Reserve’s macroprudential policies also suggest that the Federal Reserve needs to revise its approach to financial stability analysis under § 1843. In July 2011, Chairman Bernanke stated the Federal Reserve’s definition and approach to macroprudential policy. Before the Senate Committee on Banking, Housing, and Urban Affairs, he testified that the macroprudential approach “supplements traditional supervision and regulation of individual firms or markets with explicit consideration of threats to the stability of the financial system as a whole.”

Macroprudential regulation casts a wide net, but its most common usage contemplates policy packages of institutionally-focused and market-focused systemic risk management measures. The term “macroprudential” in the banking context can be traced back to the 1970s in limited usage. Macroprudential theories only gained widespread academic attention after the financial crisis. Today, all of the world’s developed economies have enacted macroprudential regulatory reforms. While there appears to be general consensus among policy makers and commentators that some form of a macroprudential framework appropriately responds to the regulatory

67. See Bernanke Statement, supra note 2, at 2.
68. See, e.g., id. at 1-2 (“[T]he United States and other developed economies have instructed central banks and regulatory agencies to adopt what has been called a macroprudential approach to supervision and regulation—that is, an approach that supplements traditional supervision and regulation of individual firms or markets with explicit consideration of threats to the stability of the financial system as a whole.”).
70. See id. at 5 (detailing the post-financial crisis macroprudential literature and charting the dramatic increase of the word “macroprudential” in economics academic papers after 2008).
71. See Hockett, supra note 5, at 3 (“[S]ome 50 jurisdictions, including all of the world’s most developed economies, have formally adopted macroprudential finance-regulatory measures since early 2009.”).
challenges of the modern financial system, these groups continue to debate the appropriate blend of institutional and market-based strategies within the calculus of macroprudential systemic risk management.

In the United States and abroad, roughly two camps have emerged. In the first, the majority of commentators and academics advocate for the implementation of market-centric macroprudential regulations. A core argument among this group of scholars is that systemic risk monitoring and assessment that weighs institutional measures of risk more heavily than market measures will miss critical indicators of systemic weaknesses, and regulators should adopt a top down regulatory model that privileges market risk ahead of institutional risk. In the second group, the majority of central banks prioritize a bottom-up, “single institution risk models,” and market-based measures supplement the institutional approach. While “there is a growing consensus among policy makers that a macroprudential approach to regulation and supervision should be adopted,” nearly 60 percent of all central banks privilege the stability of institutions over the stability of markets. Chairman Bernanke’s testimony that market-

72. See Borio, supra note 7, at 12 (arguing that “[m]onitoring and limited systemic risk is now a core policy objective” of the international community).
73. See id. at 6 (arguing that the market metrics should superseded the institutional metrics); see also Bernanke Statement, supra note 2, at 2 (stating that the macroprudential approach “supplements traditional supervision and regulation of individual firms or markets with explicit consideration of threats to the stability of the financial system as a whole”).
74. See generally Galati & Moessner, supra note 69 (detailing the divergent discourse concerning macroprudential policy among commentators and policy makers); see generally Borio, supra note 7 (arguing that a market-centric macroprudential framework for systemic risk management is preferable to an institution centric macroprudential framework).
75. See, e.g., Hockett, supra note 5, at 4 (“[S]tructural vulnerabilities . . . , both in the transactional relations among banks and depositors and in the legal characteristics of demand deposit claims—that the institutional focus of traditional microprudential regulations tends especially to miss.”); see generally Galati & Moessner, supra note 69 (detailing the divergent discourse concerning macroprudential policy among commentators and policy makers).
76. See generally Galati & Moessner, supra note 69.
77. INT’L MONETARY FUND, MACROPRUDENTIAL POLICY: AN ORGANIZING FRAMEWORK 3 (2011) [hereinafter IMF FRAMEWORK].
78. See id.
79. Galati & Moessner, supra note 69 (detailing the divergent discourse concerning macroprudential policy among commentators and policy makers); see, e.g., Hockett, supra note 5, at 4 (“[S]tructural vulnerabilities . . . , both in the transactional relations among banks and depositors and in the legal characteristics of demand deposit claims—that the institutional focus of traditional microprudential regulations tends especially to miss.”);
80. See generally IMF FRAMEWORK, supra note 77 (laying out results of 2011
based consideration should "supplement"\textsuperscript{81} demonstrates that the former chairman ascribed to the institution-centric version of macroprudential policy.\textsuperscript{82} Institution-centric macroprudential policy, unfortunately, does not capture systemic risk posed by the interconnections between banks and other financial institutions as effectively as a market-centric macroprudential framework.\textsuperscript{83}

A. The Institutional Approach to Systemic Risk Management

The institutional approach to systemic risk mitigation emphasizes policies which seek to regulate individual financial institutions.\textsuperscript{84} This approach, administered properly, operates under the theory of action that the comprehensive regulation of the parts equals the comprehensive regulation of the entire system.\textsuperscript{85} The typical microprudential policy seeks to limit distress of individual institutions and assumes that risk flows up from the weaknesses of individual institutions.\textsuperscript{86}

The interconnected nature of the modern financial system, commentators argue, challenges the capacity of the institutional approach.\textsuperscript{87} First, the institutional approach does not capture activities at institutional linkage points as effectively as market-based measurement.\textsuperscript{88} A lens focused on institutions alone will focus on the

\textsuperscript{81} See Bernanke Statement, supra note 2, at 2.

\textsuperscript{82} See Bernanke Statement, supra note 2, at 2.

\textsuperscript{83} See infra Part III.

\textsuperscript{84} See, e.g., Johnson, supra note 6, at 884. ("To mitigate systemic risk concerns, or concerns that a systemically significant financial institution or a chain of financial institutions may fail, state and federal regulators have historically relied on prudential regulation.").

\textsuperscript{85} See, e.g., Hockett, supra note 5, at 5; see Borio, supra note 7, at 7.

\textsuperscript{86} See e.g Bernanke Statement, supra note 2, at 1-2 ("[T]he United States and other developed economies have instructed central banks and regulatory agencies to adopt what has been called a macroprudential approach to supervision and regulation—that is, an approach that supplements traditional supervision and regulation of individual firms or markets with explicit consideration of threats to the stability of the financial system as a whole.").

\textsuperscript{87} See, e.g., Hockett, supra note 5, at 5 ("Were a financial system none but the sum of its parts, there would be no need to distinguish between micro- and macroprudential foci. Microprudential supervision of all parts of the system would sum up to supervision of the system itself. A financial system, however, appears to be more than the sum of its parts.").

\textsuperscript{88} See Id.
trees at the expense of the forest,⁸⁹ and will “miss important source[s] of risk over time.”⁹⁰ For example, the institutional approach tended to overemphasize the importance of capital constraints at the expense of liquidity constraints.⁹¹ While both are intended to “enhance the resistance to shocks of financial systems,”⁹² liquidity requirements, commentators argued, were “fundamentally a general equilibrium concept,” and forestalled financial contagion as effectively as did institution-centric capital requirements.⁹³ Because sales of assets when the market is less than perfectly elastic can depress asset prices (as in the classic fire-sale model⁹⁴), sales in response to market shocks perpetuate a shock.⁹⁵ Thus, one way to curtail systemic contagion is “by requiring banks to maintain prudent levels of liquidity.”⁹⁶

Second, the financial crisis challenged the prevailing assumption that the regulation of the parts equaled the regulation of the whole.⁹⁷ Just as the financial crisis demonstrated the importance of active liquidity regulation, it also demonstrated the importance of regulation above and beyond short-term interest rate management.⁹⁸ Pre-crisis monetary policy and co-extensive microprudential policy operated under the flawed assumption that central banks would never need to drive interest rates to nearly zero in part because “price stability [was] sufficient for macroeconomic stability.”⁹⁹ It was also

⁸⁹. See Hockett, supra note 5, at 26 (“One is that the microprudential authority might be so habituated to the microprudential task as to be unable, absent significant retraining, to transition into the habit of seeing the proverbial ‘forest through the trees.’”).

⁹⁰. Hockett, supra note 5, at 12.

⁹¹. See Borio, supra note 7, at 3 (arguing that “[t]he emphasis that prudential regulation placed on capital rather than liquidity constraints” was “paradoxical” and against the weight of the literature.”).


⁹³. Borio, supra note 7, at 8.


⁹⁵. See Rodrigo Cifuentes et al., Liquidity Risk and Contagion, 3 J. OF THE EUROPEAN ECON. ASS’N. 556, 556 (2005) (“Forced sales of assets may feed back on market volatility and produce a downward spiral in asset prices, which in turn may affect adversely other financial institutions.”).

⁹⁶. Id.

⁹⁷. See Hockett, supra note 5 (“Microprudential supervision of all parts of the system would sum up to supervision of the system itself.”).

⁹⁸. See Borio, supra note 7, at 9.

⁹⁹. Id. at 9.
inconceivable that central banks would need to inject enormous sums of capital to thaw frozen capital markets.\textsuperscript{100}

The sum impact of the increasingly interconnected marketplace and the recognition that the regulation of the parts does not equal the regulation of the whole, commentators argue, requires institutional and market-based regulation.\textsuperscript{101} Unfortunately, at the start of the financial crisis, tools that measured risk from a top-down, market perspective were unavailable.\textsuperscript{102}

\textbf{B. The Market-Based Approach to Systemic Risk Management}

Market-based systemic risk management mitigates bank-originated systemic risk through polices that threaten the entire marketplace.\textsuperscript{103} Market measures operate under the theory that risk is relational,\textsuperscript{104} and a bank's individual risk profile does not threaten the health of the U.S. and global financial systems as would the risk profile of institutions in concert.\textsuperscript{105} The paradigm policy designed to reduce systemic risk under the market-based approach is one that "limits system-wide distress"\textsuperscript{106} and "avoid[s] macroeconomic costs linked to financial instability."\textsuperscript{107} Financial contagion in today's economy models its traditional counterpart: systemic risk "describe[s] the concern that one systemically significant financial institution may become insolvent and initiate a cascade of losses or insolvencies across financial markets."\textsuperscript{108}

\textsuperscript{100} Id. ("But the complete seizure of the interbank market and the reach of the gridlock in securitized credit markets, well beyond the banking sector, took observers and policymakers by surprise.").

\textsuperscript{101} See, e.g., Hockett, supra note 5.

\textsuperscript{102} See Borio, supra note 7, at 10.


\textsuperscript{104} See, e.g., Schwarcz, supra note 8, at 198.

\textsuperscript{105} See id.

\textsuperscript{106} See Galati & Moessner, supra note 69, at 7.

\textsuperscript{107} See id.

\textsuperscript{108} Kristin N. Johnson, supra note 6, at 902; \textit{see also} Manuel A. Utset, Complex Financial Institutions and Systemic Risk, 45 GA. L. REV. 779, 791 (2011) (describing systemic risk as "[t]he failure of a large or highly interconnected financial institution which
The market-based approach to systemic-risk management improves existing institutional frameworks in at least two respects. First, the market-based approach better counters the regulatory “tragedy of the commons.” While this social sciences theory has numerous applications, in financial markets “absent [regulatory] intervention, financial market participants will progressively pursue their self-interest in the form of socially excessive risk-taking.” These conclusions are based on the following syllogism: (1) institutions are self-serving; (2) interconnectivity distributes risk widely; (3) the potential for self-serving gain increases even as risk is increasingly distributed; and (4) the attendant risk/loss calculation drives risk to perhaps acceptable levels within an institution, but to unacceptable levels systematically. The solution to risk mitigation in the increasingly interconnected economy, he argues, lies in systemic regulation.

Another core strength of the market-based approach to systemic risk mitigation is that these strategies capture the interorganizational linkages and regulate countercyclically more effectively than institutional supervision. Modern banks now compete with various non-bank sources in capital markets. Thus, the “markets themselves are increasingly central to any examination of systemic risk.” Given this wider lens, macroprudential policy’s great advantage over institutional risk strategies is that it has the capacity to measure the market and operate countercyclically.

The potential for countercyclical regulation also gives rise to the
greatest challenge facing successful implementation of market-regulatory policies: they are fundamentally untested in countercyclical application.\textsuperscript{117} Countercyclical polices during boom times will limit profits, and will force regulators to take the likely unpopular stance of limiting growth.\textsuperscript{118} Beyond issues raised directly by countercyclicality, market-based regulation presents serious administrability issues.\textsuperscript{119} In a world of split-second, multi-billion dollar transfers between a BHC and its counterparties, regulators charged with overseeing BHCs must accurately recognize an emerging threat among a body of diverse and voluminous transactions, and respond in an appropriate and timely manner to that market-based threat.\textsuperscript{120} There may not be the will to act, and regulatory inertia may further dampen that will.\textsuperscript{121} This "daunting challenge" will test both regulators and the rules that define macroprudential policies.\textsuperscript{122}

Finally, it is sometimes difficult to draw distinctions between market and institutional measures to mitigate systemic risk, and, in fact, "many standard microprudential finance-regulatory tools can be employed with some adjustment, to accomplish macroprudential ends."\textsuperscript{123} In this light, the macroprudential toolkit employs a range of tools which will sometimes be regulated in light of the institution and sometimes be regulated in light of the market as a whole.\textsuperscript{124} Because

\textsuperscript{117} Id. at 34 ("Of course, for so long as the U.S. . . . remains mired in macroeconomic slump, there will be little if any occasion to test regulators willingness to use these tools to 'lean against the wind' during boom times.").

\textsuperscript{118} Id.

\textsuperscript{119} Utset, supra note 108, at 233. ("Identifying, on a timely basis, changes in the risk profile of a group of complex institutions interacting with each other along numerous dimensions creates much greater challenges for regulators than monitoring each of those institutions as single, isolated entities.").

\textsuperscript{120} See id.


\textsuperscript{122} See Utset, supra note 108, at 234 ("At the system level, therefore, regulators face a meta-complexity problem: the complexity of groups of complex objects. This is a daunting challenge, requiring special attention both when designing and implementing a set of legal rules.").

\textsuperscript{123} See Hockett, supra note 5, at 4; see also Borio, supra note 7, at 7 ("Not all the policies implemented in the wake of the financial crisis have explicitly sought to strengthen the macroprudential orientation of regulation and supervision. In fact, a major part of the efforts falls naturally in the traditional microprudential perspective.").

\textsuperscript{124} See Borio, supra note 7, at 7 ("Not all the policies implemented in the wake of the
modern regulators need a diverse toolkit to battle novel presentations of systemic risk in the U.S. and global financial systems, most policymakers and commentators take the position that macroprudential regulation should use institutional and market-based measures and risk-mitigation strategies.125

C. Applying Approaches that Integrate Institutional- and Market-Based Approaches to Systemic-Risk Mitigation

The integrated approach to reducing systemic risk merges the institutional approach and the market-based approach into one framework.126 This approach balances "‘microprudential’ regulations focused on individual institutions [with] . . . a ‘macroprudential’ approach focused on maintaining the stability of the financial system as a whole."127 The integrated approach does appear best suited to regulation in today’s highly-interconnected global economy.128 First, an integrated approach permits regulatory bodies to flexibly manage financial intermediaries.129 Flexibility is critical because systemic risk analysis requires consideration of the microeconomic complexities of multi-billion (and sometimes trillion) dollar financial entities, and the challenges are enormous. Contagion, for instance, may present suddenly or gradually130 and regulators should have the flexibility to

financial crisis have explicitly sought to strengthen the macroprudential orientation of regulation and supervision. In fact, a major part of the efforts falls naturally in the traditional microprudential perspective.”).

125. Schwarcz, supra note 8, at 202-04.
126. Id. at 202 ("Institutional systemic risk and market systemic risk therefore should not be viewed each in isolation. Institutions and markets can be involved in both.").
127. Judge, supra note 103, at 666.
128. See Schwarcz, supra note 8, at 202-04 (describing the merits of the integrated approach).
129. See id. at 202 ("This perspective also reveals that the business or legal characterization of any given institution should be far less important, from the standpoint of systemic risk, than whether such institution is, in fact, a critical financial intermediary.").
craft *ex post* solutions targeted at the failing institution as well as market-based remedies designed to soften the impact of a failed institution. Third, interconnected relationships between institutions lie at the heart of risk, and direct counterparties with heavy exposure to a weakened BHC may further damage the broader economy by calling loans ahead of schedule and reducing available lines of credit on the basis of actual balance sheet need or perceived weaknesses of the target institution.

While there appears to be general consensus that post-financial crisis systemic risk should be regulated through an integrated framework, a divide has emerged as to the role of traditional institutional measures in the calculus of modern systemic-risk management. Scholarship and policy can be divided into two approaches: (1) the widely-practiced integrated approach that prioritizes the stability of financial institutions before the stability of the markets, and (2) the less-widely practiced integrated approach that prioritizes the stability of the markets before the stability of institutions.


132. Zachary J. Gubler, *Regulating in the Shadows: Systemic Moral Hazard and the Problem of the Twenty-First Century Bank Run*, 63 ALA. L. REV. 221, 221 (2012) ("An important, emerging literature suggests that the proximate cause of the recent financial crisis was an old-fashioned bank run of the sort that was common prior to the Great Depression. But instead of individuals converging on the local savings and loan, this bank run involved investment banks’ short-term creditors who began withdrawing their cash from these banks out of concern for the quality of the underlying collateral . . . .").

133. *See IMF Framework, supra* note 77, at 2 (“Responses to the [IMF] survey prove a clear indication that macroprudential policy is becoming an overarching public policy in the wake of the global financial crisis.”).

134. *See, e.g.* Borio, *supra* note 7, at 7 (arguing that market metrics should supersede institutional metrics); *contra Bernanke Statement, supra* note 2, at 2 (arguing that macroprudential polices should supplement traditional policies).

135. *See Hockett, supra* note 5, at 4; *see also* Borio, *supra* note 7, at 7 (“Not all the policies implemented in the wake of the financial crisis have explicitly sought to strengthen the macroprudential orientation of regulation and supervision. In fact, a major part of the efforts falls naturally in the traditional microprudential perspective.”).

136. *See Kathryn Judge, Fragmentation Nodes: A Study in Financial Innovation, Complexity, and Systemic Risk*, 64 STAN. L. REV. 657, 666 (2012) (“[R]egulatory efforts to manage systemic risk must also take a ‘macroprudential’ approach focused on maintaining the stability of the financial system as a whole.”)
1. The Integrated Approach That Places the Institution Before the Market

An integrated approach to systemic risk that prioritizes institutional stability over market stability operates under the theory that institutional risk drives systemic risk, but concedes that market-focused risk mitigation is still necessary. The majority of international financial regulators apply a form of the integrated approach that values institutional stability over the stability of the market, and this approach to macroprudential policy employs institutional tools to mitigate systemic risk, and will complement that tool kit with market-focused tools.

For example, the newly-created Financial Stability Oversight Council (FSOC) is a cornerstone of U.S. efforts to protect financial stability in the domestic and global financial systems. FSOC’s macroprudential priorities are: (1) “[e]nhancing the resiliency of a firm to lower the probability of its failure or inability to serve as a financial intermediary,” and (2) “[r]educing the impact on the financial system and the broader economy in the event of a firm’s failure or material weakness.” This rhetoric encompasses much of the institution-first language because it demonstrates that the FSOC operates under the theory of action that institutional stability will equate to market

137. See, e.g., FIN. STABILITY BOARD, INT’L MONETARY FUND, AND BANK FOR INT’L SETTLEMENTS, MACROPRUDENTIAL POLICY TOOLS AND FRAMEWORKS: UPDATE TO THE G20 FIN. MINISTERS AND CENTRAL BANK GOVERNORS 2 (2011) [hereinafter UPDATE TO THE G20] (“We define macroprudential policy as a policy that uses primarily prudential tools to limit systematic or system-wide financial risk, thereby limiting the incidence of disruptions in the provision of key financial services that can have serious consequences for the real economy.”).

138. See generally IMF FRAMEWORK, supra note 77 (laying out results of 2011 International Monetary Fund (IMF) survey of international implementation of macroprudential policies).

139. See UPDATE TO THE G20, supra note 137, at 2 (“We define macroprudential policy as a policy that uses primarily prudential tools to limit systematic or system-wide financial risk, thereby limiting the incidence of disruptions in the provision of key financial services that can have serious consequences for the real economy.”).

140. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank), 12 U.S.C. § 5322 (2012) (creating the Financial Stability Oversight Council responsible for “identify[ing] risks to the financial stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected bank holding companies or nonbank financial companies, or that could arise outside the financial services marketplace.”).


142. Id.
2. An Integrated Approach That Places the Market Before the Institution

An integrated approach that prioritizes market stability over institutional stability operates under the theory that risk lies in the linkages between institutions, but concedes that institution-focused policies are necessary. Claudio Borio, the Bank for International Settlement’s Monetary and Economic Development head, stands on the leading edge of this movement. He wrote that macroprudential regulation means calibrating [regulation] from a system-wide or systemic perspective, rather than from that of the safety and soundness of individual institutions on a stand-alone basis. It means following a top-down approach, working out the desirable safety standard for the system as a whole and, from there, deriving that of the individual institutions within it.

The emphasis on the “top down” approach effectively captures the position of other commentators who support the market first and institution second approach to systemic risk management. Increased interconnectedness through the proliferation of diverse nonbank financial intermediaries drives the scholarship proffering a market-centric regulatory framework because of the broad diversity of intermediaries operating in capital markets.

143. See CAPITAL ONE ORDER, supra note 11, at 24-27.
145. Id.
146. Id.
147. Id. at 6 (arguing that the market-first; institution-second approach is “top-down”); see also Charles K. Whitehead, Reframing Financial Regulation, 90 B.U. L. REV. 1, 6 (2010).
148. Whitehead, supra note 147 (“Financial risk may increasingly be bought and sold among capital markets participants, some of whom are not subject to the same levels of regulation as traditional intermediaries.”).
D. The Board's Financial Stability Analysis Under the BHCA Reflects an Institution-First Approach to Systemic Risk Management

The majority of international financial regulators practice a form of the integrated approach that values institutional stability over the stability of the market,\(^\text{149}\) and the Federal Reserve is no exception.\(^\text{150}\) Dodd-Frank amended the BHCA to require that each financial regulator consider the impact a proposed bank merger or a bank's acquisition of a nonbank might have on U.S. and global financial stability.\(^\text{151}\) The financial stability analysis contained in these orders reveals that the Federal Reserve is still operating, on balance, under institution-first systemic risk management assumptions.\(^\text{152}\)

Under the Board's financial stability standard, the primary point of analysis reflects the institution-first approach to macroprudential systemic risk mitigation.\(^\text{153}\) The Board's order focuses most extensively on the impact "the resulting firm" would have on "financial intermediation or financial market functioning[.\(^\text{154}\) If the Board determines that the failure of the resulting firm would inflict "material damage on the broader economy,"\(^\text{155}\) the Board may deny a bank's application to purchase a nonbank under § 1843.\(^\text{156}\) Following the Board's logic, reducing risk to the system requires \textit{ex ante} protection of an individual firm's risk profile so that the resulting firm does not inject too much risk into the system.\(^\text{157}\) To this point, the Board continued, "[t]his kind of damage could occur in a number of ways, including seriously compromising the ability of other financial institutions to conduct regular-course-of-business transactions or seriously disrupting the provision of credit or other financial services."\(^\text{158}\)

The Board measures the risk a resulting firm will pose to the

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149. IMF FRAMEWORK, supra note 77 (laying out results of 2011 International Monetary Fund (IMF) survey of international implementation of macroprudential policies).

150. See Bernanke Statement, supra note 2, at 1-4.


152. See CAPITAL ONE ORDER, supra note 11, at 24-27.

153. See id. at 24-27.

154. See id. at 23.

155. Id.

156. Id. (discussing the how the Board will balance "public benefits" against "material damage" in considering applications).

157. See id.

158. See CAPITAL ONE ORDER, supra note 11, at 23.
health of the financial system both quantitatively and qualitatively. It then evaluates a BHC’s proposal to purchase a nonbank using at least five quantitative metrics: (1) size; (2) substitutability; (3) interconnectedness; (4) complexity; and (5) cross-border activity. The ultimate measure of financial stability is derived from an analysis of these “factors in combination.” Considered against the backdrop of the current macroprudential debate detailed in the foregoing discussion, the Board’s orders under the BHCA demonstrate that the Federal Reserve has adopted an institution-first approach to macroprudential regulation under § 1843.

1. Financial Stability Metric One: Size

The Board evaluates size using an integrated approach to systemic risk management that privileges the institutional approach. For instance, the Board measures size by aggregating available financial data of the BHC and the proposed acquisition in order to predict the new entity’s “systemic footprint.” The use of size as a measure of systemic risk reflects an institution-first integrated approach because the starting point of the analysis is the size of the resulting institution.

159. Id. at 24.
160. Id. at 24-25 (“An organization’s size is one important indicator of the risk that the organization poses to the financial system.”).
161. Id. at 25-26 (“The Board has examined whether Capital One or FSB engages in any activities that are critical to the functioning of the USFS and whether there would be adequate substitute providers that could quickly step in to perform such activities should the combined entity suddenly be unable to do so as a result of severe financial distress.”).
162. Id. at 26 (“The Board has examined data to determine whether financial distress experienced by the combined entity could create financial instability by being transmitted to any other institutions or markets within the U.S. banking or financial system.”).
163. Id. at 26-27 (“The Board has considered the extent to which the combined entity would contribute to the overall complexity of the USFS.”).
164. See CAPITAL ONE ORDER, supra note 11, at 27 (“The Board has examined the cross-border activities of Capital One and FSB to determine whether the cross-border presence of the combined organization would create difficulties in coordinating any resolution, thereby significantly increasing the risk to U.S. financial stability.”).
165. Id. (“The Board has assessed the foregoing factors individually and in combination to determine whether interactions among them might mitigate or exacerbate risks suggested by looking at them individually.”).
166. Id. at 24.
167. Id. at 25 (“Section 165 of the Dodd-Frank Act, codified at 12 U.S.C. § 5365, requires the Board to subject all bank holding companies with total consolidated assets of $50 billion or more, and any nonbank financial company designated by the FSOC for supervision by the Board, to enhanced prudential standards in order to prevent or mitigate...”)
Furthermore, the Board states that size is a "helpful indicator[] of systemic risk" and that size must also go to "systemic impact of a transaction." 168

Systemic risk is frequently addressed in the context of systemically important financial institutions (SIFIs)—those BHCs whose assets exceed $50 billion and nonbank financial companies designated as systemically significant by the FSOC. 169 The size of an institution is correlated to the risk a banking combination poses to the entirety of the system. 170 Accordingly, Congress has established a unique regulatory framework for those corporations designated as SIFIs. 171

2. Financial Stability Metric Two: Substitutability

The Board evaluates substitutability using an institution-first integrated approach to systemic risk management. Substitutability analysis requires that the Board determine whether the BHC or the acquired entity is critical to the operations of the U.S. Financial System (USFS), and "whether there would be adequate substitute providers that could quickly step in to perform such activities should the combined entity suddenly be unable to do so because of severe financial distress." 172 Much like the Board’s analysis under the size factor, the first step of this analysis starts at the level of the institution and then works its way out to the impact of that institution on the market as a whole. First, the Board will evaluate the activities of the individual

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168. See id. ("These measures are helpful indicators of potential systemic risk; however, the fact that Congress also requires the Board to review the potential systemic impact of a transaction that does not reach these limits likely indicates they were not meant to substitute for an analysis of size as part of the systemic risk factor.").
170. Lamont Black et al., The Systemic Risk of European Banks During the Financial and Sovereign Debt Crisis 1 (Nov. 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2181645 ("We empirically measure systemic risk as a hypothetical insurance premium to cover distressed losses in the European banking system, based on the inputs of credit default swap (CDS) spreads, equity return correlations, and total liabilities of individual banks, which capture the main characteristics of systemic risk—default risk, interconnectedness, and size.").
172. CAPITAL ONE ORDER, supra note 11, at 25.
entities to assess whether their activities "are critical to the functioning of the USFS." Second, the Board will assess feasibility of another provider stepping into the shoes of the combined entity were the combined entity suffers "severe financial distress." Both steps require the Board to assess the fundamentals of the individual institution and that institution’s impact on the broader financial system.

3. Financial Stability Metric Three: Interconnectedness

Interconnectedness analysis requires that the Board “determine whether financial distress experienced by the combined entity could create financial instability by being transmitted to any other institutions or markets within the U.S. banking or financial system.” Interconnectedness analysis also requires that the Board assess the systemic risk potential with a focus that begins with the institution. Under this framework, the Board must envision a scenario whereby the combined entity’s isolated weakness would risk spreading financial contagion. The Board’s interconnectedness analysis is decidedly firm-centric. In Capital One, the Board focused on the resulting firm’s “use of wholesale funding, as a share of USFS wholesale funding usage” and the resulting firm’s share of “intra-financial system assets and liabilities.” This is a paradigm, bottom-up approach to macroprudential risk management because the Board’s analytical starting point is the firm itself. Next, the Board inquires as to the impact that individual use will have on the market as a whole.

4. Financial Stability Metrics Four and Five: Complexity and Cross-Border Activity

Complexity and cross-border activity reflect the market-first

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173. Id.
174. Id.
175. Id.
176. Id. at 26.
177. Id.
178. CAPITAL ONE ORDER, supra note 11, at 25.
179. Id.
180. Id.
181. Id.
182. Id.
approach to macroprudential systemic risk management. Complexity analysis requires that the Board consider "the extent to which the combined entity would contribute to the overall complexity of the USFS." The metric’s overarching methodology is market-based because it requires that the Board assess how this firm will add to the overall complexity of the system. However, complexity analysis also reflects the integrated perspective because the analysis requires that the Board “consider[] whether the complexity of the combined entity’s assets and liabilities would hinder its timely and efficient resolution in the event it were to experience financial distress.” This consideration occurs primarily at the level of the institution.

Similarly, cross-border activity is another instance where the Federal Reserve is adopting a market-first approach to macroprudential policy under § 1843. Cross-border activity analysis requires that the Board “determine whether the cross-border presence of the combined organization would create difficulties in coordinating any resolution, thereby significantly increasing the risk to U.S. financial stability.” Cross-border analysis requires that the Board assess systemic risk potential from an integrated vantage point. The analysis requires that the Board apply the institutional approach and assess the feasibility of resolving a multinational or international BHC. The Board must also take a market-based approach and assess how deeply the resolution of that individual institution will impact financial stability in the United States.

In the aggregate, the Board’s approach to macroprudential policy under the BHCA is orientated towards the institutional approach. Three metrics—size, substitutability, and

183. Id. at 26-27.
184. CAPITAL ONE ORDER, supra note 11, at 26.
185. Id.
186. Id. at 26.
187. Id. at 26-27.
189. CAPITAL ONE ORDER, supra note 11, at 27.
190. Id.
191. Id. ("The Board has examined the cross-border activities of Capital One and FSB to determine whether the cross-border presence of the combined organization would create difficulties in coordinating any resolution, thereby significantly increasing the risk to U.S. financial stability.").
192. Id. at 27.
interconnectedness—clearly start with the institution and then move their way out towards the marketplace. The two remaining metrics—complexity and cross-boarder activity—appear to be more market orientated.

It is important to acknowledge that the Federal Reserve’s conservative application of macroprudential financial stability measures is, from one vantage point, smart policy because macroprudential policies are in their infancy and, thus, are fundamentally untested. The Board’s macroprudential approach preserves all options and “[takes] into account all factors that are relevant to a transaction.” A preserving options approach may be preferable because the Board may refine its approach without the attendant hassle of upsetting precedent. It also allows the Board to continually update the framework. However, the effectiveness of regulation that preserves this kind of flexibility does not find much support in the literature. The Federal Reserve’s pre-financial crisis “discretionary policy actions . . . consequently failed to address the underlying problem and allowed it to fester.” Preserving regulatory discretion, for example can lead to decisions that hurt the market because “regulators commonly opt for policy discretion based on sometimes overly rosy views of favorable outcomes for banks’ market valuation.” And, a fortiori, similar distortions may be able to follow in the sphere of regulatory financial stability analysis.

V. CONCLUSION: INTERCONNECTIVITY IN FULL

Considered in concert, the Federal Reserve’s explicit treatment of interconnectedness under the BHCA and the implicit assumptions about interconnectedness associated with an institution-first approach to

194. CAPITAL ONE ORDER, supra note 11, at 24-26.
195. Id. at 26-27.
196. Galati & Moessner, supra note 69, at 13 (“[R]esearch on macroprudential policy is still in its infancy and appears far from being able to provide an analytical underpinning for policy frameworks.”).
197. See CAPITAL ONE ORDER, supra note 11, at 24 (“A financial institution that can be resolved in an orderly manner is less likely to inflict material damage to the broader economy.”).
199. See id.
200. See id.
systemic risk management suggest that the Federal Reserve's approach to financial stability under the BHCA should be revised to address these considerations.

First, the Federal Reserve's explicit approach to interconnectedness does not adequately account for the kind of risks that attach to small institutions operating in concert.\textsuperscript{201} The Federal Reserve's explicit interconnectedness analysis measures institutional interconnectedness as a function of its exposure to the market as a whole, through measures of the resulting firm's "use of wholesale funding, as a share of USFS wholesale funding usage"\textsuperscript{202} and the resulting firm's share of "intra-financial system assets and liabilities."\textsuperscript{203} Because small depository institutions are unlikely to trigger additional review under the current framework, the Federal Reserve is potentially blind to the systemic risk a small firm poses to the health of the financial system when considered in concert with similarly-situated institutions.\textsuperscript{204} Thus, the Federal Reserve should change the denominator for resulting firm's interconnectivity from the market as a whole to a denominator that captures the resulting firm's interconnectivity among smaller, similarly-situated firms.

Second, the Federal Reserve should revise its approach to macroprudential analysis to reflect the importance of interconnectivity in the modern economy.\textsuperscript{205} As the financial crisis so clearly demonstrated, risk is relational\textsuperscript{206} and, as the Chairwoman Yellen concluded while still a Federal Reserve Governor, "[c]ontagion is significantly more likely at higher levels of connectivity."\textsuperscript{207} Institution-centric macroprudential policy, unfortunately, does not capture systemic risk posed by the interconnections between banks and other financial institutions as effectively as a market-centric, macroprudential framework.\textsuperscript{208} Thus, the Federal Reserve should adopt a market-based approach to macroprudential systemic risk management.

\textsuperscript{201} See Brunnermeier et al., supra note 33, at 25-26.
\textsuperscript{202} Capital One Order, supra note 11, at 26.
\textsuperscript{203} Id.
\textsuperscript{204} See Brunnermeier et al., supra note 33, at 25-26.
\textsuperscript{205} See K.C. Chakrabarty, supra note 34.
\textsuperscript{206} See, e.g., Schwarz, supra note 8, at 198.
\textsuperscript{207} See Yellen, supra note 29 ("Contagion is significantly more likely at higher levels of connectivity.").
\textsuperscript{208} See generally Hockett, supra note 5.
Chairwoman Yellen has the opportunity to make a bold statement concerning the Federal Reserve’s application of modern systemic risk principles to its understanding of the role of interconnectivity and risk. The Federal Reserve’s approach to financial stability under the BHCA should be revised to address the explicit and implicit weaknesses regarding interconnectedness. The U.S. and global financial systems might very well benefit from the change.

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