Addressing Systemic Risk: Financial Regulatory Design

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Abstract

The global, euro-zone, and Asian financial crises have highlighted the importance of appropriate regulatory design and coverage for financial stability. In particular, in the wake of the global financial crisis the Group of Twenty (G20) and the Financial Stability Board (FSB) and its constituents (such as the Basel Committee on Banking Supervision, the International Organization of Securities Commissions, and the International Association of Insurance Supervisors) have or are in the process of developing international regulatory standards and guidance in relation to financial regulation and financial stability. This Article will discuss the range of international initiatives in the context of the overall design of a system of financial regulation, focusing on approaches to the regulation of systemically important financial institutions (SIFIs). Of these, nonbank finance has proven to be a major source of potential systemic risk, and the G20/FSB is currently addressing this in the context of "shadow banking," an issue of increasing concern throughout the world. Finally, this Article will discuss financial regulatory structure in the context of financial regulatory design, particularly as it relates to SIFIs, shadow banking, and financial conglomerates.

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SUMMARY

INTRODUCTION

The global, euro-zone, and Asian financial crises have highlighted the importance of appropriate regulatory design and coverage for financial stability.[1] In particular, in the wake of the global financial crisis (GFC), the Group of Twenty (G20), the Financial Stability Board (FSB) and its constituents (such as the Basel Committee on Banking Supervision (BCBS), the International Organization of Securities Commissions (IOSCO), and the Joint Forum) have or are in the process of

1. *See* STEPHEN G. CECCHETTI ET AL., BANK FOR INT'L SETTLEMENTS, INTEGRATING FINANCIAL STABILITY: NEW MODELS FOR A NEW CHALLENGE 2–3 (Sept. 2009), *available at* https://www.bis.org/publ/othp06.pdf (explaining the lessons from and the macroeconomic effects of the 2007 economic crisis); *see generally* Rolf H. Weber, *Legitimacy of the G-20 as Global Financial Regulator*, BANKR. & FIN. L. REV. (forthcoming 2013) [hereinafter Weber, *Legitimacy*] (describing the efforts of the G20 in creating an international regulatory design).

developing international regulatory standards and guidance in relation to financial regulation and financial stability.[2]

Given this context, this Article discusses the range of international initiatives in the overall design of systems of financial regulation. Part I thus focuses on issues relating to systemically important financial institutions (SIFIs) on global and national levels. In addition to traditional bank SIFIs, nonbank finance has proven to be a major source of potential systemic risk, and the G20/FSB are currently addressing this issue in the context of "shadow banking," an issue that is of increasing concern globally. This issue is addressed in Part II. In Part III, the Article analyzes financial regulatory structure in the context of financial regulatory design, particularly as it relates to SIFIs, shadow banking, and financial conglomerates. The Article concludes with a synthesis of recommendations for regulatory design.

I. SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS

Large financial institutions are of significant importance for national, regional, and global financial systems and economies. As the recent GFC has shown, a failing bank or other large and/or interconnected financial institution may place national, regional, and global financial stability at risk.[3] Should a SIFI fail, the repercussions can result in severe financial instability impacting an entire nation's financial system and economy.[4] Such financial instability can rapidly spread through the global and regional financial systems, destabilizing national, regional, and global economies. In response, governments around the world have prioritized all reasonable measures to reduce the likelihood of the failure of SIFIs.[5] This Part will address this issue by focusing on the FSB's SIFI supervisory recommendations.

SIFIs may be domestic (D-SIFIs), regional (R-SIFIs), or global (G-SIFIs).[6] The FSB describes SIFIs as "financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity."[7]

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2. Weber, *Legitimacy*, *supra* note 1, at 7–8 (concerning G20, FSB, BCBS); Press Release, Int'l Org. Sec. Comm'n, Final Update 36th Annual Conference of the International Organization of Securities Commissions (Apr. 20, 2011) (on file with editor) (discussing IOSCO).

3. *See* Bruce Arnold et al., *Systemic Risk, Macroprudential Policy Frameworks, Monitoring Financial Systems and the Evolution of Capital Adequacy*, 36 J. BANK. & FIN. 3125, 3125 (2012) ("[T]he collapse of numerous financial institutions has imposed significant negative externalities on governments and the economy at large.").

4. Nikola Tarashev et al., *The Systemic Importance of Financial Institutions*, BIS Q. REV. Sept. 2009, at 75, 75, *available at* http://www.bis.org/publ/qtrpdf/r_qt0909h.pdf.

5. *Id.*

6. *See* Fin. Stability Bd. [FSB], *Reducing the Moral Hazard Posed by Systemically Important Financial Institutions*, at 2 (Oct. 20, 2010) [hereinafter FSB, *Reducing the Moral Hazard*], *available at* http://www.financialstabilityboard.org/publications/r_101111a.pdf (describing G-SIFIs in terms analogous to the SIFI description: "[I]nstitutions of such size, market importance, and global interconnectedness that their distress or failure would cause significant dislocation in the global financial system and adverse economic consequences across a range of countries."). Thus from the FSB's G-SIFI description, a D-SIFI or R-SIFI description can be derived as: institutions of such size, market importance, and interconnectedness that their distress or failure would cause a significant dislocation in the domestic/regional financial system and adverse domestic/regional economic consequences, which could spill over into the global financial system and global economy.

7. FSB, *Policy Measures to Address Systemically Important Financial Institutions*, para. 3 (Nov. 4, 2011) [hereinafter FSB, *Policy Measures*], *available at* http://www.financialstabilityboard.org/publications/

Systemically important banks (SIBs) can be categorized as domestic (D-SIBs), regional (R-SIBs), and/or global (G-SIBs).[8] From the FSB's definition of SIFIs, D-SIBs are those banks of such size (complexity), market importance (substitutability), and interconnectedness, that their distress or failure would cause a significant disruption to a domestic financial system and domestic economy.[9] According to the given circumstances, a failing D-SIB could also have spillover effects into the global financial system and global economy. While at present the FSB and other bodies do not designate R-SIFIs/R-SIBs, given the experiences of both the euro-zone and Asian financial crises, this is a significant issue of concern for regional financial integration initiatives, such as those in the European Union (EU) and ASEAN+3.[10]

Since the near failure of numerous SIFIs during the GFC, loss- absorbing instruments have become a core focus of international efforts in view of the resiliency of G-SIBs.[11]

A. Capital Adequacy

The FSB's *Reducing the Moral Hazard Posed by Systemically Important Financial Institutions* recommends that SIFIs should have loss absorbency beyond the minimum Basel III standards.[12] A critical issue for banks over other institutions is increasing loss absorbency to maintain solvency when the business model is subjected to periods of market stress.[13] Therefore, SIFIs should have sufficient capital at their disposal.

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8. In this Article, SIFI refers to systemically important financial institutions, while SIB is used where the explanation applies specifically to banks.

9. FSB, *Policy Measures*, *supra* note 7, para. 3.

10. *See generally* FSB, *Intensity and Effectiveness of SIFI Supervision: Progress Report on Implementing the Recommendations on Enhanced Supervision* (Oct. 27, 2011) [hereinafter FSB, *Progress Report*], *available at* http://www.financialstabilityboard.org/publications/r_111104ee.pdf (making no mention of R-SIFIs); Basel Comm. on Banking Supervision [BCBS], *A Framework for Dealing with Domestic Systemically Important Banks* (Oct. 2012) [hereinafter BCBS, *Domestic Systemically Important Banks*] (making no mention of R-SIBs).

11. *See* BCBS, *Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement*, at 2 (Nov. 2011) [hereinafter BCBS, *Global Systemically Important Banks*] (suggesting the requirement of "additional going-concern loss absorbency for G-SIBs, thereby reducing the probability of failure").

12. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 3.

13. *See id.*, at 4

> (All jurisdictions should undertake the necessary legal reforms to ensure that they have in place a resolution regime which would make feasible the resolution of any financial institution without taxpayer exposure to loss from solvency support while protecting vital economic functions through mechanisms which make it possible for shareholders and unsecured and uninsured creditors to absorb losses in their order of seniority.).

1. Capital Adequacy Instruments for SIFIs

Capital adequacy may be established particularly when a bank increases and enhances its ability to absorb losses.[14] The BCBS recommends loss-absorbency instruments, including Common Equity (Tier 1), "bail-in debt and capital instruments that absorb losses at the point of nonviability," and "going-concern contingent capital."[15]

The BCBS distinguishes measures that apply to D-SIBs and G-SIBs respectively.[16] A G-SIB's systemic importance is determined by an indicator-based measurement approach, which allocates levels of additional loss-absorbency requirements above the minimum Basel III levels that range from 1% to 3.5% of common equity as a percentage of risk-weighted assets.[17]

Allowing for national discretion, the BCBS recommends that D-SIBs' higher loss absorbency is to be calibrated according to a bank's domestic systemic importance, quantitative methodologies, and country-specific factors.[18] Because of the nature of the banking business model, the BCBS is of the opinion that higher loss absorbency is to be fully met by Common Equity (Tier 1), calibrated to its domestic structural characteristics.[19]

a. Common Equity (Tier 1)

The BCBS recommends that D-SIBs' higher loss absorbency is to be fully met by Common Equity (Tier 1)[20] through an additional 2.5% capital-conservation buffer, sitting on top of the Basel III capital buffers and minimum capital requirement.[21] D-SIBs may be required to take a forward-looking approach in

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14. *See* BCBS, *Global Systemically Important Banks*, *supra* note 11, at 1 ("The capital adequacy measures are applied to all internationally active banks to ensure that each bank maintains an appropriate level of capital relative to its own exposures.").

15. *Id.* at 17; *see also* BCBS, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, para. 1 (June 2011) [hereinafter BCBS, *A Global Regulatory Framework*] (stating that the BCBS's recommendations are sourced from Basel III, which has the underlying objective of improving the banking sector's ability to absorb shocks from stresses in the financial system or the broader economy).

16. *See* BCBS, *Global Systemically Important Banks*, *supra* note 11, at 2 (stating G-SIB reforms place greater emphasis on increasing going-concern loss absorbency).

17. *Id.* at 4 (stating that indicators reflect size, interconnectedness, "lack of readily available substitutes or financial institutional infrastructure for the services they provide," global cross-jurisdictional activity, and complexity); *id.* at 15 (setting the levels of additional loss-absorbency requirements).

18. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 3–4 (suggesting that national authorities place certain requirements on institutions of systemic importance to ensure higher loss absorbency).

19. *Id.*

20. *Id.* at 4; *see also* COMM'N OF EXPERTS, FED. COUNCIL OF SWITZ., FINAL REPORT OF THE COMMISSION OF EXPERTS FOR LIMITING THE ECONOMIC RISKS POSED BY LARGE COMPANIES 25 (2010) [hereinafter FINAL REPORT], *available at* http://www.istein.org/site-content/243-prudential-regulation/5456-final-report-of-the-commission-of-experts-for-limiting-the-economic-risks-posed-by-large-companies.html ("Common equity consists of paid-in capital, disclosed reserves and retained earnings, and is calculated after deduction of regulatory adjustments . . . .").

21. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 10; BCBS, *A Global Regulatory Framework*, *supra* note 15, para. 129.

anticipation of possible events or changes in market conditions to enable the maintenance or strengthening of capital positions in times of stress.[22]

In this context, Switzerland provides an illustrative example of a small country with a large financial system characterized by D-SIBs (UBS and Credit Suisse, both of which are D-SIBs and G-SIBs). Switzerland promptly responded to the GFC and hence was among the pioneer countries that adapted regulation.[23] The Swiss Federal Council as well as the Parliament acted forcefully and implemented new laws consistent with the Basel III framework to a large extent within two years.[24]

As the GFC was building up, UBS suffered significant exposure to the U.S. subprime mortgage-backed securities.[25] When the market for these products collapsed, UBS's business model came under extreme stress, suffering huge losses.[26] UBS's underfunded Basel II risk-weighted capital adequacy was unable to absorb a substantial loss, necessitating a Swiss government bailout.[27] The Federal Council established a Commission of Experts to examine the question of limiting the economic risks posed by large companies on November 4, 2009, and hence avoided future government bailouts.[28] Following the publication of the Final Report of the Commission of Experts (September 2010), the Federal Council presented a White Paper (Botschaft) that proposed significant amendments mainly in the Banking Act on April 20, 2011.[29] On March 1, 2012, the Swiss Federal Council introduced the "Too Big to Fail" provisions into the Swiss Banking Act, which were passed by the Parliament on September 30, 2011.[30] These provisions address, inter alia, the inadequacy of the capital base and demand more stringent liquidity requirements and better risk diversification.[31]

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22. FSB, *Progress Report*, *supra* note 10, at 35; BCBS, *Core Principles for Effective Banking Supervision*, at 44–45 (Sept. 2012) [hereinafter BCBS, *Core Principles*].

23. *Regulating Swiss Banks: First Mover*, ECONOMIST (Oct. 7, 2010), *available at* http://www.economist.com/node/17202233.

24. SWISS FED. DEP'T OF FIN., STRENGTHENING FINANCIAL SECTOR STABILITY (2013) [hereinafter SWISS FED. DEP'T OF FIN., STRENGTHENING FINANCIAL SECTOR STABILITY], *available at* http://www.efd.admin.ch/themen/wirtschaft_waehrung/02315/index.html?lang=en (follow "Fact sheet 'Strengthening financial sector stability'" hyperlink) (providing a brief overview of the banking regulations and their intended effects).

25. *UBS: The Crisis at the Heart of the Swiss Bank*, TELEGRAPH (July 6, 2008), http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/2792800/UBS-The-crisis-at-the-heart-of-the-Swiss-bank.html; *see also* BCBS, *A Global Regulatory Framework*, *supra* note 15, paras. 4–5 (providing an in-depth look at the causes of the Recession).

26. *UBS: The Crisis at the Heart of the Swiss Bank*, *supra* note 25.

27. *Id.*; Warren Giles, *UBS Gets $59.2 Billion Bailout; Credit Suisse Raises Capital*, BLOOMBERG (Oct. 16, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=ah0AFa2SEHhw.

28. FINAL REPORT, *supra* note 20, at 3.

29. FED. COUNCIL OF SWITZ., BOTSCHAFTZUR ÄNDERUNG DES BANKENGESETZES (STÄRKUNG DER STABILITÄTIM FINANZSEKTOR; TOO BIG TO FAIL) [MESSAGE ON THE AMENDMENT OF THE BANKING ACT (STRENGTHENING STABILITY IN THE FINANCIAL SECTOR; TOO BIG TO FAIL)] (2011) [hereinafter AMENDMENT], *available at* http://www.admin.ch/opc/de/federal-gazette/2011/4717.pdf.

30. Fed. Council of Switz. & Fed. Dep't of Fin., *Federal Council Brings "Too Big to Fail" Provisions into Force*, SWISS CONFEDERATION (Feb. 15, 2012), http://www.efd.admin.ch/00468/index.html?lang=en&msg-id=43419.

31. *Id.*

Under the new regime, to further increase loss absorbency, Swiss banks are required to hold a minimum capital representing 8% of a company's risk-weighted assets (RWA) and a capital buffer of 2.5% of RWA.[32] Of these two components, 7% has to be Tier 1 common equity, which consists substantially of share capital and reserves.[33] In accordance with the Basel III framework, SIBs have to meet more rigorous capital requirements than other banks: SIB capital must consist of a Tier 1 common equity representing 4.5% of RWA and a capital buffer of 8.5% of RWA.[34] SIBs have to fulfill these two basic requirements with at least 10% Tier 1 common equity, of which up to 3% may consist of Convertible Contingent Capital (CoCos).[35] These instruments play a vital role when a Swiss SIB's capital base comes under severe stress as they allow debt to be converted into equity if the Tier 1 common equity falls below 7% of RWA.[36] Furthermore, a so-called progressive component must be introduced that consists of additional CoCos.[37] The progressive component level correlates (mainly but not only) with total assets and market share of the SIB.[38] Should the Tier 1 common equity reach a level of 5% of RWA, this component is to be converted.[39] In conjunction with the introduction of a countercyclical buffer of 0–2.5% of RWA on an as-needed basis, banks thus must hold total Tier 1 common equity at 7% of RWA in normal circumstances and 9.5% of RWA in times of rapid credit expansion.[40] Overall, the Swiss provisions result in stricter and more stringent requirements for banks than the Basel III framework.[41]

Additionally, based on the new provision in the Federal Banking Act, Article 11, Paragraph 2, banks and controlling companies of financial groups or financial conglomerates predominantly doing business in the banking sector may issue a "write-off bond."[42] By subscribing to such a bond, investors agree to waive any claims in case of a previously determined triggering event.[43] Since there is no conversion into equity capital, there is no equity dilution.[44]

32. FINAL REPORT, *supra* note 20, at 57–59.

33. *Id.*

34. *Id.*

35. *Id.*; EIDGENÖSSISCHES FINANZDEPARTEMENT [FED. DEP'T OF FIN.], KOMMENTAR ZUR TOTALREVISION DER EIGENMITTELVERORDNUNG [COMMENT ON THE REVISION OF THE CAPITAL ADEQUACY ORDINANCE] 8 (2012), *available at* http://www.efd.admin.ch/dokumentation/gesetzgebung/00570/02596/index.html?lang=en.

36. Daniel Bono et al., *The Swiss Response to the Basel III Framework and Other Regulatory Initiatives Aimed at Reinforcing Financial Sector Resilience*, PRAC. LAW (Feb. 1, 2012), http://www.practicallaw.com/9-518-7639.

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.*

41. Peter R. Isler et al., *New Swiss Rules to Enhance Financial Stability of Banks—Capital Requirements; Recovery and Resolution Regime*, 4 BANKERS' LAW 28, 35 (2012). Although the implementation of the new capital requirements was introduced promptly, Switzerland's new rules have also been criticized. *See* Yingbin Xiao et al., Int'l Monetary Fund [IMF], *Switzerland: Selected Issues*, at 25–28 (Apr. 23, 2013), *available at* http://www.imf.org/external/pubs/ft/scr/2013/cr13129.pdf (discussing ongoing issues related to the implementation of the new rules).

42. BUNDESGESETZÜBER DIE BANKEN UND SPARKASSEN [FEDERAL ACT ON BANKS AND SAVINGS BANKS] Nov. 8, 1934, SR 952, art. 11, para. 2 (Switz.).

43. *Id.*

44. Mark-Oliver Baumgarten & David W. Frei, *Too-Big-to-Fail: New Regulatory Capital Regime in Switzerland*, NEWSLETTER (Staiger, Schwald & Partner, Zurich, Switz.), Apr. 2012, at 2, *available at* http://www.ssplaw.ch/assets/Uploads/Publications/Newsletters/SSPNewsletterAprilenWEB.pdf.

b. Measures Beyond Common Equity (Tier 1)

The BCBS recommends additional capital requirements (Pillar 2) or other policy measures appropriate to address the risks posed by D-SIBs outside and above Pillar 1 minimum capital requirements.[45] These additional tools impose limits on material risk exposures that have not been adequately transferred or mitigated.

Before the GFC, there was no international standard for liquidity.[46] Rather, most jurisdictions based their pre-GFC liquidity requirements on the presumption that most financial markets and assets were liquid.[47] After the collapse of Lehman Brothers, liquidity in wholesale funding markets initially dried up, and the market for certain financial assets, such as subprime mortgage-backed securities, collapsed.[48]

In terms of liquidity risk, supervisors are to set out SIB requirements that reflect liquidity needs, a liquidity risk strategy, and compliance.[49] G-SIBs' liquidity requirements are not to be lower than the Basel requirements.[50]

c. Domestic Systemic Importance

Home authorities can impose higher requirements than the G-SIB additional loss-absorbency requirements based on degree of domestic systemic importance. Where D-SIBs are also identified as G-SIBs, the higher of the G-SIB or D-SIB loss-absorbency requirements should apply.[51] Any double counting should be avoided.[52]

The Swiss SIFI policy—the so-called "Too Big to Fail" provisions—provides that "it is unlikely that a framework adequate for G-SIFIs can be directly adopted for D-SIFIs."[53] As the BCBS requests, there must be "appropriate incentives" to reduce systemic risk.[54] Since Switzerland has introduced higher capital-adequacy requirements for UBS and Credit Suisse, there are strong incentives to reduce

45. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 10–11. Further measures include "liquidity surcharges, tighter large exposure restrictions, levies, and structural measures." FSB, *Reducing the Moral Hazard*, *supra* note 6, at 3.

46. Fridrich Housa, *Basel III and the Introduction of Global Liquidity Standards*, DELOITTE, http://www.deloitte.com/assets/Dcom-Australia/Local%20Assets/Documents/Industries/Financial%20 services/Risk%20and%20Regulatory%20Review%20May%202013/Deloitte_Risk_Regulatory_Review_BASEL_III_May2013.pdf (last visited Mar. 4, 2014).

47. *See UBS: The Crisis at the Heart of the Swiss Bank*, *supra* note 25 (discussing that despite risk managers cautioning on the illiquidity of UBS' positions, UBS continued its investment activities presumably on the assumption that the market was liquid).

48. Jose Berrospide, *Bank Liquidity Hoarding and the Financial Crisis: An Empirical Evaluation* 1 (Fed. Reserve Bd., Finance and Economic Discussion Series, Working Paper No. 2013-03, Nov. 29, 2012), *available at* http://www.federalreserve.gov/pubs/feds/2013/201303/201303pap.pdf.

49. BCBS, *Core Principles*, *supra* note 22, at 56.

50. *Id.*

51. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 8.

52. *Id.* at 10.

53. FINMA, ADDRESSING "TOO BIG TO FAIL": THE SWISS SIFI POLICY 6 (2011) [hereinafter FINMA, TOO BIG TO FAIL], *available at* http://www.finma.ch/e/finma/publikationen/Documents/be-swiss-SIFI-policy-june-2011-summary-20110624-e.pdf.

54. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 8.

systemic risks over time.[55] The narrowing of UBS's investment-banking activities also substantially lowers its capital-adequacy exposure.

d. Implementation

Basel III holding requirements for common equity will be raised to 4.5% of risk weighted assets.[56] Under Basel III, this ratio is to be progressively phased in at 3.5% from January 1, 2013, at 4% from January 1, 2014, and at 4.5% by January 1, 2015.[57] Banks identified as D-SIBs by their national authorities will have to comply with the principles and the phase-in arrangements for the G-SIB framework by January 2016 with full implementation by January 2019.[58]

Switzerland is currently implementing the Basel III regulatory framework.[59] The revised Capital Adequacy Ordinance (CAO) came into force on January 1, 2013.[60] Regulations concerning the Liquidity Coverage Ratio are due to be implemented by 2015, and the regulation concerning the Net Stable Funding Ratio is planned to pass parliament in 2018.[61] In 2008, Swiss regulators agreed on new SIB rules, which came into effect on June 30, 2010 and January 1, 2013 respectively.[62] Swiss SIBs, namely UBS and Credit Suisse, will have to start implementing additional capital adequacy and liquidity requirements above non-SIBs during the phase-in period between 2016 and 2018.[63]

2. Capital Adequacy Instruments for Nonbank SIFIs

Because every SIFI has a unique risk profile, it is impossible to rely on a "one[-]size-fits-all" supervisory approach to capital adequacy.[64]

The Joint Forum's "Principles for the Supervision of Financial Conglomerates" note that they are "not intended to override or substitute" for capital adequacy and

55. Press Release, Alain Bichsel, Swiss Fed. Banking Comm'n, SFBC and Large Banks Agree to Set Higher Capital Adequacy Targets and Introduce a Leverage Ratio (Dec. 4, 2008) (available at http://finma.ch/archiv/ebk/e/publik/medienmit/20081204/mm-em-leverageratio-20081204-e.pdf).

56. FINMA, TOO BIG TO FAIL, *supra* note 53, at 11.

57. Marius Motocu, *The New Basel Framework and the Emergence of Prudential Rules*, 43 tbl.1, ACAD. PUBLISH, www.academypublish.org/papers/pdf/208.pdf (last visited Mar. 14, 2014).

58. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 2; BCBS, *Progress Report on Implementation of Basel Regulatory Framework*, at 2 (Oct. 2013) [hereinafter BCBS, *Progress Report on Basel Framework*].

59. *See cf.*, BCBS, *Regulatory Consistency Assessment Programme (RCAP): Assessment of Basel III Regulations—Switzerland*, at 3 (June 2013), *available at* http://www.bis.org/bcbs/implementation/12_ch.pdf ("The adoption of Basel III-based capital rules in Switzerland was completed during 2012.").

60. *Id.* at 59 tbl.3.

61. Press Release, Tobias Lux, FINMA, FINMA Opens Consultation on the New Circular "Liquidity-Banks" (Aug. 28, 2012) (available at http://www.finma.ch/e/aktuell/pages/mm-anhoerung-rs-liquiditaet-banken-20120822.aspx).

62. AMENDMENT, *supra* note 29, at 4727.

63. *See* FSB, *Peer Review of Switzerland: Review Report*, at 9, 14 (Jan. 25, 2012) [hereinafter FSB, *Peer Review*] (discussing UBS and Credit Suisse as among the largest global financial institutions and how "Basel III is expected to have a higher impact on large banks").

64. FSB, *Intensity and Effectiveness of SIFI Supervision: Recommendations for Enhanced Supervision*, at 1 (Nov. 2, 2010) [hereinafter FSB, *Recommendations for Enhanced Supervision*].

liquidity requirements for individual sectors, such as those issued by the BCBS.[65] Supplementary capital-adequacy assessment is only necessary if group-wide capital adequacy is not addressed.[66] Group-wide risks to capital adequacy include those sourced from unregulated entities within the group, excessive leverage sourced from the parent, and intragroup transfers of capital.[67] Managing liquidity risks requires a combination of effective governance and management oversight, adequate policies, procedures, limits on risk taking, controlling liquidity risks, and strong management of information systems.[68]

In Switzerland, the Swiss Commission of Experts concluded that although the insurance sector is of high importance for Switzerland, there is no need to rescue insurance companies.[69] Credit rating agencies do not in fact assume an "implicit state guarantee" in their ratings of insurance companies.[70] On these grounds, there is no immediate regulatory action concerning nonbank SIFIs to be expected in Switzerland within the next few years.[71]

B. SIFI Resolution as a Viable Option

One of the key regulatory failures uncovered by the global and Asian financial crises relates to the essential combination of prevention (through capital and other regulation) and post hoc remedy (through appropriate mechanisms).[72] The GFC in particular highlighted the lack of such mechanisms both in respect of D-SIFIs in individual jurisdictions and their global operations.[73] Ideally, when a firm is no longer viable, a timely and early resolution must be initiated before the firm is balance-sheet insolvent.[74]

1. Comprehensive Resolution Regimes

Jurisdictions should adopt necessary legal reforms where it is feasible for a SIFI to undertake resolution "without taxpayer exposure to loss from solvency support while protecting vital economic functions."[75] To more effectively manage the

65. BCBS, *Principles for the Supervision of Financial Conglomerates*, at 25 (Sept. 2012) [hereinafter BCBS, *Financial Conglomerates*].

66. *Id.*

67. *See id.* at 28–29, 30, 39 (describing group-wide risks that reside in unregulated entities, excessive leverage at the parent level, and intragroup capital transfers).

68. *See generally id.*, at 4–5.

69. FINAL REPORT, *supra* note 20, at 15.

70. *Id.*

71. *Id.* at 20.

72. *See generally* FSB, *Recommendations for Enhanced Supervision*, *supra* note 64.

73. *Id.* at 1–3; FSB, *Reducing the Moral Hazard*, *supra* note 6, at 2.

74. FSB, *Key Attributes of Effective Resolution Regimes for Financial Institutions*, at 7 (Oct. 2011) [hereinafter FSB, *Key Attributes*], *available at* www.financialstabilityboard.org/publications/r_111104cc.pdf.

75. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 4. The FSB has expanded this recommendation by stating that the general objective of an effective resolution regime

> is to make feasible the resolution of financial institutions without severe systemic disruption and

resolution regime, the FSB recommends that "[e]ach jurisdiction should have a designated [resolution] authority or authorities."[76]

In the United Kingdom, Northern Rock was nationalized out of the fear of systemic contagion if the bank failed.[77] Banks in the United Kingdom at that time were subject to a corporate insolvency regime that did not take into consideration banks' unique business models.[78] The government believed that the existing resolution regime would not have provided an acceptable or equitable resolution for Northern Rock.[79]

Conversely, the U.S. Government decided to allow Lehman Brothers to fail under its then corporate insolvency regime.[80] Problematically, the failure of Lehman Brothers resulted in a precipitous morphing of the then liquidity squeeze into a global systemic financial crisis, which toppled Northern Rock.[81] This decision triggered severe systemic disruptions that threatened the vital economic functions of not only the U.S. economy but also the global economy.[82]

In the context of Switzerland, as previously mentioned the Swiss Government bailed out UBS when it was facing the risk of bankruptcy following Lehman Brothers' demise.[83] The Swiss Confederation was able to turn its investment of CHF 6 billion of convertible bonds into shares and then sell those shares for CHF 7.2 billion, thereby profiting CHF 1.2 billion.[84] Regardless of this profit, taxpayers were exposed to immense risks. The CHF 38.7 billion Stabilization Fund investment is in the process of being resolved and is expected to fully reimburse the Swiss National Bank (SNB) by 2015.[85] Risk-reduction measures are vital to relieve Swiss taxpayers from further banking losses.[86]

> without exposing taxpayers to loss, while protecting vital economic functions through mechanisms which make it possible for shareholders and unsecured and uninsured creditors to absorb losses in a manner that respects the hierarchy of claims in liquidation.

FSB, *Key Attributes*, *supra* note 74, at 3. *See also* Jonathan M. Edwards, *A Model Law Framework for the Resolution of G-SIFIs*, 7 CAP. MKTS. L.J. 122, 140–41 (2012) ("[T]here is a need for a global resolution regime that operates on top of domestic regimes so as to link the proceedings into one global resolution proceeding.").

76. FSB, *Key Attributes*, *supra* note 74, at 5–6.

77. PETER BRIERLEY, BANK OF ENG., FINANCIAL STABILITY PAPER NO. 5: THE UK SPECIAL RESOLUTION REGIME FOR FAILING BANKS IN AN INTERNATIONAL CONTEXT 4 (2009).

78. *Id.* at 4–5.

79. *See id.* at 4 (discussing the inadequacy of corporate insolvency law to resolve the Northern Rock crisis).

80. *See* Alexandra Lai & Adi Mordel, *The Resolution of Systemically Important Financial Institutions*, *in* BANK OF CAN., FINANCIAL SYSTEM REVIEW 37, 38 (2012) (relating how the then-existing corporate insolvency regime did not provide for stressed nonbank SIFIs).

81. *Id.* at 38; *see* BRIERLEY, *supra* note 77, at 4.

82. Lai & Mordel, *supra* note 80, at 37–38.

83. *See* FSB, *Peer Review*, *supra* note 63, at 12 (discussing how the Swiss government had to put together stabilizing packages in order to restore faith in the credit system due to UBS's significant credit exposure to U.S. asset-backed securities and similar investments).

84. *Id.* at 12 n.13.

85. *Id.* at 12. Since the writing of this Article, the loan has been repaid. Press Release, Swiss Nat'l Bank, SNB StabFund Repays Swiss National Bank Loan (Aug. 16, 2013) (available at http://www.snb.ch/en/mmr/reference/pre_20130816/source/pre_20130816.en.pdf).

86. AMENDMENT, *supra* note 29, at 4727.

2. Comprehensive Resolution Tools

Generally SIFI resolution tools require sale and restructuring mechanisms to enable a viable SIFI resolution.[87]

a. Sale and Restructuring

The FSB recommends that the resolution authority be enabled to maintain a SIFI's continual performance as an on-going enterprise with essential economic and financial functions while maintaining the ability to sever and sell viable operations.[88]

These recommendations are best illustrated by the factors underpinning Northern Rock's nationalization. If Northern Rock had been allowed to go into administration, the then corporate insolvency regime of the United Kingdom would have initially frozen Northern Rock's contracts, assets, and liabilities before selling off those assets at potentially fire-sale prices to repay creditors with no mechanisms for maintaining banking services, during which time resolution, legal rights, and obligations would have been left in limbo with depositors unable to access their accounts.[89]

In response, the BCBS has recommended that the corrective and remedial powers of supervisors should be expanded to empower supervisors to take early and timely corrective action if a bank "is or is likely to be engaging in unsafe or unsound practices or actions that have the potential to jeopardise the bank or the banking system."[90]

b. Bail-In Within Resolution

Bail-in powers within resolution enable resolution authorities to absorb losses, recapitalize vital or viable parts of the firm, or capitalize a bridging entity to which these parts are transferred.[91] Powers should enable resolution authorities to maintain

87. *See* FSB, *Key Attributes*, *supra* note 74, at 7 (enumerating powers needed for SIFI resolution).

88. *Id.* Furthermore, the resolution authority must be able to: remove and replace senior management and directors; recover monies from responsible persons; appoint administrators to take control and manage all or part of the firm; operate, resolve, restructure, and wind-up the firm including powers over contracts, assets, and debt; require companies within the same group, any successor, or acquiring entity to continue to provide essential services, provide these services to a successor or acquiring entity, or procure these services from an unaffiliated third party; override shareholder rights to restructure the business and dispose of assets or liabilities; transfer or sell assets, liabilities, legal rights, and obligations; establish a temporary bridge institution; establish a separate asset-management vehicle; carry out bail-in within resolution; temporarily stay the exercise of early-termination rights; impose a moratorium with a suspension of payments to unsecured creditors and customers and a stay on creditor actions; collect money or property from the firm; and effect the closure and orderly winding-up of all or part of a failing firm. *Id.* at 7–8.

89. HM TREASURY, THE NATIONALISATION OF NORTHERN ROCK, 2008–9, H.C. 298, para. 16 (U.K.) [hereinafter HM TREASURY, NORTHERN ROCK].

90. BCBS, *Core Principles*, *supra* note 22, at 21–22. The criteria for Principle 11 also recommend that supervisors have the power to act if a bank falls below an established regulatory threshold requirement. *Id.* at 35.

91. For legal aspects of bank bail-ins, see generally Simon Gleeson, *Legal Aspects of Bank Bail-Ins*

continuity of systemically vital functions by recapitalizing, either directly or through a bridging entity.[92] CoCos or contractual bail-in instruments should be converted or written down upon entry into resolution, while respecting instruments that have been instigated to write down equity and debt or convert debt into equity.[93]

In Switzerland, a bank may issue CoCos under certain contingent conditions.[94] These conditions have to be agreed upon by both parties prior to the conversion.[95] During a financial crisis, the conversion of the debt capital to equity provides a buffer against financial loss, stabilizing the bank.[96]

c. Financial Conglomerates

Measures taken by resolution authorities have to be flexible and tailored to each SIFI and its domestic and global activities.[97] Resolution regimes should extend to financial conglomerates, their holding companies, and significant nonregulated conglomerate entities including foreign branches.[98] Financial conglomerates should have a sufficiently transparent structure that promotes and enables prudent management aligned with sectoral requirements to ensure that recovery or resolution is not impeded.[99]

3. Effective Cross-Border Coordination Mechanisms

In 1997, the UNCITRAL Model Law on Cross-Border Insolvency was promulgated to "provide effective mechanisms for dealing with cases of cross-border insolvency," which highlights the importance of cross-border coordination.[100] In 2010 the FSB proposed that legal mandates should fully enable resolution authorities to

(London Sch. of Econ. & Pol. Sci., Special Paper No. 205, 2012), *available at* http://www2.lse.ac.uk/fmg/workingPapers/specialPapers/PDF/SP205.pdf.

92. FSB, *Consultative Document: Effective Resolution of Systemically Important Financial Institutions*, at 36 (July 19, 2011) [hereinafter FSB, *Consultative Document*], *available at* http://www.financialstabilityboard.org/publications/r_110719.pdf.

93. FSB, *Key Attributes*, *supra* note 74, at 9.

94. *See* Isler et al., *supra* note 41, at 31 (detailing the issuance of CoCos if the common-equity ratio is undershot).

95. *See* FSB, *Key Attributes*, *supra* note 74, at 9 (discussing conversion after contractual agreement).

96. Swiss Fed. Dep't of Fin., Erläuterungsbericht zur Änderung der Bankenverordnung und der Eigenmittelverordnung: Umsetzung der Änderung des Bankengesetzes vom 30. September 2011 [Explanatory Report to Amend the Banking Ordinance and the Capital-Adequacy Ordinance: Implementation of the Amendment to the Banking Act of September 30, 2011], 29 (Dec. 5, 2011) [hereinafter Swiss Fed. Dep't of Fin., Explanatory Report], *available at* http://www.efd.admin.ch/dokumentation/gesetzgebung/00571/02375/index.html?lang=de.

97. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 4.

98. FSB, *Key Attributes*, *supra* note 74, at 5; FSB, *Consultative Document*, *supra* note 92, at 24.

99. BCBS, *Financial Conglomerates*, *supra* note 65, at 9, 20–21; *see also* Rolf H. Weber, Systemstabilitätsfördernde Neukonzeption der Konglomeratsaufsicht? [The System-Stabilizing Effect of the New Conception of Conglomerate Supervision?] 6 SCHWEIZERISCHE ZEITSCHRIFT FÜR WIRTSCHAFTS-UND FINANZMARKTRECHT [SZW/RSDA] 535, 536–39 (2012) (Switz.) (discussing generally the effect that transparency has on participants in the system, including the ability to control and oversee the banks).

100. U.N. COMM'N ON INT'L TRADE LAW (UNCITRAL), UNCITRAL MODEL LAW ON CROSS-BORDER INSOLVENCY WITH GUIDE TO ENACTMENT AND INTERPRETATION pmbl. (2014), *available at* http://www.uncitral.org/pdf/english/texts/insolven/1997-Model-Law-Insol-2003-Guide-Enactment-e.pdf.

seek cooperation and information sharing with foreign resolution authorities and eliminate legal provisions that hamper fair cross-border resolution such as preferential domestic-depositor treatment.[101] Domestic resolution powers should support a resolution instigated by a foreign authority only in circumstances where the domestic jurisdiction's financial stability is not under threat.[102] Any statutory cross-border cooperation framework should not be "prescriptive as to deprive jurisdictions of the flexibility . . . to achieve domestic stability."[103] The political environment often determines which is more feasible: a legally binding, institution-specific cooperation agreement related to SIFIs between home- and host-resolution authorities that clarifies roles and responsibilities in planning and managing its resolution or a practical coordination regime.[104]

In 2009 the G20 Member States assigned the FSB the task of setting guidelines for the most systemically important cross-border firms as well as supporting contingency planning for cross-border crisis management.[105] Since the implications of GFC are abating, the political determination to forcefully pursue the "London agenda" in terms of cross-border coordination mechanisms seems to be in decline.[106]

4. Sustained Recovery and Resolution Planning

SIFI recovery and resolution plans (RRPs)—sometimes referred to as "living wills"[107]—provide a summary of key recovery and resolution strategies and an operation plan for their implementation, including "essential and systemically important functions . . . , a description of the critical measures to implement the key recovery and resolution strategies[,] and an assessment of potential impediments to their successful implementation."[108] Decisions by host jurisdictions under an RRP must consider the domestic systemic significance of hosted foreign institutions,

101. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 4; *see also* Edwards, *supra* note 75, at 122–24 ("International cooperation is necessary to reach an optimal solution; however, national considerations often trump international cooperation."). For example, such cooperation could include depository-priority rules that trigger preferential treatment to domestic depositors over foreign-branch depositors or are triggered by official intervention and/or the initiation of resolution or insolvency proceedings in a foreign jurisdiction that favors preferential domestic treatment.

102. FSB, *Key Attributes*, *supra* note 74, at 13.

103. FSB, *Consultative Document*, *supra* note 92, at 14. When exercising discretionary national action, the resolution authority should consult with, and give prior notification to, the foreign home authority. FSB, *Key Attributes*, *supra* note 74, at 13.

104. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 4–5.

105. FSB, *Overview of Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability: Report of the Financial Stability Board to G20 Leaders*, at 3 (Sept. 5, 2013) [hereinafter FSB, *Overview of Progress*], *available at* http://www.financialstabilityboard.org/publications/r_130905c.pdf.

106. *See* NANCY BIRDSALL, CTR. FOR GLOBAL DEV., THE GLOBAL FINANCIAL CRISIS: THE BEGINNING OF THE END OF THE "DEVELOPMENT" AGENDA? 15 (2012), *available at* http://www.cgdev.org/sites/default/files/1426133_file_Birdsall_financial_crisis_FINAL_0.pdf (stating that global collective action to implement the resolutions reached in the London G20 summit and other G20 summits faltered).

107. *See* Emilios Avgouleas et al., *Bank Resolution Plans as a Catalyst for Global Financial Reform*, 9 J. FIN. STAB. 210, 210 (2013), *available at* http://dx.doi.org/10.1016/j.jfs.2011.12.002 ("A Living Will is a recovery and resolution plan drawn up ex ante with the purpose of using it if a bank gets into difficulties.").

108. FSB, *Key Attributes*, *supra* note 74, at 37.

whether branch or subsidiary.[109] The lack of RRPs was particularly evident from the failure of Lehman Brothers as there was no statutory framework in the United States that prescribed RRPs or dealt with the resolution of nonbank SIFIs.[110]

The Swiss RRP (emergency plan)—unlike other living wills—not only becomes effective when the difficulties have already arisen but is meant to be a preventive and precautionary measure that helps maintain systemically relevant services when the institution's insolvency is impending.[111] Consequently, banks have to prepare the measures in a countercyclical way during times of prosperity.

a. Recovery Plan

Recovery plans identify recovery options and ensure their timely implementation when coping with a range of scenarios to restore financial strength and viability of a firm under severe stress.[112] A recovery plan should include measures and strategies to reduce risks, conserve firm capital, restructure liabilities, and divest business lines.[113]

b. Resolution Plan

Resolution plans "facilitate the effective use of resolution powers to protect systemically important functions" through substantive resolution strategies and operational plans.[114]

c. Resolvability Assessment

Resolvability assessments and RRPs complement each other because RRPs should use the conclusions of the resolvability assessment as a base to develop a plan to identify actions to make D-SIFIs resolvable.[115] A separate resolvability assessment is needed for each SIFI, as firms differ greatly in their corporate structure and mix of activities. During the GFC, there were very few SIFIs that could effectively be resolved in an orderly and expeditious fashion given the powers of domestic authorities, lack of legal capacity for domestic authorities to cooperate, and SIFIs' complex structures and activities.[116] SIFIs that consist of multiple significant entities should maintain information on a legal entity basis, minimize intra-group

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109. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 5.

110. *See* Avgouleas et al., *supra* note 107, at 211–12 (discussing how the situation of Lehman Brothers in 2008 demonstrates why solvent subsidiaries of a banking group suffer when the parent company suffers financial trouble).

111. SWISS FED. DEP'T OF FIN., STRENGTHENING FINANCIAL SECTOR STABILITY, *supra* note 24.

112. FSB, *Key Attributes*, *supra* note 74, at 17.

113. *Id.* at 33.

114. *Id.* at 17. A resolution plan should identify: financial and economic functions for which continuity is critical; resolution options to preserve or orderly wind down critical financial and economic functions; data on operations, structures, and systemically important functions; potential resolution barriers and actions to mitigate those barriers; action to protect insured depositors and insurance-policy holders; and clear options and principles to exit the resolution process. *Id.*

115. *Id.* at 27.

116. FSB, *Consultative Document*, *supra* note 92, at 16.

guarantees,[117] appropriately document service agreements that cannot be abrogated by service providers in resolution, and ensure that global payment and settlement services are legally severable and continue to operate unabated.[118] Group resolvability assessments, including subsidiaries, are to be conducted by the home authority and coordinated with the firm.[119]

C. *Strengthening SIFI Supervision*

Every country must have a proactive supervisory system that ensures regulations are backed up by effective SIFI risk assessment and enforcement "to reduce the impact of potential stresses on financial institutions and therefore the financial system as a whole."[120] Fundamentally, supervision of SIFIs is to be more intense, effective, and reliable by focusing on outcomes rather than processes.[121] The Basel Core Principles (BCPs) apply to the supervision of all banks with the expectation on supervisors that SIBs will be subject to a higher degree of supervision commensurate with their risk profile and systemic importance.[122] This applies to all economies—whether developed, emerging, or developing.

1. Mandates, Independence, and Resources

a. Systemically Important Banks

Supervisors should have the power to increase the prudential requirements for individual banks and banking groups based on their risk profile and systemic importance.[123] A legal framework should assign to the supervisors clear responsibilities and objectives so that the system of supervision can be effective. Therefore, it is also necessary that the regulation and prudential standards are updated and amended should a changing market environment require it. If there is more than one authority responsible for supervision in any given area, coordination between these two bodies becomes crucial. Furthermore, the BCPs highlight the importance of operational independence, transparency within the system, and sound governance for an effective supervisory system.[124] The budgetary process should not undermine the autonomy of the authority and financial means should be adequate for the mandate. Lastly, accountability should be established, which will contribute to the credibility and legitimacy of the supervisory authority.

In Switzerland, for instance, based on a Memorandum of Understanding, the SNB monitors large-scale developments in the banking sector (macroeconomic

117. In particular, blanket guarantees.

118. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 5.

119. FSB, *Key Attributes*, *supra* note 74, at 16.

120. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 7.

121. FSB, *Recommendations for Enhanced Supervision*, *supra* note 64, at 1, 7; FSB, *Progress Report*, *supra* note 10, at 1.

122. BCBS, *Core Principles*, *supra* note 22, at 5.

123. *Id.* at 6.

124. *Id.* at 10.

level), and the Swiss Financial Market Supervisory Authority (FINMA) monitors individual financial institutions (microeconomic level).[125] These regulatory agencies work together to assess the soundness of SIBs coordinating their actions in common areas of supervision.[126]

b. Financial Conglomerates

Effective and comprehensive oversight of financial conglomerates involves coordinating and communicating with other supervisors spanning more than one financial sector in order to identify and understand risks within and across the group.[127]

The U.S. subprime-mortgage crisis demonstrates the importance of such a regime clearly: When the subprime-mortgage market in the United States started to deflate in 2007, Citigroup was forced to write down about USD 55 billion in assets from its collateralized debt obligation (CDO) exposure.[128] A significant proportion of these losses were held in unregulated off-balance-sheet entities.[129] Supervisors did not have the mandate nor the resources to carry out effective and comprehensive oversight of Citigroup's CDO exposure to identify these risks,[130] let alone understand them.[131]

2. Supervisory Powers

A full arsenal of powers and tools for effective supervision should encompass capital-adequacy provisions, increased liquidity requirements, and large exposure limits.[132] This subpart will focus on the recommendations for the improved techniques that have a substantive impact on regulatory structural design. Improved techniques include, inter alia, business models, product analysis, and state-of-the-art controls, including risk management. Supervisors need to determine whether their frameworks focus too much on processes and not enough on outcomes.[133]

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125. Memorandum of Understanding in the Field of Financial Stability Between the Swiss Financial Market Supervisory Authority FINMA and the Swiss National Bank SNB 1–2 (Feb. 23, 2010), *available at* http://www.finma.ch/e/aktuell/Documents/mou-snb-finma-e.pdf.

126. *Id.* at 2.

127. BCBS, *Financial Conglomerates*, *supra* note 65, at 11.

128. *Citigroup's Day of Reckoning*, CNN MONEY (Nov. 4, 2007), http://money.cnn.com/2007/11/04/news/companies/citigroup_prince/.

129. Bradley Keoun, *Citigroup's $1.1 Trillion of Mysterious Assets Shadows Earnings*, BLOOMBERG (July 13, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a1liVM3tG3aI.

130. *See* FSB, *Progress Report*, *supra* note 10, at 18–19 (noting that FSB countries could improve supervisory frameworks with mandates and proper resources).

131. *See* Eric Dash & Julie Creswell, *Citigroup Saw No Red Flags Even as It Made Bolder Bets*, N.Y. TIMES (Nov. 22, 2008), http://www.nytimes.com/2008/11/23/business/23citi.html?pagewanted=all&_r=0 (quoting Chairman Rubin, "There is no way you would know what was going on with a risk book unless you're directly involved in the trading arena.").

132. FSB, *Progress Report*, *supra* note 10, at 25.

133. *Id.*

a. Business Models and Product Analysis

Supervisors need to understand a SIFI's risk appetite, economic drivers of profitability, operational infrastructure, product risk, and funding structure. A system-wide perspective to challenge SIFI's underlying growth assumptions and the implications of potential failure is required.[134] Supervision of financial conglomerates requires awareness of the entirety of a given business model, including the risks posed by unregulated entities and products.[135]

b. State of the Art Controls Including Risk Management

One way to effectively challenge SIFIs' underlying assumptions is by putting in place a risk appetite framework (RAF) consistent with the irrespective business models.[136] The RAF should cover the SIFI's overall risk profile and appetite, implementation of policies, strategic planning, and the ability to aggregate risk data.[137] Risk management of SIBs has been partially addressed under Basel III and that of SIFIs has been more generally addressed through stress tests, but relying solely on risk models does not take into account inherent inaccuracies and uncertainties, which could lead to failure.[138] The risk function must be able to challenge the financial conglomerate's business lines whilst remaining independent to review broader risk management controls, processes, and systems.[139]

3. Continuous and Comprehensive Supervision

A SIFI supervisor must identify, assess, and mitigate any emerging risks across banks and the banking system in addition to communicating its findings to banks or the banking industry by maintaining sufficiently frequent contacts with the bank's board, executive, and management.[140] Comprehensive supervision of financial conglomerates is facilitated by the appointment of a single, group-level supervisor that carries out consolidated supervision over the head or largest part of the financial conglomerate.[141]

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134. *Id.* at 9.

135. BCBS, *Financial Conglomerates*, *supra* note 65, at 9.

136. *See* FSB, *Progress Report*, *supra* note 10, at 9–10 (articulating that supervisors' implementation of a risk appetite framework consistent with the particular business model of a firm enables supervisors to "provoke debate on the implication of failure to achieve firm projections").

137. *Id.* at 10.

138. *See* BCBS, *A Global Regulatory Framework*, *supra* note 15, at 46, 48 ("It is important that supervisory authorities are able to assure themselves that banks using models have counterparty credit risk management systems that are conceptually sound and implemented with integrity.").

139. *See* BCBS, *Financial Conglomerates*, *supra* note 65, at 26 ("Supervisors should require that there exist an independent review process . . . to ensure the integrity of the overall capital management process of the financial conglomerate, taking into consideration requirements at individual entities within the financial conglomerate."); *see id.* at 5 ("[These principles] set[] out the need for a financial conglomerate to have a comprehensive risk management framework, including effective systems and processes to manage and report group-wide risk concentrations and intra-group transactions and exposures.").

140. BCBS, *Core Principles*, *supra* note 22, at 31–32.

141. BCBS, *Financial Conglomerates*, *supra* note 65, at 12–14 (suggesting that the roles and

4. Macroprudential Surveillance

Challenges still remain regarding macroprudential instruments integrating with microprudential supervision.[142] To better position supervisors to address proactively any threats to the stability of the banking system, the FSB recommends that the supervisory approach should be forward-looking.[143] The BCBS has introduced "essential criteria," which should be exercised proportionately with an SIB's systemic importance.[144]

A lack of macroprudential oversight is well illustrated by the U.K.'s supervisory arrangements prior to the GFC.[145] Monitoring the system as a whole, and in particular macroprudential analysis, was neglected by both the mandate of the Financial Services Authority (FSA) and the Bank of England.[146] A financial conglomerate's capital planning process must take into consideration the macroeconomic environment by incorporating a forward-looking view that identifies events and changes that could impact the group's global position.[147]

5. Group-Wide Supervision, Consolidated Supervision, and Supervisory Colleges

Domestic authorities should supervise banking groups on a consolidated basis and enhance their familiarity with the overall structure and domestic material activities, review overall activities of the banking group, and establish a framework to evaluate the risks posed by nonbanking activities.[148] The same loss-absorbency requirements shall apply, ceteris paribus, in order to mitigate the potential systemic impact of the failure on the domestic economy.[149]

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responsibilities of a single, group-level supervisor "should take into account the structure of the financial conglomerate; the characteristics of the regulated entities . . . ; the presence and dominance of sectors within the financial conglomerate; [and] the location of entities and the location of the markets in which the entities operate").

142. FSB, *Progress Report*, *supra* note 10, at 17; *see* Rolf H. Weber, *Multilayered Governance in International Financial Regulation and Supervision*, 13 J. INT'L ECON. L. 683, 701 (2010) [hereinafter Weber, *Multilayered Governance*] (defining macroprudential supervision as implying the integration of a system-wide perspective of financial supervisors with the microprudential supervision of individual financial institutions).

143. BCBS, *Core Principles Methodology*, at 15 (Oct. 2006) [hereinafter BCBS, *Methodology*], *available at* http://www.bis.org/publ/bcbs130.pdf.

144. BCBS, *Core Principles*, *supra* note 22, at 10, 29.

145. *See* HM TREASURY, A NEW APPROACH TO FINANCIAL REGULATION: JUDGEMENT, FOCUS AND STABILITY, 2010, Cm. 7874, paras. 1.14–1.15 (U.K.) [hereinafter HM TREASURY, JUDGEMENT, FOCUS AND STABILITY], *available at* http://www.hm-treasury.gov.uk/d/consult_financial_regulation_condoc.pdf (noting that the previous approach to macroprudential regulation was flawed prior to the GFC, relying too much on "'tick-box' compliance with rules and directives at the expense of proper in-depth and strategic risk analysis").

146. *See id.* (describing the transfer of operational responsibility for regulation from the FSA to a new subsidiary of the Bank of England).

147. *See* BCBS, *Financial Conglomerates*, *supra* note 65, at 26 (discussing the role and duties of financial conglomerates' supervisors).

148. *BCBS, Methodology*, *supra* note 143, at 38–39 (placing emphasis on information sharing between supervisory colleges and home/host supervisors).

149. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 9.

A home supervisor should establish bank-specific supervisory colleges for banking groups with material cross-border operations, taking into account the risk profile and systemic importance to coordinate and cooperate on the appropriate higher loss-absorbency requirement between home and host authorities.[150] In Switzerland, FINMA is empowered to have access to cross-border information.[151] FINMA enhances the cooperation with foreign supervisory authorities by entering into corresponding agreements.[152]

Supervisors of financial conglomerates are to establish coordination arrangements that enable effective group-wide supervision, including appropriate information sharing, participation in supervisory colleges, cooperating in on-site and off-site supervision and stress testing, and taking enforcement actions.[153]

D. *Lessons and Recommendations*

The FSB and the BCBS recommend that SIFIs should be subject to higher loss absorbency, including SIBs and D-SIBs, primarily based upon capital adequacy exceeding Basel III Common Equity (Tier 1) calibrated to a SIFI's systemic importance.[154] In this context, the aim of increasing loss absorbency is to maintain the SIFI's solvency in times of stress. Such an approach therefore has a balance-sheet focus. Various instruments have been employed to maintain solvency, most notably CoCos, which have the effect of manipulating a SIFI's balance sheet by converting debt to equity.[155] Increasing liquidity requirements is an off-balance-sheet approach to maintaining solvency beyond Common Equity (Tier 1).[156] Analogous to the capital-adequacy approach, SIFI liquidity requirements are to exceed Basel III.[157]

150. *Id.* at 10; Katia D'Hulster, *Cross Border Banking Supervision: Incentive Conflicts in Supervisory Information Sharing Between Home and Host Supervisors* 18 (World Bank, Policy Research Working Paper No. 5871, 2011), *available at* http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5871.

151. *See* BUNDESGESETZÜBER DIE EIDGENÖSSISCHE FINANZMARKTAUFSICHT (Finanzmarktaufsichtsgesetz, FINMAG) [FEDERAL ACT ON THE SWISS FINANCIAL MARKET SUPERVISORY AUTHORITY (FINANCIAL MARKET SUPERVISION ACT, FINMASA)] June 22, 2007, SR 956.1, art. 42(1), 43(3) (Switz.) (empowering FINMA with the ability to request information from foreign authorities in order to enforce the financial market acts and audit foreign institutions where it is responsible for consolidated supervision).

152. *See Agreements with Foreign Supervisory Authorities*, FINMA, http://www.finma.ch/e/finma/internationales/amtshilfe/pages/vereibarungen-mit-auslaendischen-aufsichtsbehoerden.aspx (last visited Mar. 18, 2014) (listing current agreements of FINMA with foreign supervisory authorities).

153. BCBS, *Financial Conglomerates*, *supra* note 65, at 13 § 6(c); *see also id.* at 13 § 6(d) (stating that in terms of coordination mechanisms, communication between supervisors should ensure that all cross-sectoral and cross-border positions are exposed).

154. FSB, *Reducing the Moral Hazard*, *supra* note 6, at 1-3 (discussing the recommendation to require higher loss absorbency for G-SIFIs and the method in which to implement this policy).

155. *See* FINMA, TOO BIG TO FAIL, *supra* note 53, at 11-12 (defining CoCos and describing their effect once converted).

156. *See* Adrian Blundell-Wignall & Paul Atkinson, *Thinking Beyond Basel III: Necessary Solutions for Capital and Liquidity*, OECD J.: FIN. MARKET TRENDS, no. 1, 2010, at 7-9, 17 (linking rising capital requirements, which address both on- and off-balance-sheet items to increased solvency and risk coverage).

157. *See* Gina Chon, *Fed Proposes New Liquidity Rules for Banks*, FIN. TIMES (Oct. 24, 2013), http://www.ft.com/intl/cms/s/0/9f61345c-3cb1-11e3-a8c4-00144feab7de.html#axzz2jzfTGvqi (discussing the

Increased liquidity requirements address times when market or asset funding is scarce, which may place a SIFI's solvency in doubt.[158] Both of these approaches are targeted at SIBs, as they reflect the risks of the banking business model.[159] Therefore, it is recommended that a structure will be well suited to supervising the FSB's increased loss absorbency if the banking supervisor's regulatory perimeter reflects the SIB's business model, capturing all its risks. One outcome of these higher standards is that they provide an incentive to divest nonbank business lines, reducing a SIB's systemic importance and therefore the level of prescribed capital adequacy or liquidity beyond Basel III.[160] This outcome will not affect the abovementioned advantage of effective increased loss-absorbency supervision of a banking supervisor. However, this outcome presumes that by divesting certain nonbanking business lines, an SIB will decrease its systemic importance. It is recommended that the supervisor in such circumstances undertake a comprehensive review of the SIB's loss absorbency to calibrate new capital adequacy and liquidity requirements that accurately reflect the risks of the entity and its activities.

The Joint Forum addresses this issue by recommending supplementary capital adequacy and liquidity across a financial conglomerate from a "group-wide" perspective.[161] Because every SIFI has a unique risk profile, this perspective is necessary, as a one-size-fits-all supervisory approach would provide an incentive to pursue regulatory arbitrage to reduce these requirements, undermining a SIFI's loss absorbency and resulting in a build-up of unregulated risks that could spread contagiously, there by destabilizing the financial system. This is a major disadvantage of a regulator subject to a rigid regulatory perimeter. It is recommended that a cross-sector approach be introduced to reduce the incidence of regulatory arbitrage and mitigate the potential build-up of systemic risks.

If the additional capital adequacy and liquidity recommendations beyond Basel III are struggling to maintain the viability of a SIFI, a timely and early resolution must be initiated before the firm is balance-sheet insolvent. The principal objective of the SIFI's resolution is to shield taxpayers from loss while protecting the SIFI's vital economic (systemic) functions. A designated resolution authority should be assigned to manage this task. To best manage this task, the resolution authority requires tools that enable the sale or restructuring of whole or part of the SIFI to maintain its continual performance with essential economic functions. CoCos are one tool that facilitates this mechanism. This also illustrates the overlap between increasing loss absorbency and undertaking an early resolution in order to maintain the economic functions of a SIFI. Therefore a resolution authority that focuses on SIBs should reflect the banking regulator or the banking regulations to facilitate this overlap. The diversity of the economic functions of SIFI financial conglomerates necessitates resolution authorities initiate a flexible and tailored approach to their

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United States' proposal to change the liquidity requirements for large U.S. banks).

158. *See* BCBS, *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, at 1 (Jan. 2013) [hereinafter BCBS, *Basel III*] (describing the liquidity coverage ratio as a measure that will "improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source").

159. *See* Blundell-Wignall & Atkinson, *supra* note 156, at 1 (citing the "hallmarks of the [financial] crisis as too-big-to-fail institutions that took on too much risk").

160. Chon, *supra* note 157 (discussing imposing a higher leverage ratio on the largest U.S. banks than under Basel III).

161. *See generally* BCBS, *Financial Conglomerates*, *supra* note 65.

domestic and global systemic activities. An RRP provides a summary of key recovery and resolution strategies and an operation plan that includes essential and systemically important functions.[162] Resolvability assessments complement the RRP, as they identify resolution actions. Each SIFI, like financial conglomerates, requires a separate resolvability assessment to allow for its different economic functions. It is therefore recommended that a jurisdiction characterized by this model and a high incidence of SIFI financial conglomerates appoint an integrated or collective resolution authority to facilitate different economic functions. In contrast to a resolution authority that reflects a rigid regulatory perimeter, an integrated or collective resolution authority will enable a flexible and tailored supervisory approach to more effectively manage both domestic and global systemic risks.

To effectively strengthen SIFI supervision, supervisors require powers to increase prudential requirements based on their systemic importance. For financial conglomerates, this involves coordinating and communicating with supervisors across financial sectors to identify and understand systemic risks within and across the group. Again, overlap with the framework to increase loss absorbency from a systemic perspective is the focus of a supervisor's extensive arsenal of powers and tools. Such frameworks should be centered on outcomes, not processes, when analyzing business models and products. Basel III only partially addresses the risk management of SIBs and financial conglomerates through stress tests, which may provide inaccurate or uncertain results. A SIFI supervisor must be able to identify, assess, and mitigate any emerging systemic risks across banks and the financial system. Therefore, it is recommended that the regulator's regulatory perimeter encapsulates both a microprudential and macroprudential perspective to more effectively evaluate the SIFI's systemic importance. This point is of particular importance for financial conglomerates and cross-border activities, as the supervisor must be able to appreciate the SIFI's systemic importance by coordinating appropriate higher loss-absorbency requirements between home and host authorities.

II. SHADOW BANKING

The shadow-banking system provides credit and support from outside the normal banking system to regulated banking institutions and other nonbank financial institutions engaged in banking-like activities.[163] Securitization and the use of credit-default swaps were two mechanisms in particular that facilitated the intermediation of credit between the shadow-banking system and the regulated banking system prior to the GFC.[164] These mechanisms form a conduit that can spread systemic contagion throughout the entire financial system. Links between the shadow-banking system

162. FSB, *Key Attributes*, *supra* note 74, at 37.

163. FSB, *Consultative Document: Strengthening Oversight and Regulation of Shadow Banking – A Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities*, at 1 (Nov. 18, 2012) [hereinafter FSB, *Policy Framework*], *available at* http://www.financialstabilityboard.org/publications/r_121118a.pdf.

164. TECHNICAL COMM., IOSCO, UNREGULATED FINANCIAL MARKETS AND PRODUCTS paras. 38–44 (2009) [hereinafter IOSCO, UNREGULATED FINANCIAL MARKETS AND PRODUCTS], *available at* http://www.iosco.org/library/pubdocs/pdf/IOSCOPD301.pdf.

and the regulated financial system can transmit and spread systemic risks to the broader economy. The recent GFC demonstrated that the global shadow-banking system has grown to such critical levels that even the global economy's financial stability can come under threat.[165]

As nonbank institutions may lead to SIB-like systemic risk, the FSB has been tasked by the G20 to address related issues. Part II.A will focus on the FSB's supervisory recommendations, addressing shadow-banking issues. As the risks of shadow banking may arise in the context of securitization, the G20 and FSB mandated IOSCO to analyze the risks and elaborate a set of recommendations. Part II.B sheds light on related IOSCO recommendations.

The shadow-banking system is broadly defined by the FSB as "'credit intermediation involving entities and activities (fully or partially) outside the regular banking system' or [nonbank] credit intermediation in short."[166]

Credit intermediation encapsulates only those entities and activities involved in extending credit or that form part of a chain facilitating credit intermediation.[167]

Shadow-banking entities and transactions can create bank-like risks to undermine financial stability, sourced from their business model reflecting that of traditional banks—extending long-term credit, short-term funding, maturity mismatch between this credit extension and funding, and high leverage. Maturity mismatch and high leverage can strain liquidity creating feedback transmissions, heighten procyclicality,[168] and generate contagion, thereby transmitting—possibly amplifying—systemic risks and giving rise to financial instability.[169]

A. *FSB Shadow-Banking Approach*

The FSB's shadow-banking policy objective is to "ensure that shadow banking is subject to appropriate oversight and regulation to address bank-like risks to financial stability emerging outside the regular banking system while not inhibiting sustainable nonbank financing models that do not pose such risks."[170]

The FSB recommends that a two-step policy process be employed to target nonbank credit intermediation that has the potential to generate bank-like systemic risks: enhanced monitoring and strengthening regulation.[171]

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165. FSB, *Policy Framework*, *supra* note 163, at 1–2.

166. FSB, *Consultative Document: Strengthening Oversight and Regulation of Shadow Banking—An Integrated Overview of Policy Recommendations*, at 1 (Nov. 18, 2012) [hereinafter FSB, *Policy Recommendations*], *available at* http://www.financialstabilityboard.org/publications/r_121118.pdf.

167. FSB, *Shadow Banking: Scoping the Issues—A Background Note of the Financial Stability Board*, at 2 (Apr. 12, 2011) [hereinafter FSB, *Scoping the Issues*], *available at* http://www.financialstabilityboard.org/publications/r_110412a.pdf.

168. During periods of heightened market confidence, an expansion in the credit supply can lead to a rise and surge in asset prices before an equally dramatic fall and loss of confidence, resulting in a contraction in the supply of credit. FSB, *Policy Recommendations*, *supra* note 166, at 1.

169. *Id.*

170. *Id.*

171. *Id.* at 3.

1. Enhanced Monitoring

In order for supervisors to assess sources of systemic risks outside the banking system, the first step involves enhancing system-wide monitoring of all nonbank credit intermediation, data gathering, and surveillance.[172] In 2012, macromapping was conducted by the FSB to monitor nonbank financial entities and activities.[173] One objective of macromapping is to provide an estimate of financial assets in the shadow-banking system as compared to the size of the regular banking system, which can aid in detecting potential vulnerabilities.[174] The initial results of this exercise were published in late 2012.[175]

2. Strengthening Regulation

The second step narrows this focus to nonbank credit intermediation involving maturity and liquidity transformation, imperfect credit-risk transfer, leverage, and/or regulatory arbitrage.[176] In conjunction with the BCBS, the FSB's policy measures for strengthening shadow-banking regulations are focus, proportionality, forward-looking vision, adaptability, effectiveness, and assessment and review.[177] Externalities and risks created by shadow banking require regulatory measures to be carefully designed and implemented in an effective manner domestically and internationally, proportionate to the risks posed to the financial system, that are forward-looking and adaptable to emerging risks.[178] The effectiveness of regulatory measures is to be regularly assessed and reviewed after implementation and adjusted where necessary.[179]

B. FSB Policy Areas

1. Interactions Between Banking Entities and Shadow-Banking Entities

Basel III strengthens the banking sector against risks from the shadow-banking sector through increased capital requirements pertaining to resecuritization exposures, liquidity facilities provided to securitization vehicles, regulated financial institutions of a value greater than or equal to USD 100 billion, unregulated financial institutions, Pillar 2 (securitization risk, reputational risk, and implicit support), and Pillar 3 disclosure requirements.[180]

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172. *Id.*

173. *Id.* at 3–4.

174. FSB, *Scoping the Issues*, *supra* note 167, at 6.

175. FSB, *Global Shadow Banking Monitoring Report 2012*, at 1–18 (Nov. 18, 2012) [hereinafter FSB, *Global Shadow Banking*], *available at* http://www.financialstabilityboard.org/publications/r_121118c.pdf.

176. FSB, *Policy Recommendations*, *supra* note 166, at 3.

177. *Id.* at 5.

178. *Id.* This involves "international consistency . . . to avoid creating cross-border arbitrage" whilst considering differences across jurisdictions and between financial systems. *Id.*

179. *Id.*

180. *Id.*

2. Assessing and Mitigating Systemic Risks Posed by Shadow-Banking Entities

Because of nonbank financial entities' high degree of heterogeneity and diversity, the FSB has adopted an activities-based approach judged against underlying economic functions.[181] This approach allows policy tools to be developed to mitigate shadow-banking systemic risks emanating from each of these economic functions.[182] These tools are to be applied across jurisdictions to all entities regardless of their legal form.[183] When applying the policy tools, authorities should adopt four overarching principles: defining the regulatory perimeter, collecting information to assess risks, increasing disclosure to help market participants understand risks, and assessing nonbank financial entities based on the economic functions while taking necessary actions, drawing on tools from the policy toolkit.[184] Common themes across the economic functions' policy tools were the implementation of prudential regulations, capital requirements, liquidity buffers, and leverage limits analogous to those imposed on banks under Basel III.[185]

a. Loan Provision Dependent on Short-Term Funding

Entities engaging in this provision of shadow-banking credit focus on specific financing sectors that can create heightened risk of contagion and systemic risks if those sectors are cyclical in nature.[186] Nonbank entities include: deposit-taking nonbank institutions, finance companies who are dependent on funding from parent companies in cyclical financial sectors, and nonbank finance companies whose funding is heavily dependent on banks.[187]

Because these entities operate under the same business model as banks, they produce the same risks as banks.[188] Accordingly, this business model should be subject to prudential regulation to mitigate those risks or be prohibited from accepting deposits.[189] This involves capital ratios, leverage ratios, and liquidity buffers to effectively manage credit risks and reduce procyclicality.[190] Capital instruments require sufficient loss absorbency.[191] To curtail procyclicality, leverage limits need be imposed on entities, allowing for differences in market involvement and financial-system significance.[192] Liquidity buffers are necessary to address maturity/liquidity transformation in order "[t]o counteract potential stress and run

181. *Id.* at 8.

182. FSB, *Policy Recommendations*, *supra* note 166, at 8.

183. *Id.* at 8–9.

184. *See* FSB, *Policy Framework*, *supra* note 163, at 4 (referring to these overarching principles in the context of outlining the elements of the policy framework).

185. *Id.* at 15–16.

186. *Id.* at 7.

187. *Id.*

188. *See id.* at ii (noting the similarities between shadow-banking entities and banks in terms of their business model and risks).

189. *Id.* at 15.

190. FSB, *Policy Framework*, *supra* note 163, at 15–16.

191. *Id.* at 15. Other tools include: restrictions on types of liabilities to reduce run risks from funding instruments, such as asset-backed commercial paper; monitoring the extent of maturity mismatch between assets and liabilities; and monitoring links with banks and other groups. *Id.* at 16–17.

192. *Id.* at 16.

risks from short-term liabilities . . . ."[193] Limits on asset concentrations are needed, balanced with risk management, to prevent large, firm-specific negative trends from transmitting and amplifying systemic risks.[194]

b. Facilitation of Credit Creation

Credit enhancements—such as credit-default swaps (CDSs), financial guarantees, and financial insurance—facilitate credit creation.[195] When nonbank intermediaries engage in credit enhancement that is not commensurate with the borrower's risk profile, it can excessively increase leverage, procyclicality, and systemic instability.[196] Financial guarantee companies "may be prone to 'runs' if their funding is dependent on wholesale [or short-term] funding" markets.[197] Mortgage insurance may cause systemic disruption if risks are excessive or not reflected appropriately in the funding costs.[198]

Capital is crucial for entities that provide CDSs, financial guarantees, and financial insurance.[199] To reduce excessive leverage, products should be priced to reflect risk and issuing entities should be required to hold sufficient long-term capital to cover potential losses.[200] This capital should have jurisdiction-specific characteristics, reduce cross-border regulatory arbitrage, and be calibrated to be countercyclical.[201] Sufficient liquidity buffers for both normal and stressed times should be adopted to mitigate the incidence of runs.[202]

c. Securitization and Funding of Client Assets

Securitization can promote procyclicality and create regulatory arbitrage.[203] Where securitization vehicles are used as funding channels there should be restrictions on maturity/liquidity transformation and liquidity requirements between the securities issued and the underlying pool of assets.[204] To reduce excessive leverage and liquidity transformation, restrictions on the quality of eligible capital should be imposed so that collateral is highly liquid to neutralize losses from counter-party nonperformance or default.[205]

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193. *Id.* at 15.

194. *Id.* at 16.

195. *Id.* at 8, 18.

196. FSB, *Policy Framework*, *supra* note 163, at 8.

197. *Id.* at 9.

198. *Id.*

199. *Id.* at 18 ("An appropriate level of capital is crucial for entities that may facilitate credit creation through providing financial guarantees and credit insurance, so they can absorb the losses that may result from these activities.").

200. *Id.*

201. *Id.*

202. FSB, *Policy Framework*, *supra* note 163, at 19.

203. *Id.* at 21.

204. *Id.* at 20.

205. *Id.*

C. IOSCO Policy Areas

The IOSCO Task Force on Unregulated Financial Markets and Products (TFUMP) was formed to review the scope of shadow banking with the overall objective of recommending ways to redefine the perimeter of regulation by focusing on securitization and CDSs.[206]

1. Securitization

Securitization is a valuable financing technique that efficiently diversifies risk and contributes to economic growth by providing banking-like long-term finance sourced from short-term funds.[207] Unlike traditional banking finance, securitization transfers long-term credit risks to nonbank investors. During the GFC, this transfer mechanism led to risk concentrations, "misaligned incentives," and "encourag[ed] a rapid and largely undetected build-up of leverage and maturity mismatching."[208]

a. Risk Retention

The FSB recommends mandated risk retention in securitized products to better align incentives between securitizers and investors.[209] This should be underpinned by originators and sponsors taking long-term economic exposures.[210] Where mandated in legislation, these incentives are to clearly set out elements underpinned by regulation and/or guidance, including obligations imposed with permitted and exempted forms of risk retention.[211] Risk retention builds upon enhanced disclosure requirements of underlying assets, flows of funds (waterfall), and structure performance.[212]

b. Disclosure Requirements

The underlying reasoning behind enhanced disclosure is that it reduces the reliance on credit-rating agencies.[213] Investors should be able to assess the risks or conduct credit analysis in underlying loans within pools of securitized assets. Effective risk assessment and credit analysis can be achieved through various modeling tools.[214] Standardized asset-level templates enable investors to analyze and

206. IOSCO, UNREGULATED FINANCIAL MARKETS AND PRODUCTS, *supra* note 164, at 2.

207. *See generally* Andreas Jobst, *What Is Securitization?*, FIN. & DEV., Sept. 2008, at 48, *available at* http://www.imf.org/external/pubs/ft/fandd/2008/09/pdf/basics.pdf.

208. FSB, *Policy Recommendations*, *supra* note 166, at 10; IOSCO, *Global Developments in Securitisation Regulation: Final Report*, at 8 (Nov. 16, 2012) [hereinafter IOSCO, *Securitisation Regulation*].

209. Media Release, IOSCO, IOSCO Publishes Recommendations for Securitisation Regulation (Nov. 16, 2012) [hereinafter IOSCO, Media Release] (available at http://www.iosco.org/news/pdf/IOSCONEWS257.pdf).

210. IOSCO, UNREGULATED FINANCIAL MARKETS AND PRODUCTS, *supra* note 164, paras. 58–63.

211. IOSCO, *Securitisation Regulation*, *supra* note 208, at 27, 48–49.

212. IOSCO, Media Release, *supra* note 209.

213. *Id.*

214. FSB, *Policy Recommendations*, *supra* note 166, at 1, 4.

compare information through the use of modeling tools.[215] The quality of securitized products can be assessed from information about originators' underwriting practices throughout the life of the transaction.[216]

2. Credit-Default Swaps

During the GFC, CDSs provided contractual connections between banks and nonbank entities, which transmitted and amplified systemic risks between regulated and unregulated entities.[217] CDSs were issued against residential mortgage-backed securities (RMBSs) in the United States as an essential credit-enhancement instrument supporting the securitization structure.[218] When this market collapsed, credit events triggered CDSs, causing substantial losses to issuers, including AIG.[219] AIG agreed to post collateral for its CDS contracts if the underlying securities' value dropped below a floor or if its credit rating was downgraded.[220] When funding markets became illiquid, ratings' downgrades on RMBSs and valuation losses by market participants triggered AIG's collateral payments.[221] The collateral payments snowballed, and AIG was on the verge of collapse because it lacked the liquidity to meet these collateral demands.[222] IOSCO has recommended that banks recognize all unrealized losses from credit risks.[223] To manage and mitigate CDSs' credit risks, the FSB and the International Swaps and Derivatives Association have recommended standardized contracts, centralized clearing parties, electronic processing, and the making of large amounts of data publicly available.[224]

D. Lessons and Recommendations

Shadow banks share the same risks as regulated banks, thereby generating transmission and amplification of systemic risks causing financial instability to the financial system and a nation's economy as a whole.[225] To assess these risks, the FSB

215. IOSCO, UNREGULATED FINANCIAL MARKETS AND PRODUCTS, *supra* note 164, paras. 81–82.

216. ISOCO, *Securitisation Regulation*, *supra* note 208, at 42–43.

217. *See* 2012 OFFICE OF FIN. RESEARCH [OFR], ANNUAL REPORT 89, 95, *available at* http://www.treasury.gov/initiatives/wsr/ofr/Documents/OFR_Annual_Report_071912_Final.pdf (suggesting the high risk and opaque nature of CDSs contributed to the financial crisis).

218. INT'L ASS'N OF INS. SUPERVISORS, INSURANCE AND FINANCIAL STABILITY 44 (2011) ("At the height of AIG's securities lending program in 2007, the U.S. pool held USD 76 billion in invested liabilities, 60 [percent] of which were RMBS.").

219. *See id.* (detailing the effect of the rapid decline in value of RMBSs).

220. *Id.* app. at 39.

221. *Id.*

222. *See id.* app. at 39-40 (describing the increasing demand for collateral calls in 2008 and AIG's subsequent near-collapse).

223. *See* IOSCO, *The Credit Default Swap Market*, at 30 (June 2012) [hereinafter IOSCO, *Credit Default Swap*], *available at* http://www.iosco.org/library/pubdocs/pdf/IOSCOPD385.pdf (noting that under new standards "banks are required to recognise in their income mark-to-market unrealised losses due to counterparty risk").

224. *Id.* at 36–37.

225. *See* FSB, *Scoping the Issues*, *supra* note 167, at 3-4 (discussing the systemic risks of shadow banking and its effects on regulated banks).

has recommended enhanced monitoring of shadow banking and strengthened supervision of nonbank entities and activities.[226] Basel III in particular was designed to heighten the banking sector's resilience to systemic risks emanating from the shadow-banking sector.[227] Nonbank financial entities are subject to an activities-based regulatory approach judged against economic functions utilizing the Basel III framework.[228] Therefore, capital adequacy and liquidity requirements applicable to banks will also have to be applied to shadow-banking institutions, which are undertaking banking-like activities.

When securitization is used as a shadow-banking funding channel, Basel III-type requirements should be imposed on capital adequacy and liquidity to reduce systemic counter-party risks. Furthermore, mandated risk retention should be imposed on originators over a long-term time horizon to align their interests with investors.[229] In this regard, disclosure is important to reduce investors' reliance on credit-rating agencies so that they can independently assess risks. Information garnered from standardization, modeling tools, and originator underwriting practices facilitate this investor analysis and the assessment of CDSs' credit risks. Therefore, it is recommended that the banking regulator also oversee the reinterpretation of the Basel III framework applicable to the shadow-banking sector because these risks, including systemic risks, are analogous to those of the banking sector.

Credit enhancements such as CDSs offered by shadow banks can result in those institutions being subject to "runs" like banks, increase systemic disruptions and instability, and heighten procyclicality within the financial system.[230] Therefore, the pricing of CDSs and Basel III prudential regulations should be calibrated to their potential systemic risks to cover any potential losses. This will require both a national jurisdictional and cross-border perspective. To more effectively manage ambiguous products such as CDSs, it is recommended that a cross-sector approach to supervision should be undertaken to mitigate systemic risks. This highlights the need for appropriately designed regulatory systems, the focus of the following section.

III. FINANCIAL REGULATORY STRUCTURE

Financial regulatory structures embody regulatory approaches to broadly maintain the stability of the financial system through the agencies that supervise financial institutions, financial activities, or both.[231] Different approaches to regulatory structures are undertaken by jurisdictions based on their financial sectors' unique characteristics.[232] Therefore, the selection of a regulatory structure by a

226. *Id.* at 1.

227. *See* Motocu, *supra* note 57, at 42 (discussing reducing the risks of shadow banking as motivations of Basel III).

228. FSB, *Policy Recommendations*, *supra* note 166, at 8.

229. *Id.* at 10.

230. FSB, *Scoping the Issues*, *supra* note 167, at 4 (discussing the potential risks of leverage within the shadow-banking system).

231. BCBS, *Review of the Differentiated Nature and Scope of Financial Regulation: Key Issues and Recommendations*, at 12, 22 (Jan. 2010) [hereinafter BCBS, *Differentiated Nature and Scope*], *available at* http://www.bis.org/publ/joint24.pdf (finding a need for reducing regulatory differences across sectors in order to mitigate systemic risk, especially with respect to CDSs).

232. G30, THE STRUCTURE OF FINANCIAL SUPERVISION: APPROACHES AND CHALLENGES IN A GLOBAL MARKETPLACE 23 (2008), *available at* http://www.group30.org/images/PDF/The%20Structure

jurisdiction needs to accommodate the nature and size of the financial sector and its domestic and international importance, along with the skills and resources of regulators and the government. During the GFC, the effectiveness of different regulatory structures at mitigating systemic risks and maintaining financial stability was found to be inadequate.[233] After careful and extensive review of the structures in conjunction with other regulatory deficiencies, certain jurisdictions, such as the United Kingdom, have decided to completely overhaul their regulatory structure to address these inadequacies.[234] This part will review the different regulatory structures in the context of the aforementioned discussions on SIFIs, shadow banking, and financial conglomerates.

A. *Financial Regulatory Structure: Models*

Five common financial regulatory structures can be identified: the traditional sectoral model (with separate regulators for each financial sector—banking, securities, and insurance—often combined with strict separation or holding-company structures for financial conglomerates); the functional model (with separate regulators for each regulatory function—financial stability, prudential, market conduct, and competition regulation—catering to financial conglomerates and product innovation); the institutional structure (with separate regulators for different types of financial institutions, most typically adopted in the context of banks with operations in multiple sectors such as securities and insurance); the single integrated structure (with one or more sectors and/or functions combined in a single agency, often combined with a universal banking model for financial-services provision); and the Twin Peaks structure (with one regulator responsible for prudential regulation and another for conduct regulation).[235]

%20of%20Financial%20Supervision.pdf.

233. *See* BCBS, *Differentiated Nature and Scope*, *supra* note 231, at 25 (discussing challenges that arise from differences in regulatory schemes).

234. *See* G30, *supra* note 232, at 176–77 (describing recent developments in the U.K.'s regulatory structure).

235. *See generally* FINANCIAL REGULATION: A GUIDE TO STRUCTURAL REFORM (Douglas Arner & Jan-Juy Lin eds., 2003) [hereinafter FINANCIAL REGULATION] (providing a detailed discussion of major financial regulatory models and their implementation in various jurisdictions). This analytical division is generally used outside the United States, as well as by the IMF. G30, *supra* note 232, at 13, 19. For an alternative framework of analysis (adopted in the United States), see *id.* at 32–33. Under the G30-U.S. framework, there are also four models (i) functional, (ii) institutional, (iii) Twin Peaks, and (iv) integrated. *Id.* at 24. Under this framework, the functional model is largely equivalent to the more generally-used sectoral model. The institutional model is largely equivalent to the more generally-used functional model. The integrated and Twin Peaks models are equivalent in both the G30-U.S. and international-IMF formulations. The G30-U.S. framework does not have an equivalent to the international-IMF functional approach. To further complicate matters, in its recent review of regulatory reform options, the U.S. Treasury suggested there are four main options: (i) institutionally-based functional regulation (the current U.S. model), (ii) activities-based functional regulation (a model based on regulators assigned specific functions within the financial system), (iii) consolidated regulation (the model in the United Kingdom), and (iv) objectives-based regulation (the model in Australia). U.S. DEP'T OF THE TREASURY, BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE 139–43 (2008). As a result, the definition of that terminology being used is of significant importance in this context.

Design is principally governed by each jurisdiction's unique historical, legal, and financial characteristics; thus, it is unlikely that any jurisdiction's structure will neatly align with one of the theoretical structures.[236] It cannot be taken for granted that a particular model is better than any other at creating a sound financial system; this depends on particular circumstances of the jurisdiction.[237] Criteria for determining sound financial systems include whether the standards are: relevant and critical in order to create a "stable, robust, and well-functioning" system; universally applicable; flexible in implementation; and broadly endorsed and assessable by relevant stakeholders.[238]

1. The Institutional Structure

The Group of Thirty (G30) defines the institutional structure as "one in which a firm's legal status (for example, a bank, broker-dealer, or insurance company) determines which regulator is tasked with overseeing its activity from both a safety and soundness and a business conduct perspective."[239]

This legal-entity-driven criterion is among the conventional approaches.[240] The firm's legal status at the same time also sets the scope for the business activities that the firm may undertake.[241] However, in practice it has been shown that this strict policy tends to be diluted, and as the marketplaces become more integrated, it becomes increasingly difficult to separate the different "institutional" sectors from each other.[242] Hence a clear assignment to a regulator of overseeing the activity of a particular company seems impractical. It is, therefore, uncommon for the institutional structure to be employed in its pure form.[243] An institutional approach will be employed in part as a stand-alone agency within a financial regulatory structure or will constitute an element of a functional agency.[244] Most commonly, an institutional approach is adopted for banks within the context of an otherwise sectoral model, most frequently with the central bank as banking supervisor.[245]

2. The Sectoral Structure

Under the sectoral regulation model, an economy has separate regulators for each financial sector (typically, banking, securities, and insurance).[246] This model has

236. G30, *supra* note 232, at 23.

237. *Id.* at 23–24.

238. *Key Standards for Sound Financial Systems*, FSB, http://www.financialstabilityboard.org/cos/key_standards.htm (last visited Mar. 20, 2014).

239. G30, *supra* note 232, at 13.

240. *Id.* at 24.

241. *Id.*

242. *Id.* at 34; *cf. id.* at 25 (citing evidence of this problem in China's institutional structure).

243. *Id.* at 34; *see also id.* at 23 (stating that none of the financial regulatory structures are pure).

244. Jeffrey Carmichael, *Options for Financial Regulatory Structure*, *in* FINANCIAL REGULATION, *supra* note 235, at 105.

245. *See id.* at 103–04 (stating that many central banks "have responsibility for banking regulation" under an institutional approach, and that "most countries have a hybrid mixture of the two approaches," with "[s]pecialist institutional regulators often co-exist[ing] with single-function regulators").

246. Robin Hui Huang & Shahla F. Ali, *Governing Financial Disputes in China: What Have We Learned from the Global Financial Crisis of 2008?*, 7 U. PA. E. ASIA L. REV. 195, 220 (2012); Christopher

been adopted in the majority of Organization for Economic Co-operation and Development economies around the world, including the United States.[247]

Broadly speaking, the U.S. financial markets are supervised under the sectoral structure.[248] The national bank's supervisor of federally chartered banks is the Office of the Comptroller of Currency, and the federal securities sector's supervisor is the Securities and Exchange Commission.[249] However, supervision of these sectors is also subject to state supervision, creating a dual system of supervision.[250] In comparison, the insurance sector is only supervised at the state level.[251]

The sectoral model works best with a system of strict sectoral separation of financial-intermediary activities.[252] It is also often used in economies that have adopted the financial holding-company model or the parent–subsidiary model.[253] It does not work well with universal banking models.[254] The recent experience of the United States highlights that the sectoral regulation model may also not be ideal in the context of financial holding-company models due to potential difficulties in coordination and coverage.[255] In addition, in financial sectors where cross-sectoral activities are allowed and traditional distinctions between markets, institutions, and products are blurred, such structures arguably provide potential for significant regulatory arbitrage and gaps in coverage.[256]

D. Olive & Douglas Arner, *Sectoral Regulation in the United States: Financial Services Modernization in the US and the Gramm-Leach-Bliley Act of 1999*, *in* FINANCIAL REGULATION, *supra* note 235, at 115.

247. *See* ORG. FOR ECON. CO-OPERATION & DEV. [OECD], ECONOMIC POLICY REFORMS: GOING FOR GROWTH 132–35 (2009) (graphing several countries that employ the sectoral regulation model in various markets); OECD, *Members and Partners*, http://www.oecd.org/about/membersandpartners (last visited Mar. 20, 2014) (indicating that the OECD includes 34 member countries that span the globe, including "many of the world's most advanced countries but also emerging countries").

248. John C. Coffee, Jr. & Hillary A. Sale, *Redesigning the SEC: Does the Treasury Have a Better Idea?* 95 VA. L. REV. 707, 716 (2009) ("The consensus today is that the United States has a highly fragmented and arguably Balkanized structure of financial regulation, which approaches creating a different regulator for every class of financial institution.").

249. *Id.* at 719.

250. G30, *supra* note 232, at 32.

251. Michael W. Taylor, *The Road from "Twin Peaks"—And the Way Back*, 16 CONN. INS. L.J. 61, 61–62 (2009) [hereinafter M. Taylor, *The Road*].

252. *See generally* FINANCIAL REGULATION, *supra* note 235.

253. *See* BCBS, *Financial Conglomerates*, *supra* note 65, at 8–39 (detailing steps sectoral regulators should take with financial conglomerates).

254. *But see* Clive Briault, *The Rationale for a Single National Financial Services Regulator*, 2 FSA OCCASIONAL PAPERS IN FIN. REGULATION 1, 18 (May 1999) (stating that a single national financial-services regulator, in theory, breeds efficiency).

255. *See* Kevin McCoy, *2008 Financial Crisis: Could It Happen Again?* USA TODAY (Sept. 9, 2013), *available at* http://www.usatoday.com/story/money/business/2013/09/08/legacy-2008-financial-crisis-lehman/2723733 (discussing the 2008 financial crisis and U.S. financial regulatory gaps).

256. *See* Olive & Arner, *supra* note 246, at 115, 125–28 (stating that a product classified as a banking product could be interpreted to be a security and explaining the complex regulation of financial holding companies).

3. The Single Integrated Structure

The G30 defines the single integrated structure as "one in which a single universal regulator conducts both safety and soundness oversight and conduct-of-business regulation for all the sectors of financial services business."[257]

Politicians in the EU have been debating about an integrated supervision since 1973, but domestic legal, administrative, and regulatory disparities in the supervision structure stood in the way of economic integration.[258] The development of a single market within the EU in the 1990s required a harmonization of the diverse domestic regulatory frameworks.[259] The EU did not instruct the Member States on how to organize and design their supervisory bodies.[260] Nevertheless, the conclusions drawn from the so-called Lamfalussy Report resulted in various states (for example, the United Kingdom and Germany) establishing supervision authorities with single integrated structures.[261] However, in the aftermath of the GFC, the EU recently shifted power to the European Central Bank (ECB) for a Single Supervisory Mechanism (SSM).[262] This SSM assigns to the ECB the ultimate responsibility for specific supervisory tasks of all banks within the euro zone if those tasks concern financial stability.[263]

From 1998 to 2012, the United Kingdom operated under the FSA: a single integrated structure that undertook statutory objectives, including market confidence, public awareness, consumer protection, and reduction of financial crime.[264] Responsibilities of the FSA included, inter alia, the prudential supervision of banks, building societies, investment firms, insurance companies, securities firms, and clearing and settlement systems.[265] Monetary policy is undertaken by the Bank of England.[266]

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257. G30, *supra* note 232, at 13.

258. ROLF H. WEBER ET AL., INTEGRIERTE FINANZMARKTAUFSICHT: RECHTLICHE UND ÖKONOMISCHE BEURTEILUNG DES FINMA-PROJEKTS [INTEGRATED SUPERVISION: A LEGAL AND ECONOMIC ASSESSMENT OF THE FINMA PROJECT] 21–22 (2006).

259. *Id.*

260. *See* DE LAROSIÈRE GRP., REPORT OF THE HIGH-LEVEL GROUP ON FINANCIAL SUPERVISION IN THE EU 27 (2009), *available at* http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf (stating that EU members had options regarding enforcement). *See generally* Duncan Alford, *The Lamfalussy Process and EU Bank Regulation: Another Step on the Road to Pan-European Regulation?*, 25 ANN. REV. BANKING & FIN. L. 389 (2006).

261. Alford, *supra* note 260, at 389–90. *See, e.g.*, Simon Taylor, *UK Welcomes de Larosière Report*, EUR. VOICE (Mar. 4, 2009) [hereinafter S. Tayler, *UK Welcomes de Larosière Report*], http://www.europeanvoice.com/article/2009/03/uk-welcomes-de-larosihre-report/64164.aspx (discussing the U.K.'s decision to call for unification of supervisory bodies).

262. Press Release, Eur. Comm'n, Commission Proposes New ECB Powers for Banking Supervision as Part of a Banking Union (Sept. 12, 2012), *available at* http://europa.eu/rapid/press-release_IP-12-953_en.htm.

263. *Id.*

264. *See* Financial Services and Markets Act, 2000, c.8, §§ 2(2), 2(4) (U.K.) (clearly indicating that the FSA was given statutory powers by the Financial Services and Marketing Act 2000).

265. Memorandum of Understanding Between HM Treasury, the Bank of England and the Financial Services Authority para. 3 (2006) [hereinafter Memorandum of Understanding], *available at* http://www.bankofengland.co.uk/financialstability/mou.pdf.

266. *Id.* para. 2.

The Swiss FINMA commenced operations on January 1, 2009.[267] The regulatory ambit of FINMA captures banks, securities firms, stock exchanges, insurance companies, and collective investment schemes.[268] FINMA's mandate encompasses the protection of investors, creditors, and policy holders and ensures the smooth functioning of financial markets as well as the sustainment of the reputation and competitiveness of the Swiss financial market.[269] Monetary policy is conducted by the SNB.[270]

4. The Functional Structure

Under the functional regulation model, an economy has separate regulators for separate functions, including (i) financial stability regulation, (ii) prudential regulation of financial-intermediary safety and soundness, (iii) financial-market conduct, and (iv) competition.[271] This model has been adopted in Canada, a developed country that has not experienced serious financial sector problems in the recent crisis.[272] Arguments in favor of this model suggest that clear objectives enhance regulatory performance and accountability.[273]

Financial-stability regulation and prudential regulation are often combined in a single agency, with a separate agency responsible for financial-market conduct (for example, the Twin Peaks approach).[274]

5. The Twin Peaks Structure

The G30 defines the Twin Peaks structure as "a form of regulation by objective . . . . in which there is a separation of regulatory functions between two regulators: one that performs the safety and soundness supervision function and the other that focuses on conduct-of-business regulation."[275]

This model can work with any model of financial-intermediary activities and financial-conglomerate structures.[276] It has been adopted in the Netherlands and

267. *Mandate*, FINMA, https://www.finma.ch/e/finma/pages/ziele.aspx (last visited Mar. 28, 2014).

268. *Id.*

269. *Id.*

270. CONSTITUTION FEDERALE [CST] [CONSTITUTION] Apr. 18, 1999, RO 101, art. 99, para. 2 (Switz.).

271. G30, *supra* note 232, at 24.

272. *Id.* at 126 ("The current Canadian financial regulatory structure, which developed in response to bank failures in the 1980s, can be described as an integrated and functional hybrid . . . ."); *see also* Kevin Lynch, *Avoiding the Financial Crisis: Lessons from Canada*, POL'Y OPTIONS, May 2010, at 12, 12, http://www.irpp.org/assets/po/the-fault-lines-of-federalism/lynch.pdf ("[T]he Canadian financial system weathered the global financial crisis relatively well.").

273. G30, *supra* note 232, at 34–35.

274. MICHAEL W. TAYLOR, CTR. FOR THE STUDY OF FIN. INNOVATION, "TWIN PEAKS": A REGULATORY STRUCTURE FOR THE NEW CENTURY 1 (1995) [hereinafter M. TAYLOR, TWIN PEAKS].

275. G30, *supra* note 232, at 13.

276. *See generally id.* at 188–96 (discussing the implementation of the Twin Peaks structure in Australia).

France.[277] In the wake of the GFC, increasing attention is being placed on the Twin Peaks structure due to failures in the single regulator approach in, for example, the United Kingdom and the sectoral approach in the United States.[278] It has now been adopted in the United Kingdom.[279]

The United Kingdom's new Twin Peaks structure is designed to supervise the financial system as a whole (macroprudential) while being coordinated with the regulation of individual firms (microprudential).[280] Under the new structure, the Financial Policy Committee (FPC)—macroprudential regulator—will be housed within the Bank of England (central bank); the Prudential Regulatory Authority (PRA)—microprudential regulator—will be a subsidiary of the Bank of England; and the new Financial Conduct Authority—consumer-protection and market-conduct regulator—being an independent agency.[281]

B. *Addressing SIFIs*

In evaluating regulatory structure, this Article first discusses operation in the context of SIFIs, beginning with regulation before turning to resolution.

1. Regulation

Capital adequacy—even beyond Basel III standards—may not accurately reflect risks outside the banking functional regulator's regulatory perimeter.[282] These unregulated risks could impact not only SIBs' viability but also its financial-system stability.[283] Sectoral structures overcome this regulatory deficiency by incorporating an institutional aspect.[284] This is the approach taken by the Hong Kong Monetary Authority, which expands the regulatory perimeter by incorporating all of a bank's activities—securities products, insurance products, over-the-counter derivatives, and pension funds—within the regulatory perimeter.[285]

Some financial institutions—UBS, Citigroup, and the Royal Bank of Scotland—are complying with the BCBS recommendations and are reducing exposure to

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277. *Id.* at 14; EUR. CENT. BANK, RECENT DEVELOPMENTS IN SUPERVISORY STRUCTURES IN THE EU MEMBER STATES 4 (2010).

278. *See* G30, *supra* note 232, at 14 ("There is a growing interest in and support for 'regulation by objective' of the Twin Peaks Approach to supervision.").

279. Adrian Brown & Sam Robinson, *Impact of the New "Twin Peaks" Structure of Financial Regulation on Enforcement*, BLOOMBERG L., http://about.bloomberglaw.com/practitioner-contributions /impact-of-the-new-twin-peaks-structure (last visited Mar. 20, 2014).

280. HM TREASURY, A NEW APPROACH TO FINANCIAL REGULATION: THE BLUEPRINT FOR REFORM, 2011, Cm. 8083, at 3 (U.K.) [hereinafter HM TREASURY, THE BLUEPRINT FOR REFORM], *available at* https://www.official-documents.gov.uk/document/cm80/8083/8083.pdf.

281. *Id.*

282. *See* FIN. SERVS. AUTH., THE TURNER REVIEW: A REGULATORY RESPONSE TO THE GLOBAL BANKING CRISIS 7 (2009) [hereinafter THE TURNER REVIEW], *available at* http://www.fsa.gov.uk/ pubs/other/turner_review.pdf (suggesting that regulators expand their scope beyond capital adequacy to account for other risks).

283. *See id.* at 29 (describing the financial instability risks in the United Kingdom).

284. Christos Hadjiemmanuil, *Institutional Structure of Financial Regulation: A Trend Towards "Megaregulators?"*, *in* FINANCIAL REGULATION, *supra* note 235, at 148–51.

285. *See* G30, *supra* note 232, at 68 (discussing Hong Kong's enactment of the *Mandatory Provident Fund Schemes Ordinance*).

systemic risks outside their traditional business lines.[286] Increasing loss absorbency is encouraging these financial institutions to embrace a sectoral business model regardless of the regulatory structure under which they operate.[287] Not all D-SIBs are following the trend of cutting business lines to reduce loss-absorbency obligations and therefore systemic exposures.[288] Switzerland, the United States, and the United Kingdom are three jurisdictions that are implementing tough regulatory measures.[289] Each of these jurisdictions is broadly pursuing the same regulatory objectives but implementing or adhering to three different regulatory structures post-GFC.[290]

The Joint Forum recommends supplementary capital requirements for financial conglomerates and the management of liquidity risks consistent with their complexity, risk profiles, and scopes of operations.[291] From a group-wide perspective, regulatory gaps may arise between the sectoral regulator's regulatory perimeters, rendering any assessment of the financial conglomerate's group-wide loss absorbency and liquidity management inaccurate, not reflecting systemic importance.[292]

If SIFI capital-adequacy requirements are substantially in excess of Basel III, D-SIBs have an incentive to divest high-risk business operations such as investment banking.[293] In such circumstances, the single integrated structure's advantage of being more flexible (for example, adjusting capital adequacy or other loss-absorption measures that better reflect institutional risks as a whole) is reduced.[294]

In Switzerland, the new CAO—a result of the Basel III framework given Swiss statutory recognition—empowers FINMA with a "latitude of judgment."[295] For example, UBS is classified as a SIB and is consequently subject to more stringent supervision than non-SIBs.[296] There are also limits on risk-weighted assets and certain business initiatives that require approval from FINMA.[297] By divesting its investment-banking arm, UBS is better suited for regulation by a sectoral banking

286. *See, e.g.*, EBRU PAKCAN, CAROLINA CABALLERO & MARK MCNULTY, CITIBANK, PAYMENTS: FROM COMPLIANCE TO INNOVATION 2–3 (2013), *available at* http://citibank.com/transactionservices/home/sa/b2/sibos_2013/docs/payment_compliance.pdf (discussing Citi's approach to reducing systemic risk and the potential areas for innovation within the new regulatory initiatives).

287. *See* Bono et al., *supra* note 36 (analyzing Swiss requirements that institutions deal with loss absorbency through the Basel sectoral structure).

288. *See generally* FINANCIAL REGULATION, *supra* note 235.

289. BCBS, *Progress Report on Implementation of the Basel Regulatory Framework*, at 7 (Apr. 2013) [hereinafter BCBS, *April Progress Report*], *available at* http://www.bis.org/publ/bcbs247.pdf.

290. *See id.* at 1, 4–7 (describing the regulatory approaches for each country with respect to G-SIBs and D-SIBs, the liquidity coverage ratio, and the leverage ratio).

291. BCBS, *Financial Conglomerates*, *supra* note 65, at 25.

292. M. Taylor, *The Road*, *supra* note 251, at 62.

293. *See* BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 2, 8–9 (recommending that regulators assess risks at the institutional level in determining capital-financial adequacy requirements).

294. *Id.*

295. René Bösch & Jonas Oggier, *Proposed New Capital Adequacy Rules Remodel Swiss Regulatory Capital Framework*, 1 SWISS CAPITAL MKTS. LAW 6 (Cap Law), 2012, at 9 (noting a departure in the draft CAO from the Basel III framework).

296. Elena Logutenkova & Zoe Schneeweiss, *SNB Places ZKB Alongside UBS as Systemically Important Bank (2)*, BLOOMBERG (Nov. 11, 2013), http://www.businessweek.com/news/2013-11-11/snb-classifies-zurich-regional-bank-as-systemically-important.

297. Press Release, FINMA, UBS Trading Losses in London: FINMA Finds Major Control Failures (Nov. 26, 2012) (available at http://www.finma.ch/e/aktuell/pages/mm-ubs-london-20121126.aspx).

regulator because the single integrated structure is less focused on supervising traditional banking models.[298] This may not be the intended outcome for Switzerland, as FINMA is a less accurate reflection of the SIB's business model.[299]

As Clive Briault argues, coordination issues that are the norm rather than the exception between functional (referring to this Article's definition of sectoral) regulators are made redundant when jurisdictions opt for the single integrated structure.[300] Moreover, Briault argues that the single integrated structure's advantage comes from the fact that it "is likely to be well placed to deliver effective, efficient and properly differentiated regulation in today's financial environment."[301]

A more seamless supervision of the financial conglomerate is also achieved. Any regulatory gaps will occur from the regulations or legislation rather than the structure.[302] Monitoring capital adequacy and liquidity requirements of a financial conglomerate from a group-wide perspective is more comprehensive than doing so with a sectoral structure.[303] This better positions the single integrated structure to call for supplementary capital adequacy and monitor liquidity management of the SIFI financial conglomerate that reflects its systemic importance.

The single integrated structure's weakness is that the structure is not calibrated to a universal bank's systemic importance, only its risk per se.[304] A lack of macroprudential focus was a significant failure of the FSA during the GFC.[305] The Turner Review found that neither the FSA nor the Bank of England took clear responsibility for macroprudential oversight.[306] Monetary policy was the Bank of England's focus while the FSA focused on individual institutions, not on system-wide risks.[307] The FSA did not satisfy the BCBS's recommendation of capital adequacy, reflecting a bank's risks "in the context of the markets and macroeconomic conditions in which it operates."[308]

Sectoral and functional structures may both suffer from a similar regulatory underlap if coordination between the regulators does not accurately reflect markets

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298. *See* FINMA, SUMMARY REPORT: FINMA INVESTIGATION INTO THE EVENTS SURROUNDING TRADING LOSSES OF USD 2.3 BILLION INCURRED BY THE INVESTMENT BANKING DIVISION OF UBS AG IN LONDON para. 51 (2012), *available at* http://www.finma.ch/d/aktuell/Documents/ubs-summary-report-20121121.pdf (noting the preventive supervisory measures FINMA imposed on UBS, primarily dealing with its investment banking).

299. *See generally* FINMA, RESOLUTION OF GLOBAL SYSTEMICALLY IMPORTANT BANKS 7 (2013), *available at* www.finma.ch/e/finma/publikationen/Documents/pos-sanierung-abwicklung-20130807-e.pdf.

300. Clive Briault, *supra* note 254, at 18.

301. *Id.* at 34.

302. *See id.* at 7 (discussing how gaps in the single-entity U.K. system of regulation can be remedied by legislation).

303. *Id.* at 15.

304. *See* M. Taylor, *The Road*, *supra* note 251, at 94 (noting that "the apparent simplicity of the [single integrated] structure was deceptive as it resulted in some of the complexities of financial regulation and crisis management being neglected").

305. THE TURNER REVIEW, *supra* note 282, at 84.

306. *See id.*

> (The vital activity of macro-prudential analysis, and the definition and use of macro-prudential tools, fell between two stools. In the words of Paul Tucker, now Deputy Governor of the Bank of England for financial stability, the problem was not overlap but 'underlap' [between the FSA and the Bank of England].).

307. *Id.*

308. BCBS, *Core Principles*, *supra* note 22, at 44.

or macroeconomic conditions.[309] In contrast, the Twin Peaks structure supervises SIBs' safety and soundness, reflecting markets and macroeconomic conditions by focusing on capital adequacy and liquidity measures with discretion to mitigate systemic risks.[310]

Effective financial conglomerate analysis is analogous to the single integrated structure because the Twin Peaks structure shares its integrated design but with improved systemic-risk detection.[311]

2. SIFI Resolution as a Viable Option

Each jurisdiction should have a designated resolution authority to, inter alia, preserve those SIFI operations that could cause system-wide damage.

a. Resolution Authority

Some jurisdictions have established resolution regimes that specifically target the banking sector.[312] Such a sectoral structure provides a more focused approach to those institutions that neatly fall within a distinct financial sector. Although the United Kingdom does not operate under a sectoral regulatory structure, since 2009 the resolution authority has reflected a sectoral banking approach.[313] This arrangement appears to suffer from the same deficiencies as sectoral supervisors.[314] The resolution authority is required to coordinate with the sectoral regulators and the central bank, with support from the Government, to oversee a SIFI's resolution.[315]

The single integrated structure covers all failing SIFIs regardless of financial-sector activity. In the United Kingdom during the GFC only the general corporate-insolvency regime was available.[316] This approach rendered the cross-sectoral advantage of the single integrated structure redundant. The adoption of the U.K. functional resolution authority, the Special Resolution Regime (SRR), will also

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309. THE TURNER REVIEW, *supra* note 282, at 84–85 (stating that the relationship between the FSA and the Bank of England "will only work effectively if there is intense joint working to bring together macroeconomic analysis and insight from specific institutions, and from sectoral and business model analysis, and if this analysis results in agreed points of view on how risks are evolving").

310. HM TREASURY, THE BLUEPRINT FOR REFORM, *supra* note 280; see M. TAYLOR, TWIN PEAKS, *supra* note 274, at 10 (expressing the capacity for the Twin Peaks structure to mitigate systemic risk).

311. *See* M. Taylor, *The Road*, *supra* note 251, at 93 (discussing the lack of crisis management under England's FSA in the context of a discussion on the benefits of the Twin Peaks system).

312. *See* G30, *supra* note 232, at 24-26 (stating that China and Mexico both target the banking sector specifically).

313. *See generally* Banking Act, 2009, c.1 (U.K.).

314. *See* G30, *supra* note 232, at 34–35 (stating that both the functional and institutional approaches to regulation suffer from inconsistency in application).

315. *See* Banking Act c.1, § 1(5) (stating that the Bank of England, the Treasury, and the FSA all have "a role in the operation of the special resolution regime").

316. *See* BRIERLEY, *supra* note 77, at 4 ("[T]he United Kingdom was previously completely dependent on the application of corporate insolvency law, such as the Insolvency Act of 1986, to the resolution of banks.").

render the cross-sectoral advantage of the structure redundant and would be better served by the *focus* of a functional banking regulator whose regulatory perimeter reflects the resolution authority.[317]

Under the U.K.'s proposed Twin Peaks structure, the Bank of England and HM Treasury will be entrusted to decide whether to place a failing bank into the SRR.[318] This approach has a macroprudential dimension, supplementing the PRA's microprudential regulatory ambit.[319] This structure would be in a good position to mitigate systemic risks from a failing D-SIB.[320] However, the SRR focuses only on banks, with its powers sourced from the Banking Act 2009.[321] Because prudential supervision involves both micro- and macroprudential supervision, this regulatory deficiency could weaken the U.K. Twin Peaks structure's supervision of systemic risks emanating from nonbank SIFIs, thereby undermining financial stability.[322]

b. Sale and Restructuring

Under a sectoral structure, the resolution authority is charged with operating, controlling, managing, restructuring, closing, or winding-up sectoral parts of a SIFI and establishing temporary bridge institutions or separate asset management vehicles within the financial regulatory perimeter.[323] A resolution authority under the sectoral structure may experience difficulties in exercising these powers outside the sectoral regulator's perimeter or where there is overlap between regulatory perimeters.[324] In such circumstances, coordination could impede the resolution authority's ability to ensure a SIFI's continual performance as an ongoing enterprise with essential economic and financial functions.[325] Under the sectoral structure, a resolution authority has the advantage of being focused at managing specific SIFI financial-conglomerate assets, liabilities, contracts, and debts pertaining to the separate entities that align with a distinct financial sector.[326] In particular, each regulator would be able to respond to an aligned sectoral part of the financial conglomerate.

317. *See id.* at 7 (describing the preference for limiting and focusing the resolution powers of various regulators in England).

318. Banking Act c.1, §§ 1–10 (giving an overview of the special resolution regime and the bodies that have the authority to exercise a stabilization option).

319. *See generally* IMF, *Key Aspects of Macroprudential Policy* (June 10, 2013), *available at* http://www.imf.org/external/np/pp/eng/2013/061013b.pdf.

320. *See id.* at 14 (describing the need for macroprudential and resolution policies for effective resolution of failing banks).

321. Banking Act c.1, § 1.

322. *See* Erlend W. Nier et al., *Towards Effective Macroprudential Policy Frameworks: An Assessment of Stylized Institutional Models* (IMF, Working Paper WP/11/250, 2011), *available at* http://www.imf.org/external/pubs/ft/wp/2011/wp11250.pdf (describing the strengths and weaknesses of models like the U.K. regulatory model).

323. *See* FSB, *Key Attributes*, *supra* note 74, at 7–8 (listing the range of resolution authority powers, including the ability to establish bridge institutions and separate asset management vehicles).

324. *See, e.g.*, G30, *supra* note 232, at 32, 35 (noting that banking and securities entities in the United States "are regulated at both the state and federal levels by multiple regulators," and this duplicity causes jurisdictional conflicts, for example, between the Securities Exchange Commission and the Commodity Futures Trading Commission).

325. *See id.* at 15 (stating that while "[a]gencies should seek to maintain good contacts and interaction[,] . . . [c]oordination and communication can and do create challenges").

326. *See* FSB, *Key Attributes*, *supra* note 74, at 1, 7–8 (enumerating the various resolution authority powers, including transferring and selling liabilities, and managing contracts and debts, in a regime that

In contrast, because of the nature of the single integrated structure, the resolution authority would be able to seamlessly operate, control, manage, restructure, close, or wind-up any section of the SIFI.[327] The resolution authority would be in a much better position to fulfill a SIFI's continual performance as an ongoing enterprise with essential economic and financial functions.[328] Exercising powers over SIFI assets, liabilities, contracts, and debts affecting divergent financial sectors is a clear advantage.[329] However, the structure may not be as focused as the sectoral structure at handling SIFI assets, liabilities, contracts, and debts pertaining to a distinct financial sector.[330] This may be particularly pronounced in the banking sector or where banking activities are undertaken by nonbanks. Under such circumstances, the sectoral structure may prove more intensive and effective.[331] One advantage of the single integrated structure is the ability to bridge activities and entities of a single financial group.[332] Having a single integrated resolution authority that reflects the structure of the regulator would best realize this advantage, rather than a sectoral resolution authority operating under a single integrated structure. An integrated resolution authority would be more effective at managing SIFI financial-conglomerate assets, liabilities, contracts, and debts outside of a designated sector.[333] For example, a banking sectoral resolution authority would struggle to fully understand the systemic risks of a SIFI insurance conglomerate that engages in banking-like activities analogous to AIG.

The resolution authority must ensure that any changes to or continuation of the SIFI's operations will not cause further system-wide damage.[334] Because one peak of the Twin Peaks structure is fundamentally an integrated regulator that focuses on systemic risks from both a macroprudential and microprudential perspective, it is in

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accounts for sector-specific considerations); Olive & Arner, *supra* note 256, at 115 (describing the regulator approach in the United States as distinctly focused on separating different financial sectors).

327. *See* José de Luna Martinez & Thomas A. Rose, *International Survey of Integrated Supervision*, *in* FINANCIAL REGULATION, *supra* note 235, at 4–10 (outlining the nature and benefits of a single integrated structure).

328. *See* FSB, *Key Attributes*, *supra* note 74, at 7–8 (discussing the "broad range of resolution powers" available to resolution authorities).

329. *See* Martinez & Rose, *supra* note 327, at 3 (describing the reason why "[c]ountries that have adopted integrated supervision believe that a single supervisor is more effective than multiple supervisors").

330. *See* Richard K. Abrams & Michael W. Taylor, *Assessing the Case for Unified Financial Sector Supervision*, *in* FINANCIAL REGULATION, *supra* note 235, at 49 ("[I]t is possible that a single regulator might not have a clear focus on the objectives and rationale of regulation and might not be able to adequately differentiate between different types of institutions.").

331. *See* G30, *supra* note 232, at 36–37 (outlining the weaknesses of the single integrated approach, including the potential for a single point of failure within a financial system to go undetected due to a lack of checks and balances within its oversight system).

332. *See id.* at 36 ("Oversight of financial institutions that are involved in multiple business lines can be vastly simplified and presumably more efficient and cost-effective with a single regulator.").

333. *See* FSB, *Consultative Document*, *supra* note 92, at 9 ("This resolution authority should have the expertise, resources, capacity and operational independence consistent with their statutory responsibilities to exercise those powers, including for large and complex institutions such as SIFIs.").

334. *See id.* ("A resolution authority should have the powers and tools to . . . preserve those of the SIFI's operations that provide vital services to the financial system and the wider economy, which would cause system-wide damage if lost . . . .").

the best position of any structure to ensure that the SIFI's operations would not cause further system-wide damage.[335]

3. Strengthening SIFI Supervision

Theoretically, each regulator in a sectoral system can more intensively supervise within their respective regulatory perimeter. However, this intensity will only have a direct correlation with improving the effectiveness and reliability of supervision when an entity or product neatly falls within a designated regulatory perimeter.[336] This was evident during the GFC when SIFIs, such as Lehman Brothers and AIG, had extensive exposures to the banking and shadow-banking sectors.[337] Sectoral regulators were unable to accurately gauge the systemic ramifications from the potential failure of these nonbank SIFIs.[338]

The sectoral structure does not reflect the complexities and interconnectedness of the financial system because systemic risks can be transmitted and sourced from all financial sectors.[339] In response, the United States has recognized and confirmed this regulatory deficiency of the sectoral structure by creating an integrated systemic risk supervisor, the Financial Stability Oversight Council (FSOC).[340]

Theoretically, the single integrated and functional structures should facilitate the power to execute mandates across all financial sectors, reflecting the complexity of the financial system.[341] However, the Turner Review found that the FSA focused primarily on the regulation of individual institutions and not on the overall financial system and systemic risks.[342] Although Northern Rock was not a SIFI, the FSA nevertheless failed to identify its flawed business model.[343] This failure is indicative of a broader weakness of the FSA supervising more complex entities such as SIFIs or SIFI financial conglomerates. In this context, the functional structure may also fail to bridge the divide between macroprudential and microprudential supervision because these functions are housed in two agencies.

One of the principal reasons for the United Kingdom opting for the Twin Peaks structure was to have a focused body responsible for protecting the stability of the financial system as a whole by detecting systemic risks that threaten financial

335. *See* U.S. DEP'T OF THE TREASURY, *supra* note 235, at 143–44.

336. *See, e.g.*, Mary Williams Walsh, *Risky Trading Wasn't Just on the Fringe at A.I.G.*, N.Y. TIMES, Feb. 1, 2010, at B1 (noting a "blind spot" on insurance companies, making them hard to regulate).

337. *Id.*

338. THE TURNER REVIEW, *supra* note 282, at 22 (recognizing that the ratings "proved highly imperfect predictors of risk").

339. Rosa María Lastra, *Systemic Risk, SIFIs and Financial Stability*, 6 CAP. MKTS. L.J. 197, 202 (2011).

340. 2011 FSOC ANNUAL REPORT i–ii, *available at* http://www.treasury.gov/initiatives/fsoc/Documents/FSOCAR2011.pdf; *see also* EDWARD V. MURPHY & MICHAEL B. BERNIER, CONG. RESEARCH SERV., R42083, FINANCIAL STABILITY OVERSIGHT COUNCIL: A FRAMEWORK TO MITIGATE SYSTEMIC RISK 4–7 (2011), *available at* http://assets.opencrs.com/rpts/R42083_20111115.pdf (discussing the purposes of the FSOC).

341. G30, *supra* note 232, at 24.

342. *See id.* (stating that the essential principle that regulation should focus on substance rather than legal form could "have implications for the future FSA approach to particular types of institution[s], for instance hedge funds").

343. *Id.* at 88.

stability.[344] The FPC is charged with "identifying, monitoring and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the [U.K.] financial system."[345] This approach per se is analogous to that of the functional structure.[346] In contrast, the FSA did not have a mandate to mitigate systemic risks.[347] Very few, if any, structures prior to the GFC had such a mandate.[348] The nature of the single integrated structure having ambiguous mandates and the frictions between market conduct and prudential regulation inhibit an intensive, reliable, and, therefore, effective systemic-risk detection and mitigation. Under the Twin Peaks structure, oversight of all SIFIs, including financial conglomerates, is conducted irrespective of the financial sector, ensuring that all systemic risks are reliably detected.[349] The functional structure takes a similar approach to oversight; however, systemic-risk detection is contingent on the coordination and cooperation, most notably information sharing, between the micro- and macroprudential regulators.[350] Reliable detection of systemic risks is a clear advantage over the sectoral structure.[351] To overcome this regulatory deficiency, the United States has established the FSOC.[352] This agency coordinates federal and state sectoral regulators to replicate the safety and soundness peak agency under the Twin Peaks structure.[353] By being an integrated stand-alone agency overseeing safety and soundness, the U.K. Twin Peaks model would be less likely to suffer from regulatory arbitrage or gaps than the U.S. collective agency FSOC, and it is therefore potentially more reliable when overseeing SIFIs that bridge financial sectors.[354] However, the FSOC may provide more intensive oversight if SIFIs reflect the regulatory perimeters of the member agencies.[355]

344. HM TREASURY, THE BLUEPRINT FOR REFORM, *supra* note 280, para. 1.25.

345. *Financial Policy Committee*, BANK OF ENG., *available at* http://www.bankofengland.co.uk/financialstability/pages/fpc/default.aspx (last visited Mar. 20, 2014).

346. Carmichael, *supra* note 244, at 107.

347. HM TREASURY, JUDGEMENT, FOCUS AND STABILITY, *supra* note 145, para. 1.10.

348. *See, e.g.*, Tobias Adrian et al., *Financial Stability Monitoring* 4 (Fed. Reserve Bd., Fin. & Econ. Discussion Series, Working Paper No. 2013–21, 2013) (explaining that prior to Dodd-Frank, "no agency was responsible for ensuring the stability of the broader financial system"); HM TREASURY, JUDGEMENT, FOCUS AND STABILITY, *supra* note 145, para. 1.10 (explaining that prior to the establishment of the FPC, there was no larger overseeing agency).

349. *See* Hadjiemmanuil, *supra* note 284, at 154 (explaining that the Twin Peaks model monitors all financial institutions via two agencies, one overseeing prudential regulation, the other overseeing conduct-of-business with retail clients).

350. Carmichael, *supra* note 244, at 107.

351. *See id.* (discussing that the main advantage of functional model "is that it maximizes regulatory focus" and "reduces the potential for regulatory failure").

352. FSOC, *supra* note 340, at ii.

353. *See* MURPHY & BERNIER, *supra* note 340, at 2-7 (explaining FSOC's roles and listing both federal regulators and state regulators that are members of FSOC).

354. *See* Abrams & Taylor, *supra* note 330, at 46 (discussing the benefits of a unified supervisory function in dealing with regulatory arbitrage).

355. *See id.* at 56 (stating that "institutional structure of regulation should reflect the institutional structure of the industry it is designed to regulate").

C. *Addressing Shadow Banking*

During the GFC, financial institutions were able to engage in banking regulatory arbitrage from activities, and through entities, in the shadow-banking sector.[356] A question raised by the FSB's shadow-banking policy ("to address bank-like risks . . . outside the regular banking system"[357]) is whether a sectoral structure that focuses on bank-like risks would in fact capture shadow-banking entities and activities outside the traditional banking-sector regulatory perimeter.

1. Policy Framework and Tools

The FSB's economic function-based approach to shadow banking is analogous to a sectoral regulatory structure.[358] Developed in conjunction with the BCBS and IOSCO, increasing the focus of regulatory measures is the FSB's first policy measure to strengthen shadow-banking supervision.[359] Another FSB policy to strengthen shadow-banking supervision is for regulatory measures to be "forward-looking and adaptable to emerging risks."[360] Adaptability is the main strength of the single integrated structure.[361] This adaptability allows the single integrated structure to be more comprehensive when supervising the shadow-banking sector.[362]

Macromapping was conducted by the FSB to monitor nonbank financial entities and activities.[363] This approach enables the monitoring of the evolving and changing nature of the shadow-banking system and detects systemic vulnerabilities.[364] In this regard, the Twin Peaks structure is designed and implemented in a more effective manner than other structures.[365] When compared to the sectoral, functional, and single integrated structures, the Twin Peaks' ability to oversee the financial system from both a macroprudential and microprudential perspective is more proportionate to the systemic risks posed to the financial system from the banking and shadow-banking sectors.[366] Unlike the sectoral and the single integrated structures, the Twin Peaks structure is designed to be forward-looking and adaptable to emerging systemic risks.[367]

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356. *See* FSB, *Scoping the Issues*, *supra* note 167, at 5 (discussing how banks have used shadow banking to conduct regulatory arbitrage).

357. FSB, *Policy Recommendations*, *supra* note 166, at 1.

358. *Compare id.* at 8–9 (describing the FSB's approach to shadow banking and its reliance on economic function analysis), *with* discussion in *supra* Part III.A.2.

359. FSB, *Policy Recommendations*, *supra* note 166, at 5.

360. *Id.*

361. *See id.* at 2 (stating that the capability of oversight and regulation to evolve in response to market changes is necessary).

362. *Id.*

363. *Id.* at 4.

364. FSB, *Scoping the Issues*, *supra* note 167, at 6 (stating that macromapping "can give a very broad picture of how the shadow-banking system is evolving over time" and can potentially be helpful in assessing "funding vulnerabilities of broad shadow-banking sectors and non-financial sectors").

365. This involves international consistency to avoid creating cross-border arbitrage whilst considering differences across jurisdictions and between financial systems. FSB, *Policy Recommendations*, *supra* note 166, at 4.

366. Nier et al., *supra* note 322, at 17–18 (noting, inter alia, that "full integration can reduce mismatches between the reach of mandates and the reach of powers, because the decision maker has control over most of the relevant tools").

367. FSB, *Scoping the Issues*, *supra* note 167, at 6–7 (noting that microperspective monitoring

2. Basel III

Because a sectoral banking supervisor is focused on the banking sector and risks arising from that sector, it would create a natural harmonization for the regulator to expand its Basel III regulatory perimeter to supervise nonbank credit intermediation.

Problematically, the FSB's data collection revealed that shadow-banking business models and risk profiles are subject to a high degree of heterogeneity and diversity.[368] A focused model such as the sectoral structure necessitates a high degree of homogeneity to operate effectively.[369] Expanding the regulatory perimeter may not capture all business models or risk profiles if they are sufficiently heterogeneous.[370] To overcome this regulatory deficiency, the FSB recommends calibrating the Basel III tools to the sectoral characteristics of highly heterogeneous nonbank financial entities.[371] Presumably this would cover nonbank SIFI exposures to banking-like risks from entities such as Lehman Brothers and AIG, which fell outside the U.S. sectoral banking regulator's regulatory perimeter.[372]

The single integrated model is better suited for adapting Basel III to banking-like risks emanating from all shadow-banking entities and activities that are sufficiently heterogeneous and diverse.[373]

The functional and Twin Peaks structures may not be as focused as the sectoral structure at implementing Basel III over banking or banking-like entities.[374] Heterogeneity and diversity in the shadow-banking sector would, nonetheless, complement the structures' integrated designs.[375] Moreover, the structures would be better suited to managing systemic risks from the heterogeneous and diverse business models and risk profiles of shadow-banking entities and activities.

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provides information "useful in providing the authorities with a forward-looking perspective so that they can anticipate developments and, potentially, act to prevent the emergence of associated risks").

368. FSB, *Policy Recommendations*, *supra* note 166, at 8.

369. *See* G30, *supra* note 232, at 35 (noting that a major challenge to the sectoral approach is determining which activities, particularly new innovations, fall within which sector).

370. *See* FSB, *Scoping the Issues*, *supra* note 167, at 6 (stating that shadow banks adapt quickly to market conditions, compounding problems in tracking their development and thus including their activities within the regulatory perimeter).

371. *See* FSB, *Policy Recommendations*, *supra* note 166, at 9 (recommending the adoption of policy toolkits to address shadow-banking risks "arising from each of the 'five economic functions'").

372. *See id.* (proposing that supervisors should have the ability both to define the regulatory perimeter and to assess nonbank exposures based on their economic functions and take necessary action thereupon).

373. *See id.* at 8–9 (noting that a function-based approach, rather than an entity-based approach, "allows policy tools to be developed to mitigate shadow-banking risks inherent in each of the economic functions so that they can be applied across jurisdictions to all entities that conduct the same economic function").

374. *See* FSB, *Scoping the Issues*, *supra* note 167, at 2 (noting that after a wide net is initially cast to capture nonbanking entity activity, focus must then be narrowed to the "subset of [nonbank] credit intermediation where maturity/liquidity transformation and/or flawed credit risk transfer and/or leverage create important risks").

375. *See* FSB, *Policy Framework*, *supra* note 163, at 1 (stating that an economic-function-based approach is necessary to address the various diversities inherent in shadow banking).

3. Securitization and CDSs

The transfer of long-term credit risks through securitization to nonbank entities was—in part—incentivized by the pursuit of regulatory arbitrage, which undermined effective and focused supervision of banking risks.[376] When the subprime-mortgage market crashed, the securitization model failed to transfer credit risks from the banking sector to the shadow-banking sector.[377] Supervisors were not *forward looking and adaptable* to effectively gauge and respond to this outcome.[378] SIFI financial conglomerates, such as AIG, that issued CDSs were not within the Office of the Comptroller of Currency's regulatory perimeter.[379] The ambiguous nature of CDSs and the nonbank institutions that issued them, including Lehman Brothers, undermined the focused approach of a sectoral banking regulator. Standardization of such products facilitates homogeneity and better suits the focus of the sectoral structure. However, only identified or standardized products will be captured.

Ambiguous financial products, such as CDSs, which span multiple financial sectors undermined the approach of a functional banking regulator by dulling the structure's focus. The single integrated FSA would be more effective at regulating such products and institutions than the Office of the Comptroller of Currency because its regulatory perimeter is not fixed to one particular financial sector.[380]

The aforementioned arguments pertaining to the Twin Peaks structure being superior to other regulatory structures at effectively managing systemic risks from shadow-banking entities and activities that threaten financial stability equally apply to the management of systemic risks emanating from securitization and CDSs.

D. Lessons and Recommendations

In seeking to address the overall issue of regulatory design, the sectoral structure focuses on distinct financial sectors except where an institutional element is incorporated into the structure. This approach is undertaken by jurisdictions whose financial sector is characterized by a high concentration of banking institutions.[381]

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376. *See* BCBS, *Report on Asset Securitisation Incentives*, at 11 (July 2011) [hereinafter BCBS, *Asset Securitisation Incentives*], *available at* http://www.bis.org/PUBL/JOINT26.PDF ("A number of firms interviewed noted that a reduction in regulatory capital requirement was indeed a direct motivator for various securitization structures leading up to the crisis.").

377. *See* Tobias Adrian & Adam B. Ashcraft, *Shadow Banking Regulation* 1 (Fed. Res. Bank of N.Y., Staff Report No. 559, 2012), *available at* http://www.newyorkfed.org/research/staff_reports/sr559.pdf

> (The securitization and funding techniques that underpin shadow banking were widely acclaimed as financial innovations to achieve credit risk transfer and were commonly linked to the stability of the financial system and the real economy. The financial crisis of 2007–09 exposed fundamental flaws in the design of the shadow-banking system.).

378. *See* Stephen Hoffman, Dodd-Frank, Securitization, and the Subprime Mortgage Crisis 40 (Sept. 12, 2012) (unpublished manuscript) (on file with Social Science Research Network), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2145210 (describing problems in the supervision of the subprime-mortgage market).

379. *Id.* at 56 (discussing the dissolution of the OTS and the Office of the Comptroller of Currency's supervisory role).

380. *See* Memorandum of Understanding, *supra* note 265 (describing the various sectors in which the FSA works); *see also* G30, *supra* note 232, at 36 (discussing how an integrated structure allows for a more comprehensive view of the regulated entity's business).

381. *See, e.g.*, Olive & Arner, *supra* note 256, at 115 (describing the United States as being regulated

Jurisdictions imposing tough regulations in excess of Basel III are finding that some SIBs are shedding business lines to reduce their systemic importance and therefore their capital adequacy and liquidity requirements above Basel III.[382] Such SIBs' business models are becoming more analogous with that of traditional banks and, therefore, are well suited to supervision under the sectoral structure because the banking supervisor's regulatory perimeter reflects the SIBs' business models.[383]

In contrast, supervision of financial conglomerates, outside universal banks supervised under a sectoral structure with an institutional element, tends to fall into gaps between the sectoral regulators' regulatory perimeters.[384] Accordingly, the sectoral structure per se cannot accurately reflect the systemic importance of financial conglomerates. The rigidity of the sectoral structure's regulatory perimeter can be relieved if a cross-sectoral approach is adopted. If an institutional element is incorporated into the sectoral regulator's regulatory perimeter, then this will provide a cross-sectoral approach to the sectoral oversight of all activities that an institution engages in, reducing the incidence of regulatory arbitrage and mitigating the potential build-up of systemic risks.[385] However, an institutional sectoral structure will nevertheless experience difficulties when institutions and products blur the boundaries between sectoral demarcations.[386] In such circumstances, coordination among regulators will be required. Regulatory arbitrage may arise from gaps and underlap between the regulator's regulatory perimeters, impeding systemic-risk detection, which could undermine financial stability.[387]

A sectoral resolution authority is harmonized with the sectoral parts of a SIFI or financial conglomerate, temporary bridge institutions, and separate asset-management vehicles within the regulatory perimeter.[388] This focus is an advantage of the structure. Gaps, overlaps, and coordination issues between sectoral regulatory perimeters may impede the resolution authorities' effectiveness at maintaining a SIFI's continual performance with essential economic functions. In jurisdictions characterized by a high incidence of SIBs, a resolution authority should reflect the sectoral banking regulator or the banking regulations to enhance systemic-risk

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"based on two fundamental premises: first, strict separation between institutions . . . and second, separate regulators for institutions and markets in each financial sector").

382. *See* Duygu Tavan, *How Will Basel III Reshape Banking?*, THE BANKER: A NEW MAP FOR GLOBAL BANKS—REGULATION AND STRATEGY 8, 10 (2013), *available at* http://www.ey.com/Publication/vwLUAssets/New_map_for_global_banks_strategy_and_regulation/$FILE/New_map_for_global_banks_strategy_and_regulation.pdf (noting that "[d]eleveraging is almost certainly larger than projected by the authorities").

383. *See id.* (discussing how the Basel III regulations will incentivize large banks to "retreat from certain business areas").

384. Leonardo Gambacorta & Adrian van Rixtel, *Structural Bank Regulation Initiatives: Approaches and Implications* 4–5 (Bank for Int'l Settlements, Working Paper No. 412, 2013), *available at* http://www.bis.org/publ/work412.pdf (noting banks could "sidestep[] the line altogether," thereby "shift[ing] activities outside the perimeter of consolidated regulation in response to structural regulation").

385. *Supra* Part III.B.1.

386. *Supra* Part III.A.2, para. 3.

387. *Supra* Part III.A.2, para. 3; *see also* BCBS, *Differentiated Nature and Scope*, *supra* note 231, at 3 (stating that the sector-specific approach to supervision of international financial regulation has the possibility for increasing regulatory gaps, which presents opportunity for regulatory arbitrage and supervisory challenges).

388. *Supra* Part III.B.2.b, para. 1.

detection within the banking sector.[389] However, if a jurisdiction is characterized by a high incidence of SIFI financial conglomerates, a collective resolution authority should be established that consists of all sectoral regulators. This will enable a more flexible and tailored supervisory approach to mitigate systemic risks emanating from any part of the SIFI financial conglomerate and hence more effectively maintain financial stability.

Strengthening SIFI supervision will only occur where a product or entity neatly falls within a distinct regulatory perimeter.[390] In jurisdictions characterized by a concentration of banking institutions, the sectoral structure may not reflect the complexities and interconnectedness of nonbank institutions that issue banking-like products.[391] Systemic risks sourced from such nonbank SIFIs will nonetheless impact the stability of the banking sector and, therefore, the financial stability of the financial system as a whole.[392] Problematically, the sectoral regulator's regulatory perimeter usually focuses on microprudential oversight, with the central bank charged with macroprudential oversight.[393] This impedes systemic-risk detection and the ability to effectively maintain financial stability across the financial system as a whole. If a sectoral regulator is incorporated within the central bank, the macroprudential oversight will be limited to the sector that the regulator oversees. This approach will provide an incomplete picture of systemic risks that threaten the financial system as a whole, thus inhibiting the ability to maintain macroprudential financial stability.

This same argument pertaining to the sectoral structure can be raised for the shadow-banking sector. A sectoral banking supervisor has an advantage that its banking focus creates a natural harmonization to expand the scope of Basel III over all banking-like activities, banking-like entities, and related entities. Therefore, a sectoral banking regulator is best suited to oversee the reinterpretation of the Basel III framework applied to the shadow-banking sector because the risks, including systemic risks, are analogous to those in the banking sector.[394] However, the heterogeneity of the shadow-banking sector creates an impediment to this harmonization. To overcome this weakness, the FSB recommends calibrating tools to the sectoral characteristics of highly heterogeneous nonbank financial entities.[395] If the sectoral characteristics are harmonized, then the sectoral regulatory structure would better cope with the heterogeneity of the shadow-banking sector.

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389. BCBS, *Domestic Systemically Important Banks*, *supra* note 10, at 4.

390. *Supra* Part III.B.3, para. 1.

391. *Supra* Part III.B.3, paras. 1–2.

392. FSB, *Policy Recommendations*, *supra* note 166, at 1 (explaining that "experience from the crisis demonstrates the capacity for some nonbank entities . . . [to] create bank-like risks to financial stability").

393. *See, e.g.*, Paolo Angelini et al., *Monetary and Macroprudential Policies* 2 (Eur. Cent. Bank, Working Paper No. 1449, 2012), *available at* http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1449.pdf ("[T]he Bank of England has been assigned full responsibility for [macroprudential] policy."); *see also* HM TREASURY, A NEW APPROACH TO FINANCIAL REGULATION: SECURING STABILITY, PROTECTING CONSUMERS, 2012, Cm. 8268, para. 1.7 (U.K.), *available at* http://issuu.com/hmtreasury/docs/fin_fs_bill_policy_document_jan2012 (allocating macroprudential authority to the Financial Policy Committee, an entity within the Bank of England, while transferring microprudential regulation to a newly created regulatory subsidiary, the Prudential Regulation Authority).

394. *Supra* Part III.A.2.

395. *Supra* Part III.C.1.

The transfer of credit risks to the shadow-banking sector through securitization was in part incentivized by regulatory arbitrage.[396] This arbitrage is facilitated by the sectoral structure.[397] Ambiguous products such as CDSs fell between regulators prior to the GFC and overlap the regulatory perimeters post–GFC, thereby undermining the structure's principal advantage: focus.[398] To more effectively manage ambiguous products, it is recommended that a cross-sectoral approach to supervision should be undertaken to mitigate systemic risks. Therefore, the sectoral approach requires an institutional element to facilitate this cross-sectoral approach.

The single integrated structure addresses the ambiguous nature of the sectoral structure by being all-encompassing and therefore more flexible.[399] Loss absorption measures can be calibrated to better reflect the risks of the entity as a whole by capturing activities outside the banking sector.[400] However, SIFI requirements beyond Basel III are causing SIBs to divest business lines, which would be better suited to focused supervision rather than the flexible supervision of the single integrated structure.[401] The single integrated structure is not as well suited to the supervision of SIBs as the sectoral structure because its regulatory perimeter does not accurately reflect the SIB's business model.[402]

Seamless supervision of financial conglomerates is an advantage of the functional and single integrated structures, as they do not suffer from the coordination issues of the sectoral structure.[403] Monitoring capital adequacy and liquidity requirements of a financial conglomerate from a group-wide perspective is more comprehensive and reflective of systemic importance.[404] The cross-sectoral nature of the functional and single integrated structures harmonizes with the blurred business model of the SIFI financial conglomerate, mitigating the incidence of regulatory arbitrage and the potential build-up of systemic risks.[405] Furthermore, the functional and single integrated structures appear to be better suited than a sectoral structure with an institutional element because coordination among regulators will not be required. This approach facilitates a more seamless systemic-risk detection, mitigating regulatory arbitrage arising from regulatory gaps between regulators.[406]

This is also an advantage of the resolution authority, but only when its regulatory perimeter mirrors that of the single integrated regulator. In such circumstances, the resolution authority would be able to exercise its powers over any

396. *See* U.S. DEP'T OF THE TREASURY, *supra* note 235, at 107 ("[A]mbiguity has spawned a history of jurisdictional disputes, which critics claim have . . . encouraged product innovators and their consumers to seek out other, more integrated international markets, engage in regulatory arbitrage, or evade regulatory oversight altogether.").

397. *Cf. id.* at 140 (noting the advantage in a functional regulatory structure over a sectoral regulatory structure of eliminating arbitrage).

398. *Supra* Part III.C.3.

399. *Supra* Part III.C.1.

400. *Supra* Part III.B.2.b.

401. *Supra* Part III.B.1, para. 4.

402. *Supra* Part III.B.1.

403. *Supra* Part III.B.1, paras. 6–7.

404. *Supra* Part III.B.1, para. 2.

405. *Supra* Part III.A.2; Part III.B.1.

406. *Supra* Part III.B.1.

section of the SIFI or financial conglomerate. In jurisdictions that are characterized by a high concentration of SIBs, a functional or single integrated resolution authority would not be as focused as the sectoral resolution authority.[407] However, jurisdictions characterized by a high concentration of SIFI financial conglomerates would be better suited to a collective resolution authority that consists of sectoral regulators.[408] With coordination among regulators within the resolution authority, the regulatory gaps between regulators would not be an issue, providing a more seamless systemic-risk detection to better maintain financial stability.[409]

Theoretically, this would strengthen the supervision of SIFIs. However, business models, systemic risks, and the monitoring of the financial system as a whole may not be effectively supervised because of the structures' broad regulatory perimeter. The functional and single integrated structures can suffer from the same macroprudential underlap as the sectoral regulator's regulatory perimeter when the central bank is charged with macroprudential oversight, impeding systemic-risk detection and its ability to effectively maintain financial stability across the financial system as a whole.[410] If a single integrated structure is incorporated within the central bank, frictions may arise between microprudential and macroprudential oversight, inhibiting systemic-risk detection across the financial system as a whole, and therefore, the ability to maintain financial stability.[411] The functional structure would also be impeded by such frictions.

Adaptability is an advantage of the functional and single integrated structures when supervising the shadow-banking sector, which is characterized by heterogeneous banking-like entities and activities.[412] In particular, ambiguous financial products that do not neatly fall into a distinct regulatory sector are better supervised under functional and single integrated structures, as compared to sectoral structures, because they are able to seamlessly adapt and do not require sectoral harmonization.[413] This characteristic enables the functional and single integrated structures to better cope with the heterogeneity of the shadow-banking sector, including the oversight of ambiguous products such as CDSs.[414] Systemic-risk detection is enhanced, and the ability to maintain financial stability is bolstered from the structures' seamless cross-sectoral approach.[415]

The functional and Twin Peaks structures' principal advantage over the single integrated structure is that they take a system-wide perspective by focusing on systemic risks and financial stability.[416] In the context of the Twin Peaks structure, capital adequacy and liquidity requirements of SIFIs are supervised from the perspective of mitigating systemic risks to maintain the financial stability of the economy as a whole.[417] This advantage better reflects financial markets and the

407. *Supra* Part III.B.2.

408. *Supra* Part III.B.2.b.

409. *Supra* Part III.B.2.b.

410. *Supra* Part III.B.1.

411. *Supra* Part III.B.3.

412. *Supra* Parts III.C.1–2; Part III.C.2, para. 3.

413. *Supra* Part III.C.3.

414. *Supra* Part III.C.3.

415. *Supra* Part III.C.1.

416. *See* G30, *supra* note 232, at 24, 37–38 (noting how both the functional and Twin Peaks approaches focus on "safety and soundness" and regulation of business conduct).

417. *See id.* at 14 (noting the overall goal of the Twin Peaks approach is preserving financial stability).

systemic risks posed by institutions that bridge financial sectors, namely financial conglomerates. The cross-sectoral nature of the Twin Peaks structure harmonizes with the blurred business model of the SIFI financial conglomerate. However, unlike the single integrated structure, the functional and Twin Peaks structures appear to be better suited at mitigating systemic risks because this is a focus and a mandate of their structures.[418] The potential regulatory underlap between the macroprudential regulator and the microprudential single integrated regulator is negated. Negating underlap may not necessarily be the case with the functional structure as there are separate regulators for micro- and macroprudential supervision.[419]

As with the single integrated structure, the functional and Twin Peaks structures' advantage of managing risks across financial sectors would be substantially diluted if a resolution authority is structured along sectoral lines. This mismatch would undermine the Twin Peaks structure's advantage of mitigating systemic risks across the economy as a whole, especially when it came to the sale and restructuring of whole or part of a SIFI. The functional and Twin Peaks structures would suffer from the same regulatory deficiency as the single integrated structure when operating in jurisdictions characterized by a high concentration of SIBs: not being as focused as the sectoral resolution authority. An area where the Twin Peaks structure would seem to be advantageous over the sectoral and single integrated structures is in a jurisdiction characterized by a high concentration of SIFI financial conglomerates. If the resolution authority reflects the Twin Peaks structure's mandate of safety and soundness across all financial sectors, this would reduce the incidence of macroprudential underlap, providing more effective resolution than a single integrated resolution authority per se.

Strengthening SIFI supervision is achieved by the focused mandate of the Twin Peaks structure of mitigating systemic risks to enhance the reliance of the financial system.[420] This strength is less likely to suffer from gaps or coordination issues than a collective peak consisting of sectoral supervisors that are assigned a similar financial-stability mandate.[421] However, a collective peak may provide more intensive supervision if a financial stability issue involving systemic risks neatly falls within a distinct financial sector.[422] The Twin Peaks structure does not suffer from the macroprudential underlap inherent to the sectoral and single integrated structures and the potential underlap of the functional structure. Systemic-risk detection and the ability to maintain financial stability is enhanced by the Twin Peaks structure's ability to focus on safety and soundness of the financial system as a whole, as well as on individual institutions.[423]

418. *See* Eric J. Pan, *Structural Reform of Financial Regulation*, 19 TRANSNAT'L L. & CONTEMP. PROBS. 796, 820–21 (2011) (discussing the Twin Peaks model's "ability to monitor and identify sources of systemic risk").

419. *See, e.g.*, Carmichael, *supra* note 244, at 107 ("Under this [functional] structure, each regulatory agency is responsible for correcting a single form of market failure.").

420. Nier et al., *supra* note 322, at 22–23.

421. *See id.* at 26–27 (defining gap risks generally and noting situations in which they may arise).

422. *See id.* at 26 (noting a strength of the collective peak model is "keep[ing] each agency focused on their main objective").

423. *See* Pan, *supra* note 418, at 820 (discussing the effects of cooperation between regulators and financial institutions in the Twin Peaks model).

Shadow banking is notorious for transmitting systemic risks to and from the banking sector to destabilize the financial system as a whole.[424] The Twin Peaks structure is *designed and implemented* to detect systemic vulnerabilities, is more *proportionate* to effectively manage systemic risks, and is *forward-looking and adaptable* to emerging systemic risks anywhere in the financial system. In this regard, the implementation of Basel III over heterogeneous nonbank entities and activities, securitization, and CDSs to maintain financial stability against the threats of systemic risks is a clear advantage.[425] The structure can view entities and products in the shadow-banking sector from not only a microprudential perspective but also a macroprudential one.[426] Systemic-risk detection thus more effectively places the regulator in a position to mitigate transmissions and contagion between the banking and nonbank financial sectors with the shadow-banking sector.

CONCLUSION

This Article has focused on the challenges of designing appropriate financial regulatory systems, looking to the lessons from experiences in the global, euro-zone, and Asian financial crises. In particular, it has focused on issues respecting SIFIs and their regulation and resolution, as well as the challenges of shadow banking. Finally, the Article has discussed the various options for financial regulatory structure, along with their advantages and disadvantages from the perspective of addressing SIFIs and shadow banking.

The starting point in addressing SIFIs, shadow banking, and regulatory structure—as important design elements of the financial regulatory system—is a comprehensive analysis of the strengths and weaknesses of the existing financial system, focusing on its main elements and characteristics. The respective analysis underpins adequate identification of potential risks—especially potential systemic risks—and is necessary in order to determine whether the design of the regulatory system is comprehensive and effective. In this respect, the most direct approach may well be an external review, such as an IMF-World Bank Financial System Stability Assessment as part of the IMF-World Bank Financial Sector Assessment Program (FSAP), now required of all G20/FSB members. At the same time, for many jurisdictions, an internal assessment may be a more appropriate first step in order to identify major issues prior to an FSAP. An internal review or FSAP, however, is by no means the end of the process and in fact only provides the essential material necessary for the development of a financial-sector development strategy, focusing on necessary infrastructure to support financial-sector development and stability.

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424. FSB, *Policy Recommendations*, *supra* note 166, at 1.

425. *See id.*, at 8 (stating that shadow-banking business models and risk profiles have a high degree of heterogeneity).

426. *See* M. Taylor, *The Road*, *supra* note 251, at 64, 91 (explaining the need for a macroprudential perspective and offering the Twin Peaks structure as a solution).