

The Banking-Sovereign Nexus: Law, Economics & Policy

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This Article examines a previously overlooked policy interdependence between the International Monetary Fund (“IMF”) and the Basel Committee on Banking Supervision (“Basel Committee”), which results from economic dynamics associated with the “banking-sovereign nexus.” The failure of legal scholarship on international financial regulation to address the banking-sovereign nexus represents a substantial oversight because linkages among private banking sectors (subject to the Basel Committee’s regulations) and the public finances of sovereign governments (under the purview of the IMF) have historically been a leading source of instability in the global financial system.

The main finding of this Article is that interventions by the IMF and the Basel Committee function as regulatory complements by subtly reinforcing one another through a number of channels. In order to leverage that complementarity, the Article presents the following two-part policy proposal. First, that the Basel Committee enhance the stringency of its capital requirements with an increase in the risk-weights that are assigned to sovereign bonds that banks hold as assets. Second, that the IMF revise its lending criteria to allow countries that have effectively implemented the stricter version of the Basel Rules to prequalify for access to its credit facilities. The broader

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contribution of this Article is to provide a more integrated perspective on the international financial architecture, which looks across formal legal categories to identify functional relationships between markets and regulations that affect how the system operates as a whole.

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INTRODUCTION

There is a fundamental piece missing from legal scholarship's understanding of the "international financial architecture" ("IFA"), an umbrella term that refers to the dense constellation of agreements and institutions that govern global financial markets.¹ The oversight lies in the conventional treatment of a pair of the IFA's most high profile components—the International Monetary Fund and the Basel Committee on Banking Supervision. The controlling narrative in the literature, which tends to be a study in contrasts, can be summarized as follows. Over the past few decades, the Basel Committee has emerged as a driving institutional force within the IFA, while the IMF has receded from its once-central role.² The divergence of influence is closely related to a critical distinction in the institutions' formal legal structures: the Basel Committee exemplifies the ascendant genre of "soft law" regulatory networks, whereas the IMF is a relic of "hard law" treaties from the bygone era of Bretton Woods.³ Although the original policy orientations of the two organizations were essentially unrelated, a degree of coordination has been established due to the IMF's development of regulatory surveillance programs, some of which bring implementation of the Basel Committee's bank capital requirements ("the Basel Rules") within their purview.⁴

1. See Michel Camdessus, Managing Dir., Int'l Monetary Fund, *Toward a New Financial Architecture for a Globalized World* (May 8, 1998), <https://www.imf.org/en/News/Articles/2015/09/28/04/53/sp050898> (laying out guiding principles for the regime in its most recent form).

2. See DANIEL K. TARULLO, *BANKING ON BASEL: THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION* (2008); Chris Brummer, *Why Soft Law Dominates International Finance—And Not Trade*, 13 J. INT'L ECON. L. 623, 627 (2010) ("Still, hard law institutions and instruments play a very limited role in the regulation of finance, especially at the global multilateral level. The International Monetary Fund (IMF) and World Bank do not generally create regulatory standards, even though they can serve as monitors of regulatory activity."); see generally David Zaring, *International Law by Other Means: The Twilight Existence of International Financial Regulatory Organizations*, 33 TEX. INT'L L.J. 281 (1998).

3. See, e.g., Chris Brummer, *How International Financial Law Works (and How It Doesn't)*, 99 GEO. L.J. 257, 280 (2011) (noting that the IMF and World Bank "are also, notably, the only international institutions in the international financial architecture whose founding documents—their respective articles of agreement—are formally recognized hard law"); Pierre-Hugues Verdier, *The Political Economy of International Financial Regulation*, 88 IND. L.J. 1405, 1417 (2013) ("Over the [decades following the 1970s], TRNs became the backbone of IFR, with formal organizations like the IMF, World Bank, and BIS playing only a supporting role."); see generally David Zaring, *Informal Procedure, Hard and Soft, in International Administration*, 5 CHI. J. INT'L L. 547 (2005).

4. See Brummer, *supra* note 3, at 278–81; Verdier, *supra* note 3, at 1419–20; Rolf H.

The standard account involves two missteps. A threshold issue is that the IMF retains a prominent role in the global financial system,⁵ which primarily consists of the loans that it extends to governments facing sovereign debts or currency crises, rather than its more ancillary surveillance programs.⁶ A second, deeper problem is that the literature has failed to address one of the key takeaways from international financial history—that there is a profound interconnection between the stability of private banking sectors and the public sector finances of sovereign governments.⁷ Putting history books aside, a recent body of economic research has also begun to model the so-called “banking-sovereign nexus,” and finds that feedback effects between financial institutions and sovereigns may be so virulent that they constitute financial “doom loops.”⁸ Once these feedback loops are fully appreciated, it becomes clear that the banking-sovereign nexus is the site of a collision between the regulatory efforts of the IMF and the Basel Committee that is at the core of how the IFA operates.

Weber & Douglas W. Arner, *Toward a New Design for International Financial Regulation*, 29 U. PA. J. INT’L L. 391, 393–401 (2007).

5. See Matthew C. Turk, *Reframing International Financial Regulation After the Global Financial Crisis: Rational States and Interdependence, Not Regulatory Networks and Soft Law*, 36 MICH. J. INT’L L. 59, 102–11, 123–27 (2014) (arguing that legal scholarship has overstated the decline in the IMF’s importance to the IFA); see also Adam Feibelman, *Law in the Global Order: The IMF and Financial Regulation*, 49 N.Y.U. J. INT’L L. & POL. (forthcoming 2017) (making a similar point).

6. Indeed, IMF lending reached historically unprecedented levels during the global financial crisis that began in 2008. Carmen M. Reinhart & Christoph Trebesch, *The International Monetary Fund: 70 Years of Reinvention*, J. ECON. PERSP., Winter 2016, at 3, 3–4; see generally BARRY EICHENGREEN, *GLOBALIZING CAPITAL: A HISTORY OF THE INTERNATIONAL MONETARY SYSTEM* (2d ed. 2008); PABLO MORENO, *THE METAMORPHOSIS OF THE IMF (2009–2011)* (2013), <http://www.bde.es/f/webbde/SES/Secciones/Publicaciones/PublicacionesSeriadas/EstudiosEconomicos/Fic/azul78.pdf>.

7. See CHARLES P. KINDLEBERGER & ROBERT Z. ALIBER, *MANIAS, PANICS, AND CRASHES: A HISTORY OF FINANCIAL CRISES* (5th ed. 2005); CARMEN M. REINHART & KENNETH S. ROGOFF, *THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY* (2009).

8. See Emmanuel Farhi & Jean Tirole, *Deadly Embrace: Sovereign and Financial Balance Sheets Doom Loops* (Nat’l Bureau of Econ. Research, Working Paper No. 21843, 2016), <http://www.nber.org/papers/w21843.pdf>; see also Viral V. Acharya et al., *A Tale of Two Overhangs: The Nexus of Financial Sector and Sovereign Credit Risks*, 16 BANQUE DE FR., FIN. STABILITY REV. 51, 52 (2012); Markus K. Brunnermeier et al., *The Sovereign-Bank Diabolic Loop and ESBies*, 106 AM. ECON. REV. (PAPERS & PROC.) 508 (2016); Paolo Angelini et al., *The Negative Feedback Loop Between Banks and Sovereigns* (Bank of It., Occasional Paper No. 213, 2014); Marcel Fratzscher & Malte Rieth, *Monetary Policy, Bank Bailouts and the Sovereign-Bank Risk Nexus in the Euro Area* (Ctr. for Econ. Policy Research, Discussion Paper No. 10370, 2015).

This Article analyzes the previously overlooked policy interdependence between the IMF and the Basel Committee, and explores its implications for improving financial regulation going forward. The interrelationship between those institutions that results from the banking-sovereign nexus is surprisingly pervasive and involves reciprocal effects that flow in both directions. First, when the IMF extends emergency funding to a government in the midst of a sovereign financial crisis, it serves a lender-of-last-resort (“LLR”) function analogous to that of domestic central banks, but on an international scale.⁹ As an international LLR, the IMF not only bails out governments, but also underwrites an incentive structure known as “investor moral hazard,” which encourages systemically significant financial institutions to overinvest in sovereign debt.¹⁰ IMF lending thereby impacts the Basel Committee because it distorts the very same risk-taking calculus of banks that the Basel Rules are intended to constrain.

The Basel Committee’s policies also exert an influence over the IMF. The Basel Rules are the most widely adopted source of bank capital requirements, which are the primary regulatory measure for safeguarding the stability of domestic banking sectors.¹¹ But although the Basel Rules apply to financial firms in the first instance, they indirectly structure the risk-profile of government finances as well. That is because in many cases the costs associated with a private financial sector collapse are ultimately transferred to the public sector. In fact, the presence of a banking crisis is the most significant causal factor underlying both the incidence and severity of sovereign financial crises.¹² As a consequence, the IMF’s emergency assistance to governments takes place under economic conditions that substantially depend on how well the Basel Rules are designed and implemented.

Importantly, the dynamics outlined above do not unfold in

9. See Stanley Fischer, *On the Need for an International Lender of Last Resort*, J. ECON. PERSP., Fall 1999, at 85, 92 (explaining how the IMF generates moral hazard); see also Kathryn Judge, Essay, *The First Year: The Role of a Modern Lender of Last Resort*, 116 COLUM. L. REV. 843 (2016).

10. See Olivier Jeanne & Jeromin Zettelmeyer, *The Mussa Theorem (and Other Results on IMF-Induced Moral Hazard)*, 52 IMF STAFF PAPERS (SPECIAL ISSUE) 64, 65 (2005) (“But what about international investors whose reckless lending behavior had contributed to the crises? They were let off the hook with the help of IMF crisis lending. There had to be ‘investor moral hazard’ . . .”).

11. Three iterations of Basel Rules have been developed over the years and are known as “Basel I,” “Basel II,” and Basel III.” See *infra* note 59 and accompanying text; see also *infra* Section II.B.1 (explaining the significance of the Basel Rules for banking regulation).

12. See REINHART & ROGOFF, *supra* note 7; *infra* Section II.B.2.

isolation. Instead, they interact in a manner that causes the optimal regulatory strategy for the Basel Committee to turn on the policy decisions of the IMF, and vice versa. A certain amount of mutual interference is, of course, to be expected when multiple regulations apply to the same underlying activity. The norm in banking regulation, however, is for overlapping pairs of policies to represent regulatory substitutes, meaning that they perform similar functions, which renders their joint use at least partially redundant.¹³ By contrast, the interventions of the IMF and the Basel Committee work together as regulatory complements that reinforce rather than crowd-out one another. As will be shown, that complementarity has a double-sided aspect, which generates the following somewhat counterintuitive results.¹⁴ As the IMF's willingness to extend bailouts to sovereigns increases (or decreases), so does the optimal stringency of the Basel Rules for financial institutions. Conversely, as the requirements in the Basel Rules increase (or decrease), the optimal willingness-to-lend of the IMF does so as well.

Given the scant scholarly attention that has been paid to the banking-sovereign nexus, this Article's analysis opens up a potentially rich field for rethinking policy in international financial regulation. As a first step in that direction, it suggests the following two-part reform:

- In the process of refining Basel III, the Basel Committee should increase the risk-weighting of sovereign bonds on banks' balance sheets.
- IMF lending criteria should be revised to operate *ex ante*, before a crisis hits, by allowing countries that have implemented the stricter version of the Basel Rules to prequalify for access to credit facilities.

The merits of these proposals are threefold. First, heightening capital standards in the Basel Rules while expanding the IMF safety net leverages the complementarity between those regulations by ratcheting their intensity in the same direction. Second, each reform tailors findings from the recent economics literature to the particular institutional context at issue. The Basel Committee prong tracks an

13. See, e.g., Eric J. Pan, *Challenge of International Cooperation and Institutional Design in Financial Supervision: Beyond Transgovernmental Networks*, 11 *CHI. J. INT'L L.* 243, 270 (2010) ("More stringent capital adequacy requirements can be a substitute for additional supervision.").

14. A starting point of analysis is that the interaction between IMF-lending and the Basel Rules mirrors a complementarity that is widely recognized in the domestic regulatory context, between deposit insurance and bank supervision. See *infra* Section II.C.2.

emerging consensus in favor of stronger capital requirements.¹⁵ The IMF prong draws on studies which recommend a pre-qualification process (also referred to as “*ex ante* conditionality”) on the grounds that it can reduce the stigma effect that accompanies a government’s request for funding.¹⁶ Third, the suggested reforms are compatible with political economy constraints that otherwise make more ambitious alternatives unrealistic.¹⁷

The broader contribution of this Article is to make progress toward a more integrated perspective on international financial regulation, which looks past formal categories and legalistic distinctions to identify fundamental underlying dynamics. One element of that approach involves a focus on the problem of systemic risk—the potential for financial instability to propagate among markets or networks of firms in unexpected ways.¹⁸ Although systemic risk is a familiar concern of recent legal scholarship, the absence of any discussion regarding the banking-sovereign nexus indicates that important sources of financial fragility have yet to be explored. In addition to an appreciation of interconnections between financial markets, an integrated perspective also requires the search for linkages among the legal rules and institutions that attempt to regulate those sectors. That task is especially urgent in the current policy environment, where the response to the global financial crisis has been a frantic expansion in the scope and complexity of the existing regulatory framework on all fronts.¹⁹ As the analysis of this

15. See generally ANAT ADMATI & MARTIN HELLWIG, *THE BANKERS’ NEW CLOTHES: WHAT’S WRONG WITH BANKING AND WHAT TO DO ABOUT IT* (2013) (providing a prominent piece of advocacy for this view); John H. Cochrane, *Challenges for Cost-Benefit Analysis of Financial Regulation*, 43 J. LEGAL STUD. S63, S92 (2014).

16. See, e.g., Olivier Jeanne et al., *A Theory of International Crisis Lending and IMF Conditionality* (IMF Working Paper No. WP/08/236, 2008), <https://www.imf.org/external/pubs/ft/wp/2008/wp08236.pdf>.

17. Primary among those obstacles is a time-inconsistency problem that undermines the credibility of any commitment by the IMF to scale back its lending in future crises. See Susan Schadler, *Unsustainable Debt and the Political Economy of Lending: Constraining the IMF’s Role in Sovereign Debt Crises* 9–10 (CIGI Papers No. 19, 2013), <https://www.cigionline.org/sites/default/files/no19.pdf>. Imposing a more robust version of the Basel Rules raises incentive-compatibility issues as well, but they are arguably less severe. See *infra* Section III.A.2.

18. See Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 204 (2008).

19. According to one analysis, the Dodd-Frank Act mandates that regulatory agencies promulgate roughly 395 new administrative rules. See DAVIS POLK & WARDWELL, *DODD-FRANK PROGRESS REPORT: FOURTH QUARTER 2014* (Jan. 5, 2015), https://www.davispolk.com/sites/default/files/Q4_2014_Dodd-Frank_Progress_Report.PDF; see generally Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended in scattered sections of 7, 12, 15, 22 U.S.C.).

Article seeks to illustrate, how the IFA operates in practice depends in large part on the extent to which different regulations interact with, confound, or amplify one another—particularly where they are not consciously designed to do so.²⁰

The organization of this Article is as follows. Part I provides legal background on the IMF and the Basel Committee, and highlights institutional features that are relevant to the larger thesis. Part II provides the central argument by explaining how the banking-sovereign nexus affects the regulatory interventions of those two organizations. Part III presents the two-part policy proposal previewed above.

I. OVERVIEW OF THE IMF & THE BASEL COMMITTEE

This section provides background on the IMF and the Basel Committee by proceeding in a comparative format that looks at their respective (1) historical development; (2) legal structure; (3) scope of regulatory reach; and (4) substantive policy orientation. That overview uncovers a number of salient distinctions between the two. Consistent with those results, scholarship on international financial law generally treats the organizations as occupying far corners of the IFA.²¹ A lone exception, where some overlap is noted, concerns certain IMF programs that have been tasked with oversight of the Basel Rules. It will be argued, however, that the significance of IMF surveillance has been overstated compared to that of its historical lending function, and that it represents a relatively tenuous link with the Basel Committee when placed in proper context.

The larger point of the discussion that follows is to underline this Article's claim regarding the importance of adopting a more integrated perspective on international financial regulation. As a comparison of the IMF and the Basel Committee illustrates, the IFA has a hall-of-mirrors quality when formal legal categories are taken at face value. The one area where an official legal intersection between the two exists, IMF surveillance, turns out to be of limited practical

20. See Michael S. Barr, *Who's in Charge of Global Finance?*, 45 GEO. J. INT'L L. 971 (2014) (pointing out the uncoordinated approach to regulatory reform at the international level); Charles A.E. Goodhart et al., *Financial Regulation in General Equilibrium* (Nat'l Bureau of Econ. Research, Working Paper No. 17909, 2012), <http://www.nber.org/papers/w17909.pdf>.

21. See *supra* notes 2–4 and accompanying text. The leading book-length treatment on the Basel Committee, despite its other considerable merits, only mentions the IMF in passing a handful of times. TARULLO, *supra* note 2, at 2, 4, 38, 46, 98, 205–06, 207 n.13.

importance. At the same time, a laundry list of seemingly profound contrasts is rendered superficial once the banking-sovereign nexus is taken into account.

A. Historical Development

The IMF and the Basel Committee are products of different eras in the history of international finance. The origins of the IMF date back to a diplomatic meeting in July of 1944 among the victorious World War II allies in Bretton Woods, New Hampshire, which resulted in an elaborate set of agreements that were intended to govern the post-war global economy (“the Bretton Woods System”).²² The Bretton Woods System envisioned a regime of global monetary coordination in which international currencies were pegged to the U.S. dollar, and the dollar itself was kept convertible to gold at a set price of thirty-five dollars per ounce.²³ In this scheme, the IMF was given the central role of ensuring that fluctuations in exchange rates were not so broad as to destabilize the fixed-currency system.²⁴ It did so by lending to countries that were experiencing temporary balance-of-payments problems.²⁵

The Basel Committee was formed in 1974, thirty years after the launch of the Bretton Woods System and at a time when the IMF-anchored currency regime was being disassembled.²⁶ The Basel Committee was established by the so-called “Group of Ten”—consisting of finance ministers and central bank governors from the United States and other advanced economies—and was meant to serve as an international forum for pooling domestic financial regulators’ expertise on bank supervision.²⁷ The impetus for its creation was the failure of two banks in 1974: Germany’s Bankhaus Herstatt and Philadelphia-based Franklin National Bank.²⁸ The disorderly collapse of those firms had surprisingly broad ripple effects across global financial markets, which drew attention to stability issues associated with the new breed of large, internationally interconnected financial institutions that began to appear around that

22. KINDLEBERGER & ALIBER, *supra* note 7, at 245, 263–64.

23. *See id.* at 2.

24. *See id.* at 245, 263–64.

25. *See id.*

26. TARULLO, *supra* note 2, at 2–3, 32–33.

27. *Id.*

28. *Id.*

time.²⁹

B. Legal Structure

The IMF and the Basel Committee also have little in common in terms of their legal form. As a matter of public international law, the IMF is an “international organization,” a term of art which denotes entities that are established via treaty and possess a legal personhood that allows for standing before international tribunals.³⁰ As an international organization, the IMF’s membership consists of Nation-States and it is capable of issuing rules with the force of binding international law.³¹ The Basel Committee belongs to a different category of international bodies known as transgovernmental networks.³² Transgovernmental networks are created pursuant to informal agreements, not treaties, and their members are the domestic banking regulators from advanced economies.³³ Unlike international organizations, networks can only issue non-binding “soft law” documents, not “hard” international law.³⁴

A byproduct of the institutions’ disparate legal forms is that their internal governance processes vary widely. The IMF operates pursuant to a two-tiered decision-making apparatus, consisting of a Board of Governors that includes all member countries, and a twenty-four-member Executive Board chaired by the IMF Managing Director.³⁵ Voting power in the Board of Governors and inclusion on the Executive Board are determined by a system of quotas, which are calculated using a weighted basket of economic indicators, such as GDP.³⁶ The internal machinery of the Basel Committee is much simpler. It has a flat organizational structure that lacks any decision-making hierarchy and operates without formal voting procedures,

29. *Id.*

30. LORI FISLER DAMROSCH & SEAN D. MURPHY, *INTERNATIONAL LAW: CASES AND MATERIALS* 388–402 (6th ed. 2014).

31. *See id.*; *see also* Articles of Agreement of the IMF, 60 Stat. 1401, 2 U.N.T.S. 39.

32. *See generally* Pierre-Hugues Verdier, *Transnational Regulatory Networks and Their Limits*, 34 *YALE J. INT’L L.* 113 (2009); Zaring, *supra* note 2.

33. Verdier, *supra* note 32; Zaring, *supra* note 2.

34. Verdier, *supra* note 32, at 167–70; Zaring, *supra* note 2, at 288–89, 303–04.

35. Barry Eichengreen & Ngaire Woods, *The IMF’s Unmet Challenges*, *J. ECON. PERSP.*, Winter 2016, at 29, 47–48. The IMF’s Managing Director has always been European, and its First Deputy Managing Director has always been American. *Id.*

36. *Id.*

which means that it proceeds based on consensus.³⁷ As a consequence, each member of the Basel Committee effectively wields the veto power that the United States alone enjoys at the IMF.³⁸

The different legal structures also correspond to a contrast in political pedigrees. The IMF was molded by negotiations at a post-war summit and, like many international organizations, is a creature of international high diplomacy. Meanwhile, the Basel Committee is the quintessential transgovernmental network—a technocratic bureaucracy with a narrow subject-matter expertise, rather than a platform for the grand bargains of world politics.³⁹ When the financial regulation literature discusses the IMF and Basel Committee in conjunction, these contrasts in legal form generally dominate the analysis.⁴⁰

C. Scope of Regulatory Reach

Despite a broad divergence in the nominal “jurisdiction” of the IMF and Basel Committee, a closer look reveals a circuitous process in which their spheres of influence have gradually converged. From a technical *de jure* perspective, the regulatory domain of the IMF is much broader than that of the Basel Committee. The IMF has boasted a nearly universal membership since its founding and currently includes 189 countries.⁴¹ The Basel Committee, on the other hand, began as a relatively exclusive club of regulators from twelve developed economies.⁴² The size of its official membership expanded only modestly thereafter, and now stands at twenty-six States.⁴³

37. Zaring, *supra* note 2, at 287–90.

38. Eichengreen & Woods, *supra* note 35, at 47.

39. See Pan, *supra* note 13, at 255 (“[T]ransnational governmental networks serve as aggregators of information and clearinghouses for the sharing of technical expertise”); Zaring, *supra* note 2, at 317 (“[Transgovernmental networks] are task-specific international organizations of financial bureaucrats. They engage in the sort of technical rulemaking in which politics are theoretically downplayed and expertise is valued.”).

40. See *supra* notes 2–4 and accompanying text.

41. *About the IMF*, INT’L MONETARY FUND, <http://www.imf.org/external/about.htm> (last visited June 5, 2017) (expand “Fast Facts”).

42. *History of the Basel Committee*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs/history.htm> (last updated Dec. 30, 2016).

43. *Basel Committee Membership*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs/membership.htm> (last updated Dec. 30, 2016). The original members were: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland,

The de facto regulatory authority of the two bodies has followed a more complicated pattern over time. The IMF originally concentrated on the exchange rate stability of more advanced economies. But in the three decades following the collapse of Bretton Woods, it gained a reputation for dealing exclusively with developing economies.⁴⁴ During roughly the same thirty-year period, the Basel Committee's ambit remained limited to countries with the most developed financial sectors.⁴⁵ As mentioned, it was formed as a response to the destabilizing potential of large American and European banks that was revealed during the 1970s.⁴⁶ In addition, the Basel Committee's agenda through the early 1990s is often interpreted as an attempt by the United Kingdom and United States to rein in competition from banks in Japan, which had been riding high due to the Japanese financial boom of the 1980s.⁴⁷

More recent events have led to a substantial overlap in the institutions' regulatory reach. In the wake of the Mexican and East Asian financial crises that unfolded during the 1990s, the Basel Rules began to enter the IMF's turf.⁴⁸ The policy mantra at the time was that the 1990s crises occurred because the regulatory structure in developing countries was weak, and that global financial market stability could therefore be reinstated by encouraging those countries to imitate the regulatory best practices of more advanced economies.⁴⁹ Under this view, the Basel Committee's capital requirements were considered to be the regulatory state-of-the-art and a core component of the consensus roadmap for reform.⁵⁰ As a result, many developing countries that were not members of the Basel Committee voluntarily adopted the Basel Rules to signal the

the United Kingdom, and the United States. See TARULLO, *supra* note 2, at 3. Spain joined as the thirteenth member on February 1, 2001. See *id.* at 41 n.41.

44. This view was solidified as the IMF lent heavily into the Latin American debt crisis of the 1980s, Mexico's currency crisis in 1994–95, the East Asian financial crisis of 1997–98, and to Argentina in 2001–02. Reinhart & Trebesch, *supra* note 6, at 5, 11, 19.

45. See Stavros Gadinis, *The Politics of Competition in International Financial Regulation*, 49 HARV. INT'L L.J. 447, 500–03 (2008); Thomas Oatley & Robert Nabors, *Redistributive Cooperation: Market Failure, Wealth Transfers, and the Basle Accord*, 52 INT'L ORG. 35, 44 (1998).

46. TARULLO, *supra* note 2, at 32–33.

47. See DAVID ANDREW SINGER, *REGULATING CAPITAL: SETTING STANDARDS FOR THE INTERNATIONAL FINANCIAL SYSTEM* 53–62 (2007); TARULLO, *supra* note 2, at 71–72.

48. See generally Camdessus, *supra* note 1.

49. See generally *id.*

50. See generally *id.*

increased reliability of their financial oversight.⁵¹

The global financial crisis closed the circle in de facto regulatory jurisdiction. By issuing a string of multi-billion euro loans to EU countries—namely Ireland, Iceland,⁵² Greece, and Portugal—the IMF burst the notion that its borrower-clientele excluded advanced economies.⁵³ Thus, while thought to be preoccupied with different portions of the international financial system for much of their respective histories, both the IMF’s and the Basel Committee’s regulatory energies are now directed at developing and advanced economies alike.

D. Substantive Policy Mission

As its name suggests, the primary function of the IMF is to pool member contributions into a common fund, which is then deployed through loans to governments that are experiencing periods of financial instability. Prior to the unraveling of the Bretton Woods System, that lending was narrowly targeted towards maintaining the stability of fixed-exchange rates.⁵⁴ But since the 1970s, the IMF has “increasingly [become] involved [in] lending to countries with a wider range of crises (apart from those related to foreign exchange), including banking and sovereign debt crises.”⁵⁵ As part of this evolution, the IMF has moved toward providing loans that are much larger than the relatively modest exchange-rate buffers that it issued during the Bretton Woods era.⁵⁶

The policy orientation of the Basel Committee has fluctuated

51. ANDREW WALTER, GOVERNING FINANCE: EAST ASIA’S ADOPTION OF INTERNATIONAL STANDARDS 4–5 (2008).

52. Iceland is technically a non-EU country, but was a member of the European Economic Area and subject to most EU banking regulation as of 2008. Agreement on the European Economic Area, May 2, 1992, 1801 U.N.T.S. 3; Camilla Andersen, *IMF Survey: Iceland Gets Help to Recover from Historic Crisis*, INT’L MONETARY FUND (Dec. 2, 2008), <https://www.imf.org/external/pubs/ft/survey/so/2008/int111908a.htm>.

53. See Reinhart & Trebesch, *supra* note 6, at 10–11; see also *id.* at 5 (“Since the short-lived lull in the years leading up 2007, the IMF has (once again) redefined its role, making extremely large loans (relative to the size of the national economies) to wealthy economies in Europe, with the largest of these to Greece, where debt sustainability problems have been manifest for some years now. In some sense, this most recent change brings the IMF full circle, because advanced economies had been its earliest and largest clients before the emerging market economies started to dominate its activity in the 1980s.”).

54. *Id.* at 4.

55. *Id.* at 5.

56. *Id.*

less over time. Since its inception, its central task has been to improve the safety-and-soundness of banks and related financial institutions, and its regulatory output has consisted of guidance documents that attempt to identify regulatory best practices in that area.⁵⁷ The first of these, known as the Basel “Concordat,” was released in 1975 and contains high-level core principles for regulators engaged in banking supervision.⁵⁸ Since issuing its Concordat, the Basel Committee has primarily worked on the development of three generations of bank capital rules—known as Basel I, Basel II, and Basel III (collectively, “the Basel Rules”).⁵⁹ The Basel Rules provide restrictions on the risk-profile of assets and liabilities that are held on banks’ balance sheets, with each generation containing increasingly elaborate guidelines.⁶⁰

The IMF has also served a longstanding surveillance function, as authorized under Article IV Section 3 of its Articles of Agreement.⁶¹ Under the Bretton Woods System, IMF surveillance was solely targeted toward gauging currency fluctuations that threatened fixed-exchange rate regime. More recently, “surveillance” has become an umbrella term that covers a number of IMF programs which aim to monitor developments in the international financial system. Pursuant to one of those initiatives, known as the Reports on the Observance of Standards and Codes (“ROSCs”), the IMF surveys domestic implementation of various international best practices, including the Basel Rules.⁶²

A review of the legal scholarship on international financial regulation can yield the impression that the ROSCs constitute the IMF’s defining role within the IFA, as policeman or watchdog for

57. TARULLO, *supra* note 2, at 2–3.

58. COMM. ON BANKING REGULATIONS & SUPERVISORY PRACTICES, REPORT TO THE GOVERNORS ON THE SUPERVISION OF BANKS’ FOREIGN ESTABLISHMENTS (Sept. 26, 1975), <http://www.bis.org/publ/bcbs00a.pdf>.

59. BASLE COMM. ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS (1988) [hereinafter BASEL I], <http://www.bis.org/publ/bcbs04a.pdf>; BASEL COMM. ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS: A REVISED FRAMEWORK (2006) [hereinafter BASEL II], <http://www.bis.org/publ/bcbs128.pdf>; BASEL COMM. ON BANKING SUPERVISION, BASEL III: A GLOBAL REGULATORY FRAMEWORK FOR MORE RESILIENT BANKS AND BANKING SYSTEMS (2011) [hereinafter BASEL III], <http://www.bis.org/publ/bcbs189.pdf>.

60. *See infra* Section II.B.1 (detailing the evolution of the Basel Rules).

61. Articles of Agreement of the IMF, *supra* note 31, art. 4(3).

62. The ROSCs are part of a more general review, which the IMF performs in conjunction with the World Bank, known as Financial Sector Assessment Programs (“FSAPs”). Weber & Arner, *supra* note 4, at 417–20.

compliance with the Basel Rules and similar soft law standards.⁶³ That view misses the mark for several reasons. For one, the ROSCs exist alongside a variety of other monitoring initiatives that have proliferated at the IMF.⁶⁴ Over time, IMF surveillance has “expanded to where it now encompasses virtually anything and everything with implications for [international] economic and financial stability.”⁶⁵ But as a result of monitoring everything, the IMF monitors nothing. A side-effect of the comprehensive scope of surveillance is that it has become over-stretched to the extent that it precludes meaningful scrutiny of the Basel Rules.⁶⁶

In addition to the ROSCs’ questionable rigor, their impact is further limited by the fact that they concern non-binding guidance documents. Even if an IMF review uncovers a case of non-compliance with the Basel Rules, no legal liability is triggered and there is no formal sanction or remedy available as a corrective.⁶⁷ To be sure, an adverse ROSCs determination may publicize information that leads to a non-legal, reputational cost imposed by markets. However, the IMF is far from a unique source for such information, so its particular value-added as a signal to markets in this area is unclear. For example, the ROSCs stand alongside duplicative undertakings by private sector financial analysts, such as the credit ratings agencies.⁶⁸ The same task is also performed in parallel by

63. See Brummer, *supra* note 3; Verdier, *supra* note 3.

64. Along with its ROSCs, the IMF monitors broader developments in international financial markets and publishes the results in semi-annual Global Financial Stability Reports; it also performs annual assessments of macroeconomic stability on a country-specific basis. *Factsheet: IMF Surveillance*, INT’L MONETARY FUND (Apr. 20, 2017), <http://www.imf.org/About/Factsheets/IMF-Surveillance?pdf=1>.

65. Eichengreen & Woods, *supra* note 35, at 30.

66. Daniel Tarullo’s authoritative commentary on the Basel Committee asserts that “the IMF does not pretend to conduct the kind of inquiry that would be necessary to monitor the thoroughness with which capital adequacy rules—particularly complicated ones—are implemented.” TARULLO, *supra* note 2, at 207 n.13. An in-depth study by Andrew Walter supports the same conclusion; its overall finding is that the ROSCs program tends towards a superficial box-checking exercise and has been prone to registering vast expanses of evasive “mock” compliance as genuine. WALTER, *supra* note 51.

67. Verdier, *supra* note 3, at 1468–70.

68. Economists at the IMF have noted this redundancy, but assert that the IMF’s technical expertise may grant it a comparative advantage relative to credit ratings agencies that do the same work. See Jonathan D. Ostry & Jeromin Zettelmeyer, *Strengthening IMF Crisis Prevention* 8 (IMF Working Paper No. WP/05/206, 2005), <https://www.imf.org/external/pubs/ft/wp/2005/wp05206.pdf> (“[O]ur sense is that the breadth and objectivity of the Fund’s expertise, informed as it is by an unparalleled range of cross-country experience, would result in value added of Fund ratings relative to those from the private sector.”).

other international regulatory entities, including: the World Bank, the Financial Stability Board, and, as a result of procedures recently developed in connection with Basel III, the Basel Committee itself.⁶⁹ Properly understood, surveillance in the form of the ROSCs represents a non-trivial but ultimately ancillary function at the IMF, and provides a relatively toothless form of oversight for the Basel Rules.

The more singular and consequential role that the IMF plays in the IFA is that of financial crisis manager, which it carries out by disbursing billions of dollars (or euros) in loans to sovereigns during periods of market instability. From that perspective, the IMF's core policy function departs from that of the Basel Committee on a number of levels. The subjects of IMF interventions are governments and public sector finances, while the Basel Rules are directed at private sector financial firms. The IMF deals bilaterally with sovereigns on an ad hoc, emergency basis, while the Basel Committee works programmatically over a number of years to produce regulations of general applicability.⁷⁰ Finally, the Basel Rules represent *ex ante* measures aimed at crisis prevention, while IMF loans work as an *ex post* tool for mitigating financial crises after they appear.⁷¹ Once placed in the context of the bank-sovereign nexus, however, these contrasts give way to a subtle network of interconnections that bind the institutions' regulatory projects together.

II. LAW & ECONOMICS OF THE BANKING-SOVEREIGN NEXUS

This Part explains how the banking-sovereign nexus leads to a functional interdependence between the policies of the IMF and the Basel Committee. Section II.A analyzes the impact that IMF lending has on the Basel Rules. Section II.B identifies the influence that the Basel Rules have on the IMF's interventions in sovereign financial

69. In 2012, the Basel Committee established its own peer-monitoring mechanism, the Regulatory Consistency Assessment Program. See BASEL COMM. ON BANKING SUPERVISION, REGULATORY CONSISTENCY ASSESSMENT PROGRAMME (RCAP) HANDBOOK FOR JURISDICTIONAL ASSESSMENTS (Mar. 2016), <http://www.bis.org/bcbs/publ/d361.pdf>.

70. See *infra* Section II.A.2 (detailing the IMF's lending operations); *infra* Section II.B.1 (detailing the Basel Committee's lending operations).

71. Cf. Steven L. Schwarcz, Professor, Duke Univ. Sch. Of Law, *Ex Ante Versus Ex Post Approaches to Financial Regulation* (Jan. 28, 2011), in 15 CHAP. L. REV. 257 (2011) (generalizing the *ex ante* versus *ex post* distinction among various financial regulations).

crises. Section II.C demonstrates that those policy effects work in conjunction as regulatory complements.

A. Why IMF Lending Matters for the Basel Committee

The effect that the IMF has on domestic banking regulation arises from its role as an international analogue to the lender-of-last-resort function that is played by domestic central banks.⁷² The key mechanism is that IMF lending induces international investor moral hazard—an incentive structure that encourages financial institutions to over-invest in sovereign debt. As a result, the IMF influences the asset-mix and balance sheet risks of banks that are subject to capital requirements in the Basel Rules, which are measures that seek to constrain those same balance sheet risks.

1. Bank Runs, the Lender-of-Last-Resort & Moral Hazard

How the IMF works as an international LLR is best understood by examining the relevant principles as they operate at the domestic level. The basic LLR concept has deep historical roots, and can be traced back to a pair of nineteenth century British financiers, Henry Thornton and Walter Bagehot.⁷³ They argued that during a financial crisis, where the typical channels for accessing credit have dried up, a central bank or an equivalent entity should step in to fill the lending void.⁷⁴

A more technical justification for the LLR function was later developed in connection with the theory of bank runs.⁷⁵ A starting point of the theory is that the funding and lending operations of banks result in balance sheets that are characterized by two features—

72. See generally Fischer, *supra* note 9; *id.* at 97 (“The IMF already acts in important respects as international lender of last resort, but the job can surely be done better.”).

73. See WALTER BAGEHOT, *LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET* (Hyperion Press 1979) (1873); HENRY THORNTON, *AN ENQUIRY INTO THE NATURE AND EFFECTS OF THE PAPER CREDIT OF GREAT BRITAIN* (F.A. von Hayek ed., Routledge 2017) (1802).

74. A central bank is the institution most likely to be the LLR, but that is not necessarily the case. For example, during the U.S. financial crash of 1907, the Federal Reserve did not yet exist, but J.P. Morgan is often credited with serving as an LLR. See GARY B. GORTON, *MISUNDERSTANDING FINANCIAL CRISES: WHY WE DON’T SEE THEM COMING* 142–43 (2012).

75. In the most basic case, bank liabilities are held in the form of deposit accounts that depositors, the bank’s creditors, may withdraw on demand. A “run” takes place whenever a bank’s deposits are contemporaneously withdrawn *en masse*.

liquidity transformation and maturity transformation—which make them uniquely susceptible to runs relative to other firms.⁷⁶ The inherent instability of banks contributes to the defining property in the standard model of runs, which is the possibility for multiple equilibria.⁷⁷ There is a “good” no-run equilibrium, in which depositors generally believe the bank is sound and do not demand to withdraw their savings.⁷⁸ But there is also a “bad” equilibrium, where a run occurs once the expectation that at least some depositors will panic and withdraw their funds incites a critical mass of other depositors to do so as well.⁷⁹ The key insight is that, because the expectation of withdrawals among depositors can form a self-fulfilling prophecy, it is possible for a bank to be subject to runs even when its financial position is fundamentally sound.⁸⁰ The self-fulfilling nature of bank runs opens up a role for central banks, which may be able to shift expectations from the panicked bank-run equilibrium to the stable no-run equilibrium by standing ready to provide credit sufficient to backstop the banking system as a whole.⁸¹ The presence of an LLR can therefore help prevent bank runs or mitigate their scale.

The expectation that a central bank may act as an LLR during periods of financial instability alters the risk-taking calculus of financial firms during normal economic times. That is because central bank lending serves as a form of liquidity insurance and thereby produces moral hazard—a dynamic that can be defined as “adverse effects, from the insurance company’s point of view, that

76. See FREDERIC S. MISHKIN, *THE ECONOMICS OF MONEY, BANKING, AND FINANCIAL MARKETS* 193–201 (11th ed. 2016). Banks engage in liquidity transformation by taking liquid cash deposits and turning them into illiquid loans to businesses and consumers. *Id.* This process also involves what is referred to as maturity transformation, because demand deposits are short-term (being eligible for withdrawal at any time), while the loans that they are used to fund are long-term. *Id.*

77. A model has multiple equilibria when the same underlying choice environment can lead to different decision-making outcomes. See Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983) (providing the canonical formal model of bank runs).

78. *Id.* at 408–09.

79. See *id.* The possibility for self-fulfilling bank runs does not necessarily require the assumption that investors’ panic is irrational. See Jean-Charles Rochet & Xavier Vives, *Coordination Failures and the Lender of Last Resort: Was Bagehot Right After All?*, 2 J. EUR. ECON. ASS’N 1116 (2004) (providing a model in which investors are rational Bayesians with incomplete information and run based only on firm fundamentals).

80. See generally Diamond & Dybvig, *supra* note 77.

81. KINDLEBERGER & ALIBER, *supra* note 7, at 225–29.

insurance may have on the insuree's behavior."⁸² Significantly, the moral hazard created by an LLR backstop is double-sided, in that it applies to both the bank and its creditors. Anticipating that the possibility of a default will be partially offset by the LLR backstop, a bank will increase the risk-profile of its balance sheet to chase greater returns.⁸³ At the same time, creditors are aware that, should the bank have trouble meeting its obligations, the LLR may step in to make them whole. They are therefore more willing to lend to the bank than in a scenario where the liquidity insurance of an LLR is unavailable.⁸⁴

Due to the presence of moral hazard, LLR theorists emphasize that the emergency provision of credit by a central bank should not be unlimited. A traditional set of lending criteria, known as the "Bagehot Rules," are derived from Walter Bagehot's canonical pronouncement that "in a crisis, the lender of last resort should [1] lend freely, [2] at a penalty rate, [3] on the basis of collateral that is marketable in the ordinary course of business when there is no panic."⁸⁵ The Bagehot Rules are vague and open to considerable interpretation.⁸⁶ But they collectively reflect a well-established principle, which turns on a distinction between illiquidity and insolvency. Banks that are essentially sound but experiencing a temporary shortfall in funding due to market-wide panics are experiencing a liquidity problem and should be granted access to emergency credit.⁸⁷ Bailing out banks that are merely illiquid is

82. Fischer, *supra* note 9, at 92 (citation omitted). Although most often associated with the insurance context, moral hazard applies to any contracting environment where the performance of one party takes place over time and there is an information asymmetry that prevents perfect monitoring of that performance by the counterparty. *Id.* at 92–94.

83. This can be accomplished on the asset-side by extending riskier loans or on the liability-side by adopting a more levered funding structure.

84. An increased willingness to lend can take multiple forms: more credit extended, a lower interest rate demanded, or less effort expended at monitoring the borrower's risk-taking.

85. See Fischer, *supra* note 9, at 86 (emphasis omitted); see generally BAGEHOT, *supra* note 73. A further condition is that the application of those principles should be transparently announced beforehand so as to set market expectations. See Thomas M. Humphrey, *The Classical Concept of the Lender of Last Resort*, FED. RES. BANK RICHMOND ECON. REV., Jan./Feb. 1975, at 2 (summarizing the original rules as articulated by Thornton and Bagehot).

86. Cf. Peter Conti-Brown, *Misreading Walter Bagehot: What Lombard Street Really Means for Central Banking*, NEW RAMBLER (Dec. 14, 2015), <http://newramblerreview.com/book-reviews/economics/misreading-walter-bagehot-what-lombard-street-really-means-for-central-banking> (questioning whether the Bagehot Rules can actually be discerned from the historical texts).

87. Asli Demirgüç-Kunt & Edward J. Kane, *Deposit Insurance Around the Globe:*

efficient because they would be fully operational *but for* the market failures that accompany a financial crisis. Intervention by the LLR, therefore, serves to reduce those externalities. On the other hand, if a bank has taken on so much risk that it would be unable to meet its obligations even if credit markets were functioning normally, it is facing a solvency problem and should be allowed to fail like any other mismanaged business.⁸⁸

Bank runs, LLRs, and moral hazard are foundational concepts of banking regulation that were dramatically displayed during the global financial crisis. That experience provided three further lessons that are relevant to the textbook account. First, the crisis showed that the bank run model applies generally to all institutions that experience maturity and liquidity mismatch as a result of their funding strategy, and not just to traditional deposit-taking banks.⁸⁹ Second, the Federal Reserve's execution of its LLR role illustrated the overwhelming complexity of effectively applying a coherent version of the Bagehot Rules in real time as a crisis unfolds.⁹⁰ Third, the crisis led to a recognition that the moral hazard generated by an LLR is a central problem in financial regulation, rather than a theoretical curiosity.⁹¹ The concern over too-big-to-fail banks stems from the fact that large financial institutions receive a subsidy due to the expectation of an LLR-style bailout from the Federal Reserve in future crises, and will therefore misallocate capital and water-down

Where Does It Work? J. ECON. PERSP., Spring 2002, at 175, 183 (“To end a panic efficiently, liquidity must be offered only to potentially solvent institutions. Indiscriminately issuing government guarantees and other forms of bailout support rewards bad bankers and penalizes good ones.”).

88. See Fischer, *supra* note 9, at 87; Allan H. Meltzer, *Financial Failures and Financial Policies*, in DEREGULATING FINANCIAL SERVICES: PUBLIC POLICY IN FLUX 79, 84 (George G. Kaufman & Roger C. Kormendi eds., 1986) (“Insolvent financial institutions should be sold at the market price or liquidated if there are no bids for the firm as an integral unit. The losses should be borne by owners of equity, subordinated debentures, and debt, uninsured depositors, and the deposit insurance corporations, as in any bankruptcy proceeding.”).

89. Insurance companies, investment banks, money market mutual funds, and previously obscure corners of the “shadow banking” sector, such as repo facilities and asset-backed commercial paper conduits, all succumbed to the logic of bank runs. Jonathan Macey, *It's All Shadow Banking, Actually*, 31 REV. BANKING & FIN. L. 593, 593–95 (2012).

90. The Fed's decision to prop up some institutions rather than others, most notably in the case of Lehman Brothers, has been endlessly second-guessed. See, e.g., GORTON, *supra* note 74, at 119, 147–49.

91. John Crawford, *The Moral Hazard Paradox of Financial Safety Nets*, 25 CORNELL J.L. & PUB. POL'Y 95, 101 (2015) (“Concerns over moral hazard have underlain many, if not most, of enacted reforms, proposed reforms, and general critiques of the regulatory system since the crisis.”).

their risk management accordingly.⁹² All three of these points carry over to the IMF context as well.

2. The IMF as International Lender-of-Last-Resort

The basic dynamics that govern runs on bank deposits can also apply to the public finances of governments.⁹³ Like banks, sovereigns face liquidity and maturity mismatch: a government's "assets" consist of long-term, illiquid claims on future taxpayers, while its liabilities are short-term obligations to roll over debt or meet balance-of-payments targets. As a result, global financial markets may have multiple equilibria,⁹⁴ one of which involves self-fulfilling expectations of investor panic that lead to "sudden stops" in capital flows to countries that are perceived as having precarious financial positions.⁹⁵ In addition, as with bank runs, international contagion effects are possible when investors generalize from the distressed finances of one government and withdraw capital from countries with seemingly similar macroeconomic profiles. As a consequence, the efficiencies introduced by a central bank that backstops the domestic financial sector are iterated at the global level, where there is justification for an entity that functions as an international LLR.

The IMF is frequently identified in the economics literature as the primary institution that is responsible for performing an international LLR function.⁹⁶ When the IMF intervenes in sovereign financial crises, however, it introduces the moral hazard dynamic on a global scale. As with the domestic central banking case, IMF-

92. See Prasad Krishnamurthy, *Regulating Capital*, 4 HARV. BUS. L. REV. 1, 22 (2014) ("[T]he issue of concern for SIFIs [Systemically-Important-Financial Institutions] is whether they are able to borrow at a discount because they are viewed as too big to fail."); see also Bryan Kelly et al., *Too-Systemic-to-Fail: What Option Markets Imply About Sector-Wide Government Guarantees*, 106 AM. ECON. REV. 1278 (2016); Sebastian Schich & Sofia Lindh, *Implicit Guarantees for Bank Debt: Where Do We Stand?*, 2012 OECD J. FIN. MKT. TRENDS, no. 1, 2012, at 45, 53–55.

93. See Minouche Shafik, Deputy Governor, Bank of Eng., *Fixing the Global Financial Safety Net: Lessons from Central Banking* 4 (Sept. 22, 2015), <http://www.bankofengland.co.uk/publications/Documents/speeches/2015/speech841.pdf> ("There are many ways in which sovereigns are like banks in terms of the liquidity risks they face. Cross-border capital flows can 'run'—just as deposits can 'run' for banks.")

94. See João Ayres et al., *Sovereign Default: The Role of Expectations* (Fed. Reserve Bank of Minneapolis Working Paper No. 723, 2015), <https://www.minneapolisfed.org/research/wp/wp723.pdf>.

95. See Guillermo A. Calvo, *Capital Flows and Capital-Market Crises: The Simple Economics of Sudden Stops*, 1 J. APPLIED ECON. 35 (1998).

96. See, e.g., KINDLEBERGER & ALIBER, *supra* note 7; Fischer, *supra* note 9.

induced moral hazard is double-sided, affecting both governments and the international investors who are their creditors. The presence of moral hazard means that, at the margin, governments will refrain from taking costly measures to safeguard their countries' fiscal or monetary stability if they predict that financing from the IMF may be available during periods of financial turmoil.⁹⁷ It also means that international investors are encouraged to hold more sovereign debt as assets than would otherwise be justified by an objective analysis of a government's creditworthiness because the risk of sovereign default is (in part) implicitly insured by the possibility of liquidity assistance from the IMF.⁹⁸

The IMF is aware of the moral hazard issue and seeks to mitigate its magnitude with measures taken both before and after loans are extended.⁹⁹ One of those measures is the IMF's macroeconomic surveillance programs. Macroeconomic surveillance may reduce moral hazard by providing a source of *ex ante* screening that helps to distinguish sovereigns facing temporary liquidity crises from those experiencing more intractable solvency issues. It can thereby steer lending decisions towards some international equivalent of the Bagehot Rules.¹⁰⁰

Another tool that the IMF uses to mitigate moral hazard is an *ex post* procedure, known as "conditionality," that kicks in after a loan has been extended.¹⁰¹ With conditionality, the IMF provides the borrowing government with a raft of reforms that it must implement as part of its funding package.¹⁰² Conditionality programs have at

97. See REINHART & ROGOFF, *supra* note 7, at 62 ("[T]he creation of the IMF since World War II has coincided with shorter but more frequent episodes of sovereign default. This phenomenon is quite consistent with the view that default episodes occur even more frequently than they otherwise might, because both lenders and borrowers realize that in a pinch they can always count on subsidies from the IMF . . .").

98. See Charles W. Calomiris, *The IMF's Imprudent Role as Lender of Last Resort*, 17 CATO J. 275, 286–87 (1998) (arguing that by "[i]nsulating foreign banks from loss (by ensuring that bailout packages also rescue them) [IMF lending] removes the incentive for foreign banks to avoid lending to high-risk countries. That aggravates the moral-hazard problem by promoting the flow of dollar-denominated 'hot money' during . . . financial crises . . .").

99. See International Monetary Fund [IMF], *Fund Financial Support and Moral Hazard: Analytics and Empirics* (Mar. 2, 2007).

100. See Jeanne et al., *supra* note 16, at 3 ("[I]f the IMF's purpose is to undertake crisis lending and not international transfers, it follows that it should lend only to solvent countries.").

101. *Factsheet: IMF Conditionality*, INT'L MONETARY FUND (Apr. 17, 2017), <https://www.imf.org/About/Factsheets/Sheets/2016/08/02/21/28/IMF-Conditionality>.

102. *Id.*

times been controversial, and criticized for containing overly intrusive or ideologically-charged policies that are only tangentially related to the borrower's economic recovery.¹⁰³ Putting the wisdom of specific reform provisions aside, however, conditionality is in principle no different than covenants that private creditors include in debt contracts as a way to constrain the risk-taking of borrowers.¹⁰⁴

In theory, the IMF's two-pronged approach of surveillance and conditionality could materially reduce the moral hazard problem.¹⁰⁵ Given the complexity of global markets and the scale on which the IMF must intervene, however, there are substantial issues of institutional capacity that hamper those efforts in practice.¹⁰⁶ With regard to surveillance, the IMF does not have a strong record of intervening in sovereign liquidity crises rather than solvency crises. One early data point is the IMF's disbursement of funds to Mexico in 1982.¹⁰⁷ That loan did not alleviate the underlying debt repayment issues, which persisted throughout the 1980s, a period that became known as the country's "lost decade."¹⁰⁸ Another clear misstep occurred in 1998, when the IMF extended \$11.2 billion to Russia in order to stabilize its exchange rate.¹⁰⁹ One month later, Russia devalued the ruble by thirty-four percent and defaulted on its debt.¹¹⁰

103. See generally JOSEPH E. STIGLITZ, *GLOBALIZATION AND ITS DISCONTENTS* (2002). The IMF's position is that borrower governments have entered into financial distress in part due to institutional dysfunction or macroeconomic mismanagement and that adopting reforms in those areas is an essential step towards recovering financial stability. *Factsheet: IMF Conditionality*, *supra* note 101.

104. KINDLEBERGER & ALIBER, *supra* note 7, at 269 (discussing IMF conditionality and noting that "[m]ost lenders, both domestic and international, stipulate conditions on their loans").

105. In an idealized model in which the IMF is able to perfectly actuarially price the risk of lending to governments and those governments maximize the welfare of domestic constituencies, the level of moral hazard generated by IMF lending will be optimal from a global-welfare perspective. See Jeanne & Zettelmeyer, *supra* note 10.

106. See, e.g., Axel Dreher & Roland Vaubel, *Do IMF and IBRD Cause Moral Hazard and Political Business Cycles? Evidence from Panel Data*, 15 *OPEN ECONOMIES REV.* 5 (2004); Ayşe Y. Evrensel, *Effectiveness of IMF-Supported Stabilization Programs in Developing Countries*, 21 *J. INT'L MONEY & FIN.* 565 (2002); Wasseem Mina & Jorge Martinez-Vazquez, *IMF Lending, Maturity of International Debt and Moral Hazard* (Ga. State Univ. Int'l Studies Program, Working Paper No. 03-01, 2002).

107. James M. Boughton, *From Suez to Tequila: The IMF as a Crisis Manager*, 110 *ECON. J.* 273, 285 (2000).

108. *Id.* at 284.

109. Press Release No. 98/31, IMF, IMF Approves Augmentation of Russia Extended Arrangement and Credit Under CCFF; Activates GAB (July 20, 1998), <http://www.imf.org/external/np/sec/pr/1998/pr9831.htm>.

110. Ariel Cohen & Brett D. Schaefer, *The IMF's \$22.6 Billion Failure in Russia*,

An additional example is the series of loans sent to Argentina in connection with its currency crisis of 2000–2001, which was followed by the IMF’s own evaluation that it had misjudged Argentina’s ability to repay.¹¹¹ A comprehensive review is beyond the scope of this discussion, but anecdotal evidence supports the appraisal that there have been frequent cases in which “the IMF has stretched the notion of ‘liquidity’ assistance beyond any reasonable definition.”¹¹²

Past experience also highlights the limits of conditionality. A considerable irony is that, while often decried as a bludgeon of neoliberal economic imperialism, IMF conditionality is in fact regularly flouted by borrower governments.¹¹³ The problem is one of political buy-in, as a leading study on the performance of these programs has concluded: “Policy changes will not be implemented unless they are supported by local political institutions and their leaders.”¹¹⁴ Lack of political capital is compounded by the daunting information costs of effectively monitoring how reforms are implemented. For example, a tax code can be rewritten overnight, but ensuring that it is actually enforced requires careful oversight of conditions on the ground. Reforms to the banking system raise similar issues. A final problem is that cancellation of a lending program mid-course—which could conceivably provide a powerful incentive for compliance with conditionality—is a non-starter at the IMF because it represents an admission of institutional failure.¹¹⁵ Quantitative studies provide confirmation on these points and find compliance with conditionality programs to be partial at best.¹¹⁶

(Heritage Found., Exec. Memorandum No. 548, Aug. 24, 1998), <http://www.heritage.org/report/the-imfs-226-billion-failure-russia>.

111. IMF, *Lessons from the Crisis in Argentina* 72 (Oct. 8, 2003) (“An important consideration that has to guide the Fund’s decision-making process and that was clearly underscored by the Argentine experience is that, in a situation in which the debt dynamics are clearly unsustainable, the IMF should not provide its financing. To the extent that such financing helps stave off a needed debt restructuring, it only compounds the ultimate cost of such a restructuring.”).

112. Calomiris, *supra* note 98, at 289.

113. See Allan H. Meltzer, *What’s Wrong with the IMF? What Would Be Better?*, 4 INDEP. REV. 201, 208–09 (1999) (“[The IMF] refused to learn a central lesson of its own past experience: sovereign governments cannot be compelled to implement programs that they do not favor.”).

114. *Id.* at 209; see also *id.* at 211 (“The IMF lacks adequate mechanisms for enforcing desirable change and avoiding retrograde actions.”).

115. See *id.* at 205 (“Cancellation is seen as a failure. Governments understand that the IMF is reluctant to withhold funds or cancel programs. Hence its threats lose force.”).

116. See Martin C. Steinwand & Randall W. Stone, *The International Monetary Fund:*

Thus, like surveillance, conditionality provides the IMF with a relatively limited means of reducing moral hazard.

IMF lending becomes relevant to the Basel Committee's banking regulations through international investor moral hazard. That connection is magnified by the fact that the sovereign liabilities, which are implicitly insured by the IMF, are predominantly held as assets by the large, globally-interconnected financial institutions. In other words, the same banks that are the central source of systemic risk and therefore the primary subjects of the Basel Rules. The magnitudes at issue are large in absolute terms and increasing over time. For example, according to the Bank of England's review of investments by global financial institutions, sovereign debt represented seventeen percent of all foreign assets held by banks in 2004, and that figure rose to twenty-five percent by 2014.¹¹⁷ An additional data point comes from stress tests by the European Banking Authority, which estimated that the sovereign exposure of Europe's fifty-four largest banks ranged from €1.5 to €2 trillion during the 2010–2013 period.¹¹⁸

The Eurozone crisis, especially as it has unfolded in Greece, demonstrates that the IMF's subsidy of sovereign debt held by banks is not merely a theoretical construct. Prior to the crisis, globally-active banks such as Goldman Sachs invested in Greek bonds and helped structure its debt obligations.¹¹⁹ Once it became clear that those obligations could not be met, the IMF (in concert with certain EU entities) participated in the extension of €248.2 billion to the Greek government, serially negotiated in three separate installments over the 2010–2014 period.¹²⁰ As a result, the losses that Goldman Sachs and similarly situated financial institutions would have otherwise suffered were instead borne by the IMF. Expecting *ex ante*

A Review of the Recent Evidence, 3 REV. INT'L ORGANIZATIONS 123 (2008); James R. Vreeland, *IMF Program Compliance: Aggregate Index Versus Policy Specific Research Strategies*, 1 REV. INT'L ORGANIZATIONS 359 (2006).

117. Shafik, *supra* note 93, at 10.

118. See Josef Korte & Sascha Steffen, *A 'Sovereign Subsidy'—Zero Risk Weights and Sovereign Risk Spillovers*, VOX: CEPR'S POL'Y PORTAL (Sept. 7, 2014), <http://voxeu.org/article/sovereign-subsidy-zero-risk-weights-and-sovereign-risk-spillovers>.

119. Louise Story et al., *Wall St. Helped to Mask Debt Fueling Europe's Crisis*, N.Y. TIMES (Feb. 13, 2010), <http://www.nytimes.com/2010/02/14/business/global/14debt.html> (“Greece owes the world \$300 billion, and major banks are on the hook for much of that debt.”).

120. WWF GREECE, DEBT RELIEF FOR A LIVING ECONOMY, IN GREECE 6 (Nov. 2016), http://awsassets.panda.org/downloads/debt_relief_for_a_living_economy_in_greece_final.pdf.

that an IMF bailout would be forthcoming in the worst-case scenario, the banks that invested in Greek bonds were rewarded by rationally disregarding the underlying risk such an investment entailed.

The Greece episode also highlights the difficulty that the IMF faces when attempting to minimize the moral hazard produced by its lending. In retrospect, most observers agree that the Greek government was deeply insolvent as of 2010 and that the IMF should have supervised a debt restructuring instead of extending further funding under the guise of liquidity assistance.¹²¹ However, that hindsight glosses over the fact that the IMF's surveillance of Greece's solvency was thwarted by misrepresentative accounting gimmicks perpetrated by the Greek government and abetted by Goldman Sachs.¹²² The attempt to effectively impose conditionality reforms also foundered for familiar reasons: the austerity measures recommended by the IMF and EU were met with continuous political resistance, including a national referendum that threatened to expel Greece from the Eurozone.¹²³ In addition, Greece's ability to constantly renegotiate and extend the terms of its bailout is consistent with the argument that the prospect of a lending program being cancelled by the IMF is not a credible threat.

The connection between IMF-induced moral hazard and the Basel Committee runs deeper than a general concern over risk-taking by banks, and actually operates at a very granular level. That is because, under every generation of the Basel Rules, the overall regulatory assessment of a bank's stability is structured to be a function of how the credit risk of sovereign bonds is measured. For example, the capital requirements contained in Basel I worked by sorting assets into different categories and assigning risk-weights based on each asset type.¹²⁴ Those rules carved out a specific category for sovereign bonds and provided that a risk-weight of *zero* be applied to the vast majority of those assets.¹²⁵ The Basel II and Basel III rules depart from the relatively crude asset buckets of Basel I by allowing banks to use either credit agency ratings or their own internal value-at-risk models as the basis for risk-weighting assets.¹²⁶

121. See IMF, *Greece: Ex Post Evaluation of Exceptional Access Under the 2010 Stand-By Arrangement*, Country Report No. 13/156 (June 2013).

122. Story et al., *supra* note 119.

123. Peter Spiegel & Stefan Wagstyl, *No Vote Means Isolation, Europe Warns Greeks*, FIN. TIMES (London) (June 30, 2015), <https://www.ft.com/content/a6bed852-1e42-11e5-ab0f-6bb9974f25d0>.

124. TARULLO, *supra* note 2, at 56–59.

125. BASEL I, *supra* note 59, annex 2.

126. TARULLO, *supra* note 2, at 9; BASEL II, *supra* note 59, at 12–15; BASEL III, *supra*

Yet, as applied, those guidelines tend to produce the same basic outcome: sovereign liabilities held on bank balance sheets are distinguished from other kinds of assets and are generally assessed as risk-free for purposes of calculating regulatory capital.¹²⁷ Thus, while the safety net provided by the IMF artificially reduces the credit risk of government debt from the perspective of banks, the Basel Rules specifically assess the same credit risk and treat it as nonexistent for regulatory purposes.

In summary, whether the Basel Committee properly accounts for the distortion that IMF-induced moral hazard introduces to banks' investment decisions is critical as a matter of regulatory design. My survey of the Basel Rules strongly suggests that each version of those capital requirements has failed to do so, which means that the IMF has indirectly undermined the quality of the Basel Committee's regulatory outputs. With the Eurozone crisis, the interconnection between the IMF and the Basel Committee that is forged by the banking-sovereign nexus was rendered concrete. When Goldman Sachs and other too-big-to-fail financial institutions invested in the sovereign debt of countries such as Greece, Portugal, Spain, and Italy, the prospect of IMF liquidity insurance encouraged them to disregard the underlying risks. Meanwhile, when the same financial institutions made submissions to U.S. bank supervisors regarding their compliance with regulatory capital requirements, the Basel Rules authorized those banks to embrace the fiction that their Eurozone bonds were risk-free assets. The result was that the regulatory framework provided by the IFA worked to increase the severity of the global financial crisis as it unfolded in both the United States and Europe.

B. Why the Basel Rules Matter for the IMF

The banking-sovereign nexus not only causes interventions by the IMF to affect the performance of the Basel Committee's regulations, but also means that the Basel Rules play a role in how well the IMF's crisis management efforts function. That role is established through an indirect process which can be broken down

note 59, at 12.

127. See Danièle Nouy, *Is Sovereign Risk Properly Addressed by Financial Regulation?*, 16 *BANQUE DE FR., FIN. STABILITY REV.* 95, 98 (2012) ("Basel III will undoubtedly create more robust standards but does not address as such the issue of sovereign debt since the regulatory treatment of sovereign risk in the banking book does not change and notably still allows a zero risk weight on sovereign domestic local currency debt. The status of sovereign debt as the lowest-risk asset has been maintained.").

into the following three analytical steps. First, bank capital requirements are the core regulatory measure responsible for safeguarding the stability of domestic financial sectors. Second, the Basel Rules exercise a significant influence over the structure of capital requirements around the globe. Third, banking crises are key determinants of both the incidence and severity of sovereign financial crises. Taken together, these points imply that the lending environment in which the IMF operates is in substantial part a function of how the Basel Rules are designed and implemented.

1. The Role of the Basel Committee in Banking Regulation

The basic purpose of banking regulation is to optimize the stability and efficiency of the financial system by limiting the social costs of bank failures without disproportionately restricting the flow of credit that banks provide to the real economy. To that end, the rules governing banks tend to restrict the investment and funding decisions of those institutions in a much more intrusive manner than do regulations that are applicable to most other businesses. The economic rationale behind the relatively hands-on structure of banking regulation is related to a foundational insight in corporate finance theory, known as the Modigliani & Miller (“M&M”) theorem.¹²⁸ The M&M theorem holds that, under certain idealized conditions, the mix of debt and equity that a firm uses for financing is irrelevant to its value or operational business decisions.¹²⁹ For example, if a firm takes on more leverage (relies more heavily on debt), the impact of its new financial structure is automatically offset by a change to the risk-return profile enjoyed by its shareholders and creditors. One corollary of M&M propositions is that the costs of varying a firm’s financial structure are wholly borne by its funding counterparties and therefore do not imply any market failure that would warrant regulatory intervention.¹³⁰

Financial regulation is necessary because the assumptions

128. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958); see also Merton H. Miller, *Do the M&M Propositions Apply to Banks?*, 19 J. BANKING & FIN. 483 (1995).

129. Modigliani & Miller, *supra* note 128. The limiting conditions are commonly summarized as efficient capital markets, no tax distortions, and no bankruptcy costs. Krishnamurthy, *supra* note 92, at 15.

130. Anil K. Kashyap et al., *Principles for Macroprudential Regulation*, 18 BANQUE DE FR., FIN. STABILITY REV. 173, 180 (2014) (“[I]t is well understood that the form of financing for a firm only matters when the assumptions underlying the Modigliani and Miller capital structure irrelevance propositions fail.”).

underpinning the M&M theorem do not apply to banks. Specifically, banks have the ability to adopt a more fragile financial structure than is optimal from an overall social welfare perspective for two interrelated reasons.¹³¹ First, the presence of government guarantees for bank liabilities distorts the funding decision and, contrary to the assumptions of M&M, makes it rational for banks to prefer debt to equity or to invest in riskier assets for a given level of debt.¹³² This distortion is generated by explicit guarantees in the case of deposit insurance, and also by the implicit insurance provided by a central bank that stands ready to engage in LLR bailouts. Second, the heightened risk-preference of banks carries a social cost because bank failures give rise to multiple market externalities that do not normally accompany the bankruptcies of other kinds of businesses. For one, the cost of “resolving” or liquidating a bank is unlikely to be fully internalized by shareholders and creditors because it results in the destruction of the socially useful information that is embedded in the bank’s preexisting lending relationships and going-concern value.¹³³ A further externality arises from the problem of systemic risk, meaning the potential for an individual bank’s failure to affect the stability of other banks and, as a result, reduce the efficiency of financial intermediation in general.¹³⁴

The market failures summarized above provide the basis for close regulatory supervision of the banking sector, which typically proceeds via oversight of each bank on an individual basis (so-called “micro-prudential” supervision). Traditionally, micro-prudential supervision was conducted pursuant to a holistic assessment of a bank’s overall “safety and soundness,” which looked at qualitative factors, such as competency of management, and was also tailored to account for features that were specific to the institution under review.¹³⁵ A further hallmark of traditional supervision was that bank examiners were granted broad discretion in determining

131. See Stijn Claessens, *Capital and Liquidity Requirements: A Review of the Issues and Literature*, 31 YALE J. ON REG. 735, 736 (2014).

132. See Krishnamurthy, *supra* note 92, at 22 (“The subsidies accorded to bank debt are the elephant in the room of financial regulation. . . . Deposit insurance provides the leading conceptual example.”).

133. See Edward J. Kane, *Three Paradigms for the Role of Capitalization Requirements in Insured Financial Institutions*, 19 J. BANKING & FIN. 431, 436, 444 (1995).

134. See Schwarcz, *supra* note 18.

135. See generally Eric A. Posner, *How Do Bank Regulators Determine Capital Adequacy Requirements?*, 82 U. CHI. L. REV. 1853 (2015); see also Prasad Krishnamurthy, *Rules, Standards, and Complexity in Capital Regulation*, 43 J. LEGAL STUD. S273, S273 (2014) (“Historically, the prudential regulation of banks has been anchored in discretionary standards.”).

whether a particular evaluation, regardless of its results, was grounds for taking regulatory action against a bank.¹³⁶ Since the early 1980s, the qualitative, discretionary posture of bank oversight has given way to a more rules-based approach that relies on specific quantitative benchmarks regarding the riskiness of banks' assets and liabilities.¹³⁷ In other words, capital requirements.

In their simplest form capital requirements apply to a single benchmark, known as a "leverage ratio," which focuses on the relationship between the total value of a bank's assets and its debt.¹³⁸ As previewed in the discussion of the Basel Rules above, things can also become considerably more complex. Whether reduced to a leverage ratio or captured by other metrics, however, capital requirements are the centerpiece of financial regulation because they target the fundamental market failure that applies across all banking industries. That is, the problem that the optimal level of balance sheet risk is higher from the perspective of individual banks than it is for the economy as a whole.¹³⁹ The regulatory toolkit tends to expand rather than contract over time and has come to include efforts at macro-prudential supervision, which do not focus on risks relating to particular banks and instead attempt to monitor the system as a whole.¹⁴⁰ Yet, those measures have not displaced the centrality of capital requirements. If capital requirements are designed to be sufficiently stringent, those rules acting alone can in large part ensure that banks are able to withstand the fluctuations in asset prices and investor sentiment, which inevitably occur during each business cycle.¹⁴¹

136. Krishnamurthy, *supra* note 135.

137. *Id.*

138. For example, a thirty-three-to-one (or three percent) leverage ratio means that ninety-seven percent of a bank's assets are funded via debt, rather than equity. See MICHAEL S. BARR ET AL., *FINANCIAL REGULATION: LAW AND POLICY* 259–67 (2016).

139. Cf. MATHIAS DEWATRIPONT & JEAN TIROLE, *THE PRUDENTIAL REGULATION OF BANKS* (1994) (focusing on how this incentive structure is related to monitoring problems that affect bank creditors).

140. See Behzad Gohari & Karen E. Woody, *The New Global Financial Regulatory Order: Can Macroprudential Regulation Prevent Another Global Financial Disaster?*, 40 *J. CORP. L.* 403 (2015) (assessing the limits of that approach); Miriam F. Weismann et al., *The New Macroprudential Reform Paradigm: Can it Work?*, 16 *U. PA. J. BUS. L.* 1029 (2014) (same).

141. See Alan Greenspan, *The Crisis*, *BROOKINGS PAPERS ON ECON. ACTIVITY*, Spring 2010, at 201, 244 ("If capital is adequate, then, by definition, no financial institution will default and serial contagion will be thwarted. Determining the proper level of risk-adjusted capital should be the central focus of reform going forward.") (citations omitted); Andrei Schleifer, *Comment*, *BROOKINGS PAPERS ON ECON. ACTIVITY*, Fall 2010, at 298, 303 ("As

By serving as an institutional clearinghouse for the development of modern quantitative capital requirements, the Basel Committee has wielded significant influence over banking regulation that is difficult to overstate. As central banker Andrew Haldane puts it, “[t]he foundations for today’s financial regulatory framework were laid in the 1980s. The Basel Accord of 1988 [Basel I] was a landmark.”¹⁴² Basel I and the later Basel Rules are non-binding agreements that do not impose requirements on the Basel Committee’s members or their financial institutions in the first instance.¹⁴³ However, regulators in the United States and Europe have consistently incorporated the Basel Rules into their domestic banking mandates, and many other countries have followed their lead.¹⁴⁴

The global financial crisis revealed that poorly engineered capital requirements, including those formulated by the Basel Committee, can be a significant source of financial sector instability.¹⁴⁵ One example involves the failure of the British bank Northern Rock on September 14, 2007, which is commonly interpreted as an important bellwether of the market turmoil that followed in 2008.¹⁴⁶ When Northern Rock’s executives were asked to explain why the bank had paid an equity-diluting dividend in the quarter immediately before its collapse, they testified that the decision was motivated by pressure to use the bank’s substantial

long as market participants . . . see profit opportunities in places where there are none, the financial system will adjust to meet their demand. One implication of this is the standard point that providing the intermediaries with bigger cushions of capital and liquidity is desirable.”).

142. Andrew G. Haldane, Exec. Dir., Bank of Eng. & Vasileios Madouros, Economist, Bank of Eng., *The Dog and the Frisbee 6* (Aug. 31, 2012), <http://www.bis.org/review/r120905a.pdf>.

143. Jeffery Atik, *EU Implementation of Basel III in the Shadow of Euro Crisis*, 33 REV. BANKING & FIN. L. 283, 293 (2013).

144. *Id.* (“The EU has quite loyally transmitted the Basel undertakings into EU law. It is little exaggeration to state that Basel has been a major determinant of trans-European banking regulation.”) (footnotes omitted); Krishnamurthy, *supra* note 135, at S285 n.12 (discussing U.S. incorporation of the Basel Rules).

145. See Jeffery Atik, *Basel II: A Post-Crisis Post-Mortem*, 19 TRANSNAT’L L. & CONTEMP. PROBS. 731 (2011).

146. See Hyun Song Shin, *Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis*, J. ECON. PERSP., Winter 2009, at 101; Luc Laeven & Fabian Valencia, *Systemic Banking Crises: A New Database 27* (IMF Working Paper No. WP/08/224, 2008), <https://www.imf.org/external/pubs/ft/wp/2008/wp08224.pdf> (“The run on Northern Rock highlighted weaknesses in the UK financial sector framework, including the maintenance of adequate capital by financial institutions . . .”).

capital *surplus* relative to the regulatory requirements specified in Basel II.¹⁴⁷ Northern Rock was not an outlier case. Both Bear Stearns and Lehman Brothers were able to report full compliance with the balance sheet strictures imposed under Basel II, essentially up to the eve of their respective failures in May and September of 2008.¹⁴⁸ These observations are anecdotal but nonetheless consistent with other analyses warning that “[t]he impact that Basel I and II had on the financial crisis cannot be understated.”¹⁴⁹ It is therefore plausible that, had the Basel Rules been designed to require that banks maintain more robust capital levels, the global financial crisis might have been less far-reaching in scale.¹⁵⁰

The global financial crisis has nonetheless spurred support for the Basel Committee to engage in further policymaking on capital requirements. Throughout 2009, the G20 countries held emergency diplomatic summits, which yielded “Communique” documents that exhorted the Basel Committee to update its global capital standards with all deliberate speed.¹⁵¹ The result was Basel III, which was finalized in 2010 but is subject to extensive implementation efforts by national regulators that are still in progress.¹⁵² Basel III contains a sprawling set of new protocols and requirements and therefore represents a substantial update to the prior Basel II rules.¹⁵³ In that

147. See TIMOTHY EDMONDS, NORTHERN ROCK: TREASURY COMMITTEE EVIDENCE SESSIONS, SN/BT/4708, at 26 (Apr. 24, 2008) (UK).

148. See generally, John F. Rosato, Note, *Down the Road to Perdition: How the Flaws of Basel II Led to the Collapse of Bear Stearns and Lehman Brothers*, 17 CONN. INS. L.J. 475 (2011); see also Letter from Christopher Cox, Chairman, U.S. Sec. & Exch. Comm’n, to Nout Wellink, Chairman, Basel Comm. on Banking Supervision (March 20, 2008), <https://www.sec.gov/news/press/2008/2008-48.htm> (“[A]t all times until its agreement to be acquired by JP Morgan Chase during the weekend, [Bear Stearns] had a capital cushion well above what is required to meet supervisory standards calculated using the Basel II standard.”).

149. VIRAL V. ACHARYA ET AL., REGULATING WALL STREET: THE DODD-FRANK ACT AND THE NEW ARCHITECTURE OF GLOBAL FINANCE 144 (2011).

150. Atik, *supra* note 145, at 733 (“The capital required by Basel II (and the prior Basel Accord) simply proved inadequate to save many important banks (and large swaths of the international banking system) from destruction during the Crisis.”) (footnotes omitted).

151. Group of Twenty, Declaration on Strengthening the Financial System—London Summit (Apr. 2, 2009), <http://www.g20.utoronto.ca/2009/2009ifi.pdf>.

152. See generally Narissa Lyngen, Recent Development, *Basel III: Dynamics of State Implementation*, 53 HARV. INT’L L.J. 519 (2012).

153. Atik, *supra* note 143, at 296–97 (“Basel III will control more aspects of the European banking regulation [than its predecessors]—and will do so more directly and with greater specificity. . . . The 2007/2008 Crisis has accelerated the growth of the Basel domain.”).

sense, Basel III also doubles down on what could be considered the Basel Committee's guiding regulatory philosophy, which is to prioritize a continuous escalation in the complexity of capital requirements from one generation of the Basel Rules to the next.¹⁵⁴ The outsized influence of the Basel Committee is such that, going forward, the performance of banking regulation will in no small part turn on whether the decision to persevere with that theoretical commitment proves sound.¹⁵⁵

2. The Role of Banks in Sovereign Financial Crises

The preceding discussion has argued that the capital requirements contained in the Basel Rules have become the lynchpin of the regulatory structure that safeguards the stability of domestic financial sectors. That proposition becomes relevant to the IMF in light of the banking-sovereign nexus because fragile banking sectors are a common underlying source of sovereign financial crises, as well as an aggravating factor that can amplify their severity. As a consequence, the underlying conditions which the IMF faces when intervening in financial markets as an international LLR will be a function of how effective the Basel Committee's capital rules are at preventing banking crises in the first place.

An emerging body of theoretical work in the economics literature models the feedback effects transmitted between private financial sectors and public finances of governments, finding that they can produce highly disruptive financial "doom loops."¹⁵⁶ These studies tend to be inspired by and tailored to the upheavals that arose in the Eurozone in connection with the global financial crisis.¹⁵⁷ However, the basic dynamic at issue, the banking-sovereign nexus and its potentially destructive effects, can be found across international financial history and is one of the more prominent stylized facts in that field.¹⁵⁸

154. Basel III retains Basel II's protocols for risk-weighting assets but also reintroduces an un-weighted leverage ratio as a parallel requirement. See BASEL III, *supra* note 59, at 61. Other prominent additions include new liquidity metrics known as the "Net Stable Funding Ratio" (for debt) and "Liquidity Coverage Ratio" (for assets). *Id.* at 8–9.

155. *Cf.* ACHARYA ET AL., *supra* note 149, at 158 (observing that the imposition of "liquidity requirements on financial institutions . . . [is] similar in spirit to the way capital requirements are imposed"); *id.* at 160 (stating that the "approach [to liquidity requirements has been] eerily similar to that of Basel I, II, and III for setting capital requirements").

156. Farhi & Tirole, *supra* note 8.

157. *Id.* (introducing the model against the backdrop of the Irish and Greek debt crises).

158. Carmen M. Reinhart & Kenneth S. Rogoff, *Banking Crises: An Equal Opportunity*

The role of banking sector instability as a leading causal factor in sovereign financial crises is clearest in the case of international financial market runs on sovereign debt. Sovereign debt crises often follow a common temporal pattern. The typical starting point is a shift in policy regime or exogenous economic shock that causes a country to experience large capital inflows. The influx in foreign capital in turn fuels a domestic credit boom, characterized by a dramatic expansion in lending and overall size of the banking sector. Then, a reversal takes place when an adverse change in economic conditions causes a “sudden stop” in capital inflows, along with an ensuing credit crunch that destabilizes the banking sector.¹⁵⁹ Because governments are typically hesitant to remain unresponsive during periods of financial chaos, various interventions follow, most of which have the common effect of transferring the private cost of the banking crisis to the public sector.¹⁶⁰ The total fiscal cost imposed by a banking crisis—in the form of immediate bailout costs¹⁶¹ as well as further costs that arise due to a decline in the real economy that follows¹⁶²—is often shocking in magnitude. As a result, governments encounter spiraling budget deficits and resort to financing those deficits with unsustainable levels of foreign borrowing. This sequence of events frequently culminates in an international debt crisis and is the reason why “[a] high incidence of global banking crises has historically been associated with a high

Menace, 37 J. BANKING & FIN. 4557, 4559 (2013) (“A high incidence of global banking crises has historically been associated with a high incidence of sovereign defaults of external debt.”) (emphasis omitted).

159. See Calvo, *supra* note 95 (discussing sudden stops); Reinhart & Rogoff, *supra* note 158, at 4562–64 (discussing the relationship between “capital flow bonanzas” and banking crises).

160. See RICHARD S. GROSSMAN, *UNSETTLED ACCOUNT: THE EVOLUTION OF BANKING IN THE INDUSTRIALIZED WORLD SINCE 1800*, at 107 (2010) (“Banking rescues of one sort or another have been a common feature of the financial landscape since the earliest banking crises.”); Patrick Honohan & Daniela Klingebiel, *The Fiscal Cost Implications of an Accommodating Approach to Banking Crises*, 27 J. BANKING & FIN. 1539, 1541 (2003) (“It is governments—and thus ultimately taxpayers—that have largely shouldered the direct costs of banking system collapses. . . . These costs have been large: In our sample of 40 episodes governments spent on average 12.8% of national GDP to clean up their financial systems.”).

161. Bailout costs include public funds that are extended to financial institutions that ultimately fail, or are otherwise set aside to cover the guarantees enjoyed by depositors of those institutions. See Honohan & Klingebiel, *supra* note 160, at 1542; see also GORTON, *supra* note 74, at 169–73 (providing estimates from major historical cases); Laeven & Valencia, *supra* note 146 (same).

162. A further significant strain on government finances stems from the reduction in tax revenue that accompanies the recessions that tend to follow behind banking crises. Reinhart & Rogoff, *supra* note 158, at 4558.

incidence of sovereign defaults on external debt.”¹⁶³

The Eurozone crisis represents a paradigmatic case of banking sector insolvency that is converted into sovereign insolvency. The most extreme case is that of Iceland. In 2008, following the collapse and subsequent nationalization of its three largest banks, the Icelandic government faced a debt-to-GDP ratio of 800%.¹⁶⁴ An IMF-led bailout arrived shortly thereafter.¹⁶⁵ Ireland provides another good example. In September of 2008, the Irish government decided to guarantee the deposits and related liabilities of Anglo Irish, the country’s biggest bank.¹⁶⁶ That announcement turned creditors of the bank into creditors of Ireland. As a result, the spreads on credit default swaps that referenced Irish sovereign bonds (an indicator of default risk) immediately shot up to nearly the exact level that had previously applied to the corporate bonds of Anglo-Irish.¹⁶⁷ As with Iceland, a banking sector bailout led the government of Ireland to quickly seek IMF funding as well.¹⁶⁸ Moreover, Ireland and Iceland are not isolated cases, and events in Greece, Portugal, and Spain followed the same general trajectory.¹⁶⁹ The Latin American debt crisis of the 1980s offers a close historical

163. REINHART & ROGOFF, *supra* note 7, at 73; *see also* Asli Demirgüç-Kunt & Enrica Detragiache, *The Determinants of Banking Crises in Developing and Developed Countries*, 45 IMF STAFF PAPERS 81 (1998) (empirical study finding that banking crises are typically the precursors of sovereign debt crises).

164. *See* TREASURY COMMITTEE, BANKING CRISIS: THE IMPACT OF THE FAILURE OF THE ICELANDIC BANKS, 2008–9, HC 402, at 10 chart 3 (UK); IMF, *Iceland: 2007 Article IV Consultation—Staff Report; and Public Information Notice on the Executive Board Discussion*, IMF Country Report No. 07/295 (Aug. 2007).

165. Andersen, *supra* note 52.

166. Acharya et al., *supra* note 8, at 52.

167. *Id.*; *see also* *Update 1—Ireland Stung by S&P Downgrade*, REUTERS, Aug. 25, 2010, <http://www.reuters.com/article/ireland-rating-idINLDE67O0D720100825>. The fiscal costs of bailing out Anglo-Irish eventually equaled 11.26% of Irish GDP. Viral Acharya et al., *A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk*, 69 J. FIN. 2689, 2690 n.1 (2014).

168. *See generally* IMF EUROPEAN DEP’T, IRELAND: LESSONS FROM ITS RECOVERY FROM THE BANK-SOVEREIGN LOOP (Jan. 19, 2015), <https://www.imf.org/external/pubs/ft/dp/2015/eur1501.pdf>.

169. *See* Ashoka Mody & Damiano Sandri, *The Eurozone Crisis: How Banks and Sovereigns Came to be Joined at the Hip* 3 (IMF Working Paper No. WP/11/269, 2011), http://www.sfes.info/IMG/pdf/IMF_Working_paper_The_Eurozone_crisis.pdf (noting that after the Bear Stearns failure, “A [European] sovereign’s [credit] spread responded increasingly to the weakness of its own financial sector. It was as if the sovereign’s implied debt burden was recalibrated as news became available about its financial sector’s likely claims on the public purse”).

parallel as well.¹⁷⁰ The “doom loop” label that finance theorists have coined to describe these episodes evokes a certain menacing complexity. But a more fitting visual metaphor may be that of a conveyor belt, which shuttles the costs of failed banking industries to the public sector in a direct and predictable fashion.

In addition to debt crises, banking sector instability can be a significant causal factor in currency crises.¹⁷¹ The regularity with which banking crises unfold in parallel with the destabilization of managed exchange rate regimes has led many currency crises to be re-defined as “twin crises.”¹⁷² Twin crises occur when a government’s need to extend credit to distressed financial institutions on favorable terms is in conflict with an equally pressing need to support the value of its currency with high domestic interest rates.¹⁷³ A fragile private financial sector tends to be the driving force in both problems, however. As a leading study notes, “[B]anking and currency crises [are] closely entwined. Most often, the *beginning* of banking-sector problems predate the balance-of-payments crisis; indeed, knowing that a banking crisis was underway helps predict a future currency crisis.”¹⁷⁴ The empirical research further indicates that currency crises which are rooted in a preceding banking crisis are also associated with more severe declines in overall economic output than those that take place in the presence of a more stable banking sector.¹⁷⁵

The 1990s financial crises in Mexico and East Asia were quintessential twin crises, where the high fiscal costs from private financial sector disarray played a central role in the collapse of currency regimes. The 1994–1995 Mexico crisis included a publicly

170. REINHART & ROGOFF, *supra* note 7, at 243 tbl.1.

171. A currency crisis is rooted in a government’s attempt to fix the exchange rate of its currency, most commonly by pegging it to the U.S. dollar, rather than allowing it to float at a value solely determined by international markets. Fixed currency regimes can become unstable when underlying economic fundamentals put pressure on the fixed exchange rate, and a run occurs when investors begin to doubt the government’s ability to intervene on a scale that is sufficient to stabilize the currency’s value in international markets. See Guillermo A. Calvo & Carmen M. Reinhart, *Fear of Floating*, 117 Q.J. ECON. 379 (2002).

172. See Graciela L. Kaminsky & Carmen M. Reinhart, *The Twin Crises: The Causes of Banking and Balance-of-Payments Problems*, 89 AM. ECON. REV. 473 (1999); see also Graciela Kaminsky et al., *Leading Indicators of Currency Crises*, 45 IMF STAFF PAPERS 1 (1998).

173. Kaminsky & Reinhart, *supra* note 172, at 473–74; see also REINHART & ROGOFF, *supra* note 7, at 270–73.

174. Kaminsky & Reinhart, *supra* note 172, at 474.

175. *Id.* at 485–86.

financed recapitalization of the banking sector that is estimated to have eventually cost an amount equivalent to 19.3% of Mexico's GDP.¹⁷⁶ In the process, the Mexican government was forced to abandon the peso's preexisting exchange rate, which had been pegged to the U.S. dollar.¹⁷⁷ The 1997–1998 Asian crises—which involved runs on currencies such as the Thai baht, Korean won, and Indonesia rupiah—were also classic twin crises. There again, the precipitating events consisted of government measures that caused the public sector to assume the liabilities of a defunct banking system.¹⁷⁸ The insolvency of the East Asian banking systems is estimated to have been even more severe than in the case of Mexico¹⁷⁹; a consensus interpretation of the corresponding currency crises (which is equally applicable to the Mexico case) is that “[a]t the roots of the meltdown of the Thai baht, Korean won, and Indonesian rupiah lay systemic banking problems.”¹⁸⁰

Once the banking-sovereign nexus is taken into account, it is apparent that the prevalence of sovereign financial crises depends on whether capital requirements are calibrated so as to provide an effective constraint on the risk-taking of individual financial institutions. The historical relationship between banking regulation and sovereign financial crisis carries important implications for how the IFA functions. Namely, it means that while the Basel Committee regulates banks and the IMF lends to governments, the Basel Rules nonetheless have a substantial impact on the IMF in its role as an international LLR.

More concretely, the influence that the Basel Rules exercise in connection with the IMF's lending operations takes two forms. The most basic consequence is that if those rules are designed (or implemented) in a way that is excessively lax, governments will be more prone to debt or currency crises and the IMF will therefore face greater demands on its lending resources. A second, less obvious result arises from the fact that banking crises not only factor into the frequency of sovereign crises, but also their severity. If deficiencies in the Basel Rules undermine the stability of certain domestic

176. Laeven & Valencia, *supra* note 146, at 43 tbl.1.

177. See generally Jeffrey Sachs et al., *The Collapse of the Mexican Peso: What Have We Learned?*, 11 *ECON. POL'Y* 13 (1996).

178. According to one study, “[r]escues were widespread during the Asian crisis that started in 1997: no domestic bank in Korea, Taiwan, Thailand, or Malaysia was allowed to fail and close.” GROSSMAN, *supra* note 160, at 84 (citation omitted).

179. See Laeven & Valencia, *supra* note 146, at 32–49 tbl.1.

180. Kaminsky & Reinhart, *supra* note 172, at 495; see also Fischer, *supra* note 9, at 97–100.

financial sectors, that underlying fragility will tend to compound the magnitude of sovereign crises that subsequently arise in those jurisdictions. In such cases, the IMF is more likely to encounter governments that are dealing with intractable solvency issues, rather than temporary liquidity problems. Under the Bagehot Rules for LLR lending (which recommend that central banks provide funding to illiquid but not insolvent banks),¹⁸¹ the IMF's extension of emergency financial aid in the former variety of sovereign crises is wasteful and unwarranted. By contrast, in a scenario where banking systems are fundamentally sound, sovereign crises will be associated with the kinds of illiquidity issues which the IMF's lending facilities are well-suited to remedy. Thus, the quality of the Basel Rules is a factor that partially determines whether a given intervention by the IMF will be efficient.

C. Complementarity of the Policy Interaction

The discussion in Sections II.A and II.B above identifies a reciprocal pair of policy interactions that flow between the Basel Committee and the IMF as a result of the banking-sovereign nexus. A further examination reveals that those two policy effects do not operate separately from one another. Instead, they interconnect in a way that causes the optimal regulatory strategy of the Basel Committee to depend on the policy posture of the IMF, and vice versa. As will be explained below, the mechanics of that interdependence imply that the IMF's and the Basel Committee's interventions function as complements that work more effectively when applied in conjunction.

1. Regulatory Substitutes Versus Regulatory Complements

The distinction between regulatory substitutes and regulatory complements derives from the use of those terms in the economic analysis of consumable goods.¹⁸² Good A and Good B are "substitutes" if they have similar uses, so that an increase in the price

181. *See supra* notes 85–88 and accompanying text.

182. Specifically, the cross-price elasticities between goods in demand and production functions. *See* WALTER NICHOLSON & CHRISTOPHER SNYDER, MICROECONOMIC THEORY: BASIC PRINCIPLES & EXTENSIONS, 159–65 (12th ed. 2017). To keep things simple, this discussion does not look at a related set of "income effects," which accompany substitution effects in determining the elasticity in demand for goods. *See id.* at 161–62; *see generally* Paul A. Samuelson, *Complementarity: An Essay on the 40th Anniversary of the Hicks-Allen Revolution in Demand Theory*, 12 J. ECON. LITERATURE 1255 (1974).

of A causes a budget-constrained decision-maker to consume less of A and more of B.¹⁸³ Goods are complements if their joint use yields some value or efficiency that is absent when they are employed in isolation.¹⁸⁴ In the case of complements, a decrease in the price of A leads to increased consumption of both A and B. The *cuba libre* cocktail provides an example of both substitutes and complements. The two ingredients are complements: cheaper rum increases the demand for both rum and coke. Particular brands of the same ingredient, on the other hand, are substitutes: a decrease in the price of Pepsi increases its demand while decreasing the demand for Coca-Cola.¹⁸⁵

A couple of minor complications to these basic concepts are also relevant. First, substitute goods can be “partial” rather than “perfect” when they serve functions that have some overlap but are not identical.¹⁸⁶ This means that a certain amount of consumption of both goods in a pair is consistent with the possibility that they are substitutes. Second, substitution effects are by definition two-sided mirror-images. If Good A becomes more expensive, a consumer will shift away from A to its substitute, Good B; if the price of Good B goes up, then she will also switch to consume more of A. Complements, on the other hand, can be one-sided. A change in price of one good in a pair of complements does not necessarily alter allocation decisions regarding the other.¹⁸⁷

In the law-and-policy context, the terminology that is applied to goods is adapted to characterize interdependent pairs of regulations.¹⁸⁸ The idea here is that the joint imposition of certain regulations can potentially render them redundant (in the case of

183. NICHOLSON & SNYDER, *supra* note 182, at 186–89.

184. *Id.*

185. *Cf.* ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 184 (6th ed. 2012) (“Some goods, called *complements*, are better consumed together, such as hot dogs and sauerkraut, and other goods, called *substitutes*, are better consumed separately, such as ice cream and sauerkraut.”).

186. For example, bicycles and cars are partial substitutes because they have common though not completely overlapping uses.

187. An example of one-sided complementary goods is ink cartridges and printers. A greater quantity of printers will increase the demand for ink cartridges, but the reverse case does not hold (or only does so to a very minimal degree).

188. *See, e.g.*, Charles D. Kolstad et al., *Ex Post Liability for Harm vs. Ex Ante Safety Regulation: Substitutes or Complements?*, 80 *AM. ECON. REV.* 888, 888 (1990) (“Economists have generally viewed *ex ante* and *ex post* policies as substitutes for correcting externalities. The usual policy recommendation has been to choose the less costly regulatory policy to administer.”).

substitutes) or more efficient (in the case of complements).¹⁸⁹ Policy tools that operate as at least partial substitutes are common in banking regulation. For example, traditional safety and soundness supervision, which relies on the holistic and discretionary review of bank examiners, can substitute for quantitative capital requirements.¹⁹⁰ The probability of bank failure is plausibly held constant if a financial institution's quantitative capital requirements are lowered but offset by the bank being made subject to a more searching, particularized examination that considers a wider range of variables. As another example, which is internal to the design of capital rules themselves, a basic leverage ratio can substitute for the more fine-grained risk-weighting of assets.¹⁹¹ Even more broadly, bank resolution mechanisms that govern bankruptcy-type procedures for liquidating financial institutions can arguably substitute for bank supervision: if adopting certain protocols means that banks can be resolved at a lower social cost, there is less of a need for prudential regulations that seek to prevent their failure in the first place.

In the financial regulation context, clear-cut examples of regulatory complements are more scarce. One widely recognized case exists, however, which involves the relationship between deposit insurance and bank supervision. Deposit insurance can protect temporarily illiquid banks from destructive runs, but at the same time it also induces moral hazard and thereby encourages the bank to take on excessive risk.¹⁹² The introduction of prudential supervision,

189. *See id.* at 888–89.

190. *See, e.g.,* Pan, *supra* note 13, at 270 (“More stringent capital adequacy requirements can be a substitute for additional supervision.”).

191. Arguments that simple, quantitative capital requirements should be used because they are the lowest-cost form of effective supervision are consistent with this analysis. *See* Krishnamurthy, *supra* note 135. As another hypothetical example, requirements that target the maturity of bank debt could be traded off against benchmarks that limit the overall quantity of debt, while keeping a bank's susceptibility to runs constant.

192. *See supra* Section II.A.1. In exchange for deposit insurance, banks in the United States are charged regular fees by the Federal Deposit Insurance Corporation (“FDIC”), which are adjusted to account for the size and quality of a particular bank's assets. *See generally* *FDIC Assessment Rates*, FED. DEPOSIT INS. CORP. (Mar. 27, 2015), <https://www.fdic.gov/deposit/insurance/assessments/proposed.html>. In theory, if a deposit insurance surcharge was perfectly priced to track the actuarial risk of bank assets, the moral hazard problem would be largely mitigated. In practice, however, the pricing system for deposit insurance is relatively crude and is not widely considered to be calibrated in a way that closely maps the underlying risks. *See* Yuk-Shee Chan et al., *Is Fairly Priced Deposit Insurance Possible?*, 47 J. FIN. 227 (1992) (discussing the difficulty of correctly pricing deposit insurance); Demirgüç-Kunt & Kane, *supra* note 87, at 189 (same); *see also* 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, 233–34 (2012); Nicholas J. Colombo,

which limits banks' risk-taking through capital requirements or other forms of oversight, serves as a complement to a preexisting deposit insurance regime because it mutes the costs of moral hazard while preserving the run-preventing benefits of liquidity insurance. As one commentator has put it, "the subsidy to banks as a result of deposit insurance and implicit guarantees is potentially large. The existence of large subsidies *strengthens* the case for capital regulation."¹⁹³ That formulation captures the logic of regulatory complements: expanding the use of deposit insurance triggers a need for capital requirements to be *more* stringent, not less. A hypothetical reduction in the scope of deposit insurance also reveals its complementarity with bank supervision. The reason is that removing deposit insurance protection for a bank exposes its depositors to greater risk and thereby encourages them to expend more effort monitoring the bank's safety and soundness. By introducing a greater role for market discipline, the removal of deposit insurance reduces the need for capital requirements because heightened oversight by private parties fills in for supervision by regulators.¹⁹⁴

2. Application to the IMF & the Basel Committee

The complementarity of deposit insurance and bank supervision provides a surprisingly close analogue to the relationship between the IMF and the Basel Committee that emerges from the banking-sovereign nexus. A first step in that analogy turns on the recognition that deposit insurance ultimately serves the same function as does a central bank in its capacity as an LLR. An LLR simply supplies an implicit form of *ex post* insurance for depositors (and other bank creditors), which is explicitly made available *ex ante* in the case of deposit insurance. Prudential supervision in the form of capital requirements is therefore a regulatory complement with respect to a central bank's emergency lending, just as it is for deposit insurance. When a central bank adopts a policy of aggressively lending into financial crises, it expands the implicit provision of *ex post* liquidity insurance for banks, and that broader safety net will induce moral hazard which drives financial institutions to take on

Note, *The Flawed Explicit Safety Net: How Federally Sponsored Deposit Insurance Contributes to Financial Crisis*, 82 *FORDHAM L. REV.* 1237, 1252–53 (2013).

193. See Krishnamurthy, *supra* note 92, at 23.

194. See Demirgüç-Kunt & Kane, *supra* note 87, at 189 (“[S]tudies indicate that deposit insurance displaces market discipline everywhere, even in advanced countries. However, in countries with a sound regulatory structure, the loss of market discipline may be more than offset by strong regulation and supervision.”).

greater risk. In the process, the central bank also triggers the need for heightened capital requirements so that the banking sector's newfound appetite for risk is effectively constrained.

Functional parallels between central bank bailouts and deposit insurance can be extrapolated beyond the domestic context to apply at the global level, where the IMF occupies the role of an international LLR. Pursuant to that role, the IMF provides emergency liquidity insurance to governments; but in doing so it also gives rise to moral hazard that affects those governments as well as the systemically significant banks that invest in their sovereign bonds. The Basel Rules impose capital requirements which restrict the investment decisions of the same too-big-to-fail banks, thereby limiting the potentially negative consequences of the moral hazard dynamic that is introduced by the IMF. Thus, the Basel Rules and IMF lending represent regulatory complements in a manner that is equivalent to the complementarity between domestic bank supervision and deposit insurance, but on an international scale.

An important aspect of the regulatory complementarity identified above is that it is double-sided, meaning that it applies to a change in the policy stance of either the IMF or the Basel Committee. One side of the relationship can be illustrated by taking an increase (or decrease) in the intensity of the IMF's policy posture as the starting point. An increase in the IMF's willingness to lend not only results in the broader provision of sovereign liquidity insurance,¹⁹⁵ but also generates greater moral hazard with respect to large financial institutions that invest in international markets. The heightened risk-taking by those banks thereby triggers the need for more stringent capital requirements, which the Basel Committee can meet by enhancing the rigor of the Basel Rules. For similar reasons, a reduction in the IMF's willingness to lend also provides a rationale for the Basel Committee to ratchet down its capital requirements.¹⁹⁶ Thus, with the IMF as first-mover, it is clear a more (or less) interventionist LLR strategy creates the need for the Basel

195. "Willingness to lend" is the relevant policy variable because variation in the intensity of the IMF's regulatory intervention is best understood as a function of its propensity to lend into a financial crisis, rather than the total volume of lending it ultimately undertakes from an *ex post* perspective. Consider the deposit insurance parallel. If the FDIC increases the dollar amount of deposits eligible for its guarantees from \$100,000 per depositor to \$250,000, it has expanded the provision of deposit insurance. That is so, regardless of how much the FDIC eventually pays out due to economic conditions that prove to be either tranquil or chaotic. Even more simply, one does not have "more" health insurance during flu season, when doctor's visits are relatively frequent; it is the scope of coverage that matters.

196. See *supra* note 194 and accompanying text.

Committee to formulate more (or less) restrictive Basel Rules.

The converse scenario, which proceeds from a modification to the policy stance of the Basel Committee, is slightly less intuitive but yields the same result. A revision to the Basel Rules that makes their capital requirements less restrictive will tend to reduce the stability of private financial sectors. As shown above, preexisting banking sector fragility is associated with sovereign crises that impose more severe economic costs and therefore are more likely to involve governments that face deep insolvency problems.¹⁹⁷ Weaker Basel Rules therefore imply a less interventionist role for the IMF if it is to conform to the Bagehot Rules for LLR lending. Conditional on a sovereign's request for a bailout, the IMF must be more discriminating in its willingness to lend in order to avoid extending credit to insolvent borrowers with limited ability to repay. On the other hand, an increase in the stringency of the Basel Rules allows the IMF to lend more aggressively. That is because, given that a sovereign borrower has a fundamentally sound banking system, it is more likely to be experiencing temporary liquidity shortfalls that are due to a more generalized panic in international markets, and will therefore be in a better position to efficiently leverage the IMF safety net.¹⁹⁸ In other words, the quality of the Basel Rules is positively correlated with the IMF encountering "eligible" borrowers, and as a result has the same association with the IMF's optimal willingness to lend.

To summarize, this section has employed a law-and-economics approach to examine the mechanics of the banking-sovereign nexus and explain how it affects the regulatory roles of the Basel Committee and the IMF. It finds that the policies pursued by those institutions interact in a number of ways that have been underappreciated but are all relevant to the management of international financial stability. A further conclusion is that their interventions represent regulatory complements, which are more effective when imposed in conjunction than when applied in isolation.

III. A TWO-PART POLICY PROPOSAL

Given the limited scholarly attention that has been paid to the various interconnections between the IMF and the Basel Committee, the analysis above provides a broad basis for rethinking policy at

197. *See supra* Section II.B.2.

198. *See supra* Section II.B.2.

both institutions and in the IFA more generally. The most direct implication arises from the fact that IMF lending and the Basel Rules function as regulatory complements. The upshot of the relationship between those regulations is that an adjustment to the intensity of one policy should, at the margin, be accompanied by a modification that shifts the other in the same direction.¹⁹⁹

This section presents a two-part proposal for reforming policy at the IMF and the Basel Committee, which builds upon that basic prescriptive point. First, as part of refining Basel III (or formulating future generations of bank capital rules), the Basel Committee should increase the risk-weighting of sovereign bonds that are held by banks and are therefore indirectly insured by IMF lending. Second, the IMF should revise its lending criteria by adopting a form of *ex ante* conditionality. Specifically, if it can be established that the domestic regulators of an IMF member are imposing capital requirements that adhere to the heightened version of the Basel Rules, that country should pre-qualify for access to IMF credit facilities. This proposal would leverage the complementarity between the two institutions because it combines an expansion of the IMF's willingness to lend with an increase in the stringency of the Basel Rules. While these two reforms could conceivably be pursued in isolation, taking a concerted approach would have some obvious advantages. Fortunately, the IFA provides a ready-made institutional platform that is a natural venue for that task: the Financial Stability Board, a transgovernmental network responsible for coordinating the agendas of other issue-specific finance networks, which has previously included the IMF in its efforts.²⁰⁰

Section III.A provides further detail on the Basel Committee prong of the proposal, while Section III.B deals with the IMF prong. The first portion of each discussion explains how the reforms that have been suggested incorporate relevant lessons from the recent economics literature on financial regulation. The second portion

199. The caveat that policy adjustments should take place at the margin means that the complementarity between IMF lending and the Basel Rules becomes most relevant when the intensity of those policies is already set at a level that is roughly efficient. For example, in a hypothetical scenario where the socially-optimal leverage ratio is twenty percent but the Basel Rules require a ratio of ninety-nine percent, shifting that requirement down to ninety percent leaves capital rules so far above their efficient level that a corresponding policy response by the IMF is not necessarily warranted.

200. For more discussion on the Financial Stability Board, see Douglas W. Arner & Michael W. Taylor, *The Global Financial Crisis and the Financial Stability Board: Hardening the Soft Law of International Financial Regulation?*, 32 UNIV. N.S.W. L.J. 488 (2009); Stavros Gadinis, *The Financial Stability Board: The New Politics of International Financial Regulation*, 48 TEX. INT'L L.J. 157 (2013).

identifies political realities—also known in the jargon as problems of “political economy”—that stand in the way of alternative reform measures that may otherwise seem attractive. For both Sections, the primary goal is to highlight the considerations that should be central to any analysis of policy reforms at the IMF and the Basel Committee that relate to the banking-sovereign nexus.

A. Reforming the Basel Rules

1. Policy Analysis

The main point of consensus that has emerged in the policy debate which has followed the global financial crisis is that the previous level of regulatory capital requirements was set too low.²⁰¹ Two of the leading advocates for higher capital requirements, economists Anat Admati and Martin Hellwig, make their case by flipping the M&M theorem on its head, from description to prescription.²⁰² Admati and Hellwig argue that, because the M&M propositions entail that varying a corporation’s financial structure imposes neither private nor social costs (in the absence of distortions from government subsidies to debt), rules that require banks to fund their operations with less debt and more equity present a rare regulatory free lunch: more stability at no cost to efficiency.²⁰³ As a result, they recommend raising capital requirements radically higher, from their current levels in Basel III—three percent for an unweighted leverage ratio and eight percent on a risk-weighted basis—up to thirty percent.²⁰⁴

It is likely that Admati and Hellwig understate the difficulties raised by imposing such a dramatic change in bank capital rules. One problem is that, in order to make the transition to higher capital requirements, firms will incur costs as part of the process of issuing

201. Cochrane, *supra* note 15, at S96 (“In the Dodd–Frank Act, higher capital requirements are a small element in a sea of regulation. But in the subsequent policy discussion [over how to effectively reform the financial system], simple and high capital requirements have come to the fore as probably the best idea that has a realistic chance of success.”).

202. See generally ADMATI & HELLWIG, *supra* note 15; Anat R. Admati et al., *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Socially Expensive* (Stanford Graduate Sch. of Bus., Working Paper No. 2065, 2013), <https://www.gsb.stanford.edu/faculty-research/working-papers/fallacies-irrelevant-facts-myths-discussion-capital-regulation-why>.

203. ADMATI & HELLWIG, *supra* note 15, at 109–14.

204. See Admati et al., *supra* note 202, at 55; see also BASEL III, *supra* note 59.

more equity. Another problem is that, even when the transition period is complete, capital requirements at the thirty percent level would in fact permanently reduce the efficiency of financial intermediation by hampering banks' ability to meet the demand for liquid assets.²⁰⁵ Nevertheless, these concerns only apply to very aggressive increases in capital requirements and do not undermine the general consensus that the capital levels required in Basel III err on the conservative side.

In keeping with that consensus, one possible option would be an across-the-board increase to the stringency of the Basel Rules. This could be accomplished in a number of ways, for example, by applying an upward adjustment to the three percent leverage ratio.²⁰⁶ However, the specific problem of investor moral hazard produced by the IMF would be mitigated most effectively by focusing on the treatment of sovereign liabilities held by banks as assets. An approach that targets sovereign bonds is especially compelling in the current regulatory context because, rather than applying special scrutiny to those assets, the rules in Basel III instead provide them with several forms of preferential treatment.

One blatant preference that sovereign bonds enjoy is an explicit exemption from Basel III's "large exposure" rules, which otherwise set limits on the total volume of any particular asset that may be held on a bank's balance sheet.²⁰⁷ In addition, the risk-weighting procedures of both Basel II and III are unjustifiably lax when it comes to sovereign bonds. Under those rules, banks are allowed to report levels of risk-weight capital based on either a Standardized Approach ("SA") or Internal Ratings-Based Approach ("IRBA").²⁰⁸ These reporting requirements have been structured in

205. See Samuel G. Hanson et al., *A Macprudential Approach to Financial Regulation*, J. ECON. PERSP., Winter 2011, at 3, 17–23 (2011) (arguing that the long-run "steady-state" costs of increased capital requirements are positive, although relatively small); Kashyap et al., *supra* note 130, at 175 ("[T]he arrangement [advocated by Admati & Hellwig] supposes that liquidity provision is not a core function of banks and that precluding them from providing liquidity is costless.").

206. On the other hand, the consensus in favor of higher capital requirements does rule out one possible joint change to the Basel Committee's and IMF's policy—which would pair a *decrease* in the stringency of the Basel Rules with a more limited liquidity insurance from the IMF. That reform would be unwise because it conflicts with the premise that regulatory complementarities should only guide policymaking at the margin. See *supra* note 199.

207. BASEL III, *supra* note 59, at 7; see also Jochen Andritzky et al., *A Proposal for Ending the Privileges for Sovereign Exposures in Banking Regulation*, VOX: CEPR'S POL'Y PORTAL (Mar. 4, 2016), <http://voxeu.org/article/ending-privileges-sovereign-exposures-banking-regulation>.

208. Opting for SA means that banks use the ratings that are assigned to sovereign

such a manner that banks are generally able to achieve a risk-weight of zero for most sovereign bonds under either approach.²⁰⁹ Compounding the liberality of the SA and IRBA procedures is a separate rule in Basel III that allows banks to apply a zero risk-weight to sovereign bonds that have been issued by their own governments, regardless of how creditworthy those governments may be.²¹⁰ This provision generates a “home bias” that is significant in itself, but its import is drastically inflated by EU regulations which interpret the rule to apply on a continent-wide basis.²¹¹ In other words, the sovereign debt issued by any one EU country can be accounted for as risk-free national debt by banks operating in all other EU member States. Therefore, under the current Basel III regime, Greek bonds are treated as risk-free for purposes of regulatory capital requirements, whether they are held by Greek or Spanish banks. That is a questionable outcome on multiple levels.

The Basel III exemption that allows banks to carry unlimited exposures to sovereign bonds likely does not have a legitimate economic justification and should be removed. A more fundamental problem of regulatory design, however, is not the volumes in which those assets may be held, but rather how the balance sheet risks they create are evaluated.²¹² The ability for banks to treat all or nearly all sovereign debt as risk-free—a practice that has been enabled across all three generations of the Basel Rules—simply lacks plausibility under an objective assessment of the credit risks involved.

bonds by third-party credit agencies (S&P, Moody’s, and Fitch). TARULLO, *supra* note 2, at 9; BASEL II, *supra* note 59, at 12–15; BASEL III, *supra* note 59, at 12. Under the IRBA procedure, banks apply risk-weights to assets based on their own in-house analytics. TARULLO, *supra* note 2, at 9. After Dodd-Frank, banks operating in the United States are required to exclusively employ IRBA. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 939A, 124 Stat. 1376, 1887 (2010) (codified as amended in scattered sections of 7, 12, 15, 22 U.S.C.).

209. Nouy, *supra* note 127, at 98.

210. *Id.*

211. Regulation 575/2013, of the European Parliament and of the Council of 26 June 2013 on Prudential Requirements for Credit Institutions and Investment Firms and Amending Regulation 648/2012, art. 114(4), 2013 O.J. (L 176) 1, 76 (EU) (“Exposures to Member States’ central governments, and central banks denominated and funded in the domestic currency of that central government and central bank shall be assigned a risk weight of 0%.”).

212. Cf. BIS Monetary & Econ. Dep’t, *Low Rates Spur Credit Markets as Banks Lose Ground*, BIS Q. REV., Dec. 2013, at 1, 11 (“[A]ppplied sovereign risk weights vary considerably for large international banks, including global systemically important ones. In fact, the variation in sovereign risk weights is an important source of the variability in risk-weighted assets across banks.”).

Accordingly, the Basel Rules should be revised to incorporate a risk-weighting procedure that is no longer relatively accommodative towards bank assets when they take the form of government bonds or similar sovereign liabilities.²¹³ Importantly, more stringent risk-weights should be calibrated so that they reflect the full costs that a bank would bear in the event of a sovereign default, assuming a scenario in which neither the IMF (nor any other entity) eventually steps in to provide the defaulting government with a bailout.²¹⁴ Otherwise, those Rules will continue to neglect the underlying problem of investor moral hazard that is built into the structure of the international financial architecture through the IMF.

Along with improving the Basel Rules, the proposal to increase the risk-weights of sovereign bonds would function as a complement to the IMF's lending practices and serve as a basis for potentially expanding the safety net. For one, if the regulatory cost of holding large volumes of such assets is sufficiently increased, then the distortion to banks' funding decisions could be eliminated, and the negative effects of moral hazard might be dampened. The costliest byproduct of IMF lending would thereby disappear, and its LLR interventions would become more efficient.

An increase in the stringency of the Basel Rules would also make domestic banking systems more stable and thereby enable the IMF to become more active as an international LLR. As mentioned in the complementarity analysis, the presence of systemic banking fragility is associated with sovereign crises that are more severe and more likely to represent intractable solvency problems for which IMF lending is ill-suited.²¹⁵ Stronger Basel Rules should reduce the incidence of the kind of widespread banking industry collapses that often transmit crippling costs to the public sector. When the banking sector is stable, governments that are experiencing financial crises are more likely to be facing a temporary illiquidity problem. Therefore, all else being equal, the IMF has a sounder justification for extending emergency liquidity assistance to countries that have implemented

213. Although Basel III was technically ratified by Basel Committee members in 2010, its terms are subject to a prolonged implementation process that will not be complete until 2019, and there is therefore an opportunity to continue to refine their requirements on a rolling basis. See Lyngen, *supra* note 152, at 529.

214. Both SA and IRBA use a methodology that calculates asset risk based on multiple variables, the most important of which are "probability of default" and "loss given default" ("LGD"). TARULLO, *supra* note 2, at 178–79. A common practice under either approach has been to under-measure the LGD factor by incorporating the possibility of an LLR bailout eliminating any loss that would be forthcoming in the event of default. See ADMATI & HELLWIG, *supra* note 15, at 9 & 235 nn.31–32.

215. See *supra* Section II.B.2.

the more robust version of the Basel Rules outlined here.

2. Political Economy Considerations

One objection to the arguments above is that, although sound in theory, they are impractical because they neglect political economy constraints faced by the Basel Committee. Primary among these constraints is the nature of international cooperation itself as it plays out in the area of cross-border harmonization of capital requirements. It has often been observed that the harmonization of bank capital regulations is not incentive-compatible because it resembles what is known in game theory as a multilateral prisoners' dilemma.²¹⁶ In other words, each country is better off if it shirks its obligations under a capital adequacy agreement by loosely imposing requirements on its own domestic banks, whether or not its counterparts apply the agreement in a stricter, more faithful manner. Under this logic, countries will never be able to commit to strict capital requirements in the first place, and the Basel Rules cannot in practice be substantially raised to the levels where they theoretically belong.

The more pessimistic game-theoretic analyses likely applied in full to both Basel I and Basel II. Those agreements were completed against a backdrop of heightened concerns over international competitive balance and relatively limited attention to containing global systemic risks.²¹⁷ However, international agreements that present repeated prisoners' dilemmas can produce cooperative as well as non-cooperative outcomes.²¹⁸ The political environment after the financial crisis has shifted regulatory sentiment in a direction that is conducive to the former. As perhaps the strongest example, the United States has taken the position that Basel III provides a regulatory "floor, not a ceiling."²¹⁹ That basic

216. See TARULLO, *supra* note 2, at 53, 200 (noting that "race to the bottom" concerns animated the Basel Committee's capital adequacy agenda); Atik, *supra* note 145, at 737; Ethan B. Kapstein, *Resolving the Regulator's Dilemma: International Coordination of Banking Regulations*, 43 INT'L ORG. 323, 324 (1989).

217. The competitive balance priority was often expressed as the goal of ensuring a "level playing field" for internationally active banks in Basel Committee member-countries. See, e.g., TARULLO, *supra* note 2, at 135.

218. See ERIC A. POSNER & ALAN O. SYKES, *ECONOMIC FOUNDATIONS OF INTERNATIONAL LAW* 27–30 (2013); Paul G. Mahoney & Chris William Sanchirico, *Norms, Repeated Games, and the Role of Law*, 91 CALIF. L. REV. 1281 (2003).

219. See *Fed Chairman Bernanke: Basel III Rules "Floor, Not Ceiling"*, OTC MKT. NEWS (July 23, 2013), <https://otcmarket.news/fed-chairman-bernanke-basel-iii-rules-floor->

philosophy is manifest in the Dodd-Frank Act, which reserves discretion for the U.S. regulators to impose upward departures from Basel III. The same approach has been affirmed by banking regulators outside the United States as well.²²⁰ Thus, rather than racing to water-down the Basel strictures as certain versions of the prisoners' dilemma analysis might suggest, national regulators have begun to use Basel III as a baseline, with additional regulatory safeguards being imposed on a country-specific basis.²²¹

A further objection would contend that governments will be particularly concerned with removing rules that provide preferential treatment for sovereign bonds because those preferences enhance *their* ability to borrow.²²² That is indeed a significant barrier to progress in this area, but its magnitude should not be overstated. In fact, both national and international financial regulators—namely the EU and the Bank for International Settlements—have very recently gestured at reconsidering the treatment of sovereign liabilities under Basel III.²²³ Whether these nascent discussions will be half-hearted or constitute a concrete step in the right direction remains to be seen. Yet, in an overall assessment, there appears to be both a sound theoretical basis as well as some political room for raising the risk-weights that the Basel Rules assign to sovereign liabilities.

B. Rethinking IMF Lending Criteria

1. Policy Analysis

The scale of the IMF's interventions in the Mexican and East Asian financial crises of the 1990s were unprecedented for their time. The fallout included a flurry of debate internal to the IMF that was concerned with better defining the terms and conditions under which it would extend such "exceptional access" to its credit facilities in

not-ceiling.aspx.

220. See generally Michele Fratianni & John C. Pattison, *Basel III in Reality*, 30 J. ECON. INTEGRATION 1 (2015).

221. See *id.* at 15–19.

222. See Jens Weidmann, *Stop Encouraging Banks to Buy Government Debt*, FIN. TIMES (London) (Sept. 30, 2013), <https://www.ft.com/content/81a505a4-278c-11e3-8feb-00144feab7de> (“[B]anks as well as governments are afraid of rising funding costs as a result of ending the regulatory privileges afforded to sovereigns.”).

223. See BANK FOR INT'L SETTLEMENTS, 85TH ANNUAL REPORT: 1 APRIL 2014–31 MARCH 2015, at 113 (2015); EUROPEAN SYSTEMIC RISK BD., ESRB REPORT ON THE REGULATORY TREATMENT OF SOVEREIGN EXPOSURES (Mar. 2015).

future cases.²²⁴ From this discussion emerged a four-point articulation of the IMF's lending criteria, formalized in 2002 ("the 2002 Criteria").²²⁵ The 2002 Criteria collectively aimed at ensuring that recipients of financing were only those countries that faced temporary liquidity issues and would be in a position to quickly repay the IMF loans once market conditions stabilized.²²⁶ Whether a particular IMF member country that had entered into financial distress fell under those criteria was to be determined by a Debt Sustainability Assessment ("DSA") performed by the IMF upon the member's request for exceptional access to funding.²²⁷ The 2002 Criteria remained largely in place for several subsequent years without controversy, albeit subject to modifications in 2009 that tweaked the language to accommodate technical considerations, modestly broadening their scope.²²⁸

If applied rigorously, consistently, and transparently, the lending criteria adopted by the IMF represent an unobjectionable version of the Bagehot Rules that is reasonably tailored to the international context. The current framework nonetheless suffers from one pervasive defect: by definition, it operates *ex post*, once a government has already entered into financial crisis and formally

224. "Exceptional access" to IMF funding stands in contrast to "normal" access, which is more limited, and is set as a function of an IMF members' annual quota contribution. See Schadler, *supra* note 17, at 5 & n.1.

225. See IMF, *Access Policy in Capital Account Crises* (July 29, 2002) [hereinafter IMF Access Policy], <https://www.imf.org/external/np/tre/access/2003/pdf/072902.pdf>; see also IMF, *Communiqué of the International Monetary and Financial Committee of the Board of Governors of the International Monetary Fund* (Sept. 24, 2000), <http://www.imf.org/external/np/cm/2000/092400.htm> (a forerunner of the 2002 criteria, known as the "Prague Framework").

226. They are:

1. The [IMF] member is experiencing exceptional pressures on the capital pressures that cannot be met within the Fund's normal access limits;
2. A rigorous and systematic analysis indicates that there is a high probability that debt will remain sustainable;
3. The member has good prospects of regaining access to private capital markets within the time Fund resources would be outstanding, so that the Fund's financing would provide a bridge;
4. The policy program of the member country provides a reasonably strong prospect of success.

Schadler, *supra* note 17, at 6–7 (footnote omitted).

227. *Id.* at 10–11 & 10 n.17. If a DSA concluded that a potential borrower had incurred financial obligations that were not sustainable, the IMF could still play a role by facilitating a restructuring of the government's debt, determining "haircuts" or bail-ins by private creditors, and so on. *Id.* at 10.

228. See *id.* annex 2 (providing the modified 2009 language).

approached the IMF with a request for funding. This feature raises a classic dilemma of LLR theory, conventionally reduced to the term “stigma.” Stigma refers to the fact that “[i]n a domestic setting, banks often shy away from approaching a central bank’s discount window for fear that temporary illiquidity will be mistaken for insolvency by fellow market participants.”²²⁹ Against the backdrop of the Bagehot Rules, stigma represents a destructive dynamic because it means that precisely those banks that should receive support from the LLR will avoid doing so, while institutions that are essentially bankrupt will enthusiastically seek out funding.

The presence of stigma applies to the IMF as well and impedes its ability to apply its lending criteria effectively because it implies that potential borrower countries are systematically incentivized to misrepresent the degree to which their financial situation satisfies those conditions.²³⁰ The most promising avenue for combating that dynamic is for the IMF to adopt a policy of “pre-conditionality” by shifting its lending criteria forward in time so that they apply *ex ante*, before a sovereign financial crisis appears.²³¹ In practice, this would mean that countries could be subject to a regular IMF review so that they prequalify for access to certain IMF lending facilities without having to undergo any DSA-type process in later periods, should they seek funding. Adopting a program of pre-conditionality would thereby mute the stigma effect because governments that seek access to IMF credit on a confidential basis during periods of stability do not produce negative signals to markets that arise when the same request is publicly made under crisis conditions.

The general idea of pre-conditionality has been aired in various pockets of the economics commentary and was even briefly explored through an IMF project known as the Contingent Credit

229. Reinhart & Trebesch, *supra* note 6, at 23.

230. The IMF itself has acknowledged that it shares the same stigma problem that afflicts central banks and that its policy must be shaped against that backdrop. IMF, *Review of Flexible Credit Line, the Precautionary and Liquidity Line, and the Rapid Financing Instrument* 4 (Jan. 2014), <http://www.imf.org/external/np/pp/eng/2014/012714.pdf> (stating that there is a “stigma associated with using Fund resources”).

231. See Shafik, *supra* note 93, at 8 (“[T]here is no system of pre-qualification for the IMF’s precautionary liquidity facilities, at the margin discouraging sovereigns from relying on the IMF as a form of insurance. One potential means of giving countries greater incentives to rely less on self-insurance could be to offer pre-qualification on the basis of strong economic fundamentals and policy track records as part of the Article IV process of surveillance, on a confidential basis.”); see also Jeanne et al., *supra* note 16 (proposing this approach and referring to it as a form of “*ex ante* conditionality”).

Line, which lasted from 1999 to 2003.²³² This Article's proposed reform builds on that background by identifying a specific condition (compliance with the enhanced Basel Rules) that would be particularly conducive to improving the function of both the IMF and the Basel Committee. Because the sufficiency of bank capital requirements is so inextricably intertwined with the stability of sovereign finances, the proposal reduces the stigma problem through a prequalification standard that is closely related to governments' creditworthiness. As a result, it neither undermines the IMF's preexisting lending criteria nor exacerbates the tendency for lending to induce moral hazard. The condition that prequalifying borrowers must comply with an *enhanced* version of the Basel Rules, which specifically adds restraints on balance sheet risks arising from sovereign liabilities, increases the overall stringency of the standard and, more importantly, reinforces its connection with sovereign credit risk. The sovereign-banking "doom-loop" scenario is thus targeted directly.

The biggest obstacle for pre-conditionality to function effectively concerns implementation. Namely, prequalification is premised on the reliability of the IMF's surveillance procedures, which have tended to be unmanageably broad and prone to systematic oversights in the past.²³³ Under an optimistic view, however, the proposal could present an opportunity for upgrading that weak link in the IMF's functionality. Because a prequalification approval potentially puts IMF lending resources immediately in play, the IMF has an incentive to reallocate its surveillance efforts toward a narrower focus on verifying compliance with the Basel Rules. It could also collaborate with the Basel Committee's new peer-monitoring program, the Regulatory Consistency Assessment Program,²³⁴ to build further safeguards into the surveillance process.

The pre-conditionality proposal would improve the functioning of the Basel Committee as well. For one, it would leverage the complementarity between the IMF and the Basel Committee. Due to reasons explained above, moving either organizations' policy levers outward implies joint efficiencies for both institutions. In addition, to the extent that the IMF is able to achieve accurate surveillance procedures for its prequalification conditions, those efforts will carry the ancillary benefit of empowering the Basel Committee. Because the Basel Rules are soft

232. See Jeanne et al., *supra* note 16, at 7–8; see also Tito Cordella & Eduardo Levy Yeyati, *A (New) Country Insurance Facility*, 9 INT'L FIN. 1 (2006).

233. See *supra* notes 105–112 and accompanying text.

234. See *supra* note 69.

law agreements, they are not legally binding and not associated with any mechanisms that enforce compliance. However, by making (rigorously verified) implementation of the Basel Rules sufficient for access to its credit facilities, the IMF introduces an incentive for States to engage in genuine compliance with those regulations and in doing so bolsters the influence of the Basel Committee.

2. Political Economy Considerations

The logic of regulatory complements is that an adjustment to the intensity with which one regulation in the pair is applied creates a justification for modifying its counterpart in the same direction. In theory, that basic principle indicates that a mutual reduction in the vigor of the Basel Rules and IMF may make the joint provision of those regulations more efficient. One previously mentioned objection to simultaneously reducing the role of the IMF and the Basel Committee was that the requirements in the Basel Rules are already quite low relative to the likely regulatory optimum, and that the presence of regulatory complementarities should only guide policy at the margin.²³⁵ Such an approach is also not an attractive option because substantially scaling back the IMF's willingness to lend is not compatible with the political economy constraints applicable to the institution.

Both theoretical considerations as well as recent experience support the second point. The theoretical issue is that the IMF encounters an incentive compatibility problem known as “dynamic-inconsistency” or “time-inconsistency.”²³⁶ A time-inconsistency problem applies when a decision-maker can identify the most efficient course of action in one period but faces pressure to deviate from that strategy in later periods.²³⁷ As with the problem of stigma, time-inconsistency is another foundational dilemma of central banking theory that appears in the domestic regulatory context. It was originally analyzed with respect to the management of monetary policy, where a central bank allows inflation to drift above its optimal path because of hesitation to “take[] away the punch bowl” from an

235. See *supra* note 199.

236. See V.V. Chari & Patrick J. Kehoe, *Bailouts, Time Inconsistency, and Optimal Regulation: A Macroeconomic View*, 106 *AM. ECON. REV.* 2458 (2016); see also Finn E. Kydland & Edward C. Prescott, *Rules Rather Than Discretion: The Inconsistency of Optimal Plans*, 85 *J. POL. ECON.* 473 (1977) (launching the literature on time-inconsistency, with a specific application to monetary policy).

237. Chari & Kehoe, *supra* note 236, at 2459.

already booming economy.²³⁸ However, another prominent application is to central banks' LLR function, where there is a pronounced tendency to extend overly generous bailouts once a banking crisis hits. In other words, time-inconsistency underpins concerns over institutions that are too-big-to-fail.²³⁹

The proper interpretation of the time-inconsistency problem is not that it will inevitably cause efficient plans to unravel. Rather, it generates a need to invest in commitment devices that lock in plans and make them credible.²⁴⁰ Nevertheless, the IMF's performance in connection with the European debt crisis provides fairly decisive evidence that it will struggle to find a pre-commitment device that is effective at overcoming time-inconsistency issues that emerge during periods of financial crisis.²⁴¹ In April 2010, as the crisis was beginning to accelerate, the IMF Staff who reviewed Greece's eligibility for exceptional access to funding concluded that they were unwilling to sign off on the proposition that there was a "high probability" that Greek public debt was sustainable in the medium term.²⁴² In effect, Greece failed the second prong of the IMF's four-part lending criteria that was in place at the time.²⁴³ Despite that adverse finding, the IMF proceeded with a €30 billion funding package for Greece, which was justified by improvising a "systemic risk waiver" that was available for countries that did not meet the standing lending criteria.²⁴⁴ The newly minted waiver was then invoked as the basis for subsequent exceptional access that was granted to Ireland, in December 2010, and Portugal, in February 2011.²⁴⁵

The IMF's *ad hoc* shift in policy through the systemic risk waiver is a textbook illustration of how time-inconsistency can

238. PETER CONTI-BROWN, THE POWER AND INDEPENDENCE OF THE FEDERAL RESERVE 2–4 (2016); *see also* Kydland & Prescott, *supra* note 236.

239. Or, in cases such as the 1980s savings-and-loan crisis, the "Too Many to Fail" problem. *See* Viral V. Acharya & Tanju Yorulmazer, *Too Many to Fail—An Analysis of Time-Inconsistency in Bank Closure Policies*, 16 J. FIN. INTERMEDIATION 1 (2007).

240. A canonical literary example that is used to illustrate the pre-commitment problem comes from an episode in *Ulysses*, where Ulysses asks his crew to tie him to the mast of their ship so that he can resist the sirens' song as they sail by. CONTI-BROWN, *supra* note 238, at 2–3.

241. *See* Schadler, *supra* note 17, at 5.

242. IMF, *Greece: Staff Report on Request for Stand-By Arrangement*, IMF Country Report 10/110, at 20 (May 2010).

243. Schadler, *supra* note 17, at 8.

244. *Id.*

245. *Id.* at 9.

distort an LLR's decision-making in the face of political pressure. An unavoidable conclusion is "that the safeguards meant to prevent the IMF from providing support for crisis countries without a reasonably clear path to debt sustainability failed."²⁴⁶ The IMF itself essentially conceded such interpretation in a retrospective review of its interventions in Greece that was reported in 2013.²⁴⁷ In 2014, the IMF engaged in an across-the-board reevaluation of its lending framework, which culminated in a report further acknowledging that the systemic risk waiver "does not provide a coherent long-term solution."²⁴⁸ The very same document, however, is replete with caveats that reaffirm the IMF's inability to overcome the time-inconsistency issue.²⁴⁹

In sum, any reform that aggressively restricts the IMF's *ex post* lending criteria is prone to founder. Once an emergency appears, those standards will almost inevitably be relaxed to allow more lending than was previously considered prudent. Such political economy dynamics supply a further basis for exploring ways to adopt *ex ante* lending criteria because the prequalification process will typically unfold under normal economic conditions that do not involve the pressures that emerge during financial crises.

CONCLUSION

The stability of the global financial system in large part turns on a complex set of economic interconnections that exist between banks and governments—collectively referred to in this Article as the "banking-sovereign nexus." These relationships, however, have not been examined by the legal literature on international financial

246. *Id.* at 5.

247. See IMF, *supra* note 121.

248. IMF, *The Fund's Lending Framework and Sovereign Debt—Preliminary Considerations* 10 (May 22, 2014), <http://www.imf.org/external/np/pp/eng/2014/052214.pdf>.

249. *Id.* at 7 ("[W]hen the Fund makes judgements in this area, they should continue to be made on a case-by-case-basis . . . [wherein] general criteria . . . guide—but [do] not eliminate—the exercise of discretion."); *id.* at 20 ("[O]ne cannot rule out the possibility that, in the case of a member of sufficient systemic importance . . . the Fund membership may conclude that it could be less costly to the overall stability of the financial system to delay a decision on debt restructuring, irrespective of whether debt is sustainable—at any level of probability."); *id.* at 21 ("As a legal matter, it is recognized that the Executive Board could, by a majority of votes cast, amend a modified exceptional access framework to create a new systemic exemption, as was done in 2010."); *id.* at 22 ("It is very likely that the market perceives the systemic exemption as being one that will be generously applied.").

regulation. This Article shows how a focus on the banking-sovereign nexus can be used to generate a variety of insights that provide a more integrated perspective on the way that the international financial architecture operates in practice. Specifically, it explains how the banking-sovereign nexus gives rise to an interdependence between the policies of the Basel Committee and the IMF, which causes their interventions in global financial markets to function as mutually-reinforcing regulatory complements. In doing so, it advances the legal scholarship beyond its current account of the relationship between those institutions, which is limited to the observation that certain IMF surveillance programs engage in light-touch oversight of the Basel Rules. This Article also proposes reforms to the IMF's lending criteria and to the Basel Committee's capital requirements for sovereign bonds that would take advantage of the underlying complementarities between those policies.